

Bulletin 132-85
September 1985

State of California
The Resources Agency

Department of
Water Resources

Management of the California State Water Project



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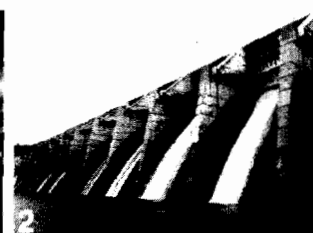
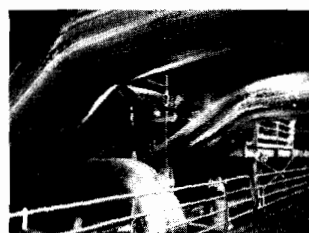
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ON THE COVER: (1) Aluminum shielding protects the insulation on these steam and gas pipes at Bottle Rock Powerplant. (2) Thermalito Diversion Dam diverts Feather River water into a power canal for generation at Thermalito Powerplant. (3) Construction of Phase II of the North Bay Aqueduct began with placement of this 63-inch pipe near Fairfield. (4) Each of the final three pumping units installed at the A. D. Edmonston Pumping Plant in 1984 can pump 315 cubic feet per second over the Tehachapi Mountains to Southern California.



**Department of
Water Resources**

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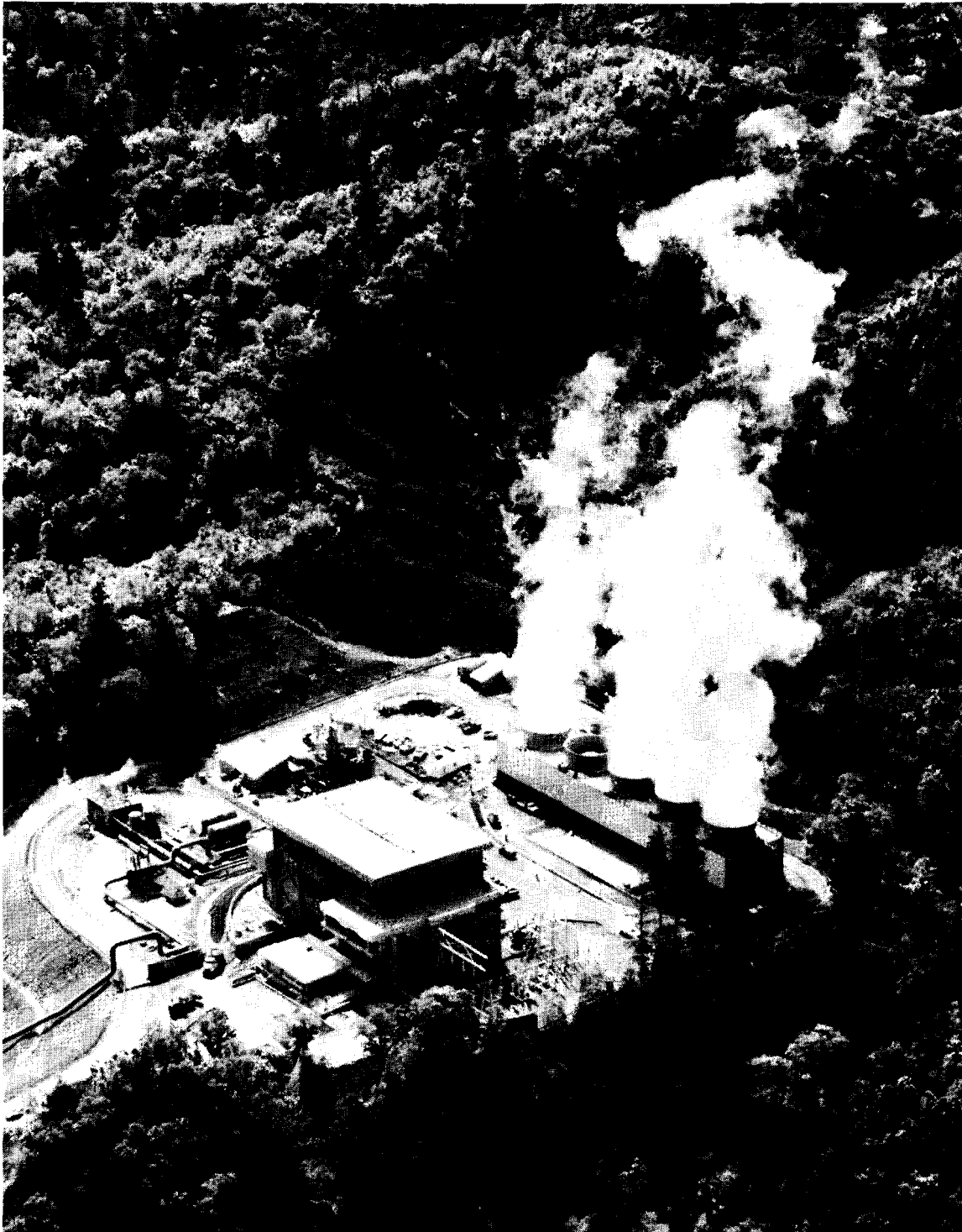
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Construction of Bottle Rock Powerplant was essentially completed in the fall of 1984. The 55-MW geothermal plant uses advanced hydrogen sulfide abatement systems to minimize emission of chemicals to the atmosphere. Bottle Rock Powerplant will supply about 360 million kilowatthours per year to the State Water Project.

FOREWORD

This is the twenty-third report of the Bulletin 132 series, the annual summary of operation and management of the State Water Project. Bulletin 132-85 summarizes Project operations during calendar year 1984 and describes other management activities, with primary emphasis on the period between July 1, 1984 and June 30, 1985. It also includes chapters on the present and future outlook for (1) water supplies, (2) power supplies, and (3) costs and financing. As usual, Appendix B presents information supporting the water contractors' Statements of Charges for the coming year (1986).



David N. Kennedy, Director
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The Resources Agency
State of California

TABLE OF CONTENTS

	<u>Page</u>
FOREWORD.....	iii
DEPARTMENT OF WATER RESOURCES CREDITS.....	ix
CALIFORNIA WATER COMMISSION.....	xi
ORGANIZATION OF THE DEPARTMENT OF WATER RESOURCES.....	xii
ABBREVIATIONS.....	xii
CHAPTER I - OVERVIEW.....	1
The State Water Project.....	1
SWP Service Areas.....	4
SWP Accomplishments.....	6
Highlights.....	7
CHAPTER II - SWP OPERATIONS IN 1984.....	11
Water Operations.....	11
Water Conditions.....	11
Reservoir Operations.....	11
Aqueduct Operations.....	14
Water Quality.....	18
Water Service.....	21
Total Water Conveyed.....	21
Entitlement Water.....	21
Surplus Water.....	21
Unscheduled Water.....	22
Other Water.....	22
Initial Fill Water.....	22
Operational Losses and Storage Changes.....	23
Recreation Water.....	24
Water Deliveries and Credits to Long-Term Contractors.....	24
Future Entitlement Delivery Credits (Makeup Water).....	24
Future Entitlement Delivery Credits (Wet-Weather Water).....	24
Future Entitlement Reduction Credits (Wet-Weather Water).....	26
Future Entitlement Delivery Credits (Carry-Over Water).....	26
Total 1984 Water Deliveries.....	26
Preconsolidation Repayment Water.....	27
1977 Emergency Relief Water.....	27
1982 Exchange Water.....	27
Regulated Delivery of Local Supply.....	27
Non-SWP Water to Napa County Flood Control and Water Conservation District.....	27
Wheeling of CVP Water.....	32
Power Operations.....	32
Energy Use.....	33
Energy Sources.....	33
Power Sales.....	37
Transmission Service Agreements.....	38
Recreation and Visitor Activities.....	39
Fish and Wildlife Activities.....	42
CHAPTER III - SWP ADMINISTRATION ACTIVITIES.....	43
Water Contracts Management.....	43
Contract Amendments.....	43
Contract Issues.....	43
East Branch Enlargement.....	45
Preconsolidation Water Agreements.....	46

TABLE OF CONTENTS

	<u>Page</u>
1978 Exchange Agreement.....	46
1982 Exchange Agreement.....	46
Connection with the First Los Angeles Aqueduct.....	47
Davis-Grunsky Act Program.....	48
Project Purpose Cost Allocations.....	49
Two-Agency Fish Agreement.....	49
CVP-SWP Coordinated Operation Agreement.....	50
Water Rights Management.....	51
Delta Water Quality Monitoring and Reporting.....	51
Suisun Marsh.....	52
Western Delta Municipal Water Users.....	52
Western Delta Industrial Water Users.....	53
Delta Agricultural Water Users.....	53
San Joaquin Valley Drainage Program.....	54
Los Banos Desalting Facility.....	54
Water Legislation.....	55
Litigation.....	57
Control over SWP Operations.....	57
Delta Water Cases.....	57
Seepage Suits.....	58
Kern River Intertie.....	58
Wild and Scenic River Cases.....	59
Electrical Power Cases.....	60
Water Supply Contract Cases.....	61
CHAPTER IV - DESIGN, RIGHT OF WAY AND CONSTRUCTION	
ACTIVITIES, JULY 1, 1984 - JUNE 30, 1985.....	63
Design Activity.....	63
Thermalito Diversion Dam Powerplant.....	63
South Geysers Powerplant.....	63
Suisun Marsh.....	65
North Bay Aqueduct.....	65
Mojave Division.....	66
Land and Right of Way Activity.....	66
Construction Progress.....	67
Safety of SWP Facilities.....	71
CHAPTER V - SWP WATER SUPPLY, PRESENT AND FUTURE.....	73
Future Water Delivery Plans.....	73
Entitlement Water.....	73
Surplus Water.....	74
Unscheduled Water.....	75
Miscellaneous Water.....	75
Water Supply and Demand.....	75
Alternatives for Delta Water Transfer.....	76
Potential Means to Augment Water Supply.....	77
Banks Delta Pumping Plant, Additional Units.....	77
Offstream Storage South of the Delta.....	77
Los Banos Grandes Reservoir.....	78
Kellogg/Los Vaqueros Reservoirs.....	78
Cottonwood Creek Project.....	80
Shasta Lake Enlargement.....	81
Marysville Dam and Reservoir.....	82
Auburn Dam and Reservoir.....	82

TABLE OF CONTENTS

	<u>Page</u>
Ground Water Storage Programs.....	83
Santa Clara Valley.....	83
San Bernardino Valley-San Gorgonio Pass.....	83
San Joaquin Conjunctive Use.....	83
Local Water Supply Projects.....	84
Santa Barbara County.....	84
Stevens Creek.....	85
Water Purchases.....	85
CVP Purchases.....	85
Garden Bar Project.....	86
Cosumnes River.....	86
Orestimba Creek.....	87
Water Conveyance Facilities.....	87
California Aqueduct Use Study.....	87
East Branch Enlargement.....	88
San Luis Canal Enlargement.....	89
Coastal Branch, Phase II.....	90
CHAPTER VI - SWP POWER SUPPLY, PRESENT AND FUTURE.....	91
Power Requirements.....	91
Power Resources.....	94
Hydro.....	94
Exchanges.....	94
Coal.....	96
Geothermal.....	96
Wind.....	97
Power Purchases.....	97
Energy Purchases.....	97
Other Projects.....	97
Transmission Service.....	101
Sales.....	102
Comparison of Power Requirements and Resources.....	103
Power Costs.....	111
CHAPTER VII - FUTURE COSTS AND FINANCING.....	113
Capital Requirements.....	116
Financing of Capital Requirements.....	121
Project Revenues.....	125
Project Expenses.....	130
Future Costs of Water Service.....	136
CHAPTER VIII - PROFILES OF SWP CONTRACTORS.....	139
Alameda County Flood Control and Water Conservation District, Zone 7.....	139
Castaic Lake Water Agency.....	140
Coachella Valley Water District.....	142
Crestline-Lake Arrowhead Water Agency.....	144
Dudley Ridge Water District.....	145
San Bernardino Valley Municipal Water District.....	146
INDEX TO TABULAR MATERIAL IN BULLETIN.....	268
CONVERSION FACTORS.....	Inside Back Cover

TABLE OF CONTENTS

TABLES

	<u>Page</u>
1. SWP Accomplishments through 1984.....	6
2. Water Quality at Selected Stations in 1984.....	20
3. Historical Summary of Entitlements, Deliveries, and Water Conveyed.....	22
4. Summary of 1984 Deliveries and Credits to Long-Term Contractors.....	25
5. Monthly Water Deliveries in 1984.....	28
6. Monthly Power Operations in 1984.....	34
6A. Reconciliation of 1984 SWP and CVP Energy Use at SWP Plants and Joint-Use Facilities.....	36
7. SWP Power and Transmission Service Purchases in 1984.....	38
8. SWP Power Sales in 1984.....	39
9. Recreation Use at SWP Facilities in 1984.....	40
10. Fish Planted at SWP Facilities in 1984.....	42
11. Water Supply Contract Amendments as of June 30, 1985.....	44
12. SWP Design Activities in Progress, July 1984 - June 1985.....	64
13. SWP Construction Activities in Progress, July 1984 - June 1985.....	68
14. Water Contractors' Requests for Entitlement Water, 1984 through 1990.....	73
15. Projected Water Deliveries and Energy Requirements.....	92
16. Projected Electrical Capacity Requirements.....	93
17. Summary of Major SWP Power Contracts.....	98
18. Projected Energy Resources and Costs.....	110
19. SWP Financial Analysis, June 30, 1985.....	114
20. SWP Capital Expenditures.....	117
21. Application of Revenue Bond Proceeds.....	121
22. Projected Bond Sales.....	125
23. Revenue Bond Proceeds Affecting the Project Interest Rate.....	127
24. Actual Bond Sales and Project Interest Rates.....	128
25. SWP Operation, Maintenance, Power, and Replacement Costs.....	131
26. Annual Service on Bonds Sold through June 30, 1985.....	134
27. Estimated Future Unit Water Charges.....	137

TABLE OF CONTENTS

FIGURES

	<u>Page</u>
1. State Water Project Facilities.....	2
2. Long-Term Water Supply Contracting Agencies.....	4
3. Statewide Precipitation, 1983-84 Water Year.....	12
4. Cumulative Unimpaired Runoff to Lake Oroville and Shasta Lake.....	13
5. Lake Oroville and San Luis Reservoir Storage.....	13
6. Summary of SWP Water Operations, 1984.....	16
7. Aqueduct Recreation Developments.....	41
8. SWP Construction Divisions.....	63
9. North Bay Aqueduct.....	65
10. SWP Water Supply Availability.....	76
11. Los Banos Grandes Offstream Storage Plan.....	79
12. SWP Power Facilities.....	95
13. Annual SWP Pumping Energy Requirements and Resources.....	104
13A. Annual SWP Total Energy Requirements and Resources.....	105
14. Monthly Energy Requirements and Resources for SWP Pumping.....	106
15. Total Monthly On-Peak and Off-Peak SWP Capacity Loads and Resources.....	108
16. Generalized Construction Schedule.....	118

APPENDICES

A	1984 Annual Financial Report.....	(bound separately)
B	Data and Computations Used in Determining Water Charges for 1986.....	149
C	(discontinued)
D	Costs of Recreation and Fish and Wildlife Enhancement.....	(bound separately)
E	Water Operations in the Sacramento-San Joaquin Delta.....	(bound separately)
F	San Joaquin Valley Post-Project Economic Impact.....	(bound separately)

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p. ii:	Department of Water Resources 6512-12
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p. 88:	Department of Water Resources 6243-31
p. 100:	Department of Water Resources TPP-12
p. 101:	Department of Water Resources MOJ-27054
p. 139:	Alameda County Flood Control and Water Conservation District, Zone 7
p. 140:	Castaic Lake Water Agency
p. 141:	Lloyd DeMers Air Views 102548
p. 143:	Coachella Valley Water District
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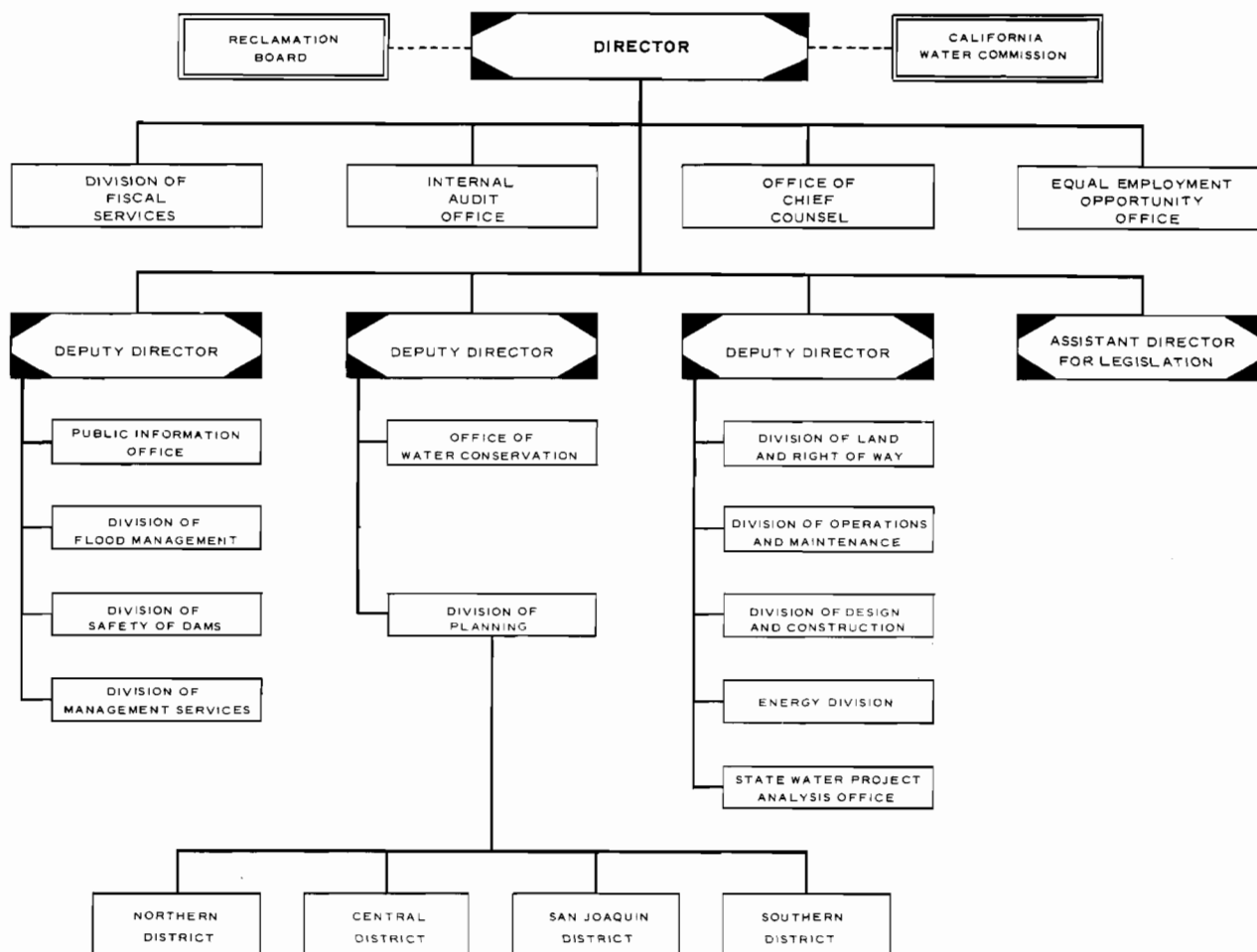
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The California Water Commission serves as a policy advisory body to the Director of Water Resources on all California water resources matters. The nine-member citizen Commission provides a water resources forum for the people of the State, acts as a liaison between the legislative and executive branches of State Government, and coordinates Federal, State, and local water resources efforts.

ORGANIZATION OF THE DEPARTMENT OF WATER RESOURCES



ABBREVIATIONS

In general, the use of abbreviations in this bulletin follows the practice of spelling out a term in full at its first use in each chapter or major section, followed by the abbreviated form in parentheses. The following names and terms, in common use throughout the bulletin, are not defined separately:

cfs	cubic feet per second
CVP	Central Valley Project
DWR	Department of Water Resources
EIR	Environmental Impact Report (State)
EIS	Environmental Impact Statement (Federal)
kW	kilowatt
kWh	kilowatthour
kV	kilovolt
MW	megawatt
MWDSC	The Metropolitan Water District of Southern California
OMP&R	operation, maintenance, power, and replacement
SWP	State Water Project
SWRCB	State Water Resources Control Board
USBR	United States Bureau of Reclamation

CHAPTER I OVERVIEW

This is the twenty-third report of the Bulletin 132 series, which is published annually to document the management of the SWP. Chapter II summarizes SWP operations during calendar year 1984. Chapters III and IV document Project administration and design and construction activities, with primary emphasis on the twelve months ending June 30, 1985. Chapters V and VI analyze present and future water and power supplies. Chapter VII examines future costs and financing. Chapter VIII presents profiles of 6 of the 30 SWP contractors. Appendix B documents the computation of water charges to be paid by the contractors during the next calendar year (1986).

The State Water Project

The SWP is one of the most ambitious water transfer systems ever constructed. Its facilities extend over 500 miles to deliver water from northern California to areas as far south as San Diego County. The Project, conceived by former State Engineer A.D. Edmonston, was authorized by the Legislature in 1951. In 1959, the Legislature passed the Burns-Porter Act, which provided the major financing for the initial SWP facilities. In 1960, California's voters approved a \$1.75 billion bond issue under the Burns-Porter Act, a water contracting program was initiated, and more than a decade of intensive construction activity began.

SWP water deliveries commenced to the South San Francisco Bay area in 1962, to Kern County in 1968 and finally, to southern California in 1972. The period of initial construction of the SWP facilities ended in 1973 with the dedication of Lake Perris, the southern terminus of the California Aqueduct. Present and future SWP facilities are shown on Figure 1. Construction of

Phase II of the North Bay Aqueduct began in 1984; the only major conveyance facility remaining for future construction is Phase II of the Coastal Branch of the California Aqueduct.

The Burns-Porter Act also authorized unspecified additional future storage facilities, facilities to transfer water across the Sacramento-San Joaquin Delta, and facilities to remove drainage water from the San Joaquin Valley; studies of most of these are continuing, as described in Chapters III and V.

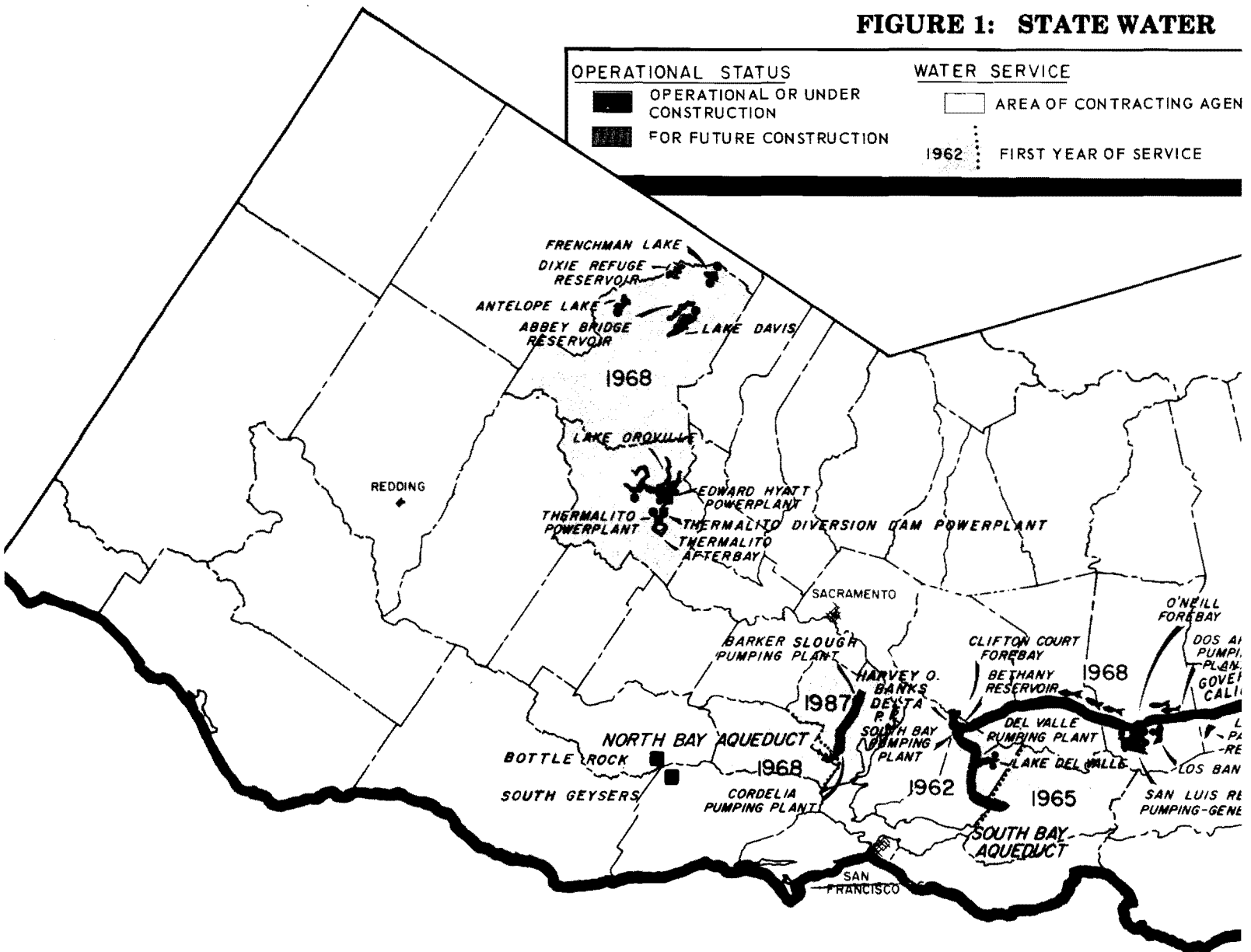
SWP Service Areas

After voters approved the bond issue in 1960, the State signed water supply contracts with the public agencies that wished to be included in the SWP service areas. Today, 30 long-term contracts are in effect, calling for the eventual delivery of 4.2 million acre-feet of water annually. The guiding principle of these contracts is that the recipients of Project services repay all reimbursable Project costs.

Figure 2 shows the boundaries of the 30 public agencies that have long-term contracts for SWP service. Together, they constitute 24 percent of the State's area and contain 68 percent of the population.

Seven contractors have yet to receive water from SWP facilities. The contracts of six of these contractors specify that initial deliveries will be made in 1980 or thereafter; Palmdale Water District's contract provides for SWP water deliveries to have begun in 1972 but the District has not yet taken any SWP water. An eighth contractor, Napa County Flood Control and Water Conservation District, has received only non-SWP water, which has been pumped and delivered through SWP facilities.

FIGURE 1: STATE WATER



DAMS AND RESERVOIRS

Name of Reservoir	Reservoirs ^(a)			Dams			
	Capacity (acre-feet)	Surface Area (acres)	Shoreline (miles)	Crest Elevation (feet)	Structural Height (feet)	Crest Length (feet)	Volume (cubic yards)
Frenchman Lake.....	55,500	1,580	21	5,607	139	720	537,000
Antelope Lake.....	22,600	930	15	5,025	120	1,320	380,000
Lake Davis.....	84,400	4,030	32	5,785	132	800	253,000
Lake Oroville.....	3,540,000	15,800	167	922	770	6,920	80,000,000
Thermalito Diversion Pool.....	13,300	320	10	233	143	1,300	154,000
Fish Barrier Pool.....	600	50	1	181	91	600	10,000
Thermalito Forebay.....	11,700	630	10	231	91	15,900	1,840,000
Thermalito Afterbay.....	57,000	4,300	26	142	39	42,000	5,020,000
Clifton Court Forebay.....	28,700	2,110	8	14	30	36,500	2,440,000
Bethany.....	4,800	160	6	250	121	3,940	1,400,000
Lake Del Valle.....	77,100	1,060	16	773	235	880	4,150,000
San Luis.....	1,070,000 ^(b)	12,700	65	554	385	18,600	77,645,000
O'Neill Forebay.....	56,400	2,700	12	233	88	14,350	3,000,000
Los Banos.....	34,600	620	12	384	167	1,370	2,100,000
Pyramid Lake.....	5,600	190	6	676	152	1,440	1,210,000
Silverwood Lake.....	75,000	980	13	3,378	249	2,230	7,600,000
Lake Perris.....	131,000	2,320	10	1,600	128	11,600	20,000,000
Quail Lake.....	8,800	360	3	3,320	45	6,600	6,860,000
Elderberry Forebay.....	171,000	1,300	21	2,606	400	1,090	6,860,000
Castaic Lake.....	324,000	2,240	29	1,550	200	1,990	6,000,000
Castaic Lagoon.....	5,700	200	3	1,150	25		46,000,000
Totals	5,806,000	55,040	493			175,050	286,599,000

a) Reservoir data represent design elevation, generally spillway crest level. In most cases, maximum operational levels are set 1 or 2 feet lower.

b) SWP share of total storage of 2,040,000 acre-feet.

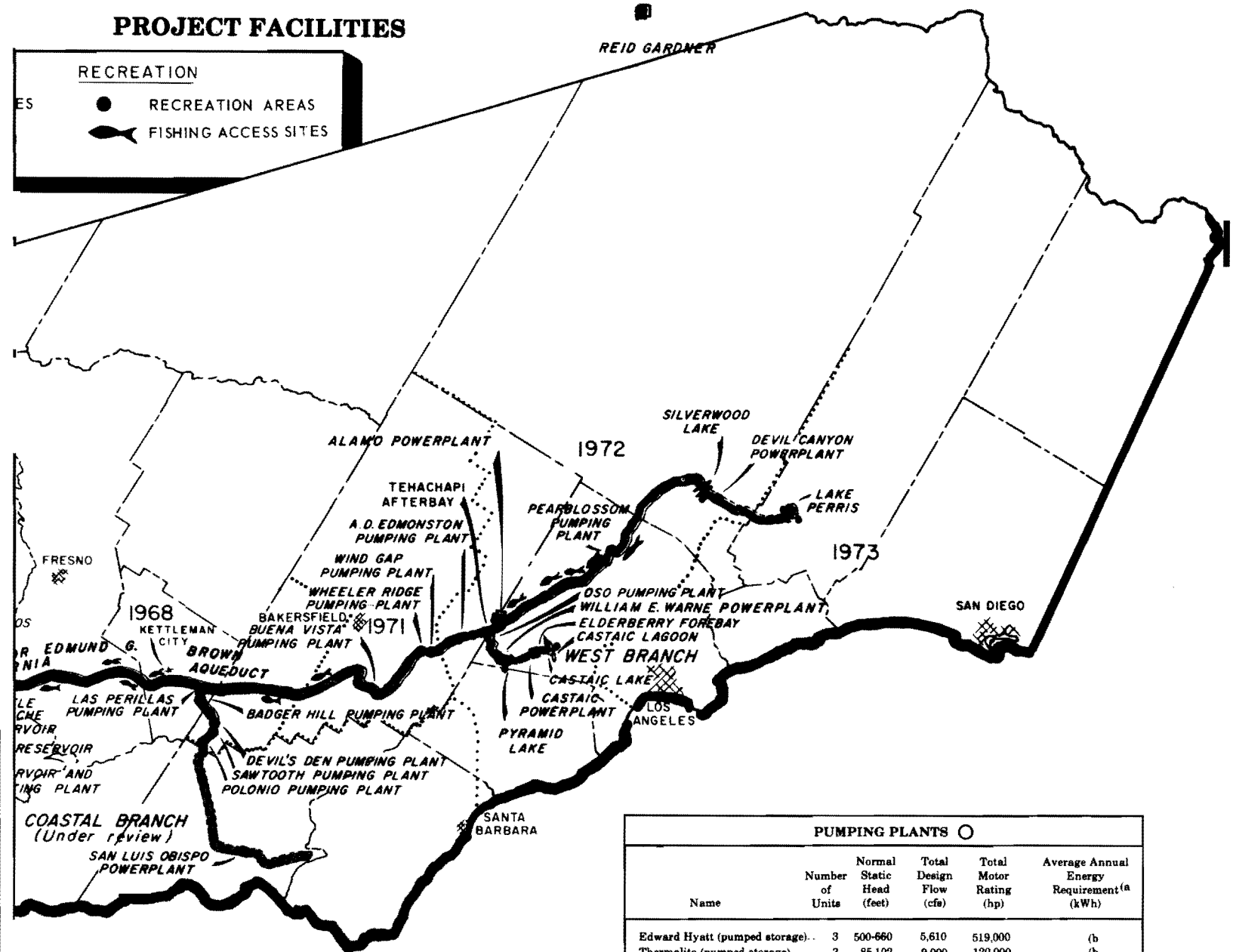
AQUEDUCTS

Name	Total	Length (miles)			
		Canal	Pipeline	Tunnel	Channel and Reservoir
North Bay Aqueduct.....	27.3	0	27.3	0	0
South Bay Aqueduct.....	42.9	8.4	32.9	1.6	0
Subtotal	70.1	8.4	60.1	1.6	0
California Aqueduct (main line):					
Delta to O'Neill Forebay.....	68.4	67.0	0	0	1.4
O'Neill Forebay to Kettleman City.....	106.7	103.5	0	0	2.2
Kettleman City to A.D. Edmonston Pumping Plant.....	120.9	120.9	0	0	0
A.D. Edmonston Pumping Plant to Tehachapi Afterbay.....	10.6	0.2	2.5	7.9	0
Tehachapi Afterbay to Lake Perris.....	136.4	93.4	38.3	3.8	2.9
Subtotal, main line	444.0	386.0	40.8	11.7	6.5
California Aqueduct (branches):					
West Branch.....	31.9	9.1	6.4	7.2	9.2
Coastal Branch (under review).....	96.2	14.8 ^(a)	81.4	0	0
Subtotal, branches	128.1	23.9	87.8	7.2	9.2
Totals	642.2	417.3	188.7	20.5	15.7
a) Constructed					

PROJECT FACILITIES

RECREATION

- RECREATION AREAS
- FISHING ACCESS SITES



PUMPING PLANTS ○					
Name	Number of Units	Normal Static Head (feet)	Total Design Flow (cfs)	Total Motor Rating (hp)	Average Annual Energy Requirement ^(a) (kWh)
Edward Hyatt (pumped storage)...	3	500-660	5,610	519,000	(b)
Thermalito (pumped storage)....	3	85-102	9,000	120,000	(b)
North Bay Aqueduct					
Barker Slough (c)	9(d)	120	154	4,800	12,000,000
Cordelia (c)	11(d)	100-380	119	6,550	21,000,000
South Bay Aqueduct					
South Bay	9	545-566	330	27,750	153,000,000
Del Valle	4	0-38	120	1,000	2,000,000
California Aqueduct					
H.O. Banks Delta	11	244	10,303	333,000	1,260,000,000
San Luis (pumped storage)					
Total	8	99-327	11,000	504,000	
SWP Share				5,760	255,000,000
Doa Amigos					
Total	6	113	13,200	240,000	
SWP Share				7,100	130,000
Buena Vista	10(d)	205	5,049	144,500	694,000,000
Wheeler Ridge	9(d)	233	4,588	150,000	784,000,000
Wind Gap	9(d)	518	4,410	330,000	1,660,000,000
A.D. Edmonston	14(d)	1,926	4,095	1,120,000	5,660,000,000
Pearlblossom	6	540	1,380	113,200	495,000,000
West Branch					
Oso	8	231	3,128	93,800	467,000,000
Coastal Branch					
Las Perillas	6	55	450	4,050	17,000,000
Badger Hill	6	151	450	11,750	44,000,000
Devil's Den (c)	4	384	111	8,600	44,000,000
Sawtooth (c)	4	300	111	7,000	35,000,000
Polonio (c)	4	855	111	17,800	93,000,000
Total, SWP Share					12,248,000,000

a) Under full development.

b) Pumped storage capability used only under economically favorable conditions.

c) Tentative data for future facility.

d) Includes spare unit data for spare unit is excluded from total design flow but included in total motor rating.

POWERPLANTS □					
Name	Number of Units	Normal Static Head (feet)	Total Design Flow (cfs)	Total Generator Rating (kW)	Average Annual Energy Output ^(a) (kWh)
Edward Hyatt	6	410-676	16,950	678,750	2,000,000,000
Thermalito	4	85-102	16,900	119,600	300,000,000
San Luis					
Total	8	99-327	13,200	424,000	
SWP Share				222,100	180,000,000
Alamo	1	138-144	1,640	17,000	110,000,000
Devil Canyon	2	1,368-1,433	1,200	119,700	770,000,000
W.E. Warne	4	719-739	3,100	157,000	950,000,000
Castaic					
Total	7	830-1,098	18,400	1,250,000	
SWP Share				214,000	1,600,000,000
San Luis Obispo (b)	1	730	94	5,000	47,000,000
Thermalito Diversion Dam	1	70-77	600	3,000	17,000,000
Reid Gardner Unit No. 4					
Total	1			250,000	
SWP Share				189,500	1,286,000,000
Bottle Rock	1			55,000	360,000,000
South Geyers	1			55,000	360,000,000
Total, SWP Share					7,974,000,000

a) Under full development.

b) Tentative data for future facility.

DEL NORTE
HUMBOLDT
SISKIYOU
TRINITY
SHASTA
MODOC
LASSEN
BUTTE
PLUMAS
YUBA
NEVADA
SIERRA
PLACER
EL DORADO
AMADOR
CALAVERAS
ALPINE
TUOLUMNE
MARIPOSA
MONO
MADERA
FRESNO
TULARE
INYO
KERN
SANTA BARBARA
VENTURA
LOS ANGELES
SAN BERNARDINO
SAN DIEGO
RIVERSIDE
IMPERIAL

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WATER SUPPLY CONTRACTING AGENCIES

Location No.	Contracting Agency	Total Cumulative Deliveries through 12/31/84 (acre-feet) ^(a)	Maximum Annual Entitlement (acre-feet)	Total Payments through 12/31/84 (dollars)	Gross Area as of 7/1/84 (acres)	Assessed Valuation 1984-85 (dollars) ^(b)	Estimated Population (7/1/84)
UPPER FEATHER AREA							
1.	City of Yuba City	0	9,600	33,000	3,650	471,306,000	20,480
2.	County of Butte	4,249	27,500	331,000	1,069,000	4,382,930,000	157,100
3.	Plumas County Flood Control and Water Conservation District	5,152	2,700	403,000	1,644,000 ^(c)	1,191,522,000 ^(c)	18,000 ^(c)
	Subtotal	9,401	39,800	767,000	2,716,650	6,045,758,000	195,580
NORTH BAY AREA							
4.	Napa County Flood Control and Water Conservation District	79,263	25,000	5,311,000	508,000	3,864,904,000	101,700
5.	Solano County Flood Control and Water Conservation District	0	42,000	965,000	575,000	7,462,000,000	263,000
	Subtotal	79,263	67,000	6,276,000	1,083,000	11,326,904,000	364,700
SOUTH BAY AREA							
6.	Alameda County Flood Control and Water Conservation District, Zone 7	253,654	46,000	16,987,000	272,000	3,845,341,000	110,000
7.	Alameda County Water District	334,407	42,000	18,610,000	63,000	1,710,000,000	224,750
8.	Santa Clara Valley Water District	1,646,489	100,000	70,402,000	849,000	47,380,000,000	1,385,000
	Subtotal	2,234,550	188,000	105,999,000	1,184,000	52,935,341,000	1,719,750
SAN JOAQUIN VALLEY AREA							
9.	County of Kings	30,800	4,000	697,000	893,300 ^(d)	2,263,328,000 ^(d)	81,900 ^(d)
10.	Devil's Den Water District	256,753	12,700	6,246,000	8,700	- ^(e)	50
11.	Dudley Ridge Water District	921,349	57,700	14,778,000	29,970	- ^(e)	50
12.	Empire West Side Irrigation District	56,599	3,000	903,000	7,400	- ^(e)	50
13.	Kern County Water Agency	11,465,786	1,153,400	273,550,000	5,161,000 ^(f)	25,619,586,000 ^(f)	461,500 ^(f)
14.	Oak Flat Water District	97,328	5,700	1,151,000	4,000	- ^(e)	50
15.	Tulare Lake Basin Water Storage District	1,796,505	118,500	25,349,000	189,200	- ^(e)	50
	Subtotal	14,625,120	1,355,000	322,674,000	6,293,570	27,882,914,000	543,650
CENTRAL COASTAL AREA							
16.	San Luis Obispo County Flood Control and Water Conservation District	0	25,000	4,470,000	2,131,300	8,017,912,000	179,300
17.	Santa Barbara County Flood Control and Water Conservation District	0	45,486	9,488,000	1,756,900	12,444,776,000	322,600
	Subtotal	0	70,486	13,958,000	3,888,200	20,462,688,000	501,900
SOUTHERN CALIFORNIA AREA							
18.	Antelope Valley-East Kern Water Agency	442,862	138,400	62,888,000	1,524,000	4,215,848,000	112,500
19.	Castaic Lake Water Agency	37,447	41,500	22,956,000	125,000	3,303,279,000	93,000
20.	Coachella Valley Water District	113,577	23,100	16,541,000	637,600	6,404,071,000	103,900
21.	Crestline-Lake Arrowhead Water Agency	12,885	5,800	4,297,000	55,100	858,419,000	13,200
22.	Desert Water Agency	177,300	38,100	26,777,000	208,800	3,423,677,000	61,900
23.	Little Rock Creek Irrigation District	4,839	2,300	1,080,000	43,300	56,821,000	1,900
24.	Mojave Water Agency	53,589	50,800	27,177,000	3,160,400	5,035,317,000	125,500
25.	Palmdale Water District	0	17,300	6,750,000	73,900	695,431,000	30,800
26.	San Bernardino Valley Municipal Water District	142,045	102,600	76,488,000	210,200	6,987,613,000	389,800
27.	San Gabriel Valley Municipal Water District	54,883	28,800	21,907,000	16,300	4,028,858,000	173,100
28.	San Geronimo Pass Water Agency	0	17,300	12,138,000	140,600	788,357,000	38,500
29.	The Metropolitan Water District of Southern California	5,760,983	2,011,500	1,356,974,000	3,280,000 ^(g)	419,859,048,000 ^(g)	12,879,000 ^(g)
30.	Ventura County Flood Control District	0	20,000	9,198,000	1,179,500 ^(h)	21,186,791,000 ^(h)	585,000 ^(h)
	Subtotal	6,800,410	2,497,500	1,645,171,000	10,654,700	476,843,530,000	14,608,100
	TOTAL STATE WATER PROJECT	23,748,744	4,217,786	2,094,845,000	25,820,120 ⁽ⁱ⁾	595,497,135,000 ⁽ⁱ⁾	17,933,680 ⁽ⁱ⁾
	NET TOTAL, STATE WATER PROJECT SERVICE AREA				24,501,204 ^(j)	580,714,625,000 ^(j)	17,529,380 ^(j)
	TOTAL, STATE OF CALIFORNIA				100,314,000	878,739,000,000	25,622,000
	PERCENT, NET SWP VS. TOTAL CALIFORNIA				24.4	66.1	68.4

- a) All water delivered to long-term SWP contractors, including current and deferred Entitlement Water, Surplus, Unscheduled, Emergency Relief, and Exchange Water, and Non-SWP water delivered through SWP Facilities to Napa County FC&WCD.
- b) Statutes of 1978, Chapter 1207, added Section 135 to the Revenue and Taxation Code, requiring assessment at 100 percent of full value for the 1981-82 fiscal year and fiscal years thereafter.
- c) Total for all of Plumas County, including Last Chance Creek Water District.
- d) Total for all of Kings County, including the following contracting agencies: County of Kings, Dudley Ridge Water District, Empire West Side Irrigation District, nearly all of Tulare Lake Basin Water Storage District, and about 40 percent of Devil's Den Water District.
- e) Assessed valuation not available on an agency area breakdown.
- f) Total for all of Kern County, including the following contracting agencies: Kern County Water Agency, about 60 percent of Devil's Den Water District, and about 50 percent of Antelope Valley-East Kern Water Agency.
- g) Total for MWDSC, including Calleguas Municipal Water District, which is common to MWDSC and Ventura County Flood Control District.
- h) Total for all of Ventura County, including the following contracting agencies: Ventura County Flood Control District and portions of Antelope Valley-East Kern Water Agency, Castaic Lake Water Agency, and MWDSC.
- i) Includes duplicate values. Some areas that are within two or more agencies are included in each agency's total.
- j) Excludes duplicate values where agencies have overlapping boundaries.

As Figure 2 indicates, the 30 contracting agencies represent a wide spectrum of size, location, climate, and perspective. To aid in understanding the diverse nature of the SWP service areas, Bulletins 132-83 and 132-84 each included profile descriptions of six long-term contracting agencies. This edition of Bulletin 132 continues the series of contractor profiles (Chapter VIII).

SWP Accomplishments

The principal purpose of the SWP is to conserve water originating in areas of surplus and transport it to areas of need, for use by agricultural and municipal and industrial users. Other Project purposes include flood control, hydroelectric power generation, salinity control, recreation, and enhancement of fish and wildlife.

Table 1 summarizes SWP water supply, recreation, and energy generation accomplishments through 1984. (The water delivery totals in Table 1 include service to all customers and, therefore, exceed those shown in Figure 2, which include only deliveries to long-term contractors.) Table 1 does not show figures for flood control accomplishments, but Oroville Dam alone prevented many millions of dollars of property damage from floods in 1964, 1967, 1968, 1970, 1974, 1980, 1982, and 1983. Also, the SWP helped reduce flooding in the Tulare Lake Basin in 1978, 1980, 1982, 1983, and 1984 by taking excess flood water into the California Aqueduct through an intertie where the Kern River intersects the California Aqueduct in Kern County. The intertie was built by the Corps of Engineers.

TABLE 1: SWP ACCOMPLISHMENTS THROUGH 1984

Year	Water Delivered (Acre-Feet)							Recreation Supported (Recreation Days) ^(b)	Hydro-electric Energy Generated (kilowatt hours) ^(c)
	Entitlement Water			Other Deliveries			Total Delivery		
	Municipal and Industrial Use	Agricultural Use	Total	Surplus		Other Water ^(a)			
				Municipal and Industrial	Agricultural				
1962						18,289	18,289	30,000	
1963						22,456	22,456	105,000	
1964						32,507	32,507	331,600	
1965						44,105	44,105	499,800	
1966						67,928	67,928	482,700	
1967	5,747	5,791	11,538	0	0	53,605	65,143	455,200	
1968	46,472	125,237	171,709	10,000	111,534	14,777	308,020	931,300	628,000,000
1969	34,434	158,566	193,020	0	72,397	18,829	284,246	1,554,800	2,614,000,000
1970	47,996	185,997	233,993	0	133,024	38,080	405,097	1,804,800	2,679,000,000
1971	85,286	272,054	357,340	2,400	293,619	44,127	697,486	2,085,900	3,302,000,000
1972	181,066	430,735	611,801	22,205	401,759	73,127	1,108,892	1,971,200	1,922,000,000
1973	293,824	400,564	694,388	3,161	293,255	43,666	1,034,470	2,502,000	3,298,000,000
1974	418,521	455,556	874,077	4,753	412,923	48,342	1,340,095	4,073,600	4,672,000,000
1975	641,621	582,369	1,223,990	21,043	601,859	67,170	1,914,062	4,189,300	3,159,000,000
1976	818,588	554,414	1,373,002	32,488	547,622	116,962	2,070,074	4,239,600	2,131,000,000
1977	280,919	293,236	574,155	0	0	390,176	964,331	3,951,900	958,000,000
1978	742,385	710,314	1,452,699	3,566	13,348	122,916	1,592,529	5,773,700	2,882,000,000
1979	690,659	969,237	1,659,896	66,081	582,308	189,396	2,497,681	5,298,700	2,485,000,000
1980	730,545	799,204	1,529,749	19,722	384,835	48,590	1,982,896	5,701,900	2,988,000,000
1981	1,057,273	852,289	1,909,562	12,000	896,428	283,849 ^(d)	3,101,839	6,017,800	3,358,000,000
1982	928,164	821,303	1,749,467	0	215,873	156,377 ^(d)	2,121,717	6,187,700	5,097,000,000
1983	483,499	701,370	1,184,869	0	13,019	188,596 ^(d)	1,386,484	5,838,200	5,419,000,000
1984	723,342	865,043	1,588,385	3,663	259,254	387,631 ^(d)	2,238,933	6,273,100	3,368,000,000
Total ^(e)	8,210,341	9,183,299	17,393,640	201,082	5,233,057	2,471,501	25,299,280	70,299,800	50,959,000,000

a) Includes Preconsolidation Repayment Water, Emergency Relief Water, Exchange Water, Regulated Delivery of Local Supply, Non-SWP water delivered to Napa County FC&WCD through SWP facilities, Wheeling of CVP Water (including Decision 1485 Water), Recreation Water, and Demonstration Ground Water Fill withdrawal.

b) A recreation day is the visit of one person to a recreation area for any part of one day.

c) Includes SWP share of generation from Hyatt-Thermalito, San Luis, Devil Canyon, Warner, and Castaic Powerplants.

d) Includes wheeling of CVP Decision 1485 Water, which was excluded from previous versions of this table.

e) In addition, SWP dams have prevented millions of dollars worth of flood damage.

Highlights

The following six chapters summarize SWP operations in 1984, administrative and design and construction activities, and future water supply, power, and financing projections. The most significant events of the report period include:

- o The 1983-84 water year began with near-record runoff in November and December. But, a dry January set the trend for the following months and spring runoff was below average. Even so, the water year runoff was about 25 percent above average.
- o Demand for SWP water returned to more normal levels in 1984 after the extremely wet year of 1983. Deliveries of entitlement water to long-term contractors totaled 1,591,496 acre-feet, a 34 percent increase over 1983 and about equal to the 1984 deliveries requested in the fall of 1983.
- o Surplus water deliveries in 1984 totaled 262,917 acre-feet, about two-thirds of the average surplus deliveries in the previous 10 years.
- o After 14 months of nearly continuous operation, the Kern River Intertie was shut down on February 10, 1984. The intertie diverted 27,846 acre-feet of excess San Joaquin Valley flood water into the California Aqueduct during its six weeks of operation in 1984, bringing the total diversion since December 3, 1982 to nearly 795,000 acre-feet.
- o After a reservoir drawdown of about 100 feet, a crack appeared in the roadway on the crest of San Luis Dam on July 30, 1984. Normal reservoir operation was resumed in the fall of 1984 after review by a board of consultants.
- o Except for Castaic Lake, SWP reservoir storage was near or above average at the end of 1984. Castaic Lake was drawn down to allow work on the intake tower; refilling commenced on November 4.
- o The South Bay Aqueduct was out of service from November 4-16 to permit installation of trash rakes at two canal checks and lining repairs at several pipeline locations.
- o On January 16, 1984, a break occurred in the Lower Quail Canal on the West Branch of the California Aqueduct about one mile below Quail Lake. The major portion of repair work was completed, and the canal was operational to a depth of 23 feet by November 8. Repair was completed in early June 1985.
- o The East Branch of the California Aqueduct was shut down from September 24, 1984 through February 5, 1985 for construction work at Alamo Powerplant. At the same time, the approach to Pearblossom Pumping Plant was modified to allow for future expansion. During the outage, 4,095 acre-feet of water was supplied to the Aqueduct between the two work sites via a newly-constructed connection with the First Los Angeles Aqueduct.
- o SWP hydroelectric facilities generated 3.37 billion kWh of electrical energy in 1984, sufficient to meet over 92 percent of the total SWP energy requirement of 3.64 billion kWh.
- o As owner of a portion of Reid Gardner Unit No. 4, DWR received 1.30 billion kWh of energy derived from coal in 1984. Another 0.70 billion kWh was purchased under contracts for the output of Pine Flat Power Plant and MWDSC small hydro plants.

- o Total 1984 bulk power purchases under contracts with various public utilities exceeded 2.42 billion kWh, mostly from the Pacific Northwest. Payments to these utilities for bulk power and transmission services totaled \$132.5 million in 1984.
- o Sales of 5.44 billion kWh of excess energy, along with payments for power-associated services, brought revenues of \$145.3 million to the SWP in 1984.
- o Use at SWP recreation facilities in 1984 totaled 6,273,000 recreation days. An additional 450,000 visitor days of use were recorded at SWP visitor centers.
- o After 25 years of negotiations, the USBR and DWR reached accord in May 1985 on a Coordinated Operation Agreement for the CVP and SWP. The draft agreement includes provisions leading to purchase of interim CVP water by the SWP and conveyance of CVP water through SWP facilities. Before the agreement can be signed, an EIS-EIR must be completed and the USBR must obtain Congressional authorization.
- o Construction of Bottle Rock Powerplant, a 55-MW geothermal development, was essentially completed in the fall of 1984. The plant began generating power in February 1985.
- o Award of additional contracts for completion of South Geysers Powerplant was deferred pending acquisition of a firm supply of geothermal steam.
- o In April 1985, the MWDSC Board voted to proceed toward enlargement of the East Branch of the California Aqueduct from Alamo Powerplant through Devil Canyon Powerplant. The size of the initial enlargement, still under study, is expected to be 600 or 900 cfs with provision for a future increase to 1,200 cfs.
- o Construction of the 17-MW Alamo Powerplant continued, with operation expected in July 1986. Construction of the 3-MW Thermalito Diversion Dam Powerplant began with award of the turbine/generator contract in August 1984. Work on the tunnel and valve vault for Mojave Siphon Powerplant continued, but construction of the plant itself remained deferred pending further study.
- o Final design of Phase II of the North Bay Aqueduct reached full speed in 1984. To improve water quality and reduce costs, the intake pumping plant will be located on Barker Slough instead of Cache Slough. The first two pipeline contracts, representing about one-fourth of the 23-mile Phase II, were awarded in October 1984 and January 1985. At the request of the Solano County Flood Control and Water Conservation District, the design capacity was increased to convey water for the City of Vallejo. Initial operation was rescheduled to late 1987.
- o Installation of the final three pumps at Edmonston Pumping Plant was completed, and the units became operational in December 1984.
- o The Corps of Engineers completed a reanalysis of the Cottonwood Creek Project, indicating that the cost could be reduced significantly from earlier estimates. DWR reexamined alternative tributary reservoirs and formulated a three-reservoir plan that would be somewhat less costly than the Corps' project but would produce fewer water supply and flood control benefits. DWR concluded that, even with the reduction of cost, the Corps' project was too costly for repayment by the SWP contractors. This position was transmitted to the Corps in a June 1985 letter. DWR plans further study of the upstream reservoir alternatives.

- o A four-year feasibility study of Los Banos Grandes Reservoir began in July 1984. The Legislature authorized addition of this feature to the State Water Resources Development System in September 1984. Reservoir capacities of 500,000 to 2,300,000 acre-feet are being considered, as well as various sizes of conveyance facilities from the California Aqueduct.
- o A State/Federal Task Force was established in February 1984 to review the possible completion of Auburn Dam. With joint funding by DWR and the USBR, a consultant was retained to determine whether the project could be completed at less cost. The consultant's report is planned for completion in the fall of 1985.
- o A technical report, "California Aqueduct Use Study," was completed in February 1985. It examines future SWP delivery capability under various assumed conditions and operating criteria and identifies the unused aqueduct capacity that might be available for other uses. Future unused capacity will tend to be available most often in April, late summer, and early fall.
- o An analysis of the need for enlarging the SWP share of the San Luis Canal was completed. It showed that enlargement would not be needed to meet the delivery patterns currently shown in the contractors' projected requests.
- o Phase II of the Coastal Branch of the California Aqueduct has been delayed several times at the request of the coastal contractors. DWR has approved a further two-year delay in the start of final design (to July 1986).
- o Projections show that SWP power resources will be adequate to meet requirements in the coming years. Some additional power purchases are indicated to be needed in the 1990s.
- o The current SWP financial analysis demonstrates that SWP revenues will be adequate to meet future operating costs and debt service.
- o Additional bond sales presently foreseen are (1) the remaining \$12.25 million in authorized general obligation bonds for the Davis-Grunsky Act Program in 1986, and (2) \$74 million in power revenue bonds in 1987.

CHAPTER II

SWP OPERATIONS IN 1984

This chapter summarizes SWP water and power operations during the report period, recreation and visitor use at SWP facilities, and associated activities affecting fish and wildlife.

Water Operations

Water conditions, SWP reservoir and aqueduct operations, and the quality of SWP water in 1984 are covered in this section.

Water Conditions

The 1983-84 water year (October 1, 1983 through September 30, 1984) began as if it were going to be a repeat of the previous water year, with a very wet first quarter. However, January 1984 was one of the driest of record, setting the trend for the following months. But, even with the dry spring, most Northern California stations ended the water year with above-normal precipitation totals (Figure 3).

SWRCB Water Rights Decision 1485 uses an index based on the sum of the computed unimpaired runoff of the four major Sacramento Valley river basins (the Sacramento, Feather, Yuba, and American Rivers). The combined unimpaired runoff of these rivers in the 1983-84 water year was 22,350,000 acre-feet, about 25 percent above average and well within the range classified as wet by Decision 1485 criteria. Because the April through July unimpaired runoff was less than 5,900,000 acre-feet, the year was further designated a sub-normal snowmelt year.

Figure 4 shows cumulative unimpaired runoff to Lake Oroville and Shasta Lake during the 1983-84 water year. Unimpaired runoff to Shasta Lake was above average but nowhere near the previous year or the maximum year of 1973-74.

During the first quarter of the water year, unimpaired runoff to Lake Oroville exceeded that of the maximum year of 1982-83 but by mid-March, it had receded to less than that of 1982-83. The cumulative runoff did remain above average all year, however.

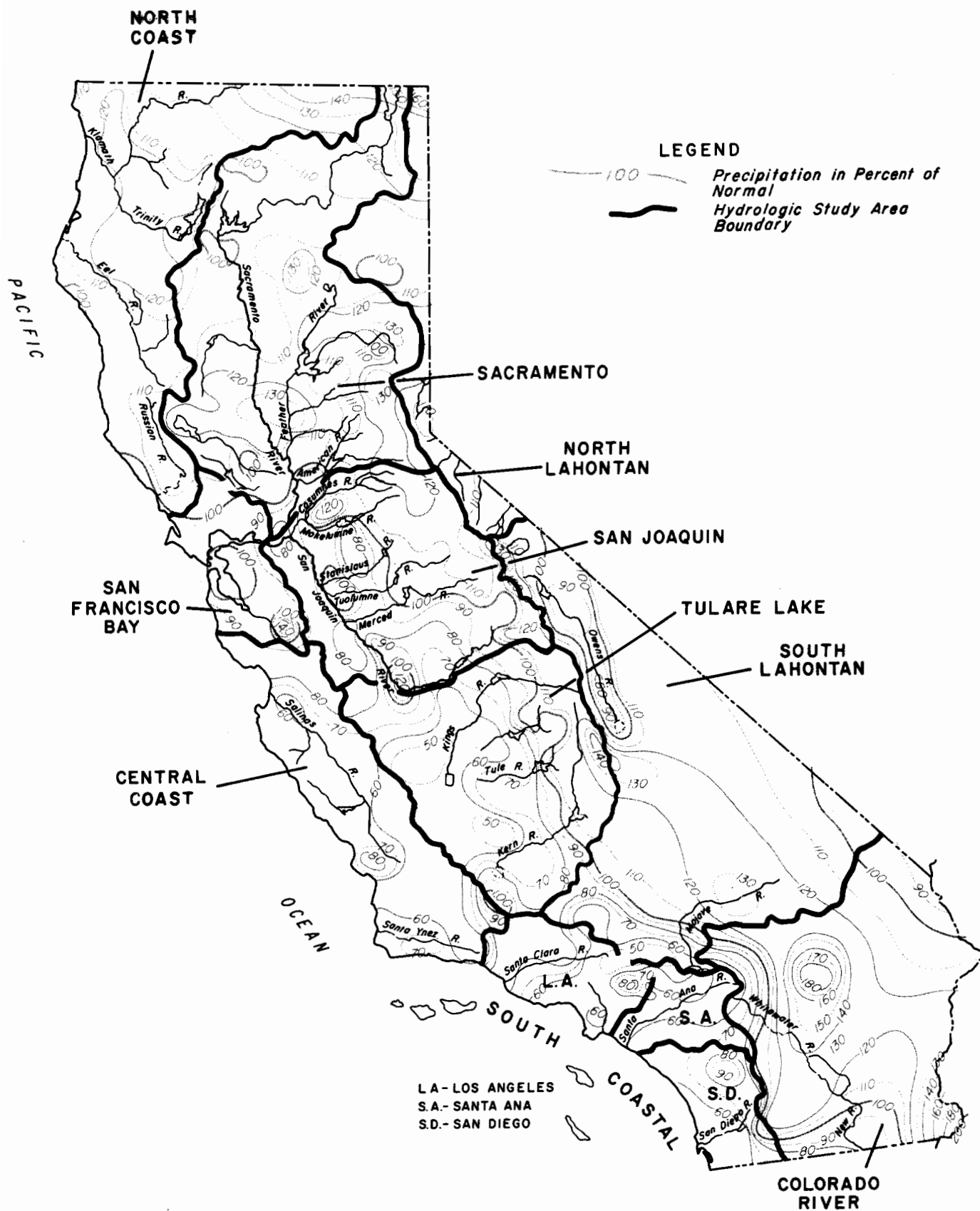
Further details of water conditions during the 1983-84 water year are available in Bulletin 120-84, "Water Conditions in California, Fall Report, October 1984."

"Balanced water conditions" were declared to be in effect by DWR and the USBR from June 14 through August 20, 1984. Balanced water conditions are periods when upstream reservoir storage withdrawals, plus other inflows, approximately equal the water supply needed to (1) satisfy Sacramento Valley and Delta in-basin and export needs and (2) meet Delta water quality objectives. During balanced water conditions, each agency adjusts its reservoir storage withdrawals and Delta exports to meet its share of in-basin uses and Delta outflow. The last period of balanced water conditions ended on October 27, 1981.

Reservoir Operations

Lake Oroville and San Luis Reservoir are the major storage sites for development of SWP water supplies. Figure 5 compares the 1984 operation of these reservoirs with the previous year's operation. Lake Oroville filling proceeded more rapidly in March and April in 1984 than in 1983. Lake Oroville reached a storage peak of 3,378,000 acre-feet on June 10, which is about 140,000 acre-feet below capacity. In 1983, Lake Oroville was essentially filled in June. The remainder of 1984 saw the storage curve below but paralleling 1983 operation.

FIGURE 3: STATEWIDE PRECIPITATION, 1983-84 WATER YEAR



**FIGURE 4: CUMULATIVE UNIMPAIRED RUNOFF
TO LAKE OROVILLE AND SHASTA LAKE**

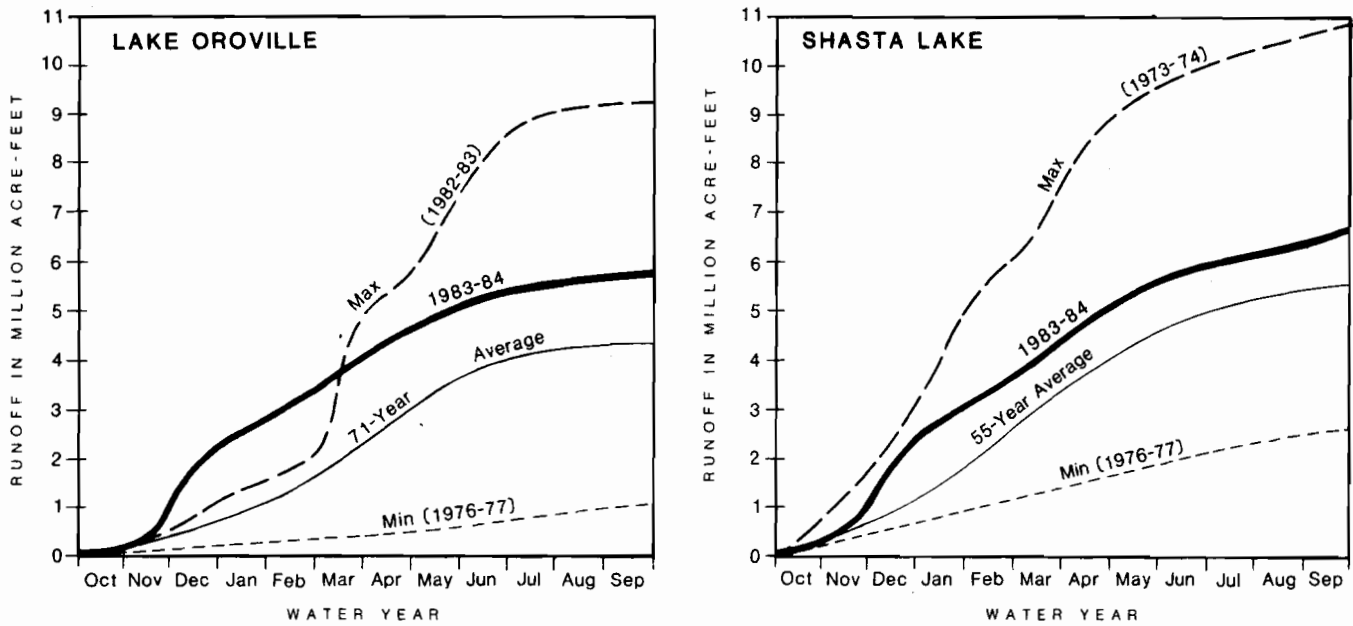
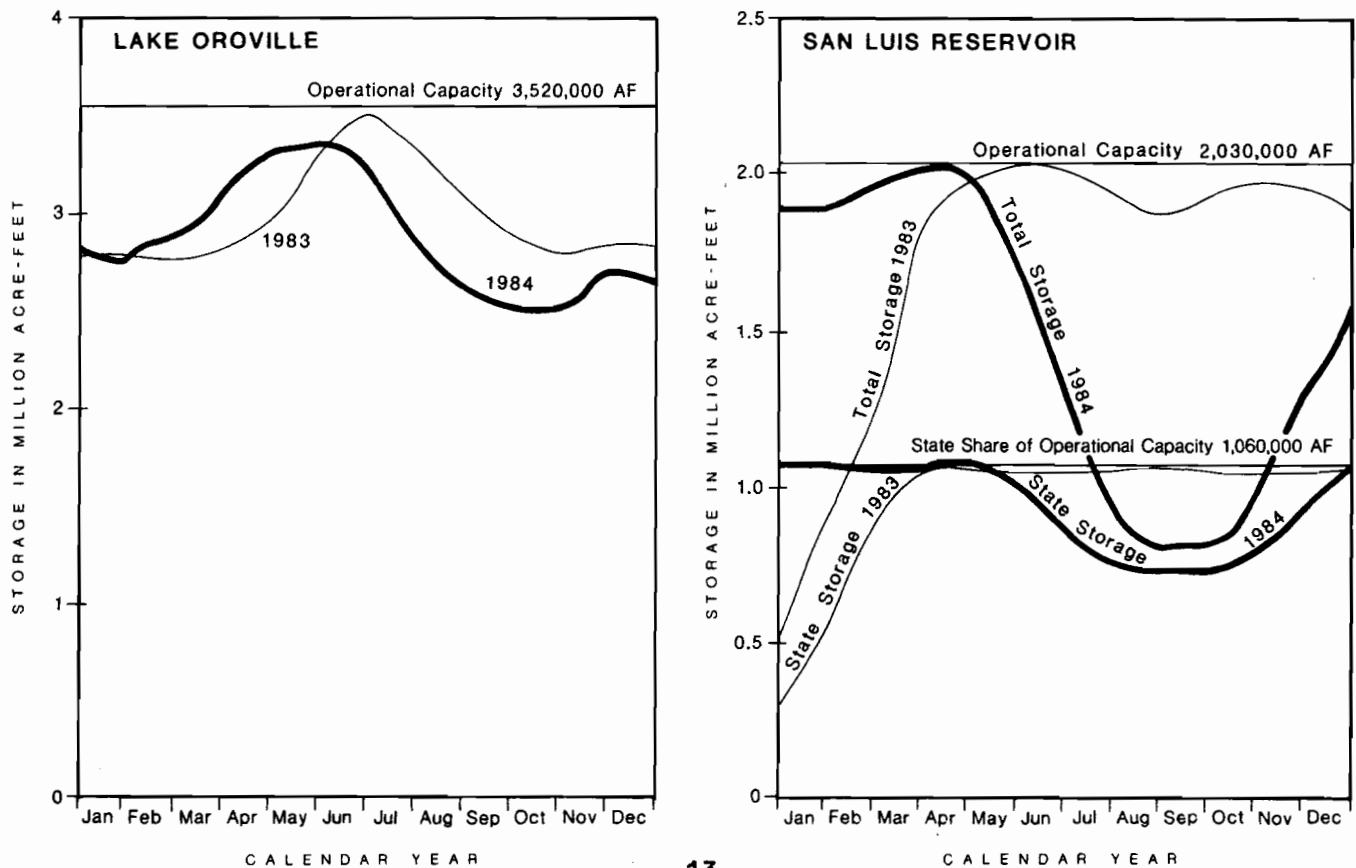


FIGURE 5: LAKE OROVILLE AND SAN LUIS RESERVOIR STORAGE



San Luis Reservoir started out the year near capacity for both State and total storage. By May, however, storage began to be drawn down rapidly to meet federal demands that could not be met through Delta pumping. State storage was also drawn down but to a lesser degree. Part of the State drawdown was to provide additional water to the USBR in O'Neill Forebay. The USBR returned the water later in the year by pumping at Banks Delta Pumping Plant and the State share of storage in San Luis Reservoir was refilled by the end of December.

On July 30, after a reservoir drawdown of about 100 feet, a small crack was discovered in the roadway on the crest of San Luis Dam. Initially, it was about 1/8 inch wide and 40 feet long. By August 22, the crack was 3/4 inch wide and 100 feet long. The crack appeared in the same vicinity as the slide that occurred in 1981. As described under "Safety of SWP Facilities" in Chapter IV, normal operation of San Luis Reservoir was resumed in the fall of 1984 after review by a board of consultants.

Figure 6 includes summaries of the 1984 operations of the principal SWP reservoirs (as well as summaries of aqueduct operations and water deliveries described later in the chapter). Except for Castaic Lake, reservoir storage was near or above average at the end of the year. Castaic Lake was drawn down to a minimum storage in 1984 of 65,400 acre-feet on November 4. The drawdown proceeded gradually over the year to allow work on the Castaic intake tower. Repairs on the lowest tier were completed on November 4 and refilling commenced at that time. Additional repair work took place at higher levels on the tower after refill started and continued through the end of the year. However, operations were not affected by the repair after refilling started.

The following tabulation compares 1983 and 1984 year-end storage in the principal SWP reservoirs:

Reservoir and Operational Capacity (acre-feet)	Storage (acre-feet)	
	12/31/83	12/31/84
Lake Oroville		
3,520,000	2,831,000	2,673,000
San Luis Res. (a)		
1,060,000	1,064,000	1,061,000
Silverwood Lake		
73,000	37,000	62,000
Lake Perris		
127,000	125,000	124,000
Pyramid Lake		
170,000	153,000	154,000
Castaic Lake		
319,000	271,000	133,000
Total	4,481,000	4,207,000
Total Change	-274,000	

a) SWP Share

The operational capacities in the preceding tabulation represent the reservoir levels that are not exceeded in normal operation; in most cases these levels are 1 to 2 feet below the spillway crest.

Aqueduct Operations

Figure 6 summarizes overall SWP operations in 1984, and shows the 1,540,707 acre-feet of CVP water that was conveyed through the San Luis Joint-Use Facilities to the federal San Luis service area. (DWR operates and maintains the joint-use facilities, the 102 miles of aqueduct between O'Neill Forebay and Kettleman City.)

Flows of excess San Joaquin Valley flood water to the California Aqueduct through the Kern River Intertie were terminated on February 10 (see sidebar). The Intertie diverted nearly 795,000 acre-feet to the Aqueduct between December 3, 1982 and February 10, 1984. Of this amount, 27,846 acre-feet were diverted in 1984.

The South Bay Aqueduct was taken out of service from November 4-16 to permit

installation of trash rakes at the Lupin and Del Valle checks and to allow permanent repair of some earlier minor mortar-lining repairs at several pipeline locations. During the same outage, Santa Clara Valley Water District completed installation of a new 54-inch butterfly valve below the Santa Clara Terminal Facilities.

On January 16, 1984, a break occurred in the Lower Quail Canal on the West Branch of the California Aqueduct about one mile below the outlet from Quail Lake. The break expanded to about 50 feet wide and extended down to about 14 feet above the canal invert. A canal reach about 1,000 feet long was affected by movement of the embankment and concrete lining. Approximately 300 acre-feet of water escaped through the break.

A panel of experts, appointed to investigate the failure, determined that the break in the canal resulted from internal erosion along one or more vertical, transversely skewed cracks in the embankment. The cracks were probably created by differential settling of the embankment near a location where its foundation changes from relatively non-compressible sandstone to alluvial deposits of low-density, silty sands.

Work under the contract to repair the Lower Quail Canal began in August 1984. Work on the extensive seepage blanket and reconstruction of the outlet channel were delayed by heavy snow and could not be finished until 1985. The canal was operational up to a water depth of 23 feet on November 8. That restriction remained until June 1985, when reconstruction of the canal and installation of instrumentation were completed. Refilling above the 23-foot depth is being carried out in stages under careful observation; the full depth of 37 feet should be reached later in the summer of 1985.

On the East Branch, Pearblossom Pumping Plant was shut down on September 24, 1984 for initial work to allow for

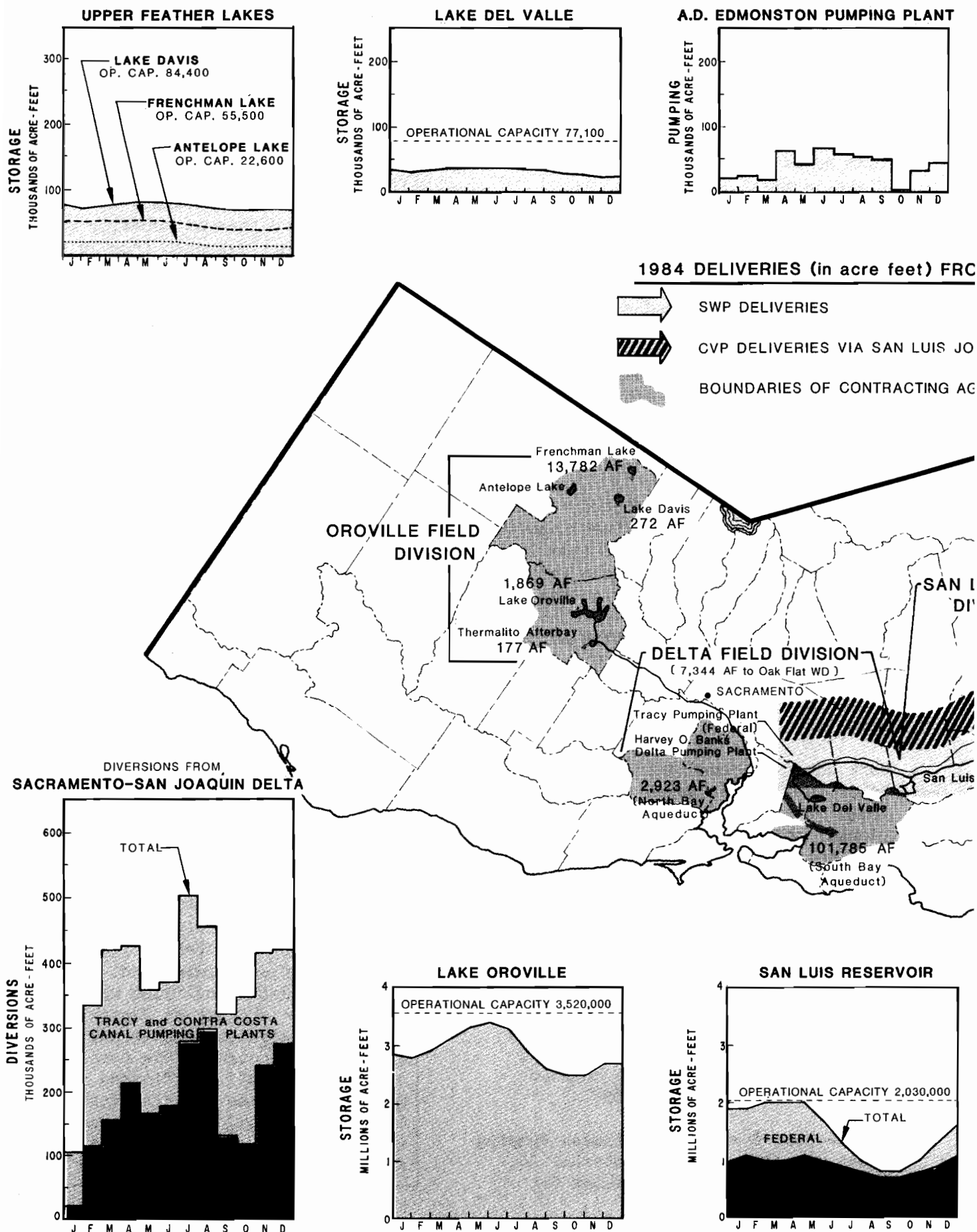
Tulare Lake Basin Flooding

The Tulare Lake Basin, in Kings County, is a closed basin that receives excess runoff of the Kern, Tule, and Kaweah Rivers and various minor streams. In years of heavy runoff, floodflows that exceed the capacity of upstream reservoirs accumulate in Tulare Lakebed and inundate land that is normally farmed. Floodflows are exported from Tulare Lakebed via pumping to the Kings River and incoming floodflows can be diverted via the Kern River Intertie to the California Aqueduct before reaching the lakebed. Historically, accumulated flood water would occasionally spill over the low northern rim of the Tulare Lake Basin and flow to the ocean via the San Joaquin River. However, flood control projects have essentially eliminated this possibility and the last natural outflow was in 1878.

The exceptionally heavy precipitation in 1982-83 resulted in the greatest annual runoff of the 88-year record. The Kern River Intertie was in nearly continuous operation during 1983, but flood water continued to accumulate in Tulare Lakebed, reaching a peak storage of 880,000 acre-feet on July 13 and covering 82,000 acres of farmland. By January 1, 1984, the storage had been reduced only to 620,000 acre-feet and 75,000 acres were still flooded.

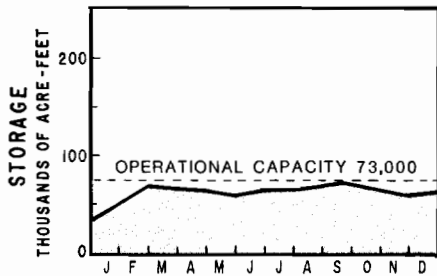
Pumping to the Kings River was shut down on January 19, 1984 to prevent the possible spread of predatory white bass to the Delta. Kern River Intertie diversions to the California Aqueduct were terminated on February 10, 1984 as Kern River flows diminished. The 600,000 acre-feet of flood water remaining in storage on January 19 was used for irrigation within the basin or evaporated throughout the remainder of 1984. About half the flooded area was dewatered in time for planting in the 1984 crop season, but some crop yields were marginal. Tulare Lakebed was finally declared dry in January 1985.

FIGURE 6: SUMMARY OF

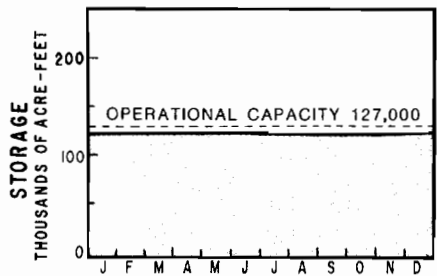


SWP WATER OPERATIONS, 1984

SILVERWOOD LAKE



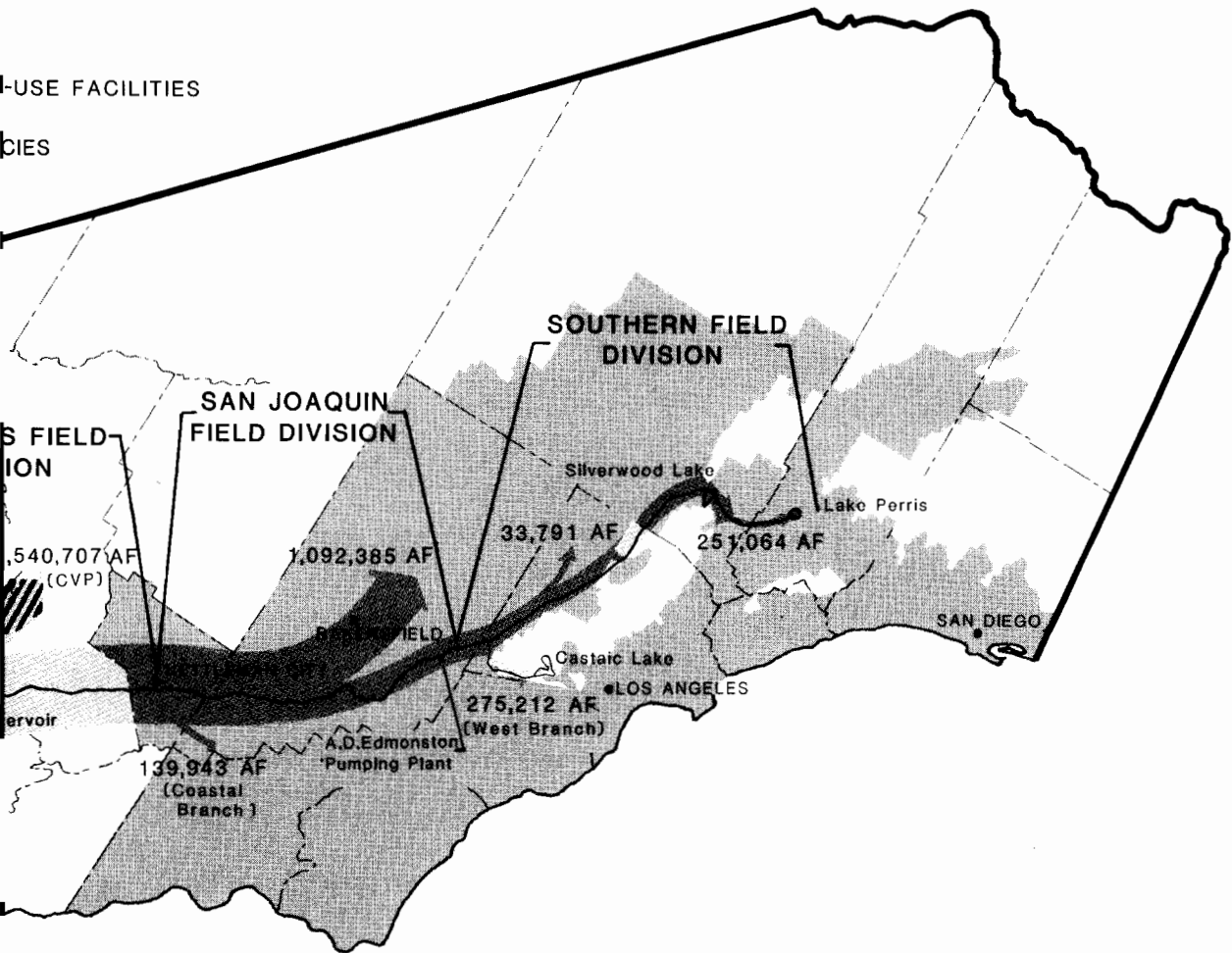
LAKE PERRIS



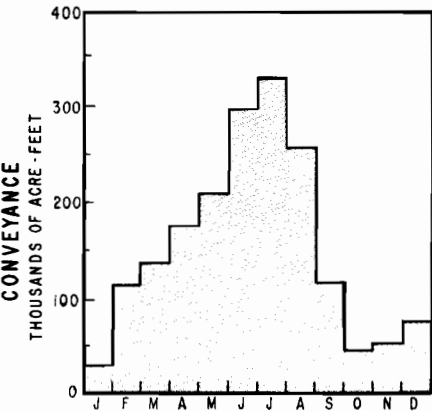
PROJECT FACILITIES

USE FACILITIES

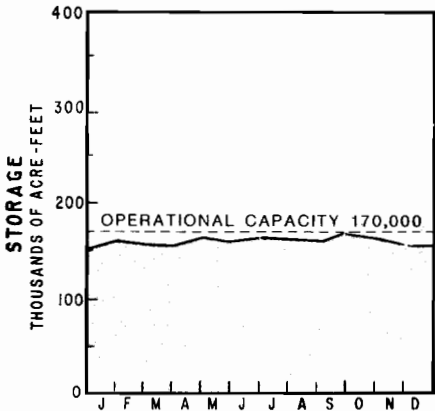
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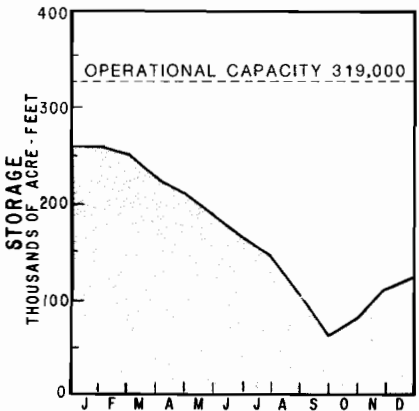
CONVEYANCE PAST KETTLEMAN CITY



PYRAMID LAKE



CASTAIC LAKE



installation of an additional pump unit that will serve as a spare. The work began with an earth dike 600 feet upstream of the plant. The dike was removed on December 30 after completion of the initial work.

In addition, the East Branch was shut down on October 2 and earth dikes were installed to tie in the Alamo Power-plant intake and tailrace channels. This work was completed and the East Branch was placed back in service on February 5, 1985.

While the East Branch was shut down, the Los Angeles Department of Water and Power supplied water to help meet the needs of the Antelope Valley-East Kern Water Agency. The water was supplied from the First Los Angeles Aqueduct at its crossing over Pool 44 of the California Aqueduct. The connection facilities were constructed and the water was furnished under terms described in Chapter III. The connection became operational on September 27 and provided an estimated 3,111 acre-feet of water between that date and November 27, 1984, when use was discontinued for the year. An additional 984 acre-feet of water was released during January and February 1985. When operating, the capacity of the connection was approximately 30 cfs. The design of the connection provides for future water exchanges ranging up to 480 cfs.

Water Quality

SWRCB Decision 1485 sets water quality standards, export limitations, and outflow requirements to protect beneficial uses in the Delta. This information and a record of water quality monitoring in the Delta appear annually in Appendix E to Bulletin 132. It is published separately under the title "Water Operations in the Sacramento-San Joaquin Delta."

The year 1984 was classified as "wet," which brought the most restrictive Delta water quality standards into effect

under Decision 1485. In May 1984, the year was further designated as a "subnormal snowmelt year," allowing lower Delta outflows in May through July. All water quality standards were met in 1984, most by a comfortable margin.

The Delta Outflow Index is a calculated value that is a relative measure of the net westerly flow of fresh water at Chipps Island near Pittsburg. It averaged above 30,000 cfs through the end of March, easily meeting Decision 1485 standards. Delta outflows were below 14,000 cfs from May through October in 1984, yet remained well above the minimum required by Decision 1485 for years with subnormal snowmelt. Delta salinity standards became controlling in June, requiring Delta outflow to be maintained at a level substantially exceeding the minimum outflow requirements for a subnormal snowmelt year.

The Delta Outflow Index averaged approximately 10,600 cfs in May, just under 8,000 cfs in June, and about 9,800 cfs in July. Sacramento River flow standards at Rio Vista were met by wide margins in 1984 and the May through July Delta export limits of Decision 1485 were also met, although by small margins in June and July.

Algal growth was first observed in the south Delta in April 1984, with chlorophyll levels increasing to a peak of 60 micrograms per liter in July. Chlorophyll levels remained above 20 micrograms per liter through October in the southern Delta. Phytoplankton production in the central Delta began increasing in early June 1984 and peaked rapidly with chlorophyll levels reaching 75 micrograms per liter later in the month. Central Delta algal blooms in August and September were of declining intensity, with chlorophyll levels of only 1/2 to 1/3 as high as those of the June bloom. The algal bloom pattern of western Suisun Bay was significantly more irregular, with a moderate and short bloom in May followed by a much longer period of low phytoplankton

production. Chlorophyll levels finally rose again in mid-August to near 20 micrograms per liter, then declined gradually through the fall.

As in most years, a rock barrier was installed in Old River on September 7, 1984 to encourage the upstream migration of salmon and steelhead by increasing fall flows in the lower San Joaquin River. However, large releases from upstream washed out the north portion of the rock barrier in early October. Several attempts were made to repair the barrier and a portion of the downstream levee, which had become significantly eroded. Sustained high flows eventually forced complete removal of the barrier in late October to prevent further damage to the eroded levee.

Table 2 summarizes 1984 water quality conditions at key locations throughout the SWP system. The table also lists the objectives set forth in the long-term water supply contracts for the maximum monthly average concentration of constituents.

Under the interagency Delta Health Aspects Monitoring Program, monthly water samples from the Delta and its various tributaries are analyzed for trihalomethane (THM) formation potential. The data are being used to identify major sources of THM precursors and to enable SWP contractors and other water agencies to determine methods for controlling these agents. Data from 1983 and 1984 indicate the waters of the San Joaquin River and the southern Delta have a higher THM formation potential than the waters of the American, Mokelumne, Cosumnes, and Sacramento Rivers. Suppliers of drinking water are required to test for THMs periodically. In general, drinking water produced from SWP supplies meets standards set by the U.S. Environmental Protection Agency.

Manmade organic compounds in waters of the Delta and its tributaries are also being monitored under the Delta Health

Aspects Monitoring Program. Samples are taken periodically and analyzed for a wide spectrum of organic chemical agents. Trichloroethylene (TCE) was found in the American and Sacramento Rivers, but was not detected at the Banks Delta Pumping Plant, where it had been occasionally observed in previous years. In addition, various pesticides and other synthetic organic chemicals were observed in low concentrations at several points in the Delta with no particular pattern evident. None of these observations were significant with regard to established drinking water standards or established public health "action levels" that would advise against consuming the water.

DWR continued routine monthly sampling of asbestos levels in California Aqueduct water in 1984. An additional special sampling program was conducted around the Arroyo Pasajero area in southern Fresno County, where occasional floodflows entering the Aqueduct are a source of sediment and asbestos pollution (although no such flood inflows occurred in 1984).

A second evaluation of the ability of dredging to reduce asbestos in Aqueduct water was completed during 1984. The earlier 1982 dredging evaluation yielded inconclusive results because the small quantity of sediment remaining in Pool 20 still induced high concentrations of asbestos in the water. The dredge was modified during 1983 to improve its ability to remove sediment completely down to the concrete lining.

Additional cleaning of the canal side-slopes, using a skid-mounted sludge pump, began in 1983 and continued in 1984. Pool 20 dredging was resumed in 1984, and a 10-mile reach of canal was recleaned as completely as possible with the existing equipment. Detailed water sampling indicated that dredging did in fact reduce Pool 20 asbestos concentrations by a statistically significant amount. The evaluation

TABLE 2: WATER QUALITY AT SELECTED STATIONS IN 1984

Station	Monthly Average	Concentration (in parts per million unless otherwise noted)					
		Total Dissolved Solids	Total Hardness	Chlorides	Sulfates	Sodium ^(a) (Percent)	Boron
Thermalito Afterbay, Outlet to Feather River	Minimum	50	30	1	1	16	0.0
	Average	55	32	1	2	17	0.0
	Maximum	65	36	1	3	19	0.1
Sacramento-San Joaquin Delta Banks Delta Pumping Plant	Minimum	132	58	22	19	43	0.1
	Average	163	68	31	26	45	0.2
	Maximum	216	85	47	34	49	0.2
South Bay Aqueduct, Santa Clara Terminal Facility	Minimum	116	50	9	16	32	0.1
	Average	166	79	26	26	37	0.2
	Maximum	216	116	43	38	43	0.2
California Aqueduct: Entrance to O'Neill Forebay	Minimum	125	57	20	17	41	0.0
	Average	161	68	30	25	45	0.2
	Maximum	217	85	47	35	49	0.4
Outlet from O'Neill Forebay	Minimum	149	65	29	23	45	0.0
	Average	182	76	38	31	47	0.1
	Maximum	236	93	54	40	50	0.2
Near Kettleman City	Minimum	150	64	30	21	45	0.1
	Average	181	75	37	28	47	0.2
	Maximum	236	93	49	42	49	0.3
Coastal Branch near Devil's Den	Minimum	154	65	29	22	44	0.1
	Average	187	76	38	31	47	0.2
	Maximum	249	95	57	41	51	0.3
Near Buena Vista Pumping Plant	Minimum	122	51	16	18	43	0.1
	Average	183	75	36	28	47	0.2
	Maximum	239	92	52	39	50	0.3
At Tehachapi Afterbay	Minimum	121	54	13	22	42	0.1
	Average	172	73	29	28	46	0.2
	Maximum	214	86	42	38	49	0.3
At Pearblossom Pumping Plant	Minimum	87	43	8	14	40	0.1
	Average	166	72	30	26	47	0.2
	Maximum	217	92	49	37	50	0.3
Silverwood Lake, Outlet to San Bernardino Tunnel	Minimum	85	45	9	12	38	0.1
	Average	156	69	27	28	43	0.2
	Maximum	214	82	37	44	47	0.2
Lake Perris, Outlet from Santa Ana Pipeline	Minimum	159	76	35	27	44	0.2
	Average	179	79	37	31	46	0.2
	Maximum	204	82	39	34	47	0.2
Pyramid Lake, Entrance to Angeles Tunnel	Minimum	219	124	16	72	26	0.3
	Average	262	144	22	87	30	0.4
	Maximum	312	161	26	97	34	0.4
Castaic Lake, Outlet Tower	Minimum	290	158	28	92	29	0.3
	Average	332	178	36	109	32	0.3
	Maximum	423	213	41	140	35	0.4
Monthly Average Quality Objectives		440	180	110	110	50	0.6

a) Amounts of sodium in solution expressed as a percentage of the total sodium, calcium, magnesium, and potassium in solution.

also discovered an asbestos source upstream of Arroyo Pasajero. This source is the Cantua-Salt Creek drainage area, where flood inflows are also admitted to the Aqueduct. The asbestos and sedimentation problems in this watershed are similar to those at Arroyo Pasajero, but on a much smaller scale.

DWR retained a consultant in 1984 to evaluate the impact of asbestos on domestic water supplies. This study included (1) identifying users of domestic water downstream of the asbestos inflow source (both those served by the USBR and by DWR), (2) evaluating existing water treatment plants, (3) estimating possible standards for asbestos in drinking water, and (4) estimating the cost required to upgrade all treatment facilities to achieve a greater reduction in asbestos concentrations. A draft report was completed in December 1984; the final report will be completed in 1985.

Water Service

The following sections summarize 1984 water conveyance and deliveries via SWP facilities.

Total Water Conveyed

In 1984, a total of 2,237,369 acre-feet of water was conveyed through SWP facilities. Table 3 summarizes total water conveyance for the 23 years of SWP operation, and shows the disposition of that water under the headings discussed in the following paragraphs.

Entitlement Water. The SWP water supply contracts, executed in the early 1960s, establish specific annual entitlement water amounts that each long-term water contractor may request. The initial "Table A" schedules reflected each contractor's estimate of future water needs at the time the contracts were signed; some have subsequently been revised. Table B-4 in Appendix B presents complete information on annual

entitlements for each contractor, as set forth in Table A of each SWP water supply contract.

Columns (1) through (7) of Table 3 summarize annual contractual entitlements for the various SWP service areas for the 1962-84 period; actual entitlement deliveries by year are shown in Column (8).

In September of every year, each contractor furnishes an updated estimate of future requirements for SWP water. In the fall of 1983, 23 contractors requested delivery of a total of 1,567,520 acre-feet of entitlement water in 1984 (including 3,900 acre-feet deferred from prior years). On December 21, 1983, DWR approved the initial schedule for 1984 water deliveries, based on the 1984 rule curve criteria and the December 1, 1983 water supply forecast. The initial approval was for delivery of all 1984 entitlement water requested, plus 51,975 acre-feet of preconsolidation repayment water.

Actual entitlement water delivered in 1984 totaled 1,588,385 acre-feet to the 20 contractors accepting deliveries. (Three contractors took none of their scheduled water). Ten contractors took less entitlement water than initially requested, and eight contractors took the amounts initially requested (their full Table A entitlements). The other two contractors, Antelope Valley-East Kern Water Agency (AVEK) and MWDSC, increased their requested deliveries of entitlement water during the year. AVEK received over 50 percent more than initially requested (+11,000 acre-feet), and MWDSC took delivery of almost 25 percent more (+84,000 acre-feet).

Surplus Water. In September 1983, six contractors submitted estimates indicating that they could use a total of 245,858 acre-feet of surplus water during 1984. In December 1983, DWR announced that all 1984 surplus water

TABLE 3: HISTORICAL SUMMARY OF ENTITLEMENTS,

Calendar Year	Annual Entitlements Under Long-Term Water Supply Contracts (Acre-Feet) ^(a)							Entitlement Water
	Feather River Area	North Bay Area	South Bay Area	San Joaquin Valley Area	Central Coastal Area	Southern California Area	Total	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
1962	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0
1967	0	0	11,538	0	0	0	11,538	11,538
1968	550	0	109,900	81,050	0	0	191,500	171,709
1969	620	0	98,700	168,075	0	0	267,395	193,020
1970	700	0	114,200	207,700	0	0	322,600	233,993
1971	890	0	116,200	258,500	0	0	375,590	357,340
1972	970	0	118,300	420,766	0	201,723	741,759	611,801
1973	1,100	0	120,400	392,352	0	472,400	986,252	694,388
1974	1,230	0	122,400	470,350	0	588,220	1,182,200	874,077
1975	1,610	0	124,500	556,509	0	704,250	1,386,869	1,223,990
1976	1,990	0	126,500	555,117	0	824,780	1,508,387	1,373,002
1977	2,420	0	128,600	594,100	0	942,201	1,667,321	574,155
1978	1,850	0	130,700	647,262	0	1,038,222	1,818,034	1,452,699
1979	2,130	0	132,700	715,385	0	1,177,873	2,028,088	1,659,896
1980	1,810	500	134,800	770,800	1,946	1,304,914	2,214,770	1,529,749
1981	1,940	650	137,000	830,700	2,813	1,419,365	2,392,468	1,909,562
1982	1,970	800	139,200	889,200	5,626	1,537,749	2,574,545	1,749,467
1983	2,000	950	141,400	880,648	8,439	1,668,557	2,701,994	1,184,869
1984	3,630	1,100	143,600	991,911	12,698	1,731,398	2,884,337	1,588,385
Totals 1962-1984	27,410	4,000	2,150,638	9,430,425	31,522	13,611,652	25,255,647	17,393,640

a) From Table B-4

b) Values include deliveries of SWP water to short-term contractors (Mustang Water District, 1970-71; Tracy Golf and Country Club, 1974, 1979, and 1980; Green Valley Water District, 1974, 1975, 1978, 1979, and 1980; and Granite Construction Company, 1980).

requests could be satisfied. The total surplus water delivered during 1984 was 262,917 acre-feet (to five contractors).

Unscheduled Water. For 1984, no unscheduled water deliveries were made because enough surplus water was available as of January 1984 to satisfy all requests. See Bulletin 132-84, page 21, for a discussion of unscheduled water.

Other Water. Column (10) of Table 3 summarizes deliveries of several other types of water, as defined in the accompanying footnote. These are shown in more detail (for 1984) in Table 5, and described in the accompanying text later in this chapter under the heading "Total 1984 Water Deliveries".

Initial Fill Water. The quantities shown in Column (12) of Table 3 are the

DELIVERIES, AND WATER CONVEYED

Water Conveyed (Acre-Feet)							Calendar Year
Deliveries			Initial Fill Water	Operational Losses and Storage Changes ^(d)	Recreation Water	Total	
Surplus and Unscheduled Water ^(b)	Other Water ^(c)	Subtotal					
(9)	(10)	(11)	(12)	(13)	(14)	(15)	
0	18,289	18,289	9	272	0	18,570	1962
0	22,456	22,456	71	185	0	22,712	1963
0	32,507	32,507	171	152	0	32,830	1964
0	44,105	44,105	93	729	0	44,927	1965
0	67,928	67,928	0	1,746	0	69,674	1966
0	53,605	65,143	8,328	4,212	0	77,683	1967
121,534	14,777	308,020	498,926	117,906	0	924,852	1968
72,397	18,829	284,246	510,614	72,196	0	867,056	1969
133,024	38,080	405,097	23,947	2,435	0	431,479	1970
296,019	44,119	697,478	7,853	5,812	8	711,151	1971
423,964	66,638	1,102,403	100,274	53,062	6,489	1,262,228	1972
296,416	42,511	1,033,315	204,638	53,798	1,155	1,292,906	1973
417,676	46,224	1,337,977	237,554	10,657	2,118	1,588,306	1974
622,902	63,793	1,910,685	103,352	- 94,606	3,377	1,922,808	1975
580,110	115,217	2,068,329	61,122	-681,025	1,745	1,450,171	1976
0	389,065	963,220	0	-131,151	1,111	833,180	1977
16,914	121,225	1,590,838	64,443	717,370	1,691	2,374,342	1978
648,389	187,630	2,495,915	12,302	- 83,401	1,766	2,426,582	1979
404,557	46,459	1,980,765	0	- 30,453	2,131	1,952,443	1980
908,428	279,161	3,097,151	0	126,180	4,688	3,228,019	1981
215,873	155,443	2,120,783	0	136,555	4,646	2,261,984	1982
13,019	181,453	1,379,341	0	- 90,320	7,849	1,296,870	1983
262,917	380,717	2,232,019	0	- 1,690	7,040	2,237,369	1984
5,434,139	2,430,231	25,258,010	1,833,697	190,621	45,814	27,328,142	Totals 1962-1984

- c) Includes Preconsolidation Repayment Water, 1977 Emergency Relief Water, 1978 and 1982 Exchange Water, Regulated Delivery of Local Supply, Non-SWP Water delivered to Napa County FC&WCD through SWP facilities, and Wheeling of CVP Water (including Decision 1485 Water, which was excluded from previous versions of this table).
- d) Includes net effect of (1) operational losses from SWP transportation facilities, (2) changes in reservoir storage south of the Delta, (3) storable local inflows to SWP reservoirs, (4) side inflow to the San Luis Canal, (5) diversions via the Kern River Intertie, and (6) releases from the connection with the First Los Angeles Aqueduct.

amounts used for initially filling SWP aqueducts and reservoir storage space south of the Delta to maximum operational capacities. Initial filling began in 1962 with the first filling of the South Bay Aqueduct and was completed in 1979, when Lake Perris reached its maximum operational capacity.

Operational Losses and Storage Changes. Column (13) of Table 3 shows the annual quantities of water conveyed to replenish losses to evaporation and seepage from SWP aqueducts and reservoirs south of the Delta, combined with corrections for changes in reservoir storage and for inflow from local drainage areas (including inflows from

the Kern River Intertie and the First Los Angeles Aqueduct). Years with negative values of water conveyed are those in which storage withdrawals and storable local inflow exceed storage additions plus replenishment of evaporation and seepage losses.

Recreation Water. Column (14) of Table 3 summarizes historic deliveries of "recreation water," which actually includes both water for use at SWP recreation facilities and water used for fish and wildlife mitigation and enhancement. In 1984, a total of 7,040 acre-feet was conveyed under this category, as follows:

- o 3,915 acre-feet for use at public recreation facilities at Lake Del Valle, San Luis Reservoir, O'Neill Forebay, Silverwood, Pyramid, and Castaic Lakes, and Lake Perris;
- o 275 acre-feet released to maintain a trout fishery in Piru Creek, in accordance with a condition of the Federal Energy Regulatory Commission license for power development at Pyramid Lake;
- o 2,378 acre-feet to replace water losses at Castaic Lagoon, an impoundment devoted entirely to recreation;
- o 472 acre-feet conveyed to about 830 acres of wildlife mitigation lands located below O'Neill Forebay and at the Pilibos Wildlife Area (30 miles south of Los Banos).

Water Deliveries and Credits to Long-Term Contractors

Table 4 summarizes 1984 water deliveries to each SWP long-term contractor that received water during the year. The table also shows future entitlement delivery and reduction credits, as explained in the following sections.

Future Entitlement Delivery Credits (Makeup Water). When the SWP is unable to deliver the requested entitlement

water in any year, long-term contractors are afforded relief under Articles 12(d) and 14(b) of the water supply contract. Contractors may elect to receive the undelivered entitlement water at other times during the year, or in succeeding years, to the extent that the water and delivery capability are available. In 1977, as a result of the drought, quantities of initially-scheduled water were reduced. Through these reductions, 21 long-term contractors gained credits for future delivery totaling 457,066 acre-feet. These credits for undelivered entitlement water under Articles 12(d) and 14(b) have been reduced by delivery of "makeup" water over the years so that now only 10 contractors have remaining rights. No makeup water was delivered in 1984. As shown in Column (7) of Table 4, 128,116 acre-feet of credits for future deliveries remained available as of January 1, 1985 -- 123,329 acre-feet under Article 12(d) and 4,787 acre-feet under Article 14(b).

Future Entitlement Delivery Credits (Wet-Weather Water). Under water supply contract Article 7 (South Bay contractors) or Article 45 (San Joaquin Valley contractors), SWP contractors can acquire credits for future deliveries when above-normal local water supplies reduce the need for SWP water. At the time of delivery, the sum of current annual entitlement plus "wet-weather" water cannot, however, exceed a contractor's maximum annual entitlement.

As of January 1, 1984, five contractors had acquired credits totaling 225,002 acre-feet for future delivery of entitlement water. Of this total, 221,961 acre-feet was acquired under the wet-weather provisions of their contracts, and 3,041 acre-feet was carry-over water (shown in a separate column in Table 4). During 1984, Oak Flat Water District took delivery of 900 acre-feet of water, for which it had acquired a credit under Article 45 in 1982 and 1983. Tulare Lake Basin Water Storage

TABLE 4: SUMMARY OF 1984 DELIVERIES AND CREDITS TO LONG-TERM CONTRACTORS

Long-Term Water Supply Contractor	Water Deliveries in 1984 (Acre-Feet)						Future Entitlement Credits (Acre-Feet)				
	Entitlement Water Deliveries			Surplus Water Deliveries (4)	Other Water Deliveries (5)	Total Deliveries (3+4+5=6) (6)	Future Entitlement Delivery Credit as of January 1, 1985				Future Entitlement Reduction Credit Arts. 7 or 45 (11)
	1984 Entitlement (1)	Entitlement Deferred from Prior Year (2)	Total Entitlement (1+2=3) (3)				Makeup Water Per Articles 12(d) or 14(b) (7)	Wet-Weather Water Per Articles 7 or 45 (8)	Carry-Over Water Per Letter Agmts. Dated 10/1/79 (9)	Total Delivery Credit (7+8+9) (10)	
<u>UPPER FEATHER RIVER AREA</u>											
County of Butte	177	-	177	-	-	177	-	-	-	-	-
Plumas County FC&WCD	272	-	272	-	-	272	-	-	-	-	-
<u>SOUTH BAY AREA</u>											
Alameda County FC&WCD, Zone 7	6,784	-	6,784	-	-	6,784	2,438	72,957	-	75,395	-
Alameda County WD	3,338	-	3,338	-	-	3,338	2,220	122,871	-	125,091	-
Santa Clara Valley WD	88,000	-	88,000	3,663	-	91,663	-	-	-	-	-
<u>SAN JOAQUIN VALLEY AREA</u>											
County of Kings	3,100	-	3,100	-	-	3,100	-	0	-	0	-
Devil's Den WD	12,700	41 ^(a)	12,741	7,419	685 ^(b)	20,845	-	0	0	0	-
Dudley Ridge WD	45,100	-	45,100	19,500	-	64,600	-	-	-	-	-
Empire West Side ID	0	-	0	-	-	0	-	-	3,000	3,000	-
Kern County WA	860,600	-	860,600	230,691	8,100 ^(c)	1,099,391	-	-	-	-	-
Oak Flat WD	4,800	900 ^(d)	5,700	1,644	-	7,344	-	540	-	540	2,466
Tulare Lake Basin WSD	5,743	-	5,743	-	-	5,743 ^(e)	-	127,059 ^(e)	-	127,059	-
<u>SOUTHERN CALIFORNIA AREA</u>											
Antelope Valley-East Kern WA	32,662	-	32,662	-	-	32,662	14,841 ^(f)	-	-	14,841	-
Castaic Lake WA	11,477	-	11,477	-	-	11,477	500	-	-	500	-
Coschella Valley WD	15,768	-	15,768	-	-	15,768	-	-	-	-	-
Crestline-Lake Arrowhead WA	1,128	-	1,128	-	-	1,128	151	-	-	151	-
Desert WA	25,000	-	25,000	-	-	25,000	-	-	-	-	-
Little Rock Creek ID	1	-	1	-	-	1	438	-	-	438	-
Mojave WA	-	-	-	-	-	-	20	-	-	20	-
San Bernardino Valley MWD	5,556	-	5,556	-	-	5,556	4,269	-	-	4,269	-
San Gabriel Valley WD	7,656	-	7,656	-	-	7,656	1,000	-	-	1,000	-
The Metropolitan Water District of Southern California	457,582	-	457,582	-	126 ^(g)	457,708	102,239	-	-	102,239	-
SUBTOTAL	1,587,444	941	1,588,385	262,917	8,911	1,860,213	128,116	323,427	3,000	454,543	2,466
<u>NORTH BAY AREA</u>											
Napa County FC&WCD ^(h)	2,923	-	2,923	-	-	2,923	-	-	-	-	-
TOTAL ALL AREAS	1,590,367	941	1,591,308	262,917	8,911	1,863,136	128,116	323,427	3,000	454,543	2,466

a) Carry-Over storage of Entitlement Water under letter agreements dated October 1, 1979 with Devil's Den Water District and Empire West Side Irrigation District.

b) 1982 Exchange water; 559 acre-feet from Lake Oroville storage and 126 acre-feet from MWDSC ground water storage.

c) 1977 Emergency Relief Water.

d) Article 45 Wet-Weather Water.

e) Tulare Lake Basin Water Storage District (TLBWS) took only 5,743 acre-feet of its reduced 1984 entitlement of 62,611 acre-feet, and thus accrued an additional 56,868 acre-feet of Future Entitlement Delivery Credit. This increased its total delivery credit to 127,059 acre-feet.

f) Antelope Valley-East Kern WA Future Entitlement Delivery Credits total 4,787 acre-feet under Water Supply Contract Article 14(b) and 10,054 acre-feet under Article 12(d). Credits shown in this column for all other contractors are under Article 12(d) of their water supply contracts.

g) 1982 Exchange Water stored in MWDSC's ground water basin for Devil's Den Water District and recaptured by MWDSC in 1984.

h) Non-SWP Water delivered to Napa County FC&WCD through SWP facilities; included here to match treatment in Appendix B.

District (TLBWSD) on the other hand, accrued an additional future delivery credit in 1984. TLBWSD took only 5,743 acre-feet of entitlement water during 1984, which was 56,868 acre-feet less than its amended 1984 annual entitlement of 62,611 acre-feet (see Bulletin 132-84, page 43). This increased its total future delivery credit to 127,059 acre-feet, as shown in Column (8) of Table 4.

Future Entitlement Reduction Credits (Wet-Weather Water). The "wet-weather" contract provisions also allow a contractor to increase entitlement water deliveries in years of below-average local water supply and to decrease entitlement deliveries by an equal amount in later years. Oak Flat Water District made such an increase in 1972, and has retained its reduction credit of 2,466 acre-feet through 1984, as shown in Column (11) of Table 4.

Future Entitlement Delivery Credits (Carry-Over Water). Both Empire West Side Irrigation District (EWSID) and Devil's Den Water District (DDWD) have reached their maximum annual entitlement. Therefore, EWSID is no longer able to exercise the delivery provisions of Article 45, while DDWD had not amended the wet-weather provisions into its contract prior to reaching maximum annual entitlement. EWSID and DDWD do, however, have temporary "carry-over" storage rights in either Lake Oroville or San Luis Reservoir under letter agreements executed on October 1, 1979. Both EWSID and DDWD requested that their undelivered 1983 entitlement water be stored in Lake Oroville. This 3,041 acre-feet of carry-over water was included in Column (7) of Table 4 in Bulletin 132-84, along with wet-weather credits. As explained on pages 25-26 of Bulletin 132-84, the carry-over credits for undelivered 1983 entitlement water were eliminated on January 1, 1984.

At EWSID's request, a total of 3,000 acre-feet of undelivered 1984 entitle-

ment water was stored in Lake Oroville, contingent on availability of reservoir space. Column (9) has been added to Table 4 in this bulletin to indicate the carry-over storage credits (as of January 1, 1985) separately.

Total 1984 Water Deliveries

During 1984, the SWP provided water service to 25 agencies. These included 20 long-term water contractors and 5 other agencies. Monthly deliveries to each of the 25 agencies, shown in Table 5, are summarized as follows:

- o 1,587,444 acre-feet of 1984 entitlement water to 20 long-term contractors (only eight took their full contract entitlements);
- o 900 acre-feet of entitlement water to one long-term contractor, deferred from 1983 under the wet-weather provisions (Article 45 of its contract);
- o 41 acre-feet of entitlement water from carry-over storage to one long-term contractor;
- o 262,917 acre-feet of surplus water to five long-term contractors;
- o 38,649 acre-feet of preconsolidation repayment water delivered to the two companies holding preconsolidation repayment water contracts;
- o 8,100 acre-feet of 1977 emergency relief water to one long-term contractor;
- o 811 acre-feet of 1982 exchange water to two long-term contractors;
- o 39,592 acre-feet of regulated local supply to two long-term contractors and two noncontractors;
- o 2,923 acre-feet of federal water transported to one long-term contractor;

- o 98,498 acre-feet of CVP water wheeled to the Cross Valley Canal contractors and to three annual contractors in the San Joaquin Valley;
- o 192,144 acre-feet of CVP water wheeled to O'Neill Forebay to replace curtailed CVP pumping during May and June in accordance with SWRCB Decision 1485.

Table 5 shows monthly deliveries of each type of water conveyed in 1984, along with summaries of Table A entitlements and cumulative entitlements not delivered. The types of water service not described in preceding sections are covered in the following paragraphs.

Preconsolidation Repayment Water.

In 1964, DWR entered into two contracts to obtain water to preconsolidate land within the right of way of the California Aqueduct. This water was to be paid back on request after the Aqueduct began service. The contracts, which have changed hands over the years, are currently held by Shell California Production, Inc. and the J. G. Boswell Company. In 1984, 7,924 acre-feet were delivered to Shell California Production, Inc., leaving a balance of 23,689 acre-feet yet to be delivered. Likewise, 30,725 acre-feet were delivered to the J. G. Boswell Company in 1984, leaving a balance of 14,170 acre-feet to be delivered. These contracts terminated December 31, 1984. Agreements to extend the delivery of this water to December 31, 1994 are in process (see Chapter III).

1977 Emergency Relief Water. At the end of 1977, the SWP had 95,176 acre-feet of water in storage for emergency relief of drought conditions. In 1978, when it became apparent that the 1976-77 drought was over, the stored water was sold (see Bulletin 132-79, pages 88-89). Two non-SWP contractors (Green Valley Water District and Tracy Golf and Country Club) purchased a

total of 650 acre-feet and took delivery in 1978 and 1979.

Kern County Water Agency (KCWA) purchased the remaining 94,526 acre-feet of stored water for delivery before December 31, 1983. At KCWA's request, the agreement was amended to extend the delivery deadline to December 31, 1986. In 1984, 8,100 acre-feet of this water was delivered to KCWA, leaving a balance of 13,421 acre-feet remaining to be delivered.

1982 Exchange Water. Under the 1982 exchange agreements described in Chapter III, Devil's Den Water District (DDWD) took delivery of all 685 acre-feet of its 1982 exchange water during 1984. DDWD took 559 acre-feet stored in Lake Oroville, and 126 acre-feet stored in a MWDSC ground water basin. To complete the exchange, MWDSC was billed for the 126 acre-feet of 1982 exchange water at the variable OMP&R rate charged at the time the water was stored.

Regulated Delivery of Local Supply.

SWP facilities are also used to transport nonproject water for both long-term SWP contractors and for other agencies under various agreements to honor local water rights. Some of this water simply passes through SWP transportation facilities; some is stored in SWP reservoirs for release later in the year, under agreements by which the water-right holders pay storage fees. In 1984, a total of 39,592 acre-feet was delivered in this manner to two long-term contractors and two other agencies.

Non-SWP Water to Napa County Flood Control and Water Conservation Dis-

trict. Pending completion of Phase II of the North Bay Aqueduct, Napa County Flood Control and Water Conservation District receives interim water from the USBR, wheeled by Solano Irrigation District to Reach 3 of the North Bay Aqueduct. From there, the water is pumped through interim pumping facil-

TABLE 5: MONTHLY WATER

(in acre-feet)

Line No.	Contracting Agency and Type of Service	Month							
		JAN	FEB	MAR	APR	MAY	JUN	JUL	
FEATHER RIVER SERVICE AREA									
1.	City of Yuba City Entitlement Water	0	0	0	0	0	0	0	
2.	County of Butte: Entitlement Water	9	30	101	0	3	0	0	
3.	Last Chance Creek Water District: Regulated Delivery of Local Supply	0	0	0	0	613	4,149	3,390	
4.	Plumas County Flood Control and Water Conservation District: Entitlement Water	5	17	11	13	35	42	57	
5.	Thermalito Irrigation District: Regulated Delivery of Local Supply	0	0	4	0	300	341	347	
6.	AREA TOTAL	14	47	116	13	951	4,532	3,794	
NORTH BAY SERVICE AREA									
7.	Napa County Flood Control and Water Conservation District: Non-SWP Water via SWP Facilities	58	54	69	81	125	237	230	
8.	Solano County Flood Control and Water Conservation District: Entitlement Water	0	0	0	0	0	0	0	
9.	AREA TOTAL	58	54	69	81	125	237	230	
SOUTH BAY SERVICE AREA									
10.	Alameda County Flood Control and Water Conservation District, Zone 7: Entitlement Water	0	8	45	676	935	1,103	1,284	
11.	Regulated Delivery of Local Supply	800	773	1,198	940	1,314	1,264	1,565	
12.	Agency Total	800	781	1,243	1,616	2,249	2,367	2,849	
13.	Alameda County Water District: Entitlement Water	0	0	0	0	0	0	0	
14.	Regulated Delivery of Local Supply	702	749	824	800	1,110	1,730	2,876	
15.	Agency Total	702	749	824	800	1,110	1,730	2,876	
16.	Santa Clara Valley Water District: Entitlement Water	4,400	4,400	5,280	7,179	9,281	9,360	9,673	
17.	Surplus Water	512	1,212	1,876	0	63	0	0	
18.	Agency Total	4,912	5,612	7,156	7,179	9,344	9,360	9,673	
19.	Recreation/Fish and Wildlife Water	5	5	6	10	12	26	25	
20.	AREA TOTAL	6,419	7,147	9,229	9,605	12,715	13,483	15,423	
SAN JOAQUIN VALLEY SERVICE AREA (SWP Water)									
21.	County of Kings: Entitlement Water	341	341	341	341	265	147	335	
22.	Devil's Den Water District: Entitlement Water	214	382	765	1,019	1,274	2,039	2,556	
23.	Carry-Over Water	41	0	0	0	0	0	0	
24.	Surplus Water	2,352	1,779	1,329	372	830	204	553	
25.	1982 Exchange Water	0	0	0	0	559	126	0	
26.	Agency Total	2,607	2,161	2,094	1,391	2,663	2,369	3,109	
27.	Dudley Ridge Water District: Entitlement Water	902	1,353	2,706	3,608	4,510	7,216	8,118	
28.	Surplus Water	151	853	1,895	692	3,457	3,670	4,874	
29.	Agency Total	1,053	2,206	4,601	4,300	7,967	10,886	12,992	
30.	Empire West Side Irrigation District: Entitlement Water	0	0	0	0	0	0	0	
31.	Kern County Water Agency: Entitlement Water	18,349	31,851	57,132	71,059	91,484	141,374	188,514	
32.	Surplus Water	0	43,844	44,708	15,080	44,131	44,517	35,250	
33.	1977 Emergency Relief Water	0	0	0	0	0	0	0	
34.	Agency Total	18,349	75,695	101,840	86,139	135,615	185,891	223,764	
35.	Oak Flat Water District: Entitlement Water	0	171	342	456	864	912	1,026	
36.	Article 45(e) Wet Weather Water	0	0	0	0	249	191	460	
37.	Surplus Water	0	48	489	827	0	280	0	
38.	Agency Total	0	219	831	1,283	1,113	1,383	1,486	
39.	Tulare Lake Basin Water Storage District: Entitlement Water	197	998	563	771	70	0	1,457	
40.	J. G. Boswell Company: Preconsolidation Repayment Water	0	0	0	0	0	8,000	9,825	
41.	Shell California Production, Inc.: Preconsolidation Repayment Water	637	647	724	653	622	653	674	
42.	Recreation/Fish and Wildlife Water	14	7	10	61	98	98	57	
43.	AREA SUBTOTAL (SWP Water)	23,198	82,274	111,004	94,939	148,413	209,427	253,699	

DELIVERIES IN 1984

(in acre-feet)

Month							1984 Contract Entitlement	1984 Entitlement Not Delivered	Net Cumulative Entitlement Not Delivered Through		Line No.
	AUG	SEP	OCT	NOV	DEC	TOTAL			1983	1984	
	0	0	0	0	0	0	1,600	1,600	0	1,600	1.
	0	0	3	26	5	177	1,200	1,023	10,828	11,851	2.
	3,666	1,237	486	241	0	13,782	-	-	-	-	3.
	60	28	3	1	0	272	830	558	4,000	4,558	4.
	332	263	115	88	79	1,869	-	-	-	-	5.
	4,058	1,528	607	356	84	16,100	3,630	3,181	14,828	18,009	6.
	269	208	417	512	663	2,923	-	-	-	-	7.
	0	0	0	0	0	0	1,100	1,100	0 ^(a)	1,100	8.
	269	208	417	512	663	2,923	1,100	1,100	0	1,100	9.
	1,145	877	606	4	101	6,784	26,000	19,216	102,317	121,533	10.
	1,227	1,392	977	1,086	1,020	13,556	-	-	-	-	11.
	2,372	2,269	1,583	1,090	1,121	20,340	-	-	-	-	12.
	803	799	816	170	750	3,338	29,600	26,262	195,097	221,359	13.
	1,412	0	0	182	0	10,385	-	-	-	-	14.
	2,215	799	816	352	750	13,723	-	-	-	-	15.
	9,940	10,088	8,999	3,263	6,137	88,000	88,000	0	40,782	40,782	16.
	0	0	0	0	0	3,663	-	-	-	-	17.
	9,940	10,088	8,999	3,263	6,137	91,663	-	-	-	-	18.
	21	18	14	9	7	158	-	-	-	-	19.
	14,548	13,174	11,412	4,714	8,015	125,884	143,600	45,478	338,196	383,674	20.
	341	66	0	0	582	3,100	3,100	0	0	0	21.
	2,867	449	314	0	821	12,700	12,700	0	46	5	22.
	0	0	0	0	0	41	-	-	-	-	23.
	0	0	0	0	0	7,419	-	-	-	-	24.
	0	0	0	0	0	685	-	-	-	-	25.
	2,867	449	314	0	821	20,845	-	0	-	-	26.
	8,118	3,544	1,804	1,694	1,527	45,100	45,100	0	0	0	27.
	2,357	0	465	0	1,086	19,500	-	-	-	-	28.
	10,475	3,544	2,269	1,694	2,613	64,600	-	-	-	-	29.
	0	0	0	0	0	0	3,000	3,000	7,955	10,955	30.
	157,346	48,492	29,846	8,230	16,923	860,600	860,600	0	210,593	210,593	31.
	3,161	0	0	0	0	230,691	-	-	-	-	32.
	8,100	0	0	0	0	8,100	-	-	-	-	33.
	168,607	48,492	29,846	8,230	16,923	1,099,391	-	-	-	-	34.
	575	214	160	80	0	4,800	4,800	0	1,440	540	35.
	0	0	0	0	0	900	-	-	-	-	36.
	0	0	0	0	0	1,644	-	-	-	-	37.
	575	214	160	80	0	7,344	-	-	-	-	38.
	1,682	0	0	0	5	5,743	62,611	56,868	70,191	127,059	39.
	3,900	1,878	3,409	1,592	2,121	30,725	-	-	-	-	40.
	740	655	706	602	611	7,924	-	-	-	-	41.
	45	77	15	20	25	527	-	-	-	-	42.
	189,232	55,375	36,719	12,218	23,701	1,240,199	991,911	59,868	290,225	349,152	43.

a) Revised from Bulletin 132-84 to reflect Amendment No. 7 (August 22, 1984), which changed Table A entitlements.

TABLE 5: MONTHLY WATER

(in acre-feet)

Line No.	Contracting Agency and Type of Service	Month							
		JAN	FEB	MAR	APR	MAY	JUN	JUL	
	SAN JOAQUIN VALLEY SERVICE AREA (CVP Water)								
44.	Green Valley Water District: Wheeling of CVP Water-Annual Contract	15	510	0	0	68	388	672	
45.	Musco Olive Products, Inc.: Wheeling of CVP Water-Annual Contract	0	0	0	0	0	0	0	
46.	Tracy Golf and Country Club: Wheeling of CVP Water-Annual Contract	4	9	21	42	105	78	83	
47.	U. S. Bureau of Reclamation: Wheeling of CVP Water-Cross Valley Canal	0	0	5,164	17,232	10,605	13,396	13,760	
48.	Wheeling of CVP Water-Decision 1485	0	0	0	0	0	0	40,354	
49.	AREA SUBTOTAL (CVP Water)	19	519	5,185	17,274	10,778	13,862	54,869	
50.	AREA SUBTOTAL (SWP Water)	23,198	82,274	111,004	94,939	148,413	209,427	253,699	
51.	AREA TOTAL (CVP Plus SWP Water)	23,217	82,793	116,189	112,213	159,191	223,289	308,568	
	CENTRAL COASTAL SERVICE AREA								
52.	San Luis Obispo County Flood Control and Water Conservation District: Entitlement Water	0	0	0	0	0	0	0	
53.	Santa Barbara County Flood Control and Water Conservation District: Entitlement Water	0	0	0	0	0	0	0	
54.	AREA TOTAL	0	0	0	0	0	0	0	
	SOUTHERN CALIFORNIA SERVICE AREA								
55.	Antelope Valley-East Kern Water Agency: Entitlement Water	489	727	2,399	3,559	4,170	4,427	5,401	
56.	Castaic Lake Water Agency: Entitlement Water	480	605	780	859	1,123	1,080	1,324	
57.	Coachella Valley Water District: Entitlement Water	974	1,314	1,925	1,925	1,925	1,925	1,925	
58.	Crestline-Lake Arrowhead Water Agency: Entitlement Water	59	47	38	71	88	144	138	
59.	Desert Water Agency: Entitlement Water	1,590	2,083	3,047	3,047	3,047	3,047	3,047	
60.	Little Rock Creek Irrigation District: Entitlement Water	0	0	0	0	0	1	0	
61.	Mojave Water Agency: Entitlement Water	0	0	0	0	0	0	0	
62.	Palmdale Water District: Entitlement Water	0	0	0	0	0	0	0	
63.	San Bernardino Valley Municipal Water District: Entitlement Water	484	206	74	444	375	225	788	
64.	San Gabriel Valley Municipal Water District: Entitlement Water	0	0	2,054	1,830	2,288	1,484	0	
65.	San Geronimo Pass Water Agency: Entitlement Water	0	0	0	0	0	0	0	
66.	The Metropolitan Water District of Southern California: Entitlement Water	7,042	6,181	33,902	64,517	50,773	70,930	59,763	
67.	1982 Exchange Water (Ground Water)	0	0	0	0	0	126	0	
68.	Agency Total	7,042	6,181	33,902	64,517	50,773	71,056	59,763	
69.	Ventura County Flood Control District: Entitlement Water	0	0	0	0	0	0	0	
70.	Recreation/Fish and Wildlife Water	168	197	184	304	568	961	1,298	
71.	AREA TOTAL	11,286	11,360	44,403	76,556	64,357	84,350	73,684	
	ALL AGENCIES								
72.	Entitlement Water (1984)	35,535	50,714	111,505	161,374	172,510	245,456	285,406	
73.	Deliveries Under Wet Weather Provisions	0	0	0	0	249	191	460	
74.	Carry-Over Water	41	0	0	0	0	0	0	
75.	SUBTOTAL (Entitlement Water Delivered)	35,576	50,714	111,505	161,374	172,759	245,647	285,866	
76.	Surplus Water	3,015	47,736	50,297	16,971	48,481	48,671	40,677	
77.	Preconsolidation Repayment Water	637	647	724	653	622	8,653	10,499	
78.	1977 Emergency Relief Water	0	0	0	0	0	0	0	
79.	1982 Exchange Water	0	0	0	0	559	252	0	
80.	Recreation/Fish and Wildlife Water	187	209	200	375	678	1,085	1,380	
81.	SUBTOTAL (SWP WATER)	39,415	99,306	162,726	179,373	223,099	304,308	338,422	
82.	Regulated Delivery of Local Supply	1,502	1,522	2,026	1,740	3,337	7,484	8,178	
83.	Non-SWP Water to Napa County FC&WCD	58	54	69	81	125	237	230	
84.	Wheeling of CVP Water-Annual Contracts	19	519	21	42	173	466	755	
85.	Wheeling of CVP Water-Cross Valley Canal	0	0	5,164	17,232	10,605	13,396	13,760	
86.	Wheeling of CVP Water-Decision 1485	0	0	0	0	0	0	40,354	
87.	TOTAL WATER	40,994	101,401	170,006	198,468	237,339	325,891	401,699	

DELIVERIES IN 1984

(in acre-feet)

Month							1984 Contract Entitlement	1984 Entitlement Not Delivered	Net Cumulative Entitlement Not Delivered Through		Line No.
	AUG	SEP	OCT	NOV	DEC	TOTAL			1983	1984	
	674	119	35	0	76	2,557	-	-	-	-	44.
	0	0	0	6	4	10	-	-	-	-	45.
	82	56	36	7	2	525	-	-	-	-	46.
	14,943	9,140	2,631	3,218	5,317	95,406	-	-	-	-	47.
	55,839	0	0	42,996	52,955	192,144	-	-	-	-	48.
	71,538	9,315	2,702	46,227	58,354	290,642	-	-	-	-	49.
	189,232	55,375	36,719	12,218	23,701	1,240,199	991,911	59,868	290,225	349,152	50.
	260,770	64,690	39,421	58,445	82,055	1,530,841	991,911	59,868	290,225	349,152	51.
	0	0	0	0	0	0	4,500	4,500	7,000	11,500	52.
	0	0	0	0	0	0	8,198	8,198	12,565	20,763	53.
	0	0	0	0	0	0	12,698	12,698	19,565	32,263	54.
	4,858	3,292	1,514	1,056	770	32,662	35,000	2,338	249,152	251,490	55.
	1,280	1,108	1,148	851	839	11,477	26,900	15,423	126,266	141,689	56.
	1,925	1,930	0	0	0	15,768	15,768	0	5,200 ^(b)	5,200	57.
	89	160	98	78	118	1,128	4,060	2,932	14,288	17,220	58.
	3,047	3,045	0	0	0	25,000	25,000	0	8,000 ^(c)	8,000	59.
	0	0	0	0	0	1	1,610	1,609	6,090	7,699	60.
	0	0	0	0	0	0	36,700	36,700	195,294 ^(d)	231,994	61.
	0	0	0	0	0	0	13,560	13,560	97,260	110,820	62.
	831	1,089	475	409	156	5,556	78,000	72,444	515,403	587,847	63.
	0	0	0	0	0	7,656	20,700	13,044	125,595	138,639	64.
	0	0	0	0	0	0	10,800	10,800	33,200	44,000	65.
	63,657	63,663	20,245	9,474	7,435	457,582	1,458,300	1,000,718	3,972,114	4,972,832	66.
	0	0	0	0	0	126	-	-	-	-	67.
	63,657	63,663	20,245	9,474	7,435	457,708	-	-	-	-	68.
	0	0	0	0	0	0	5,000	5,000	10,000	15,000	69.
	936	667	646	254	172	6,355	-	-	-	-	70.
	76,623	74,954	24,126	12,122	9,490	563,311	1,731,398	1,174,568	5,357,862	6,532,430	71.
	258,564	138,844	66,031	25,336	36,169	1,587,444	2,884,337	1,296,893	6,020,676	7,316,628	72.
	0	0	0	0	0	900	-	-	-	-	73.
	0	0	0	0	0	41	-	-	-	-	74.
	258,564	138,844	66,031	25,336	36,169	1,588,385	-	-	-	-	75.
	5,518	0	465	0	1,086	262,917	-	-	-	-	76.
	4,640	2,533	4,115	2,194	2,732	38,649	-	-	-	-	77.
	8,100	0	0	0	0	8,100	-	-	-	-	78.
	0	0	0	0	0	811	-	-	-	-	79.
	1,002	762	675	283	204	7,040	-	-	-	-	80.
	277,824	142,139	71,286	27,813	40,191	1,905,902	-	-	-	-	81.
	6,637	2,892	1,578	1,597	1,099	39,592	-	-	-	-	82.
	269	208	417	512	663	2,923	-	-	-	-	83.
	756	175	71	13	82	3,092	-	-	-	-	84.
	14,943	9,140	2,631	3,218	5,317	95,406	-	-	-	-	85.
	55,839	0	0	42,996	52,955	192,144	-	-	-	-	86.
	356,268	154,554	77,797	77,446	100,307	2,242,170	2,884,337	1,296,893	6,020,676	7,316,628	87.

b) Corrected from Bulletin 132-84 to compensate for DWR's 1977 purchase of 7,579 acre-feet of entitlement water.

c) Corrected from Bulletin 132-84 to compensate for DWR's 1977 purchase of 11,700 acre-feet of entitlement water.

d) Revised and corrected from Bulletin 132-84 to reflect Amendments 10 (July 22, 1981) and 12 (April 13, 1984), which changed Table A entitlements.

ities near Cordelia and is transported through SWP facilities to the terminus. During 1984, Napa received 2,923 acre-feet of federal water.

Wheeling of CVP Water. During 1984, there were three arrangements for wheeling CVP water through SWP facilities. In each arrangement, the USBR provides the electrical energy required for moving the water through SWP facilities.

- o Cross Valley Canal. The USBR and DWR have three-party contracts with nine local agencies; the contracts provide for wheeling CVP water through SWP facilities to Kern County Water Agency's Cross Valley Canal. Another contract between DWR and the USBR provides that the USBR will furnish the electrical energy and water needed for the nine Cross Valley Canal contractors, and establishes that up to 128,300 acre-feet per year may be wheeled by the SWP. DWR's charges for wheeling service under the nine contracts are for use of SWP facilities to transport water from the Delta to the Cross Valley Canal.

The SWP began wheeling service for the Cross Valley Canal contractors in 1976; during 1984, 95,406 acre-feet of water was wheeled. Part of the water delivered to the Cross Valley Canal (37,761 acre-feet) was released from the State's share of San Luis Reservoir storage in accordance with May 2, 1984 letter agreements between DWR and five Cross Valley Canal contractors. The deliveries from storage were made during May, June, and July, when there was no conveyance capacity available for wheeling CVP water due to curtailment of SWP pumping from the Delta in accordance with SWRCB Decision 1485. The USBR returned the water released from storage to the State during December 1984 and January 1985. The USBR also furnished the energy to pump this water at Banks Delta Pumping Plant.

Water wheeled for the Cross Valley Canal is included in the "Other Water" column of Tables 1 and 3.

- o SWRCB Decision 1485 Water. In April 1981, DWR executed an interim agreement with the USBR to wheel CVP water through SWP facilities to water users who would enter into annual contracts with the USBR. As part of this annual contract, the USBR agreed to provide its share of water to meet Delta water quality requirements and to curtail its Delta exports in accordance with Decision 1485. This agreement also provides that the SWP would furnish conveyance capacity from the Delta to replace the May and June curtailment of CVP pumping. Decision 1485 curtails both CVP and SWP pumping from the Delta during May, June, and July to protect striped bass, but the July curtailment does not restrict existing CVP pumping capability. A total of 192,144 acre-feet of CVP water was wheeled in 1984 to replace capacity foregone in May and June due to CVP export reduction.
- o Annual Wheeling Contracts. Under an extension of the April 1981 agreement mentioned above, DWR conveyed water to three annual USBR contractors. A total of 3,092 acre-feet was wheeled to Green Valley Water District, Musco Olive Products Inc., and to Tracy Golf and Country Club. These deliveries are shown by agency in Table 5, and are also included in the "Other Water" column of Tables 1 and 3. Similar deliveries to other annual USBR contractors are shown in prior years' versions of Table 5.

Power Operations

Following termination of key power supply and power sale contracts on March 31, 1983, DWR began operation as a bulk power agency. In this role, DWR operates a mix of owned, contracted, and purchased power resources to meet SWP needs via contracted transmission capac-

ity. The year 1984 was the first full year of operation as a bulk power agency.

Energy Use

Table 6 summarizes monthly SWP energy use at SWP plants in 1984. Total energy use for the year was 3.64 billion kWh, about 30 percent more than in 1983 but well below the 5.44 billion kWh used by the SWP at these plants in 1982. Energy use in 1983 reflected reduced demands for water and record inflows to the California Aqueduct from the Kern River Intertie. In 1984, water deliveries increased nearly 50 percent over the reduced 1983 levels, but deliveries to Southern California (which require the greatest amount of energy) increased only about 13 percent. About 60 percent of total SWP energy use in 1984 occurred within the Pacific Gas and Electric Company (PGandE) service area and 40 percent within the service area of the Southern California Edison Company (SCE).

Under various wheeling contracts and exchange agreements (described earlier in this chapter), some CVP water is pumped through SWP facilities at Banks Delta, Dos Amigos, San Luis, and Las Perillas Pumping Plants. The USBR furnishes the energy for this use of SWP pumping facilities. Table 6A summarizes the total amount of energy used for pumping at each plant, the energy furnished by the USBR, and the derivation of the net SWP energy use presented in Table 6. (The quantities shown as "excess daily energy scheduled by USBR" represent the accumulations of small differences between the hourly amounts of energy scheduled for pumping SWP water and that actually used.) Similarly, Table 6A shows the derivation of the SWP share of energy generated at the San Luis Pumping-Generating Plant.

Energy Sources

Table 6 also shows the monthly sources of SWP energy during 1984. As in 1983, Hyatt and Thermalito Powerplants consti-

tuted the largest single source of SWP energy. The output of these two plants was over 2.64 billion kWh, far below the record 4.90 billion kWh produced in the extremely wet year of 1983, but still above the estimated average annual output of 2.30 billion kWh.

Annual energy generation at the SWP power recovery plants (San Luis, Devil Canyon, Warne, and Castaic) totaled about 0.73 billion kWh in 1984. Thus, the combined output of the recovery plants and the Hyatt-Thermalito facilities was sufficient to meet over 92 percent of SWP energy requirements in 1984.

Other SWP hydroelectric power resources are obtained under contracts with the Kings River Conservation District (KRCDD) and MWDSC. The KRCDD contract provides DWR with all of the output of the 165-MW Pine Flat Powerplant. The last of the three units at Pine Flat Powerplant was declared commercially operable on April 1, 1984; the plant furnished 0.55 billion kWh to the SWP in 1984. Under the MWDSC contract, DWR receives energy from five small hydroelectric plants on the MWDSC system (total capacity of 30 MW). As explained in Chapter VI, DWR has exchange agreements with SCE and the Los Angeles Department of Water and Power to facilitate transmission of energy from the MWDSC plants.

The 1979 DWR-SCE Power Contract has been in effect since April 1983. Under this contract, part of the Hyatt-Thermalito generation and all of the output of Devil Canyon Powerplant are delivered to SCE. The energy is generally delivered during on-peak periods and a greater amount of energy is returned during off-peak periods. Table 6 shows both the monthly quantities of energy delivered and returned under this contract. The net gain to the SWP during 1984 was 1.23 billion kWh.

In its first full year of operation, Reid Gardner Unit No. 4 supplied nearly 1.30 billion kWh to the SWP in 1984.

TABLE 6: MONTHLY POWER

(in millions of kilowatthours)

ITEM	MONTH						
	JAN	FEB	MAR	APR	MAY	JUN	JUL
ENERGY USED BY SWP PUMPING AND POWER PLANTS							
Hyatt-Thermalito Pumpback and Station Service	0.14	11.26	9.53	44.88	0.36	5.16	13.83
North Bay Interim Pumping Plant	0.03	0.03	0.03	0.04	0.06	0.13	0.11
South Bay Pumping Plant	0.94	6.04	7.96	8.36	12.14	11.41	11.87
Del Valle Pumping Plant	0.01	0.01	0.00	0.04	0.09	0.01	0.01
Harvey O. Banks Delta Pumping Plant	6.64	34.31	45.94	59.31	49.23	53.11	70.79
San Luis Pumping-Generating Plant (SWP Share)	0.02	0.67	5.67	14.17	14.19	15.38	27.71
Dos Amigos Pumping Plant (SWP Share)	3.44	15.52	19.00	20.92	26.39	40.17	42.44
Buena Vista Pumping Plant	7.71	10.68	10.67	18.51	16.86	25.25	24.49
Wheeler Ridge Pumping Plant	6.88	8.18	8.53	19.80	15.37	22.23	19.64
Wind Gap Pumping Plant	14.45	16.68	15.40	42.38	29.61	45.57	39.51
A. D. Edmonston Pumping Plant	49.14	56.59	48.07	144.07	97.49	152.99	130.50
Pearblossom Pumping Plant	12.60	16.35	12.37	28.14	15.65	33.69	21.86
Devil Canyon Powerplant (Station Service)	0.10	0.07	0.05	0.00	0.00	0.00	0.00
Oso Pumping Plant	0.91	0.28	0.35	5.05	4.28	3.75	5.49
William E. Warne Powerplant (Station Service)	0.15	0.14	0.12	0.06	0.06	0.10	0.09
Las Perillas Pumping Plant (SWP Share)	0.50	0.53	1.15	0.91	1.41	1.63	2.02
Badger Hill Pumping Plant	1.41	1.36	3.16	2.47	3.87	4.59	5.48
Bottle Rock Powerplant (Station Service)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	105.07	178.70	188.00	409.11	287.06	415.17	415.84
System Losses and Unaccounted-for Energy	30.44	24.24	24.61	25.62	26.56	29.89	19.18
Total	135.51	202.94	212.61	434.73	313.62	445.06	435.02
SWP ENERGY SOURCES							
Hyatt-Thermalito Powerplants	432.36	216.24	246.13	153.47	212.48	244.12	359.76
San Luis Pumping-Generating Plant (SWP Share)	0.45	2.35	2.15	2.27	38.62	53.05	39.51
Devil Canyon Powerplant	4.26	6.67	23.32	51.15	31.52	51.48	38.81
William E. Warne Powerplant	0.24	0.00	0.00	13.74	9.18	7.69	11.64
Castaic Powerplant (SWP Share)	0.67	0.67	0.00	18.60	13.94	10.14	17.06
Pine Flat Powerplant	48.00	5.57	38.50	48.55	86.25	106.69	121.52
MWDSC Hydroelectric Plants (Exchange Energy)	7.45	7.20	12.00	17.45	16.25	16.31	16.46
Power Exchange - Delivered to SCE	-186.25	-102.62	-135.04	-130.76	-136.34	-166.42	-197.27
Power Exchange - Received from SCE	208.61	133.74	172.85	213.12	192.72	271.95	405.46
Reid Gardner Unit No. 4	88.85	66.41	72.37	87.97	140.06	124.37	141.38
TERA Power Corporation	0.06	0.13	0.44	0.61	0.71	0.71	0.81
Purchases							
Bonneville Power Authority	0.00	9.53	46.19	100.48	104.67	76.23	14.19
Portland General Electric Co.	74.40	69.29	73.01	73.18	74.82	72.00	74.40
Pacific Power and Light Co.	82.80	81.58	91.30	31.25	30.24	31.05	117.80
Salt River Project	0.00	0.00	3.30	0.15	0.00	0.00	0.00
Los Angeles Department of Water and Power	0.00	0.00	0.00	0.00	0.00	0.58	0.00
San Diego Gas and Electric Co.	0.00	0.00	0.00	0.00	0.00	0.03	0.00
USBR 1982 Exchange Return	0.00	0.00	0.00	5.54	1.15	0.00	16.97
Emergency Service - Energy Delivered	0.00	-61	0.00	0.00	0.00	0.00	0.00
Emergency Service - Energy Returned	0.00	0.14	0.99	0.00	0.00	0.00	0.00
USBR Schedule Excess	0.05	0.38	0.17	0.16	0.09	0.03	0.01
Subtotal	761.95	496.67	647.68	686.93	816.36	900.01	1,178.51
Less Sales	626.44	293.73	435.07	252.20	502.74	454.95	743.49
Total	135.51	202.94	212.61	434.73	313.62	445.06	435.02

OPERATIONS IN 1984

(in millions of kilowatthours)

MONTH						ITEM
AUG	SEP	OCT	NOV	DEC	TOTAL	
						ENERGY USED BY SWP PUMPING AND POWER PLANTS
28.87	32.16	19.57	7.42	4.62	177.80	Hyatt-Thermalito Pumpback and Station Service
0.13	0.11	0.21	0.27	0.34	1.49	North Bay Interim Pumping Plant
12.15	6.18	7.42	1.37	6.40	92.24	South Bay Pumping Plant
0.00	0.00	0.00	0.01	0.01	0.19	Del Valle Pumping Plant
68.61	37.00	34.48	58.42	56.03	573.87	Harvey O. Banks Delta Pumping Plant
17.01	14.41	18.61	42.29	53.10	223.23	San Luis Pumping-Generating Plant (SWP Share)
33.82	14.76	5.65	7.18	7.56	236.85	Dos Amigos Pumping Plant (SWP Share)
20.95	14.11	2.83	9.33	12.10	173.49	Buena Vista Pumping Plant
17.11	15.06	2.61	10.55	13.71	159.67	Wheeler Ridge Pumping Plant
36.55	32.62	3.23	22.27	28.79	327.06	Wind Gap Pumping Plant
120.45	110.38	7.75	77.43	100.96	1,095.82	A. D. Edmonston Pumping Plant
30.00	28.70	0.20	0.29	0.47	200.32	Pearblossom Pumping Plant
0.00	0.00	0.00	0.01	0.11	0.34	Devil Canyon Powerplant (Station Service)
1.09	0.81	0.97	9.25	12.16	44.39	Oso Pumping Plant
0.12	0.13	0.14	0.04	0.04	1.19	William E. Warne Powerplant (Station Service)
1.04	0.52	0.46	0.14	0.28	10.59	Las Perillas Pumping Plant (SWP Share)
3.06	1.42	1.25	0.33	0.70	29.10	Badger Hill Pumping Plant
0.00	0.00	0.00	0.06	0.09	0.15	Bottle Rock Powerplant (Station Service)
390.96	308.37	105.38	246.66	297.47	3,347.79	Subtotal
27.46	23.05	22.46	20.76	21.76	296.03	System Losses and Unaccounted-for Energy
418.42	331.42	127.84	267.42	319.23	3,643.82	Total
						SWP ENERGY SOURCES
248.73	170.75	97.87	86.32	173.21	2,641.44	Hyatt-Thermalito Powerplants
18.09	8.92	0.72	2.08	1.67	169.88	San Luis Pumping-Generating Plant (SWP Share)
44.17	47.28	7.07	5.97	2.91	314.61	Devil Canyon Powerplant
1.82	1.28	1.09	20.75	27.10	94.53	William E. Warne Powerplant
2.76	1.85	1.85	40.32	39.22	147.08	Castaic Powerplant (SWP Share)
67.48	21.61	8.01	-2.20	-0.03	551.95	Pine Flat Powerplant
16.20	13.13	6.89	7.58	9.22	146.14	MWDSC Hydroelectric Plants (Exchange Energy)
-156.39	-117.88	-48.46	-45.97	-76.05	-1,499.45	Power Exchange - Delivered to SCE
306.18	322.10	119.80	111.86	269.03	2,727.42	Power Exchange - Received from SCE
148.37	158.22	158.53	67.38	45.02	1,298.93	Reid Gardner Unit No. 4
0.99	0.48	0.61	0.00	0.15	5.70	TERA Power Corporation
0.00	0.00	0.00	0.00	0.00	351.29	Purchases
69.95	70.54	74.50	72.00	74.40	872.49	Bonneville Power Authority
111.86	112.20	125.87	197.71	148.33	1,161.99	Portland General Electric Co.
0.00	0.00	0.00	21.84	10.47	35.76	Pacific Power and Light Co.
0.00	0.00	0.00	0.00	0.00	0.58	Salt River Project
0.00	0.00	0.00	0.00	0.00	0.03	Los Angeles Department of Water and Power
25.66	0.00	0.00	7.75	5.80	62.87	San Diego Gas and Electric Co.
0.00	0.00	0.00	0.00	0.00	-61	USBR 1982 Exchange Return
0.00	0.00	0.00	0.00	0.00	1.13	Emergency Service - Energy Delivered
0.00	0.00	0.23	0.00	0.02	1.14	Emergency Service - Energy Returned
905.87	810.48	554.58	595.39	730.47	9,084.90	USBR Schedule Excess
487.45	479.06	426.74	327.97	411.24	5,441.08	Subtotal
418.42	331.42	127.84	267.42	319.23	3,643.82	Less Sales
						Total

TABLE 6A: RECONCILIATION OF 1984 SWP AND CVP ENERGY

(in millions of kilowatthours)

ITEM	MONTH						
	JAN	FEB	MAR	APR	MAY	JUN	JUL
Harvey O. Banks Delta Pumping Plant							
Energy Metered at Pumping Plant	6.64	34.41	47.24	64.56	49.23	53.11	82.96
Less Energy Scheduled by USBR for CVP Pumping	0.00	-0.10	-1.30	-5.25	0.00	0.00	-12.17
Plus Excess Daily Energy Scheduled by USBR	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Used for SWP Pumping	6.64	34.31	45.94	59.31	49.23	53.11	70.79
Dos Amigos Pumping Plant							
Energy Metered at Pumping Plant	14.07	26.13	33.57	40.37	52.23	67.92	80.91
Less Energy Scheduled by USBR for CVP Pumping	-10.68	-10.61	-14.57	-19.45	-25.84	-27.75	-38.47
Less Energy Scheduled by USBR for Station Service	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Plus Excess Daily Energy Scheduled by USBR	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Energy Used for SWP Pumping	3.44	15.52	19.00	20.92	26.39	40.17	42.44
San Luis Pumping Plant							
Energy Metered at Pumping Plant	0.69	39.69	30.78	14.23	14.19	15.44	27.75
Less Energy Scheduled by USBR for CVP Pumping	0.00	-38.70	-24.87	0.00	0.00	0.00	0.00
Less Energy Scheduled by USBR for Station Service	-0.67	-0.70	-0.41	-0.06	0.00	-0.06	-0.04
Plus Excess Daily Energy Scheduled by USBR	0.00	0.38	0.17	0.00	0.00	0.00	0.00
Energy Used for SWP Pumping	0.02	0.67	5.67	14.17	14.19	15.38	27.71
Las Perillas Pumping Plant							
Energy Metered at Pumping Plant	0.50	0.55	1.15	0.91	1.41	1.68	2.04
Less Energy Scheduled by USBR for CVP Pumping	0.00	-0.02	0.00	0.00	0.00	-0.05	-0.02
Energy Used for SWP Pumping	0.50	0.53	1.15	0.91	1.41	1.63	2.02
San Luis Generation Plant							
Energy Metered at Generation Plant	0.45	2.82	2.15	13.34	86.74	107.13	90.76
Less Energy Scheduled by USBR for CVP Use	0.00	-0.47	0.00	-11.23	-48.21	-54.11	-51.26
Plus Excess Daily Energy Scheduled to USBR	0.00	0.00	0.00	0.16	0.09	0.03	0.01
SWP Share of Energy Generated	0.45	2.35	2.15	2.27	38.62	53.05	39.51

This included 19 million kWh of energy that was banked with Nevada Power Company in 1983 during initial start-up of this coal-fired unit. The balance of banked energy due DWR was about 41 million kWh as of December 31, 1984.

DWR also has a contract with TERA Power Corporation for the purchase of energy from two hundred 50-kW wind turbines being constructed at Bethany Wind Park near South Bay Pumping Plant. One hundred wind turbines were operational at the end of 1984, and almost 6 million kWh of wind-generated energy was delivered to DWR during the year. All 200 wind turbines should be completed by the end of 1985.

In addition to contract purchases from specific facilities owned by KRCD, MWDSC, and TERA, DWR purchased 2.42 bil-

lion kWh from various public utilities in 1984. Table 6 shows the amounts of energy purchased, and Table 7 summarizes expenditures for SWP power and transmission services purchased in 1984. Most of the energy purchased in 1984 came from the Pacific Northwest via DWR's contracted 300 MW of transmission capacity in the extra-high-voltage Pacific Northwest Intertie. Although not needed to meet 1984 SWP needs, such energy purchases were made in compliance with contractual requirements or because they were economically advantageous.

Table 6 also summarizes energy transactions under emergency service agreements with PGandE and SCE. Under these agreements, SWP power resources are made available to the utilities in emergencies. Additional energy is included

USE AT SWP PLANTS AND JOINT-USE FACILITIES

(in millions of kilowatthours)

MONTH						ITEM
AUG	SEP	OCT	NOV	DEC	TOTAL	
89.06	39.08	34.48	71.18	82.29	654.24	Harvey O. Banks Delta Pumping Plant
-20.45	-2.08	0.00	-12.76	-26.26	-80.37	Energy Metered at Pumping Plant
0.00	0.00	0.00	0.00	0.00	0.00	Less Energy Scheduled by USBR for CVP Pumping
68.61	37.00	34.48	58.42	56.03	573.87	Plus Excess Daily Energy Scheduled by USBR
						Energy Used for SWP Pumping
61.19	21.50	10.35	16.32	28.26	452.82	Dos Amigos Pumping Plant
-27.37	-6.74	-4.83	-9.07	-20.70	-216.08	Energy Metered at Pumping Plant
0.00	0.00	-0.04	-0.07	0.00	-0.11	Less Energy Scheduled by USBR for CVP Pumping
0.00	0.00	0.17	0.00	0.00	0.22	Less Energy Scheduled by USBR for Station Service
33.82	14.76	5.65	7.18	7.56	236.85	Plus Excess Daily Energy Scheduled by USBR
						Energy Used for SWP Pumping
17.10	18.38	43.98	101.48	101.36	425.07	San Luis Pumping Plant
0.00	-3.72	-25.31	-59.06	-48.17	-199.83	Energy Metered at Pumping Plant
-0.09	-0.25	-0.12	-0.13	-0.11	-2.64	Less Energy Scheduled by USBR for CVP Pumping
0.00	0.00	0.06	0.00	0.02	0.63	Less Energy Scheduled by USBR for Station Service
17.01	14.41	18.61	42.29	53.10	223.23	Plus Excess Daily Energy Scheduled by USBR
						Energy Used for SWP Pumping
1.17	0.53	0.46	0.14	0.28	10.82	Las Perillas Pumping Plant
-0.13	-0.01	0.00	0.00	0.00	-0.23	Energy Metered at Pumping Plant
1.04	0.52	0.46	0.14	0.28	10.59	Less Energy Scheduled by USBR for CVP Pumping
						Energy Used for SWP Pumping
39.41	8.92	0.72	2.08	1.67	356.19	San Luis Generation Plant
-21.32	0.00	0.00	0.00	0.00	-186.60	Energy Metered at Generation Plant
0.00	0.00	0.00	0.00	0.00	0.29	Less Energy Scheduled by USBR for CVP Use
18.09	8.92	0.72	2.08	1.67	169.88	Plus Excess Daily Energy Scheduled to USBR
						SWP Share of Energy Generated

when the emergency service energy is returned to the SWP. Emergency service transactions were quite limited in 1984.

Power Sales

When three major long-term power related contracts terminated on March 31, 1983, DWR began operating as a bulk power distributor under new short-term power purchase and sales contracts, and longer term power and transmission contracts with utilities in Oregon, Nevada, Arizona, and California. Since the new short-term power purchase contracts ensured more than enough energy and capacity to meet SWP loads, DWR entered into power sales contracts to sell capacity and energy excess to SWP needs, within the limit of SWP's contractual transmission capabilities at

Malin, Tesla, Vincent, Sylmar, and El Dorado Substations.

In 1984, this excess capacity and energy were sold to utilities at current market rates. The determination to sell power at the current market rates or to wait for a more opportune time must take into account the projected SWP operations and changes in the power market, as well as the energy losses, and transmission and dispatching costs. This new responsibility has created an emphasis on an energy accounting system that, through computerization, can quickly monitor the current status of the power purchases and sales operation.

As Table 6 indicates, SWP energy resources exceeded energy requirements by a substantial margin in 1984. In fact,

TABLE 7: SWP POWER AND TRANSMISSION SERVICE PURCHASES IN 1984

Supplier	Services Provided	Invoice Amount
Western Area Power Administration	Interconnection transmission	\$ 1,134,000
Bonneville Power Authority	Nonfirm energy	3,872,012
Pacific Power and Light Company	Firm capacity and energy, wheeling, and losses on third party systems	44,224,719
Portland General Electric Company	Firm energy	25,626,029
Pacific Gas and Electric Company	Transmission and Table Mountain-Tesla reinforcements	28,430,326
Kings River Conservation District	Hydroelectric energy	4,197,803
TERA Power Corporation	Wind energy	486,783
Pacific Gas and Electric Company, Southern California Edison Co., and San Diego Gas and Electric Co.	EHV transmission	1,500,000
Southern California Edison Co.	Transmission and dispatching	13,426,633
The Metropolitan Water District of Southern California	Hydroelectric energy	7,360,770
Los Angeles Department of Water and Power	Transmission, energy, and dispatching	101,582
San Diego Gas and Electric Co.	Energy	1,544
Nevada Power Company	Transmission	990,798
Salt River Project Agricultural Improvement and Power District	Energy	1,151,105
Total		\$132,504,104

in every month but April, energy sales exceeded energy use within the SWP system.

Power sales in 1984 were made under contracts with 13 utilities. The amounts of energy sold and the total amount of sales to each purchaser are shown in Table 8. As noted, Table 8 also includes revenues for certain other power-related services furnished.

The total revenue from power sales during 1984 exceeded expenditures for bulk power purchases and transmission services by about 10 percent. This reflects only the cash transactions during 1984 and is not directly indicative of the true net cost of SWP energy, which includes such other costs as (1) debt service and OM&R costs associated with SWP-owned hydroelectric facilities, and (2) debt service, OM&R, and fuel costs associated with Reid Gardner Unit No. 4.

Transmission Service Agreements

Since termination of the Oroville-Thermalito Power Sale Contract on March 31, 1983, transmission of Hyatt-Thermalito power and power from other SWP resources has been provided through PGandE's system under the 1982 Comprehensive Agreement and through SCE's system under the 1979 DWR-SCE Power Contract. The existing EHV Intertie Contract provides firm transmission service for 300 MW of Pacific Northwest power from the California-Oregon border (Malin) to delivery points on the 500-kV transmission line at Table Mountain, Tesla, Los Banos, Midway, and Vincent Substations. In 1984, contractual options on new interruptible transmission paths between Vincent-San Onofre, Vincent-Sylmar, and Vincent-Midway Substations were exercised in order to make energy sales to utilities in Arizona, Nevada, and Southern California.

TABLE 8: SWP POWER SALES IN 1984

Purchaser	Kilowatthours	Amount of Sale
Portland General Electric Company	13,230,000	\$ 333,470
Northern California Power Agency	7,365,000	247,194
Pacific Gas and Electric Company	1,225,640,000	34,919,888 ^(a)
Southern California Edison Company	2,844,020,000	67,416,049
Los Angeles Department of Water and Power	166,844,000	5,411,434 ^(b)
City of Burbank	93,135,000	2,794,062
City of Glendale	124,101,000	3,681,975
City of Pasadena	274,225,000	7,918,404
City of Anaheim	165,940,000	5,408,816
City of Riverside	96,867,000	3,054,650
City of Vernon	17,823,000	515,233
San Diego Gas and Electric Company	199,880,000	5,963,250
Nevada Power Company	212,005,000	7,682,558 ^(c)
Total	5,441,075,000	\$145,346,983

a) Includes \$15,517 for emergency service.

b) Includes \$1,347,400 for peaking capacity foregone.

c) Includes \$584,941 for peaking capacity.

DWR's participation agreement with Nevada Power Company for construction and operation of Reid Gardner Unit No. 4 also provides for transmission of SWP power from the plant to the SCE transmission line in Nevada south of Las Vegas. The principal bulk-power delivery points and transmission paths used by DWR are shown on Figure 12 in Chapter VI. Table 7 includes DWR's expenditures for transmission services during 1984.

Because of construction delays, PGandE extended completion of the Table Mountain reinforcement project from January 1985 to a date still to be determined. The delay in increasing the capacity of the 500-kV transmission line from Table Mountain to Tesla Substation caused DWR to extend its present transmission contract with the Western Area Power Administration (WAPA). At a monthly cost of \$94,500, the WAPA Contract provides a parallel transmission path from Table Mountain Substation to the Tracy Substation, from which the transmission path is linked to PGandE's backbone. This

parallel transmission path allows the output from Hyatt and Thermalito Powerplants to bypass the power bottleneck between Table Mountain and Tesla Substations; as a result Hyatt-Thermalito generation was curtailed very little in 1984.

Recreation and Visitor Activities

As summarized in Table 9, 6.27 million recreation days of use was recorded at SWP facilities in 1984. This use includes camping, boating, fishing, swimming, bicycling, and other recreation activities, and represents an increase of about 7 percent from 1983.

Most SWP recreation and visitor use continued to be concentrated at the major reservoirs, where well-developed facilities exist to accommodate public use. In fact, about 60 percent of the total SWP recreation use in 1984 occurred at the four major reservoirs in Southern California. Expansion at two of these four reservoirs was under way in 1984.

TABLE 9: RECREATION USE AT SWP FACILITIES IN 1984

Facility	1984 Use in Recreation Days	Facility	1984 Use in Recreation Days
<u>Oroville Field Division</u>		<u>San Luis Division</u>	
Frenchman Lake	286,623	San Luis Reservoir	238,857
Antelope Lake	156,619	O'Neill Forebay	191,774
Lake Davis	320,068	Los Banos Reservoir	67,612
Lake Oroville and Thermalito Forebay	495,015	Fishing Access Sites	
Thermalito Afterbay	42,000	Canyon Road	2,658
Oroville Wildlife Area	96,223	Mervel Avenue	2,586
Total	1,396,548	Fairfax	1,656
		Three Rocks	653
		Huron	2,979
		Avenal Cutoff	3,709
<u>Delta Field Division</u>		California Aqueduct	
Lake Del Valle	502,349	Walk-In Fishing	26,403
Clifton Court Forebay	No data	Wildlife Areas	12,000
Bethany Reservoir	45,842	Total	550,887
Fishing Access Sites			
Niels Hansen	363	<u>Southern Field Division</u>	
Orestimba	1,039	Silverwood Lake	544,488
Cottonwood Road	360	Lake Perris	2,065,418
California Aqueduct		Pyramid Lake ^(a)	273,968
Walk-In Fishing	16,529	Castaic Lake	845,994
Bikeway	169	Fishing Access Sites	
White Slough Wildlife Area	7,000	77th Street East	797
Total	573,651	Longview Road	107
		California Aqueduct	
<u>San Joaquin Field Division</u>		Walk-In Fishing ^(b)	4,683
Fishing Access Sites		Bikeway	2,149
Kettleman City	3,931	Total	3,737,604
Lost Hills	3,818		
Buttonwillow	3,481		
California Aqueduct			
Walk-In Fishing	3,144		
Total	14,374	GRAND TOTAL, SWP	6,273,064

a) Pyramid Lake recreation facilities closed September 6, 1983 and reopened May 25, 1984.

b) Includes use at Munz Ranch Road, 70th Street West, and Avenue S Fishing Access Sites.

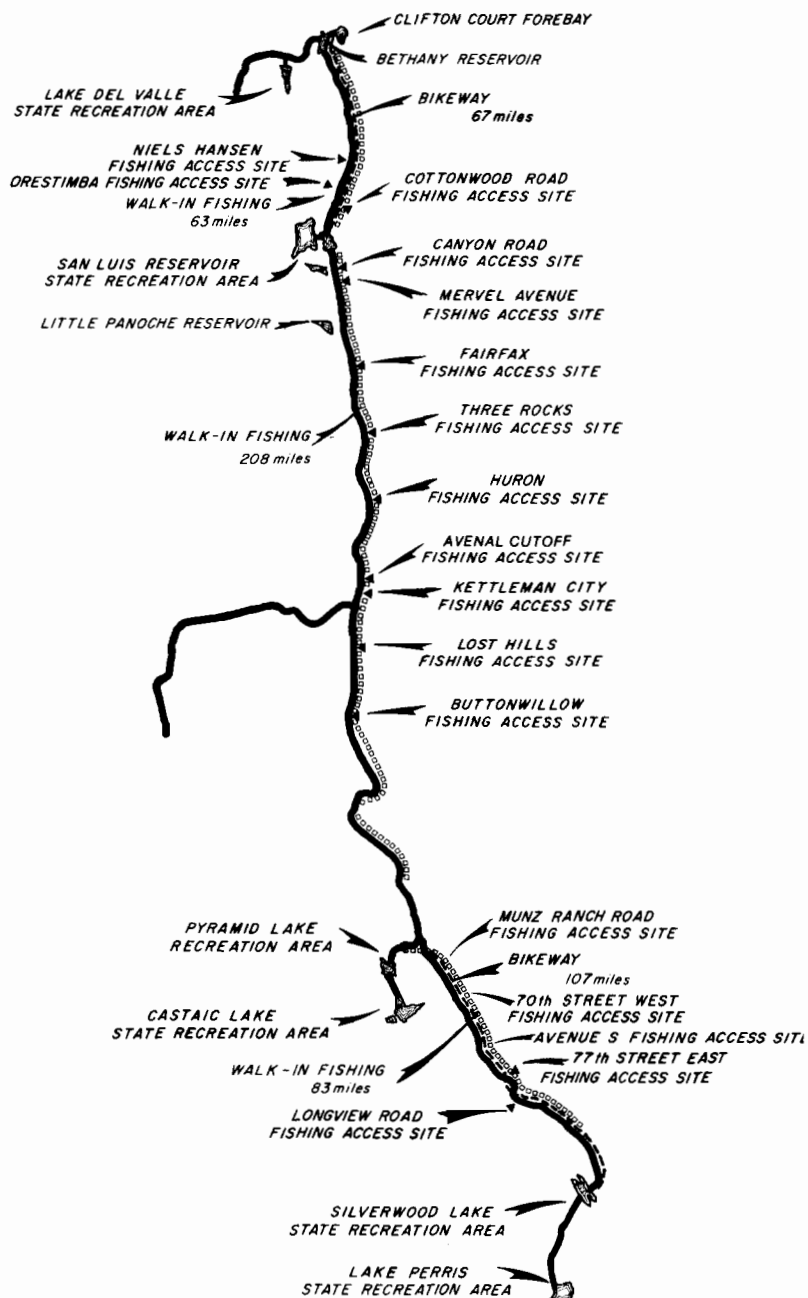
Additions at Lake Perris included completion of a waterslide, which undoubtedly contributed to the increase in recreation use in 1984. Also, night lighting was installed at Launch Ramp 3 to allow people to enjoy the facility beyond daylight hours.

Several recreational improvements were completed at Pyramid Lake during its 8-1/2-month closure. Improvements completed at Emigrant Landing were a multi-purpose administration building and helipad, two new comfort stations, approximately 25 additional picnic units, three new stairways leading to the upper level parking areas, and a completely redesigned traffic and parking pattern at the two lower parking lots. The existing 6-lane boat launching ramp was expanded to 8 lanes, which relieved traffic congestion considerably. The irrigation system was improved and existing picnic areas were enlarged. Work on the Los Alamos and Hardluck Campgrounds will be completed in 1985.

Table 9 includes recreation use figures at fishing access sites and recreation developments along the California Aqueduct. Figure 7 shows the location of these facilities. There are 17 developed fishing access sites along the Aqueduct, and 354 miles of the Aqueduct are open for walk-in fishing (271 miles in the San Joaquin Valley and 83 miles in Southern California). Also, approximately 174 miles of bikeway are now in operation (67 miles between Bethany Reservoir and O'Neill Forebay and 107 miles in the Antelope Valley area). Approximately 2,300 cyclists used the Aqueduct bikeway in 1984.

In addition to the regular recreation use, more than 450,000 visitor days of use occurred at SWP visitor centers during 1984. This use includes people entering visitor centers, stopping at overlooks, and participating in guided tours of SWP facilities.

FIGURE 7: AQUEDUCT RECREATION DEVELOPMENTS



Fish and Wildlife Activities

The Department of Fish and Game continued its fish planting activities at SWP facilities in 1984. Table 10 summarizes fish plantings at each location. The numbers of catchable trout planted are generally similar to those of 1983. Plantings of fingerling trout were lower in 1984 because in 1983, the Department of Fish and Game placed a large number of fish in Lake Davis that were excess to other planting programs.

The Feather River Hatchery trapped 1,721 steelhead in 1984 and took 1,180,000 eggs to produce the 1985 crop of yearlings. A total of 1,500 spring-run and 9,300 fall-run salmon were trapped, and 17,800,000 eggs were taken in 1984. The fish produced at Feather River Hatchery and planted during the year comprised 597,000 steelhead and 6,060,000 chinook salmon (total weight of all fish was 290,000 pounds).

TABLE 10: FISH PLANTED AT SWP FACILITIES IN 1984

Location	Trout		Channel	Chinook	Total
	Catchable	Fingerling	Catfish	Salmon	
Frenchman Lake	33,000				33,000
Antelope Lake	30,000				30,000
Lake Davis	61,000	315,000			376,000
Lake Oroville	35,000	54,000		125,000	214,000
Thermalito Forebay	33,000				33,000
Lake Del Valle	36,000				36,000
Los Banos Detention Reservoir	16,000				16,000
Silverwood Lake	211,000		9,000		220,000
Lake Perris	164,000		10,000		174,000
Pyramid Lake	121,000		33,000		154,000
Castaic Lake	214,000		11,000		225,000
Castaic Lagoon	62,000				62,000
TOTAL	1,016,000	369,000	63,000	125,000	1,573,000

CHAPTER III

SWP ADMINISTRATION ACTIVITIES

Along with construction and operation activities, a substantial amount of administrative and related effort is necessary to manage the SWP. This chapter summarizes the principal administrative activities during the past year.

Water Contracts Management

Contract Amendments

Each of the 30 long-term water supply contracts has been amended repeatedly, some as many as 21 times. A list of amendments for each contract, and the general subject of each, are shown in Table 11. Revisions to Table A (Annual Entitlements) that are not in the form of a numbered amendment are not included. Amendments signed by June 30, 1985 that were not included in Bulletin 132-84 are as follows:

- o Solano County Flood Control and Water Conservation District signed Amendment No. 7, which encompasses water conservation provisions and changes Table A. The amended Table A shows entitlements that begin at 1,100 acre-feet in 1984 and increase to a maximum of 42,000 acre-feet per year by 2015.
- o Tulare Lake Basin Water Storage District amended its Table A for 1985 under Amendment No. 21. The District decreased its annual entitlement for 1985 by 47,351 acre-feet. This is equivalent to prior increases in annual entitlement made in 1975, 1976, and 1979.
- o Coachella Valley Water District signed Amendment No. 10, revising its contract with regard to Contract Issues 1, 6, and 8 (see Bulletin 132-83, page 92). All 30 long-term water contractors have now signed this amendment.

Several contract amendments have been forwarded for signature over the years (one as early as 1971), but have yet to be signed by the contractors. These inactive amendments are listed and briefly described below; they will not be mentioned in future editions of Bulletin 132 unless some action is taken regarding them.

- o Solano County Flood Control and Water Conservation District. Amendment No. 3 (1971) covers provisions concerning calculation of the Delta Water Charge. Amendment No. 4 (1972) deletes provisions for "power credit", "surcharge", and "surcharge credit". Amendment No. 8 (1980) enables the District to furnish water to PGandE to use at the proposed Montezuma generating plant.
- o Antelope Valley-East Kern Water Agency. Amendment No. 11 (1979) sets forth provisions for extra surplus water.
- o City of Yuba City, County of Butte, Napa County Flood Control and Water Conservation District, Mojave Water Agency, San Bernardino Valley Municipal Water District, San Gabriel Valley Municipal Water District, and San Geronimo Pass Water Agency. The "Surplus Water Amendment" was transmitted in 1974; all of the long-term contractors signed this amendment except the seven listed above.

Contract Issues

During 1984 and early 1985, progress was made on a number of pending contract issues. As reported in Bulletin 132-84, unresolved contract issues included sale of the 17 cfs of aqueduct capacity relinquished by Santa Barbara County Flood Control and Water Con-

TABLE 11: WATER SUPPLY CONTRACT AMENDMENTS AS OF JUNE 30, 1985

Contracting Agency	Minimum Project Yield Increased	Supplemental Conservation Facilities Costs Delayed			Project Interest Rate Modified	Surcharge and Surcharge Credit Provisions					"Wet Weather" Provisions Added	"A" and "R" Surplus Water Provisions		Turnout Construction by Agency	Peaking Service		Annual Entitlements Revised	Excess Capacity Purchased	Article 28 Revised	Repayment Period and Contract Term Revised	Special Conditions	Contract Issues Resolved (a)	
		1970	1971	1972 until Construction		Added	Revised	Moratorium Declared				Deleted	Added		Revised	Increased							Decreased
								Through 1969	1970	1971													
FEATHER RIVER AREA																							
City of Yuba City	1	2	2	2	2		1						1				1,4	NA	3		5		
County of Butte	1	3	3	3	3		1	2		4	5		1				6,8	NA	7		9		
Plumas County Flood Control and Water Conservation District	1	3	5	6	3		1	2	4	7	8		10						9	11		12	
NORTH BAY AREA																							
Napa County Flood Control and Water Conservation District	1	3	4	5	3		1				6		1				8,9 10		7	1,2	11		
Solano County Flood Control and Water Conservation District	1	2	3P	3P	2		1						1,5		1		6,7		6	6	9		
SOUTH BAY AREA																							
Alameda County Flood Control and Water Conservation District-Zone 7	2	6	8	9	6	2		5	7	10	11	1	2,12	3			1,4		13	1	14		
Alameda County Water District	1	4	5	7	4	1		3		8	9	S	1	11,12	2				10	13	1,6	14	
Santa Clara Valley Water District	2	6	8	10	6	2		5	7	11	12	1	1	2,14, 15,17	3		1,4		13	16	1,9	18	
SAN JOAQUIN VALLEY AREA																							
County of Kings		2	3	4	2			1		5	6	S	S	8					7	9		10	
Devil's Den Water District	1	5	7	8	5			4	6	9	10		1,12, 13,15				1,3		11	14	2	16	
Dudley Ridge Water District	1	6	8	9	6			5	7	10	11		1,13, 14,16				1,2 3,4		12	15		17	
Empire West Side Irrigation District	1	4	6	7	4			3	5	8	9	S	1,11, 12,14				2		10	13		15	
Kern County Water Agency	1	4	6	8	4			3	5	9	10		1,12, 14,16				1,2 18		11	15	7,13	17	
Oak Flat Water District		3	5	6	3			2	4	7	9	S	S	11, 12,14	1		8		10	13		15	
Tulare Lake Basin Water Storage District	2	5	6	7	5			4		8	10	S	2,13, 14,17				1,3,9 12,19 20,21		11	15	16	18	
CENTRAL COASTAL AREA																							
San Luis Obispo County Flood Control and Water Conservation District	2	3	4	5	3	1	2				6	1	2,8						7	9		10	
Santa Barbara County Flood Control and Water Conservation District	2	3	4	5	3	1	2				6	1	2,7				2,9		8		10		
SOUTHERN CALIFORNIA AREA																							
Antelope Valley-East Kern Water Agency	1	5	6	7	5	1					8	1	10		3	2	1,14	4	9	12	2,3 4	13	
Castaic Lake Water Agency	2	4	5	6	4	1	2				7	1	2,10		2		2,3,9		8	11		12	
Coachella Valley Water District	2	3	4	5	3	1	2				6	1	2,8				2		7	9		10	
Crestline-Lake Arrowhead Water Agency	2	5	6	7	5	1	2				8	1	2,11	4	3		2,10		9	12		13	
Desert Water Agency	2	3	4	5	3	1	2				6	1	2,8				2		7	9		10	
Littlerock Creek Irrigation District	2	3	4	5	3	1	2				6	1	2,7				2			8		9	
Mojava Water Agency	2	4	5	6	4	1	2				7	1	2			3	2,10 12		8	9	3	11	
Palmdale Water District	2	3	4	5	3	1	2				6	1	2,8				2		7	9		10	
San Bernardino Valley Municipal Water District	2	4	5	6	4	1	2				7	1	2				1,2, 3,9		8	10		11	
San Gabriel Valley Municipal Water District	2	4	5	6	4	1	2				7	1	2,10		2		2,9	3	8	11		12	
San Geronimo Pass Water Agency	2	4	5	6	4	1	2				7	1	2		2				8	2,3	9		
The Metropolitan Water District of Southern California	1	9	10	11	9	1					13	1	16				1, 3, 8V, 15	2,6 7	14	17	(b)	18	
Ventura County Flood Control District	1	2	3	4	2		1				5		1,7						6	8		9	

NA = Not Applicable

P = Pending

S = Special provisions of basic contract

V = Amendment voided by subsequent action

- a) Contract issues covered by these amendments are (1) repayment of "Off-Aqueduct" power facility costs, (2) delinquency penalties, and (3) authority to include other types of projects as additional conservation facilities.
b) MWDC special conditions are covered by Amendment Nos. 2, 3, 4, 5, 7, 8V, and 12.

servation District (SBCFC&WCD). In January 1985, DWR wrote to contractors previously indicating an interest in purchasing the capacity and the 12,214 acre-feet of entitlement associated with the capacity, asking that they affirm a commitment to reimburse SBCFC&WCD for prior costs. DWR indicated that this commitment is a necessary condition of sale. Those contractors located downstream of Reach 8D were also asked to indicate under what circumstances they would transport additional water to their turnout(s). The last reply was received at the end of May 1985. Contractors willing to meet the conditions of sale are Coachella Valley Water District, Desert Water Agency, Dudley Ridge Water District, Empire West Side Irrigation District, Kern County Water Agency, and Tulare Lake Basin Water Storage District.

Additional past contract issues yet to be resolved are:

- o Off-Aqueduct Power Costs. There has been continued discussion of this issue between DWR and the State Water Contractors' Contract Issue Committee. The committee is continuing to investigate alternative means of allocating Off-Aqueduct power facilities costs among the contractors.
- o Energy Rates for Surplus Water. This remained an active issue due to the increasing rates being charged for pumping surplus water and the effect of surplus water pumping revenues on the melded cost of pumping SWP entitlement water. DWR will consider any alternative rate setting procedure that is acceptable to all affected contractors. As of mid-1985, this matter was still under active discussion among the contractors.
- o Hoover Dam Energy for Pumping MWDSC Entitlement Water, and Kern River Intertie Benefits. Neither of these

issues was addressed substantially in the past year.

- o Proposed Water Revenue Bond Contract Amendments. This contract issue deals with a proposal to revise the way in which contractors would repay the construction costs of future facilities. The State Water Contractors have evaluated two alternatives to the method proposed by DWR. All proposals would set up a separate "Revenue Bond Charge," in lieu of integrating future bond sales into the Project Interest Rate. Timing of an amendment will depend on the need for future bond sales to match the need for additional construction funds.
- o SWP Wheeling Policy. In the past, several situations have arisen regarding use of SWP facilities by contractors for purposes different than envisioned when facility cost allocation procedures were developed. The most visible issue is use of SWP facilities to transport non-SWP water supplies. DWR is reviewing existing policies regarding "extra" use of facilities, and will be discussing possible additions to the interim policy with the contractors.

East Branch Enlargement

In April 1985, the MWDSC Board of Directors voted to support enlargement of the East Branch of the California Aqueduct. Enlargement of SWP transportation facilities in Southern California is needed to meet future delivery requests. DWR is working with all contractors participating in existing East Branch facilities to secure commitments regarding participation in the enlargement. It is anticipated that a separate plan will be developed for financing of the enlargement, and that certain enlargement features will be staged. Contract negotiations with participating contractors are expected to commence in the summer of 1985.

Preconsolidation Water Agreements

In 1964, DWR contracted with two San Joaquin Valley water districts to supply ground water for construction of the California Aqueduct. The original contracts provided that DWR deliver specified quantities of water to the contractors by December 31, 1984. By the end of 1984, the successors to the original contracts (Shell California Production, Inc. and J. G. Boswell Company), had taken delivery of all but 23,689 acre-feet and 14,170 acre-feet of preconsolidation repayment water, respectively. Negotiations commenced during 1984 for possible extension of the delivery of this water to December 31, 1994. The proposed agreements provide that delivery of the remaining preconsolidation repayment water will be subject to (1) a use-of-facilities charge for water delivered from storage, and (2) the prevailing pumping charges for surplus water.

1978 Exchange Agreement

As described in Bulletin 132-84 (page 46), DWR acquired 30,000 acre-feet of water through an exchange agreement with MWDSC in 1978. Under subsequent agreements, that water was sold, with delivery to be taken at a future date. Kern County Water Agency (KCWA) purchased 25,000 acre-feet, and Dudley Ridge Water District (DRWD) purchased 5,000 acre-feet.

The original agreements required use of the 1978 exchange water prior to March 31, 1983. The delivery deadline has since been extended, first to December 31, 1984, and then to December 31, 1985. As of December 31, 1984, only 557 acre-feet of 1978 exchange water had been delivered--all to KCWA in 1982. In its initial request for 1985 deliveries, DRWD scheduled all 5,000 acre-feet of its exchange water. KCWA's initial request included only 8,558 acre-feet of the 24,443 acre-feet available to it.

1982 Exchange Agreement

Bulletin 132-84 (pages 46-47) describes the 1982 exchange and storage agreements under which Devil's Den Water District (DDWD), DRWD, and KCWA obtained rights to water stored in MWDSC ground water basins and Lake Oroville as follows:

	(acre-feet)		
	MWDSC Basins	Lake Oroville	Total
DDWD	126	559	685
DRWD	1,301	1,821	3,122
KCWA	9,494	46,393	55,887
Totals	10,921	48,773	59,694

(A total of 60,000 acre-feet of exchange water was made available under the 1982 agreements; Oak Flat Water District took delivery of 306 acre-feet in 1982, leaving the stored balance shown in the tabulation.)

The storage agreements provide that DWR will deliver the water stored by MWDSC to the participating contractors while reducing MWDSC's entitlement deliveries by a like amount (MWDSC will withdraw this portion of its entitlement from ground water). The water stored in Lake Oroville is available on request, subject to certain limitations. The agreements presently provide that all deliveries of 1982 exchange water be completed by December 31, 1985.

The first deliveries of stored 1982 exchange water took place in 1984, when DDWD received all of its 685 acre-feet. DRWD has requested that all of its 3,122 acre-feet be delivered in 1985; that amount was included in the initial 1985 water delivery schedule that DWR approved on December 20, 1984. KCWA's initial request for 1985 deliveries did not include any of its 55,887 acre-feet of 1982 exchange water; KCWA is seeking extension of the deadline for delivery of this water.

Bulletin 132-84 also described provisions of the 1982 exchange agreement under which 60,000 acre-feet of water was made available to the CVP. The USBR was to pay for this water by furnishing energy to the SWP on or after April 1, 1983. The energy was to be used to pump 200,000 acre-feet of water that the USBR owed to the SWP under other agreements.

On August 1, 1983, the USBR began to return water and energy to the SWP pursuant to the agreement. However, on August 16, 1983, DWR asked the USBR to stop the return as provided in the agreement and to consider deferring the return. DWR requested this action because it was not receiving the necessary value for the energy to return the dollar amount owed the SWP. The USBR agreed to the request and did not continue the return after August 20, 1983.

DWR and USBR agreed on a procedure for extending the time for USBR repayment of the approximate \$2.4 million balance owed (plus interest at the Annual Surplus Money Investment Fund Rate of the State). Generally, repayment of the 200,000 acre-feet of water and associated energy is being scheduled at a time when the energy is worth at least 28 mills per kWh to DWR. The USBR returned 52,484 acre-feet to the SWP in 1983 and 144,555 acre-feet in 1984. The remaining water (2,961 acre-feet) and energy valued at \$379,708 will be returned in 1985.

Connection with the First Los Angeles Aqueduct

In the fall of 1984, the East Branch of the California Aqueduct was scheduled for an outage while Alamo Powerplant was connected. Since Antelope Valley-East Kern Water Agency was the only SWP contractor requiring service during the outage, several alternatives for meeting the delivery schedule were considered. The selected alternative was to construct a permanent connection between the First Los Angeles Aqueduct

and the East Branch where Los Angeles' Antelope Siphon crosses over the SWP facility at Pool 44.

The City of Los Angeles Department of Water and Power (LADWP) was also interested in the connection because it would allow dewatering of its aqueduct into the East Branch in case of an interruption due to an earthquake or other catastrophic event, as well as provide a means of exchanging water with DWR in case of generation plant outages or water shortages. LADWP agreed to construct and operate the connection, and DWR agreed to pay a share of the construction costs of up to \$100,000, which is the estimated cost of providing a temporary bypass around the Alamo plant construction. The connection was completed, at a total cost of \$291,000, and became operational on September 27, 1984.

Since water cannot be returned by DWR to LADWP through the connection, it was necessary to obtain the cooperation of MWDSC in order to return the water through its system, which has interconnections with LADWP's system. MWDSC agreed to wheel the replacement water from its turnouts on the California Aqueduct to LADWP, thus making the first water exchange through the connection possible. Because the replacement water had to pass through a MWDSC water treatment plant, DWR reimbursed MWDSC for water treatment costs.

The water provided by LADWP to DWR through the connection and returned through MWDSC's system did not go through LADWP's San Francisquito 1 and Foothill Powerplants, which generate an average of 980 kWh per acre-foot of water. As part of the 1984 exchange, DWR returned energy to LADWP to replace the generation foregone. LADWP, DWR, and MWDSC will be negotiating an agreement for the long-term operation of the connection, which will deal with power and other operating and accounting procedures. The connection has the potential for being mutually beneficial to all three agencies.

Davis-Grunsky Act Program

Financing for the Davis-Grunsky Act Program was authorized in 1959 as part of the Burns-Porter Act. Under this program, the State provides loans and grants to assist local agencies in overcoming and avoiding public health problems in their water supplies, to develop new water supplies, and to encourage development of public recreation and fish and wildlife enhancement. Financial assistance covers construction costs, and preparation of feasibility reports. The State may also participate with an applicant as a partner under certain circumstances. An eligible local agency is defined as any city, county, district, or other political subdivision of the State. Mutual water companies or other private organizations and individuals are not eligible. Eligibility is also based on conformance with the California Water Plan, statewide interest, and, if a loan is requested, inability to finance from other sources.

Of the original \$1.75 billion funded for construction of the State Water Resources Development System, \$130 million was reserved specifically for State assistance under the Davis-Grunsky Act. Funding is drawn from the California Water Resources Development Fund and the California Water Fund. Repayment of loans is made to the California Water Resources Development Fund.

The Act is administered jointly by DWR and the California Water Commission under policies and procedures set forth in the California Administrative Code, a Joint Statement of Policies, and the Davis-Grunsky Act itself.

The seven specific types of assistance available to local agencies are:

- o grants for part of the construction cost of any dam and reservoir properly allocated to recreation;
- o grants for construction of initial water supply and sanitary facilities needed for public recreational use of the reservoir;
- o grants for part of the construction cost of a project properly allocated to the enhancement of fish and wildlife;
- o construction loans for local water projects;
- o loans for acquisition of reservoir sites for proposed water projects;
- o loans for feasibility reports on proposed projects for which construction loans are requested;
- o State participation as a partner in a project larger than the one the local agency proposes to construct on its own.

At the onset of the program, loans were made at the current market interest rate at the time of the loan, which caused the rate to vary from loan to loan. To be more equitable to the low-income agencies the program was designed to aid, the interest rate was changed to an overall rate of 2.5 percent, with a maximum repayment period of 50 years. In some instances, at the discretion of DWR, agencies were given an initial 10-year deferment on loan payments. The accumulated interest was then amortized over the repayment period.

As of December 31, 1984, DWR and the California Water Commission had approved loans and grants for 114 local agencies for a total of \$111.0 million. Actual disbursements from the \$130 million of financing available under the Burns-Porter Act are as follows:

Category of Expendi- tures	Disbursements (millions)	
	During 1984	Total through 12/31/84
Grants	\$0.49	\$ 61.10
Loans	0.77	46.09
Adminis- tration	0.13	7.95
Totals	\$1.39	\$115.14

At present, DWR is not accepting applications, pending action on applications yet to be approved.

During 1984, the Davis-Grunsky Act helped finance construction of the following projects:

- o The City of Avenal, in Kings County, received the final \$218,000 of a \$550,000 loan authorized for municipal water treatment improvements. The project has been completed.
- o Home Gardens County Water District, in San Bernardino County, received \$20,000 of a \$25,000 loan authorized for a feasibility report on a water supply and distribution system.
- o Marin Municipal Water District received its final \$111,000 of fish and wildlife enhancement grant funds.
- o San Bernardino Valley Municipal Water District received a payment of \$376,000 under recreation, fish and wildlife enhancement, and water supply grants approved for its Yucaipa Project.
- o Tuolumne County Water District No. 1 received \$70,000 under a \$1,000,000 loan authorization for domestic water storage and distribution improvements. The project is scheduled for completion in 1985.

- o Union Public Utility District, in Calaveras County, received \$466,000 under a \$500,000 loan authorization for water distribution improvements. This project is also scheduled for 1985 completion.

Project Purpose Cost Allocations

Appendix D to Bulletin 132-84, submitted to the Legislature early in 1985, does not include any new or revised project purpose cost allocations. However, the SWP capital costs allocated to recreation and fish and wildlife enhancement reported in the appendix are updated through 1983. Copies of Appendix D to Bulletin 132-84 are available from DWR on request.

In 1979, the Department of Finance issued a staff report on the project purpose cost allocation methods used by DWR to allocate SWP costs under the Davis-Dolwig Act. If implemented, the report's recommendations would significantly reduce SWP costs allocated to recreation and fish and wildlife enhancement.

DWR contracted with a consulting economist to review the Department of Finance report and DWR's project purpose cost allocation methodology for SWP facilities. The consultant's report was completed in January 1985. Generally, the consultant concurred with DWR's cost allocation procedures. DWR transmitted a copy of the consultant's report to the Department of Finance in February 1985. This transmittal included a proposal that a task force with representatives of both departments be set up to resolve the cost allocation issue. DWR is awaiting a response by the Department of Finance.

Two-Agency Fish Agreement

During 1984, DWR and the Department of Fish and Game continued their efforts

toward developing an agreement to provide for fisheries mitigation for operation of the Banks Delta Pumping Plant. These mitigation actions are intended to minimize the impact on Delta fisheries caused by operation of the plant. It is anticipated that the negotiations will lead to a final agreement that can be executed by both departments in late 1985.

CVP-SWP Coordinated Operation Agreement

On May 6, 1985, the USBR and DWR reached accord on a Coordinated Operation Agreement after 25 years of negotiations. The final round of negotiations leading to this accord began on July 9, 1984.

Working from the December 20, 1982 draft agreement, the USBR and DWR held eight formal sessions and numerous technical sessions to consider revisions to those articles dealing with water exchanges, conveyance, and water quality standards. All formal negotiating sessions were open and attended by representatives from various segments of the public.

Both parties agreed to meet a specified set of water quality standards (Exhibit A of the agreement) from SWRCB Decision 1485. Article 11 also requires that Exhibit A be amended to include any new Delta standards that are not inconsistent with Congressional directives. However, if the Secretary of the Interior determines that new standards are inconsistent with Congressional directives, the Secretary is promptly to request the Department of Justice to bring an action to determine the applicability of the new Delta standards to the United States.

This has been the most difficult area of the agreement. During the long negotiations, both parties came to realize that the only way to deal with possible changes in water quality standards is through the courts under existing law. In 1978, the U.S. Supreme Court ruled

in California v. United States that the SWRCB may impose conditions on the CVP that are not inconsistent with Congressional directives respecting the project. Therefore, the agreement was constructed to be neutral on this legal issue. A disclaimer paragraph in Article 11(d) is designed to assure this neutrality.

The water quality standards do not presently include permanent Suisun Marsh criteria, but the Coordinated Operation Agreement does contain a methodology (Articles 11 and 14) for incorporation of Suisun Marsh protection features when current negotiations are completed.

Each project's annual supplies at the 1980 level of development have been established, 6.9 million acre-feet (MAF) for the CVP and 3.6 MAF for the SWP; annual supplies at the 2020 level of development would be 8.2 MAF for the CVP and 3.1 MAF for the SWP. (The SWP figures include 1.0 MAF for satisfaction of prior rights in the Feather River Service area; to determine actual delivery capability to SWP contractors, additional deductions must be made for transportation losses, and use for recreation and fish and wildlife purposes.) The determination of these supplies was computed as described in a March 1984 USBR/DWR technical report, "Determination of Annual Water Supplies for Central Valley Project and State Water Project."

The agreement provides for each party's use of the other's facilities for both short- and long-term situations. In accordance with the requirements of Decision 1485, the agreement provides for conveyance of CVP water through the California Aqueduct to San Luis Reservoir to make up for the curtailment of pumping during the striped bass spawning period.

Article 10(h) of the agreement calls for a contract to be concluded by December 31, 1988 for purchase of interim CVP water by the SWP and convey-

ance of CVP water to federal contractors through the California Aqueduct. (These ongoing negotiations are discussed in Chapter V.) The CVP will have priority equal to that of the SWP contractors for use of the California Aqueduct to convey an amount of water equal to that purchased by the State from the CVP. In addition, the SWP is committed to providing conveyance service to the CVP for additional CVP water so long as such conveyance does not diminish deliveries or increase costs of water supplies to the SWP contractors. If the parties fail to reach agreement on such a purchase and conveyance agreement, then the Coordinated Operation Agreement may be terminated by either party (Article 14).

A draft EIS-EIR on the Coordinated Operation Agreement has been completed and is scheduled to be released for public comment in September 1985. DWR will be in a position to sign the agreement after the final EIS-EIR is completed. The USBR must obtain Congressional authorization to execute the agreement.

Water Rights Management

The SWP currently operates in the Delta under conditions set forth in SWRCB Decision 1485, issued in August 1978, and intended to remain in effect until the SWRCB issues new standards in 1988. This decision resulted in coordination of terms for SWP and CVP water rights permits and establishment of Delta water quality standards to insure protection of vested water rights. Decision 1485 requires implementation of a program to monitor Delta water quality. The monitoring program and associated special studies conducted by DWR have contributed to a better understanding of the effects of SWP operation on the Delta's ecology. The program has also provided information that will help determine future operating criteria to protect the Bay-Delta waters when the SWRCB reopens hearings in late 1986.

Delta Water Quality Monitoring and Reporting

In 1984, DWR sampled an average of 32 water quality parameters at each of 28 sites throughout the Delta estuary on a bi-weekly basis. Continuous water quality profiles of the main channels were also recorded bi-weekly with automated instrumentation aboard DWR's laboratory workboat, the San Carlos. Special studies conducted by DWR during 1984 included intense monitoring of the central Delta during a SWRCB-sanctioned export curtailment; these studies examined changes in water mass residence times and the effect on algal growth. DWR personnel also conducted special studies on factors controlling phytoplankton growth rates, including reactions to the presence of herbicides commonly found in Delta waterways.

Compliance with Decision 1485 also requires supplemental studies of the freshwater outflow needs of the San Francisco Bay ecosystem. The objective is to separate the effects of Delta outflow from other major influences on the Bay, such as waste discharges and shoreline development.

The network of six continuous, multi-parameter recorders, located onshore at strategic locations throughout the Delta, is now generating water quality data. Software for on-site computerized equipment is complete, and a storage and retrieval program for the reduced water quality information is being developed. Three sites (Antioch, Mallard Slough, and Rio Vista) have telemetry capabilities.

Water quality information is stored in DWR's Water Data Information System. Basic data for 1984 were retrieved and transmitted to the SWRCB with DWR's analysis. Copies of 1975 through 1983 data tabulations are still available. DWR is cooperating with the SWRCB in developing an electronic data processing system common to all State agencies. These data will become an

important reference for future Delta study and evaluation programs.

Suisun Marsh

Among other requirements, Decision 1485 required that certain Initial Facilities be constructed within Suisun Marsh. Construction of these facilities consisting of dredging and other improvements on Roaring River Slough, Morrow Island Distribution System, and Goodyear Slough Outfall Structure, was completed in October 1981. Subsequently, construction of a fish screen was completed at Roaring River Slough in November 1983.

Decision 1485 also required that a coordinated plan to protect Suisun Marsh water quality be developed. DWR worked through the Suisun Marsh Technical Committee of the Interagency Ecological Study Program for the Sacramento-San Joaquin Estuary in developing the required Plan of Protection. The plan was completed in February 1984, and a Notice of Determination for the EIR was signed in April 1984. The EIR incorporates the concept of staged construction of the Plan of Protection. Staging of construction will help ensure that the plan as implemented will be effective and appropriate. DWR is continuing participation in the Suisun Marsh Technical Committee to coordinate implementation of the plan.

In 1984, DWR began construction of an access road for the next stage of the Plan of Protection -- the Montezuma Slough Control Structure. Unit 1 of the access road to the proposed control structure site was completed in October 1984. The remainder of the access road will be built concurrently with the Montezuma Slough Control Structure. The control structure construction should begin in early 1986.

In July 1982, DWR advised the SWRCB that it would not be able to complete the Overall Facilities by the October

1984 deadline of Decision 1485. DWR requested that the SWRCB consider deferring the imposition of the October 1984 standards, but the SWRCB chose to defer action until the standards actually have been violated.

The monitoring program, which is a component of the Suisun Marsh Plan of Protection, has been implemented. The monitoring equipment is in place and data are being gathered.

Contract negotiations have continued among the Suisun Resources Conservation District, the Department of Fish and Game, the USBR, and DWR. It is expected the contract will be signed in 1985. Efforts will then begin to secure Congressional authorization for USBR participation in implementing the Plan of Protection.

Western Delta Municipal Water Users

Two contracts are in effect for replacement of municipal water supplies in the Antioch-Pittsburg area (Bulletin 132-67, page 20). The first, signed April 21, 1967, is with the Contra Costa Water District (CCWD) for its municipal water diversion at Mallard Slough near Pittsburg; the second, signed April 11, 1968, covers use by the City of Antioch.

Each contract provides that DWR compensate each entity for its additional costs of purchasing a substitute water supply from the Contra Costa Canal to replace offshore supplies lost because of SWP operation. Credits for above-average offshore water supplies accrue to offset below-average days in future years. Both agencies had above-average water supplies during the 1984 water year as defined in the contracts. During the 1984 water year, water of usable quality was available to CCWD for 201 days and to the City of Antioch for 284 days. Credits for the number of days in excess of the contract standards are

accumulated to offset future deficiencies in availability. The credits for the 1984 water year were 59 days for CCWD and 76 days for the City of Antioch. These additions brought the total September 30, 1984 credits for CCWD and the City of Antioch to 378 and 398 days, respectively.

Western Delta Industrial Water Users

Near Antioch and Pittsburg, several industries use offshore water for both processing and cooling. When offshore water quality is below the industries' requirements, the Contra Costa Canal provides a substitute supply. These industries have not agreed to participate in contracts similar to those signed by municipal interests. The reasons cited include (1) belief that the SWP should provide compensation for all loss of offshore water regardless of who is responsible, and (2) desire that the SWP guarantee the quality and quantity of Contra Costa Canal water when it is used as a substitute supply.

In August 1980, DWR resumed negotiations with Louisiana Pacific-Fibreboard and Crown Zellerbach Corporations. A draft contract was submitted by the corporations in October 1982. In May 1983, Fibreboard submitted a new draft contract. Negotiations are now actively underway.

Delta Agricultural Water Users

For more than a decade, DWR has sought to contract with Delta agricultural agencies for the SWP to meet water quality standards necessary for reasonable beneficial uses throughout each agency's respective area, with relaxation of these standards during dry and critical years. In return, the agencies would make annual payments for services in excess of any SWP mitigation obligation.

Beginning in 1974, six agencies representing agricultural water interests in the Delta replaced the Delta Water Agency, which ceased to exist December 31, 1973. In 1981, contracts were executed with the North Delta Water Agency and East Contra Costa Irrigation District. Negotiations with the other agencies were inactive for several years until 1984, when the Central Delta Water Agency (CDWA) and South Delta Water Agency (SDWA) both indicated an interest in reopening negotiations. Negotiations with CDWA and SDWA are now proceeding.

SWRCB Decision 1485 did not establish water quality standards for the southern Delta, because insufficient information was available, and because negotiations among the USBR, SDWA, and DWR were under way. If negotiations were not successful by January 1, 1980, the SWRCB was to have intervened. However, this date has been repeatedly extended at the request of all parties, even though SDWA has filed suit against the SWRCB for failing to include southern Delta standards in Decision 1485.

Following a March 1982 workshop, the SWRCB informed SDWA that it must petition the SWRCB if it wishes any action on the adoption of standards. SDWA responded by criticizing this position, restating its position that the SWRCB must adopt standards for the southern Delta, and stating that negotiations had come to an impasse.

On July 22, 1982, DWR was served in a lawsuit filed by SDWA against DWR and the USBR over the effects of SWP and CVP operations on water quantity and quality in the southern Delta. As noted, negotiations are now actively under way between DWR and SDWA. This suit may be dropped as part of the resolution of issues covered by these negotiations.

San Joaquin Valley Drainage Program

Agricultural production and the environment in the western San Joaquin Valley are threatened by high concentrations of salts and other constituents associated with irrigated agriculture. These problems have recently been highlighted in the federal service area. DWR's activities are changing to assure acquisition of the data and information necessary for reuse and disposal studies in the State service area.

DWR has increased its monitoring of agricultural waste waters; the number of stations has been increased, the frequency of sampling has increased, and more constituents are being determined. Emphasis is on trace element analyses, since some of these elements have adverse effects on water supplies and the environment. DWR has also increased monitoring of surface and ground waters in areas where trace elements might be a problem.

Data and information collected by the monitoring program will be used to evaluate potential sites for commercial-size desalting plants. The monitoring data and information are also used to determine feasibility of using waste water for irrigation and wildlife marshes.

DWR is continuing to participate in the U.S. Salinity Laboratory demonstration project for reuse of agricultural waste water on various crops in Kern County. The project is being conducted in cooperation with several other agencies. DWR is also participating with the U.S. Fish and Wildlife Service in a marsh management study to evaluate use of agricultural waste water for marshes at the Kern National Wildlife Refuge.

DWR is closely following the U.S. Department of the Interior's studies relating to management and disposal of agricultural waste water from its San Luis Drain system. The problems with waterfowl and fish have demonstrated the need for further studies to

define other alternatives for management and disposal of agricultural waste waters. DWR representatives serve on several committees and advisory groups relating to these studies.

On February 5, 1985, the SWRCB adopted a cleanup and abatement order directing the USBR to develop a revised report of waste discharge or a plan for closure of Kesterson Reservoir in Merced County. The order also finds that the water being discharged is hazardous and, under California law, may not be impounded at Kesterson Reservoir after June 30, 1988.

Los Banos Desalting Facility

Desalting of agricultural drainage water (through reverse osmosis or other processes) has the potential to assist in solving both the immediate and long-term drainage problems in the San Joaquin Valley. DWR is continuing ongoing research at its Los Banos Demonstration Desalting Facility into new and innovative techniques that may ultimately reduce desalting costs. Construction of the facility started in early 1982; the principal contract (the physical/chemical component) was completed in June 1983. Delivery and installation of the electrodialysis unit and Rankine cycle turbine in 1984 completed the solar pond power generating component of the facility.

The facility began partial operation in October 1982, with startup of the marshponds. This was followed in July 1983 with initial operation of the chemical clarification and gravity filtration pretreatment systems. A number of design and mechanical problems have delayed full operation. Work proceeds toward developing pretreated water suitable for introduction to the reverse-osmosis units. Efforts have concentrated on developing the correct clarifier dosages and filter loading parameters to produce water free of suspended solids and below 12 milligrams per liter in silica.

The biological system operates in parallel and in competition with the chemical clarification system. During the two years of operation, the biological system demonstrated an ability to reduce silica, at times to 10 percent of the incoming concentration of 25-30 milligrams per liter. Suspended solids removal rates were also good. DWR found that the ponds could be managed to meet variations of turbidity in the San Luis Drain and produce a consistent effluent quality; however, turbidity of the effluent is still too high.

Operations in 1984 concentrated on maintaining a stable effluent from the marshpond and adding either alum or a polymer to that effluent just before it enters the gravity filters. This technique, known as direct filtration, is being increasingly used in water treatment, including pretreatment of desalting feedwater.

The ion-exchange system for removal of hardness has been operated briefly for the purpose of system checkout. Mechanical and hydraulic problems of the system prompted construction of a small bench-scale ion-exchange test unit to ensure that the drain water could be successfully "exchanged" by the system as designed. The bench-scale tests indicate that, with minor modifications, the large units should perform up to specifications. The modification of the large units, along with construction of a new sump system to deliver water to the solar ponds, was completed in early spring 1985. Operation of the ion-exchange system depends on regeneration brine from the desalting units, and operation cannot begin until the reverse-osmosis units are in operation. Startup of the main reverse-osmosis units is scheduled for mid-1985, once the pretreatment systems are fully operational and producing desalting unit feedwater of suitable quality. A small (10-gallon per minute) pilot reverse-osmosis unit began operation in May 1985; it is performing as designed.

The solar ponds are ready for operation. A "mini-pond," consisting of a 9-foot tall, 500-gallon tank, was "stratified" in February 1985, proving that the drain water will be suitable for power generation in the solar pond system. One solar pond is being prepared for operation using an artificial salt mix (to avoid losing the heat that could be captured during the summer of 1985). The remaining solar pond will be operational once the reverse-osmosis units come on line to generate the brine required for stratification.

Work on the Los Banos Desalting Facility began in 1980-81, using funding from the Energy and Resources Fund (a non-SWP fund). The majority of the cost of the facility has been funded from the California Water Fund. As explained in Chapter VII, the costs of the desalting facility are not charged to the SWP contractors; the costs will either be recovered from beneficiaries of a future San Joaquin Valley drainage project, or be considered nonreimbursable costs if repayment contracts are not executed.

Water Legislation

On April 5, 1984, Governor Deukmejian announced specific legislative proposals related to water resources. The principal elements of the proposed legislative package were bills that would have:

- o (1) required construction of water transfer facilities in the Delta;
- (2) authorized construction of offstream storage facilities south of the Delta, ground water storage facilities, south Delta protection facilities, and interconnections to other water supply systems;
- (3) permitted use of SWP facilities to deliver CVP water for the Mid-Valley Canal service area;
- (4) provided protections for the Suisun Marsh and San Francisco Bay; and
- (5) required that the SWP and CVP be operated in coordination (SB 1369 - Ayala).

- o Authorized an expanded subventions program for Delta levee construction and maintenance (SB 2196 - Boatwright).
- o Authorized a loan program for local water agencies to construct ground water recharge facilities (AB 3626 - Areias).
- o Allocated a portion of SWP costs to mitigation of the effects of upstream diversions by other than State and Federal projects on the Delta, Suisun Marsh, and San Francisco Bay (AB 3542 - Katz).
- o Authorized DWR investigations of Sacramento Valley water supplies and needs, flood control, water quality, seepage, and erosion control (AB 3758 - Herger).
- o Appropriated Tideland Oil revenues from the California Water Fund for a variety of purposes (AB 3907 - Costa).
- o Authorized general obligation bonds to fund existing programs under which the State pays a portion of the costs of Corps of Engineers flood control projects (SB 1648 - Nielsen).
- o Clarified DWR's flood fighting authority (SB 2145 - Doolittle).

A related bill would have reallocated \$5 million per year of Tideland Oil revenues to restore fishery resources reduced by water projects (SB 1500 - Keene/Nielsen). A related constitutional amendment would have required a two-thirds vote of the Legislature to amend the area of origin statutes or the Delta Protection Act (SCA 16 - Johnson). SCA 16, SB 1500, and six of the eight Administration bills (all except SB 1648 and SB 2145) were joined so that none would have any force or effect unless all were enacted and SCA 16 was approved by the voters.

The bills became involved in an intense controversy. Opponents of the proposal wanted to submit the package to a statewide referendum. The Governor was agreeable to a referendum, but wanted the vote to be held in November 1985 rather than in 1986, in order to put the issue to rest and to avoid prolonged divisive battling. To schedule an election for 1985, it was necessary to add an urgency clause to the bills. An urgency clause requires a two-thirds vote for approval in the Legislature, but the bills failed to get the necessary two-thirds approval. Another effort to combine the package into one bill, SB 89 (Ayala), was also unsuccessful, so the Administration abandoned the effort to enact the package during the session.

Despite the failure to pass the large water package, the Legislature did pass several water bills. The more important bills were:

- o AB 178 (Waters), extending area of origin protection. It also sets conditions for local agencies to buy water from export projects and sets conditions for the export of ground water.
- o AB 1732 (Costa), authorizing \$325 million in general obligation bonds to cover the State share of waste water projects. It includes \$25 million for loans for waste water reclamation projects and \$10 million in loans for water conservation.
- o AB 2183 (O'Connell), authorizing an additional \$75 million for the State Safe Drinking Water Program.
- o AB 3792 (Isenberg), authorizing Los Banos Grandes Reservoir, south of the Delta, as part of the SWP.

Litigation

The following are summaries of the principal litigation involving the SWP during the report period:

Control Over SWP Operations

Tulare Lake Basin Water Storage District v. State of California filed October 19, 1976, Court of Appeal, Third Appellate District, No. 3 Civil 21240. A trial court decision in the case, in favor of DWR on all counts was entered on September 25, 1981. The court held that DWR did not breach its water supply contracts by releasing stored water to control salinity levels in the Delta.

The court also held that contracts between DWR and the Delta water agencies are not a precondition to the delivery of water in excess of Delta vested rights if it is in the public interest to provide such water. The court further concluded that DWR did not violate an injunction staying operation of Decision 1379, because it was authorized to operate voluntarily in accord with the most recent and comprehensive water quality standards.

The plaintiffs and intervenors appealed. The parties executed a settlement agreement, and on January 2, 1985 the appeal was dismissed.

Salyer Land Company v. Department of Water Resources, filed May 9, 1977, Sacramento County Superior Court No. 267012, involved issues similar to those in the Tulare Lake case. The parties executed a settlement agreement under which the plaintiff agreed to dismiss the lawsuit. The lawsuit was dismissed on January 10, 1985.

Department of Water Resources v. Contra Costa County Water Agency, et al., filed June 22, 1979, San Francisco Superior Court No. 765609. This suit was filed by DWR against the Contra Costa County Water Agency, North

Delta Water Agency, Central Delta Water Agency, South Delta Water Agency, Byron-Bethany Irrigation District, City of Vallejo, Union Properties, and several landowners in the Delta. The suit seeks a declaratory judgment that the defendants must contract with DWR and pay for SWP water used in excess of that which would be available in the absence of the SWP. The suit also seeks money damages to compensate DWR for water illegally used during July and August of 1977. DWR's actions are based on quasi-contract and statutory obligations (Burns-Porter Act, Central Valley Project Act, Delta Protection Act, and Watershed of Origin Statutes). The Attorney General has authorized DWR to represent itself in this case.

North Delta Water Agency, East Contra Costa Irrigation District, and the City of Vallejo have been dismissed with prejudice from the lawsuit as they have contracted with DWR. Discovery is proceeding. On January 29, 1985, Judge Wonder issued a decision on DWR's Motion for Summary Adjudication of Issues, in part granting and in part denying it. The judge found that the legal and factual issues were so intertwined that no significant legal rulings were possible without a trial.

Delta Water Cases

United States of America v. State Water Resources Control Board, filed November 13, 1978, Court of Appeal, First Appellate District, Division One, No. A027690. This and seven other cases have been brought to challenge the merits of SWRCB Decision 1485, which establishes conditions of water rights permits of the SWP and CVP and the SWRCB's revised water quality control plan for the Delta and Suisun Marsh. Six other cases have been brought to invalidate the EIR on which Decision 1485 and the revised water quality control plan are based.

DWR is either a real party in interest or an intervenor in all 14 of these

cases, in which the Attorney General has authorized DWR to represent itself. The cases have been coordinated. On April 24, 1981, the court bifurcated the EIR cases from those that challenged Decision 1485 on its merits. The EIR cases were stayed until final judgment on the merits case.

After briefs and oral argument, the trial court issued its Statement of Decision on numerous legal issues on April 13, 1984. The court ruled generally that SWRCB failed to proceed in the manner required by law and failed to support Decision 1485 and the plan with adequate findings. The court requested that the proceedings be remanded to the SWRCB, that the SWRCB set aside Decision 1485 and the plan, and that the SWRCB reconsider its action in light of the various rulings in the Statement of Decision. There are numerous important rulings in the Statement of Decision. The rulings of particular importance to DWR are summarized on pages 55-56 of Bulletin 132-84.

Various parties including DWR appealed. The last of three rounds of legal briefs was submitted to the Court of Appeal on December 18, 1984. Pending resolution of the appeal, DWR is continuing to operate according to the conditions of Decision 1485.

Seepage Suits

During 1975 and 1976, several suits were filed against the State and the United States by more than 25 landowners adjacent to the Sacramento and Feather Rivers for damages alleged to have been caused by erosion and seepage in March and April of 1974. The plaintiffs claim damages in excess of \$30,000,000, resulting from operation of the CVP and SWP.

One such case is H. S. Sanborn, et al. v. United States, filed March 22, 1976, U.S. District Court CIV 5-76-154, a complaint in inverse condemnation,

negligence, and trespassing. The claim arises from damages allegedly caused by high flows in the Sacramento River in March and April of 1974 due to a heavy and late storm. The levels were partially controlled by releases from Shasta Lake and diversions from the CVP's Trinity River Division. The plaintiffs contend that the CVP kept the river levels high for an extended period, causing erosion and seepage that damaged their orchards and crops. The defendants also sued the State, claiming that DWR participated as a joint venturer in the planning and operation of the CVP.

In May of 1984, the U.S. Court of Claims rejected the claim against the United States, ruling that a one-time event did not constitute inverse condemnation and that recovery based on a tort theory was banned by Federal flood immunity provisions (33 U.S.C. Sec. 702c).

Plaintiffs are now pursuing these claims against the State of California, claiming DWR is a joint venturer in the CVP. In March 1985, the Superior Courts of Sutter, Colusa, and Glenn Counties denied plaintiffs' summary judgment motions, which sought to hold DWR liable as a joint venturer.

Kern River Intertie

River West Inc. v. State of California, et al., filed August 5, 1980 in San Francisco and later transferred to Kern County Superior Court, No. 174778, involves local water rights and DWR's operation of the Kern River Intertie and the California Aqueduct. The plaintiffs have sued DWR, upstream landowners on the Kern River, and local water agencies, alleging infringement upon the rights of the plaintiffs to water of the Kern River. Plaintiffs contend, as to DWR, that water other than flood water and water subject to appropriation are being accepted into the Intertie contrary to the Intertie's flood control purpose.

As to the upstream landowners, the plaintiffs contend they are diverting water to which plaintiffs have rights and that some of these defendants have made improper transfers of water. On December 29, 1982, a related case, Kern Property Corporation v. State of California, acting through Department of Water Resources, et al., Kern County Superior Court No. 181265, was filed. DWR and the other defendants in the River West case have filed answers, and discovery is in progress. The assigned judge allowed plaintiffs to amend their complaints. Plaintiffs' attorneys have been disqualified because of conflict of interest.

Wild and Scenic River Cases

In July 1980, Governor Brown requested that U.S. Secretary of the Interior Cecil Andrus add approximately 4,000 miles of rivers in the California Wild and Scenic Rivers System to the National Wild and Scenic Rivers System. The governor took this action under the authority of the National Wild and Scenic Rivers Act (16 U.S.C. 1271, et seq.), which permits the governor of any state to apply to the Secretary of the Interior for national designation of State-designated rivers. On January 19, 1981, Secretary Andrus acted on California's application by adding approximately 1,235 miles of California rivers to the National System.

After Secretary Andrus' decision, three lawsuits were filed in federal court. County of Del Norte v. United States filed February 2, 1981, Federal District Court for the Northern District of California No. C-81-046WAI, was brought by two Northern California counties and Northern California timber interests. The lawsuit claimed that the Final EIS on inclusion of the California rivers in the National Wild and Scenic Rivers System was prepared and distributed in violation of regulations of the Council on Environmental Quality (CEQ). The plaintiffs sought a declaration that

California's application violated federal law.

In County of Josephine v. Watt, filed January 28, 1981, Federal District Court for Oregon No. 81085, the southern tier of Oregon counties and timber interests sought a declaration that Secretary Andrus' decision was illegal and sought an injunction to overturn his action. On July 29, 1981, this case was transferred to Northern California Federal District Court, where the other Wild and Scenic Rivers cases were pending.

On April 7, 1981, the Association of California Water Agencies (ACWA) and ten SWP water contractors filed ACWA v. United States, Federal District Court for the Northern District of California No. C-81-1457. This suit claimed that inclusion of the rivers in the national system jeopardized the plaintiffs' maximum annual entitlements from the SWP. It claimed California's application for national status for the rivers was defective and also claimed violations of the National Environmental Policy Act and rules promulgated by the CEQ. Like the other federal lawsuits, it sought a declaration and an injunction against implementation of Secretary Andrus' decision.

The State was originally not a party to any of these lawsuits. However, the State and four environmental groups (the Environmental Defense Fund, the Sierra Club, California Trout, and Save the American River Association) intervened in each of the suits.

In the case brought by the Oregon plaintiffs, the court ruled in favor of the State and the United States on every point except the adequacy of the EIS. The court ordered a trial to be held on this issue after resolution of appeals in the other two cases. In the two suits brought by the California plaintiffs, judgment was granted for the plaintiffs on the issues of failure to comply with the CEQ guidelines and

inability to prove "permanent administration" of the rivers under federal law. The two cases were appealed to the Ninth Circuit Court. The State remained neutral on appeal.

On May 11, 1984, the Ninth Circuit Court reversed the District Court, holding that the Secretary of the Interior's actions in designating the rivers were legally valid. Any failure to comply with CEQ regulations must be regarded as trivial and did not justify invalidating the Secretary's designation. The plaintiffs in the two California cases petitioned the United States Supreme Court for a writ of certiorari to review the Ninth Circuit decision. On January 20, 1985, the Supreme Court denied the writ, refusing to review the Ninth Circuit decision. Thus, Secretary Andrus' decision governs and the rivers remain in the National System. On March 7, 1985, all parties to the Oregon lawsuit stipulated to a dismissal with prejudice, which means the suit cannot be refiled.

Electrical Power Cases

State of California v. Los Angeles City Department of Water and Power (LADWP), filed September 26, 1978, Los Angeles Superior Court No. C-255911. DWR filed this suit to obtain monies owed by LADWP under the Cooperative Development Contract for hydroelectric facilities at Castaic Lake. In July 1975, LADWP withheld approximately \$69,000 from the Peaking Capacity Foregone payment owed to DWR. In subsequent years, LADWP has withheld larger amounts from Peaking Capacity Foregone payments. LADWP has asserted that a clause that permits a payment reduction, if there is a 45-day or longer failure to schedule water through the Angeles Tunnel, has been triggered in these instances.

On May 27, 1982, the parties agreed on a process for settlement of the litigation. This process involves

amendment of the Castaic contract in accordance with principles already agreed upon and payment by LADWP of a specified amount of money to DWR. In February 1985, DWR signed a new set of the required amendments, and sent them to LADWP for execution. In the meantime, discovery has been suspended.

Southern California Edison Company (SCE) v. Los Angeles Department of Water and Power, filed October 18, 1979, Los Angeles Superior Court No. C-301654. This suit was filed by SCE to compel LADWP to continue to meet its obligations to supply DWR with electrical power under the Suppliers Contract. LADWP has claimed that under the legal doctrine of commercial impracticability, it is entitled to be excused from its obligations under this contract. LADWP had earlier given notice to DWR that, unless DWR paid a higher price for the power than that set forth in the contract, it would no longer provide DWR with service. After DWR refused to deviate from the terms of the Suppliers Contract, LADWP informed DWR and the other parties to the contract that it would terminate service as of October 21, 1979. The Pacific Gas and Electric Company (PGandE) and the San Diego Gas and Electric Company, suppliers under the contract along with SCE and LADWP, are named as defendants in the lawsuit. Pacific Gas and Electric Company v. Los Angeles Department of Water and Power, filed October 12, 1979, San Francisco Superior Court No. 759086, deals with the same issues. A hearing on PGandE's application for a temporary restraining order against LADWP has been postponed indefinitely by PGandE, pending the outcome of the SCE case.

On November 7, 1979, a preliminary injunction was issued requiring LADWP to continue supplying power under the Suppliers Contract. LADWP continued supplying power to DWR until the termination of the Suppliers Contract in 1983. The case is in the discovery stage, and the parties are attempting

to reach agreement on a Statement of Stipulated Facts.

State of California v. Oroville Wyandotte Irrigation District (OWID), filed July 23, 1982, Sacramento County Superior Court No. 305174. DWR filed this suit to obtain a writ of mandate to compel OWID to prepare an EIR on the proposed Kelly Ridge II Powerplant. If it proceeds as proposed, the Kelly Ridge II Powerplant would divert 50 cfs of water around Lake Oroville and the Hyatt Powerplant. DWR currently uses the water to generate approximately 20 million kWh of energy annually at the Hyatt plant. DWR contends that OWID violated the California Environmental Quality Act by failing to consult with DWR during preparation of its Initial Study of the Kelly Ridge II Project. DWR also contends that an EIR should have been prepared to examine the significant environmental impacts of the proposed project. These include the possibility that DWR would have to resort to additional consumption of fossil fuels and other nonrenewable resources to replace lost energy and firming capacity. Final judgment in favor of OWID was entered October 20, 1983. DWR filed a notice of appeal on January 27, 1984. Oral argument took place on January 23, 1985, before the Third Circuit Court of Appeal.

Water Supply Contract Cases

San Luis Obispo County Flood Control and Water Conservation District (SLOCFC&WCD) v. State of California, filed July 26, 1982, San Luis Obispo County Superior Court No. 56635. In 1971, DWR agreed to an amendment to the water supply contract with Kern County Water Agency (KCWA) allowing KCWA to shift delivery of 50,000 acre-feet of entitlement water from the main aqueduct to Reach 31A on the coastal stub. The delivery was to be made within the existing capacity already allocated to KCWA in the coastal stub. The contract amendment provided that costs would not be reallocated provided that the change in deliveries did not cause an increase in costs to any other water contractor.

SLOCFC&WCD claims that as a result of KCWA's right to increase entitlement deliveries through Reach 31A, DWR should have recalculated the proportionate use of facilities factors for that reach and should have reduced the charges to SLOCFC&WCD. Santa Barbara County Flood Control and Water Conservation District filed a similar suit in Santa Barbara County Superior Court. A San Luis Obispo County Superior Court judge has ordered coordination of the two cases, and assignment of a coordination trial judge is currently pending. KCWA and Berrenda Mesa Water District are also parties to the suits.

CHAPTER IV

DESIGN, RIGHT OF WAY, AND CONSTRUCTION ACTIVITIES, JULY 1, 1984 — JUNE 30, 1985

This chapter discusses the design, right of way, and construction work within the SWP construction divisions shown in Figure 8. Also included is a summary of DWR's program for safety review of SWP facilities.

Design Activity

Table 12 summarizes the principal SWP design activities during the report period. Of these, the following were most significant in terms of design effort.

Thermalito Diversion Dam Powerplant

Design of this facility, which will be constructed under five separate contracts, is nearing completion. The two largest contracts were awarded in late 1984 for constructing the powerplant and furnishing the turbine, generator, and governor. Design work for the powerline, furnishing switchgear and the control switchboard, and furnishing and installing the flowmeter is scheduled to be completed and the contracts advertised during the second half of 1985. The facility is scheduled to become operational in 1987.

South Geysers Powerplant

DWR has suspended construction of the plant until a firm and adequate steam supply can be assured. The initial construction contract and the fabrication phases of the major furnish-and-install contracts will be completed before suspension. First indications of problems in the steam supply surfaced in July 1984. Design of all major contracts had been completed at that time. The completion contract, the last major contract, was cancelled prior to bid opening. Contemplating early resolution of the steam-supply problem, plans and specifications for the completion

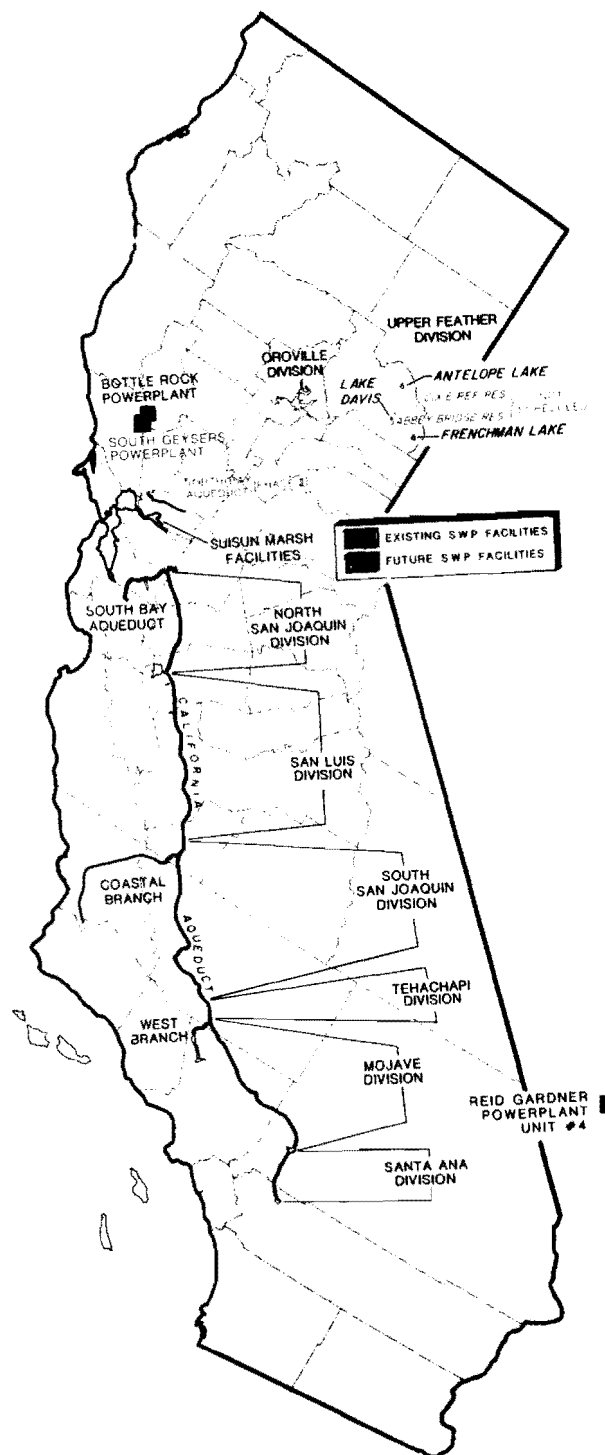


FIGURE 8: SWP CONSTRUCTION DIVISIONS

TABLE 12: SWP DESIGN ACTIVITIES IN PROGRESS, JULY 1984 - JUNE 1985

Division or Facility	Activity	Begin Design	Complete Design
Energy Supply	Bottle Rock Powerplant Maintenance Building	Aug. 1984	(a)
	South Geysers Powerplant		
	Floor System	Mar. 1985	(b)
	Completion	Aug. 1981	(b)
	Cobb Mountain Radio Facility		
Oroville Division	Facility Development	May 1984	Jul. 1984
	Access Road	Jan. 1985	Mar. 1985
	Edward Hyatt Powerplant		
	Armature Winding Coils	Sep. 1984	Nov. 1984
	Elevator Repair	Jul. 1984	Dec. 1984
	Road Intersection Modification	Apr. 1985	Sep. 1985
	Intake Trash Cover and Cart	Feb. 1984	(b)
	Thermalito Diversion Dam Powerplant		
	Plant Construction	Jul. 1980	Jul. 1984
	Switchgear and Control Switchboard	Sep. 1981	Apr. 1985
	Powerlines	Apr. 1985	Aug. 1985
	Acoustic Flowmeter	May 1985	Jan. 1986
	Thermalito Diversion Dam		
	Repair Radial Gates and Stop Log Seals	Feb. 1985	(a)
	Thermalito Afterbay Dam		
	Temporary Well Point System	Dec. 1984	Feb. 1985
	Pressure Relief System	Nov. 1984	Jul. 1985
	Dam Modifications	Aug. 1984	Oct. 1985
	Women's Facilities Modifications	Jan. 1984	Oct. 1984
Suisun Marsh	Montezuma Slough Control Structure	Jul. 1983	Feb. 1986
North Bay Aqueduct	Cache Slough Pumping Plant	Jan. 1983	Suspended
	Cordelia Pumping Plant	Feb. 1982	Nov. 1985
	Barker Slough Pumping Plant	Apr. 1985	Apr. 1986
	North Bay Aqueduct Plants		
	Switchgear	Apr. 1985	May 1986
	Power Transformers	Apr. 1985	May 1986
	Pumping Units	Feb. 1983	Jun. 1985
	Pipeline		
	Barker Slough Pumping Plant - Travis Surge Tank	Sep. 1984	Sep. 1985
	Travis Surge Tank - Clay Bank Road	Jun. 1984	Oct. 1985
California Aqueduct General	Clay Bank Road - Ledgebrook Creek	Feb. 1983	Jul. 1985
	Ledgebrook Creek - Suisun Creek	Jan. 1983	Jul. 1984
	Suisun Creek - Cordelia Surge Tank	Jun. 1983	Sep. 1984
	San Luis, Dos Amigos, and Edmonston Pumping Plants		
	Wearing Rings and Valve Seat Rings	Mar. 1985	May 1985
North San Joaquin Division	John E. Skinner Delta Fish Facility		
	Electrical and Mechanical Modifications	Oct. 1984	Jan. 1985
San Luis Division	Sandblasting and Coating Building	Jul. 1983	(b)
	San Luis Pumping-Generating Plant, Wearing Rings	Dec. 1984	Dec. 1984
	Dos Amigos Pumping Plant		
	Repair of Motor Station - Unit 4	Sep. 1984	Sep. 1984
	Emergency Repair of Motor Station - Unit 3	Jan. 1985	Feb. 1985
	Pump Seal Rings	Feb. 1985	May 1985
	Roof Repair	Jan. 1985	May 1985
	San Luis Operation and Maintenance Center		
	Tire and Oil Storage Facilities	Jan. 1985	May 1985
	Women's Facilities Modifications	Jan. 1984	Sep. 1984
South San Joaquin Division	Bridge Hinge Restrainers - Phase III	Jan. 1984	Feb. 1985
	Plant Maintenance Building, Roof Restoration	Jul. 1984	May 1985
	Buena Vista, Wheeler Ridge, Wind Gap Pumping Plants		
	Roof Repair - Expansion Joints	Feb. 1985	Jun. 1985
Mojave Division	Pearblossom Pumping Plant Enlargement		
	Initial Contract	Aug. 1984	Nov. 1985
	Pump Unit	Aug. 1984	Nov. 1985
	Mojave Aqueduct Modification		
	Cottonwood Chute to Myrick Siphon	Oct. 1984	Jun. 1985
	Myrick Siphon to Leona Siphon	Oct. 1984	Nov. 1985
	Leona Siphon to Pearblossom Pumping Plant	Jan. 1985	May 1985
	Bridge Hinge Restrainers	Jan. 1985	Mar. 1985
Santa Ana Division	Devil Canyon Powerplant		
	Penstock Modifications	Jan. 1985	Jun. 1985
	Roof Repair	Mar. 1985	Aug. 1985
	Santa Ana Valley Pipeline, 108-inch Butterfly Valve	Dec. 1984	May 1985
West Branch	Oso Pumping Plant 626-cfs Pump Impeller	Sep. 1984	Jan. 1985
	Angeles Tunnel Protective Coating Replacement	Jan. 1983	Aug. 1984
	Castaic Operation and Maintenance Center		
	Tire and Oil Storage Facilities	Jan. 1985	Jul. 1985

a) Schedule being established.

b) Design activity "on hold" pending future decision.

contract were reviewed and updated in March 1985 to reflect the most current construction experience at Bottle Rock Powerplant. With continuing steam-supply delay, the floor system was removed from the completion contract and made a separate contract to facilitate installation and storage of the turbine on the pedestal. The floor system contract was not advertised, as it was decided to store the turbine and some other manufactured equipment and materials off the site.

Suisun Marsh

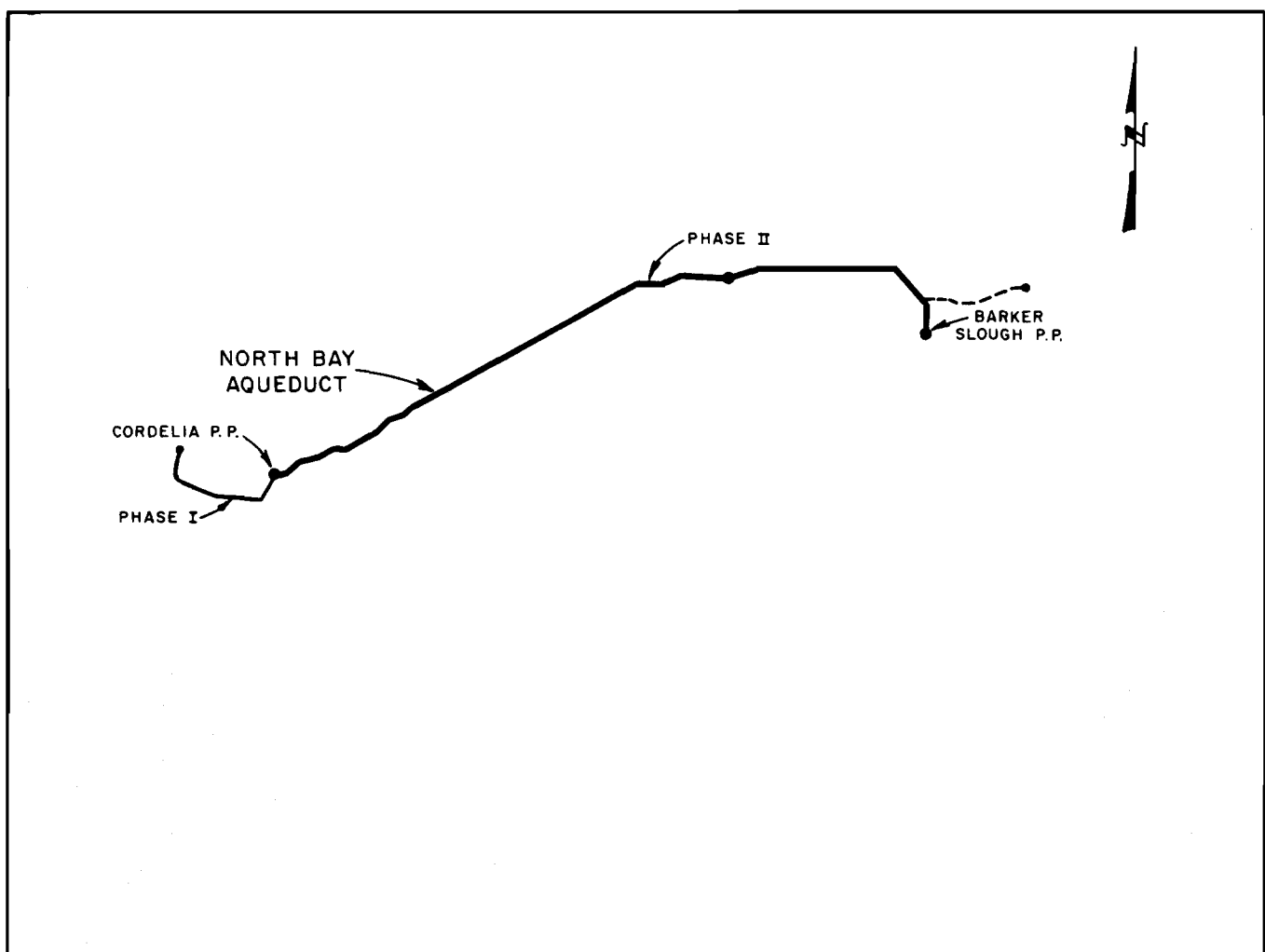
Final design of the Montezuma Slough Control Structure is progressing with a February 1986 target date for contract advertisement. Principal features of the structure include three 36-foot-

wide radial gates, a 66-foot-wide flash-board opening for barge access, and a 20-foot-wide by 70-foot-long boat lock. Each of these features will be constructed as individual modules in a dry dock facility, floated and towed to the site, then seated on a prepared foundation within Montezuma Slough. Completion of the access road from Collinsville Road to the structure site will also be included in the structure contract. The structure will be operational in late 1988.

North Bay Aqueduct

Design of Phase II of the North Bay Aqueduct reached full speed in the spring of 1985. At the request of Solano County Flood Control and Water Conservation District, the Aqueduct

FIGURE 9: NORTH BAY AQUEDUCT



design capacity was increased to convey water for the City of Vallejo and to provide excess capacity to meet possible future peak summer demands. The principal Phase II facilities of the North Bay Aqueduct will be 23 miles of pipeline and pumping plants at Barker Slough and Cordelia Forebay.

The Barker Slough pumping site was selected in the fall of 1984, based on water quality and cost considerations; the new site will provide better water quality and reduce pipeline length by about two miles compared to the former pumping site on Cache Slough (Figure 9). The pipeline will be constructed under five separate contracts; the first two contracts, representing about one-fourth of the total pipeline length, were awarded in October 1984 and January 1985. The third pipeline contract is scheduled for award in the fall of 1985. Design of Cordelia Pumping Plant and Forebay is scheduled for completion in late 1985. Barker Slough Pumping Plant design will be completed in the spring of 1986. Initial operation of the North Bay Aqueduct is planned for late 1987.

Mojave Division

Design began in October 1984 for raising the lining of the East Branch of the California Aqueduct by four feet between Alamo Powerplant and Pearblossom Pumping Plant, which will provide improved operational capabilities in this reach. This work is scheduled to be completed in three contracts. Work also started on design for enlarging Pearblossom Pumping Plant to accommodate one additional pumping unit, thereby providing the plant with a spare unit.

On April 9, 1985, the MWDSC Board voted to proceed toward enlargement of the East Branch. The size of the initial enlargement, which has not been determined at this time, is expected to be either 600 cfs or 900 cfs with provi-

sions for future enlargement to 1,200 cfs. The work will include further enlargement of Pearblossom Pumping Plant, expansion of Devil Canyon Powerplant, raising the canal lining between Pearblossom Pumping Plant and Lake Silverwood, additional siphon pipes, and additional capacity at Mojave Siphon Powerplant.

Land and Right of Way Activity

In 1984, DWR spent \$0.6 million for land acquisition in excess of credits for sales of surplus property and return of condemnation deposits. The total net expenditure for SWP right of way through December 1984 is \$117.6 million. A total of 58 parcels (110 acres) were acquired during the year. The cumulative total of excess lands sold through 1984 is 843 parcels (13,587 acres).

Thirty-three new and existing leases were monitored through December 1984; annual revenues totaled \$48,202.

Based on a mitigation agreement between DWR, the Department of Fish and Game, and MWDSC, transfer of 909 acres in the West Branch Division has been completed. A transfer of 844 acres in the Santa Ana Division has been signed by both departments. Another 1,280 acres are yet to be transferred. DWR is currently working on an agreement to transfer 600 acres in front of Perris Dam.

DWR's 1984-85 program included the following land and right of way actions:

Energy Supply

- o At Bottle Rock Powerplant, acquisitions for right of way for the radio repeater and access road are being negotiated. Acquisition of right of way on Bottle Rock Road is nearing completion.

- o Mitigation lands are being acquired for South Geysers Powerplant. Acquisition activities on the transmission line right of way have been suspended pending resolution of the questions regarding the steam supply.

Oroville Division

- o Acquisition of two parcels for access to Thermalito Diversion Dam Powerplant was completed.

North Bay Aqueduct

- o A total of 64 parcels must be acquired for Phase II of the North Bay Aqueduct. Nine parcels were acquired in 1984-85, and 39 acquisitions remain to be completed. Appraisals and negotiations are in progress to acquire the necessary right of way and entry permits to meet existing construction schedules.

Delta Facilities

- o The last of the seven parcels required for Hood Fish Test Facility expansion was acquired.

South Bay Aqueduct

- o Three parcels are being acquired to accommodate additional operation and maintenance activities related to slides.

Suisun Marsh Facilities

- o Three parcels were acquired for Montezuma Slough Control Structure. Additional right of way will be needed due to the revision of the control structure plans.

North San Joaquin Division

- o Commencement of trial proceedings for acquisition of the Basalt Hill Borrow Site is anticipated. Two parcels are being acquired for operation and maintenance requirements.

South San Joaquin Division

- o Nine parcels are being acquired for the California Aqueduct silt removal program.

West Branch

- o Sites are being acquired for flood control improvement at Gorman Creek.

Construction Progress

Table 13 lists the major SWP construction contracts that were underway between July 1984 and June 1985. Highlights of construction activities during the report period included work on the following facilities:

Energy Supply

- o Construction of Bottle Rock Powerplant was essentially complete in the fall of 1984. The plant began generating power in February 1985. This geothermal energy development will provide 55 MW of electrical power for the SWP.
- o Installation activities under ongoing furnish-and-install contracts at South Geysers Powerplant will be suspended at the completion of the manufacturing phase. The turbine/generator and other equipment and materials will be stored in accordance with the manufacturers' recommendations. The initial construction contract will be completed. Reactivation of suspended contracts and advertising and awarding of the completion contract will proceed after arrangements for a firm steam supply are made.
- o Construction of Thermalito Diversion Dam Powerplant began in August 1984 with the award of the turbine/generator contract. This 3-MW plant is scheduled to be operational in 1987.

TABLE 13: SWP CONSTRUCTION ACTIVITIES

Division or Facility	Activity (Specification Number)	Start Date	Planned Completion Date ^a	Contract Costs ^b (\$1,000)
Energy Supply	Bottle Rock Powerplant			
	Turbine/Generator (80-27)	Nov. 1980	Sep. 1985	7,558
	Condenser and Gas Removal System (81-20)	Oct. 1981	Sep. 1985	2,834
	Powerplant Construction (81-41)	Feb. 1982	Jul. 1985	40,000
	Pump Units (82-02)	May 1982	Aug. 1983 ^c	876
	Control Switchboards (82-03)	Feb. 1982	Sep. 1985	282
	Auxiliary Control System (82-08)	May 1982	Sep. 1985	557
	Road Reconstruction (84-16)	May 1984	Jul. 1984	526
	Transformers for Bottle Rock and South Geysers Powerplants (82-22)	Oct. 1982	Sep. 1985	1,308
	Cooling Tower (82-33)	Nov. 1982	Sep. 1985	3,018
	Stretford System (82-36)	Nov. 1982	Sep. 1985	3,292
	Floor Panels (83-52)	Dec. 1983	Jul. 1985	510
	Completion Contract (84-02)	Apr. 1984	Jun. 1985	2,960
	Healdsburg Storage Yard (84-26)	Jul. 1984	Aug. 1984	89
	Cobb Mountain Radio Facility (84-41)	Sep. 1984	Nov. 1984	70
	South Geysers Powerplant ^c			
	Turbine/Generator (82-48)	Jan. 1983	(d)	7,327
	Powerplant Construction (82-54)	Jan. 1983	Oct. 1985	14,766
	230 kV Line Breaker (83-12)	Jul. 1983	(d)	171
	Condenser and Gas Removal System (83-13)	Aug. 1983	(d)	3,685
	Plant Auxiliary Control System (83-15)	Aug. 1983	(d)	470
	Control Switchboards (83-21)	Aug. 1983	(d)	344
	Stretford System (83-28)	Sep. 1983	(d)	3,885
	Cooling Tower (83-21)	Oct. 1983	(d)	3,267
	Switchgear Motor Control (84-05)	Apr. 1984	(d)	590
	Cooling Water and Condensate Pumps (84-01)	Apr. 1984	(d)	1,468
Oroville Division	Edward Hyatt Powerplant			
	230 kV Power Circuit Breaker (82-29)	Oct. 1982	Jun. 1985	2,408
	Generator and Motor-Generator			
	Armature Winding Coils (82-65)	Jan. 1983	Jun. 1985	1,070
	Furnish Spacer and Wearing Rings (84-24)	May 1984	Dec. 1984	177
	Spare Coils for Units 1, 3, and 5 (85-01)	Mar. 1985	Dec. 1985	(e)
	Elevator Repair (85-02)	Mar. 1985	Aug. 1985	73
	Thermalito Afterbay Dam			
	Temporary Wellpoint System (85-08)	May 1985	Aug. 1985	88
	Thermalito Powerplant			
Delta Facilities	230 kV Power Circuit Breaker (83-55)	Nov. 1983	Mar. 1985	440
	Thermalito Diversion Dam Powerplant			
	Turbine, Generator, Governor (84-19)	Aug. 1984	Jun. 1987	1,711
	Powerplant Structure (84-44)	Dec. 1984	Jul. 1987	3,788
	Temporary Closure of Old River (84-42)	Aug. 1984	Jan. 1985	91
Suisun Marsh Facilities	Montezuma Slough			
	Access Road, Phase I (84-34)	Aug. 1984	Nov. 1984	427
North Bay Aqueduct	Procurement of Major Equipment for North Bay Plants	Jun. 1985	Apr. 1987	(e)
	Pipeline, Ledgewood Creek-Suisun Creek (84-21)	Oct. 1984	Oct. 1985	3,572
	Pipeline, Suisun Creek-Cordelia Surge Tank (84-49)	Jan. 1985	Jan. 1986	4,132
South Bay Aqueduct	Del Valle and Altamont Canals			
	Replacement Trashrake Units (83-40)	Oct. 1983	Jun. 1985	96
	Del Valle Dam			
	Seepage Measuring Facility (84-15)	May 1984	Oct. 1984	236
North San Joaquin Division	Clifton Court Forebay Dam Repair (84-14)	Jun. 1984	Oct. 1984	1,142
	John E. Skinner Delta Fish Facility			
	Guard Railing and Paving (84-31)	Sep. 1984	Nov. 1984	24
	Cathodic Protection System (84-35)	Sep. 1984	Apr. 1985	68
	Electrical and Mechanical Modifications (85-05)	Apr. 1985	Nov. 1985	105

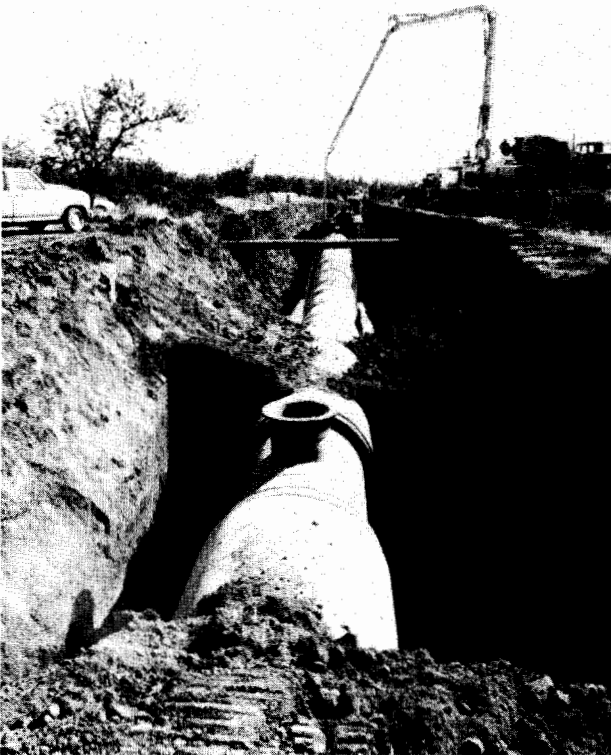
- a) Date work is operationally complete. Testing and contract documentation may continue after this date.
b) Costs represent actual costs of completed work or estimated final costs of construction in progress.
c) Construction completed as scheduled but accepted within this report period.
d) Construction suspended until a firm and adequate steam supply can be assured.
e) Cost not yet available.

IN PROGRESS, JULY 1984 - JUNE 1985

Division or Facility	Activity (Specification Number)	Start Date	Planned Completion Date ^(a)	Contract Costs ^(b) (\$1,000)
San Luis Division	San Luis Pumping-Generating Plant			
	Wearing Rings (85-01)	Mar. 1985	Dec. 1985	415
	Facilities Modifications (84-17)	Jun. 1984	Mar. 1985	334
	Dos Amigos Pumping Plant			
	Repairs Motor Station No. 4 (84-46)	Oct. 1984	Jun. 1985	638
South San Joaquin Division	Emergency Repair Unit 3 Motor (85-07)	Feb. 1985	Jun. 1985	785
	Bridge Hinge Restrainers			
	Phase II (84-20)	Jul. 1984	Oct. 1984	218
	Phase III (85-06)	May 1985	Oct. 1985	184
	Furnish Spare Impellers (82-20)	Jul. 1982	Dec. 1984	1,000
Tehachapi Division	Women's Facilities Modification (84-47)	Feb. 1985	Aug. 1985	99
	A. D. Edmonston Pumping Plant			
	Pumping Units (79-01)	Jul. 1979	Oct. 1985	16,415
	Isolated Phase Bus Equipment (80-30)	Nov. 1980	Mar. 1983 ^(c)	853
	Motors (81-02)	Jun. 1981	Oct. 1985	6,400
Mojave Division	Switchboards (81-11)	Jun. 1981	Jan. 1984 ^(c)	576
	Switchgear (81-25)	Sep. 1981	Nov. 1983 ^(c)	1,117
	Completion, Phase III (82-04)	Apr. 1982	Nov. 1984 ^(c)	2,688
	Power Transformer (82-05)	Mar. 1982	Oct. 1983 ^(c)	1,900
	Replacement Switchgear (82-47)	Mar. 1983	Oct. 1985	2,767
	Repair 48-inch Valves Units 7, 9, and 13 (84-10)	Apr. 1984	Oct. 1984	393
	Repair 48-inch Valves Units 1, 5, and 11 (84-25)	Apr. 1984	Oct. 1984	212
	Women's Facilities Modification (84-03)	May 1984	Aug. 1984	273
		Mar. 1984	Sep. 1984	69
	Alamo Powerplant			
	Turbine (80-16)	Jul. 1983	Jun. 1986	2,300
	Initial Structure (82-01)	Mar. 1982	Sep. 1984	18,700
	Generator (83-14)	Aug. 1983	Jun. 1986	2,100
	Governor (83-20)	Jul. 1983	Jun. 1986	360
	Power Transformer (83-26)	Oct. 1983	Dec. 1985	275
	Completion Contract (83-18)	Aug. 1983	Jun. 1986	4,500
	Acoustical Flowmeter (84-07)	Apr. 1984	May 1986	108
	Generator Switchgear (83-19)	Dec. 1983	Jun. 1986	365
	Control Switchboards (83-56)	Mar. 1984	Jun. 1986	408
Santa Ana Division	Check Structures, Miles 379 and 389.5			
	Completion Contract (84-04)	Apr. 1984	Jun. 1985	750
	Pearblossom Pumping Plant			
	Forebay Modification (84-27)	Jul. 1984	Jan. 1985	920
	Pearblossom and Oso Pumping Plants			
	Replacement Pump Impellers (84-08)	Apr. 1984	Jun. 1986	446
	Mojave Siphon Powerplant			
	Tunnel (82-57)	Dec. 1982	Mar. 1985	5,300
	Valve Vault (84-12)	Apr. 1984	Apr. 1985	1,075
West Branch	Santa Ana Valley Pipeline			
	Install 108-inch Butterfly Valve	Aug. 1985	Feb. 1986	100
	Oso Pumping Plant			
	Rehabbitt Pump Guide Bearings (84-28)	Sep. 1984	Jan. 1985	7
	Lower Quail Canal Break Repair (84-30)	Aug. 1984	Apr. 1985	2,625
	William E. Warne Powerplant			
	Turbines (77-33)	Feb. 1978	Jul. 1985	3,890
	Generators (79-06)	Jun. 1979	Jul. 1985	5,312
	Actuators (80-10)	Aug. 1980	Jul. 1985	747
	Completion Contract (80-21)	Dec. 1980	Aug. 1984	11,089
San Joaquin Drainage Facilities	Pyramid Lake Recreation Facility			
	Administration Building and Helipad (84-11)	Jun. 1984	Mar. 1985	237
	Castaic Dam			
	Spillway Repair, Phase I (84-13)	Jun. 1984	Aug. 1984	23
	Outlet Works Intake Tower Gates (84-32)	Oct. 1984	Jun. 1985	72
	Outlet Works Penstock Recoating (85-09)	Jun. 1985	Aug. 1985	125
	Los Banos Demonstration Desalting Facility			
	Physical and Chemical Components (82-12)	Apr. 1982	Aug. 1984	3,656
	Backwash Holding Ponds (84-43)	Aug. 1984	Sep. 1984	64
	Brine Sump Pump Piping and Controls (84-51)	Nov. 1984	Mar. 1985	190

North Bay Aqueduct

- o Contracts for two reaches of Phase II of the North Bay Aqueduct began in the fall of 1984. These contracts cover 5.76 miles of pipeline between Ledgewood Creek (west of Fairfield) and Cordelia Surge Tank. One-fourth of the 23 miles of pipeline is now under contract. Following off-site fabrication of concrete pipeline sections, pipe laying began in April 1985.



Placing 63-inch-diameter pipe
on the North Bay Aqueduct

Tehachapi Division

- o The last three vertical centrifugal pumps in Edmonston Pumping Plant became operational in December 1984. These units will be tested for performance in mid-1985.
- o Replacement of the 15-kV switchgear for the motor/generators at the Edmonston Pumping Plant continued. This work is scheduled for completion in October 1985.

Mojave Division

- o Work on Alamo Powerplant continued. The contractor used the December outage to modify the aqueduct lining to construct the transition sections for the headworks and afterbay for the plant. The plant should be operational by July 1986.
- o Construction of the valve vault for Mojave Siphon Powerplant was completed in March 1985. The power plant tunnel through the left abutment of Cedar Springs Dam was completed in early 1985. Construction of the plant remained deferred pending decisions on enlargement of the East Branch.
- o Construction of modifications to Pearblossom Pumping Plant Forebay began in July 1984 and was completed in January 1985.



Lining the transition channel
downstream of Alamo Powerplant

West Branch

- o Permanent repairs to the Quail Canal at the site of the January 1984 break were essentially complete in the fall of 1984. However, December snowfall limited access to the construction site, delaying full completion until early 1985.
- o A construction contract for the Pyramid Lake Recreation Administration Building and Helipad began in June 1984 and was completed in March 1985.
- o Construction of the Warne Powerplant was essentially completed in 1984. Performance testing of the units was delayed until mid-1985 after repairs to Quail Canal were completed.

San Joaquin Drainage Facilities

- o The Los Banos Demonstration Desalting Facility was essentially complete in June 1984; however, additional work at this facility will continue into mid-1985.

Safety of SWP Facilities

In 1975, as required by Water Code Section 6056, DWR initiated a revised program for review of the safety of SWP dams. Under this program, consulting boards conduct independent safety reviews of each dam every five years. DWR participates in the safety review process by providing technical engineering support to the various consulting boards. The first safety evaluation under this review program has been conducted and DWR is now implementing the boards' recommendations. Following is a summary of activities in progress under this program.

- o DWR presented the final draft of its seismic evaluations of Thermalito Forebay Dam, Bidwell Canyon Saddle Dam, and Parish Camp Saddle Dam to the Special Consulting Board for the Oroville Earthquake on October 19,

1984. The evaluations will be published as a supplement to Bulletin 203-78, "The August 1, 1975 Oroville Earthquake Investigations," when concurrence is obtained from the Board.

- o The Safety Review Board found Del Valle, Clifton Court Forebay, Patterson, and Bethany Dams to be safe, but recommended additional work and studies for each dam. The recommendations have been completed except for the dynamic soil studies and seismic stability analysis of the embankment and abutments of Del Valle Dam. This remaining work is expected to be completed by June 1986.
- o The Safety Review Board completed an independent review of the safety of Pyramid and Castaic Dams and reported its findings in June 1984. Both dams were declared safe. The Board recommended continued monitoring of an area of suspected unstable foundation conditions on the left abutment of Castaic Dam, but concluded that remedial measures need be undertaken only if very marked changes occur. A contract for the first phase of testing of the concrete slab movement in the Castaic Dam spillway was completed in August 1984.
- o In 1982, the Safety Review Board requested additional work at Perris Dam. In response, DWR completed installation in November 1984 of 13 new piezometers to replace inoperative units in the dam foundation and embankment. Also, present ground contours of the reservoir bottom were compared with those established prior to filling; it was concluded that a depression at the upstream edge of the impervious blanket did indeed occur during construction.

DWR conducted other safety studies in 1984 to satisfy requirements of the

Federal Energy Regulatory Commission (FERC). A team of independent consultants inspected SWP facilities in the Oroville-Thermalito area and prepared a written evaluation of their findings. An independent consultant was also retained to inspect Devil Canyon and Castaic Powerplants and related facilities; when completed, the consultant's final report will be submitted to FERC.

After repair of the 1981 slide damage, San Luis Reservoir was refilled in 1983. No significant drawdown of the reservoir took place in 1983. In 1984, after a drawdown of 100 feet, cracks were observed on the newly resurfaced crest road on July 30 during a final inspection of the road. The crack eventually extended discontinuously for about 100 feet and its maximum opening was 3/4 inch. The maximum movement along the old slide mass was estimated to be about 3 inches.

The Board of Consultants on the 1981 slide was reconvened on September 17, 1984. The Board recommended additional

instrumentation, which was all installed except for one vibrating wire piezometer installation at the 450-foot elevation. That installation could not be completed because of rising water in the reservoir. The Board concluded that additional movements are inevitable, particularly during reservoir drawdown. If future movements are no more extensive than those reported in 1984, there would seem to be no necessity for limiting the rate and amount of future reservoir drawdown. However, there is a great need to provide close surveillance and monitoring, at least for the next 12 months. The Board concluded that there is no compelling reason for withholding permission to proceed with normal use of San Luis Reservoir.

A federal safety evaluation of O'Neill Forebay Dam is in progress to determine the possibility of foundation liquefaction during earthquake. A decision memo is expected late in 1985 on the subject.

CHAPTER V

SWP WATER SUPPLY, PRESENT AND FUTURE

This chapter examines future SWP water delivery plans, compares presently developed water supplies to anticipated demands, and assesses potential means for augmenting water supply and transportation capabilities to meet future needs.

Future Water Delivery Plans

In July 1984, DWR sent a letter to each long-term SWP contractor, requesting estimates of (1) monthly SWP water requirements during 1985 through 1990, and (2) annual requirements for every fifth year beyond 1990 until the year in which maximum entitlements would be used on a regular basis.

In September 1984, SWP contractors submitted their estimated monthly SWP water delivery requirements for the six-year period 1985 through 1990. Their estimates included delivery of entitlement, surplus, carry-over, wet-weather (Article 45), emergency relief, and exchange water.

Entitlement Water

Table 14 shows the estimated 1985 through 1990 entitlement water needs (including entitlement deferred from prior years) submitted in 1984 (and subsequently revised), as well as estimates submitted in the six previous years. These values reflect substan-

TABLE 14: WATER CONTRACTORS' REQUESTS FOR ENTITLEMENT WATER, 1984 THROUGH 1990.

Year Estimate Submitted	Annual Delivery Requests (Acre-Feet) ^(a)						
	1984	1985	1986	1987	1988	1989	1990
1984		1,894,849	2,200,438	2,625,184	2,828,253	2,877,215	2,934,450
1983	1,567,520	1,897,531	2,682,948	2,780,832	2,852,989	2,906,699	
1982	2,404,542	2,599,190	2,711,107	2,800,235	2,888,377		
1981	2,383,586	2,699,830	2,788,111	2,901,175			
1980	2,405,844	2,561,970	2,709,710				
1979	2,461,223	2,617,594					
1978	2,495,503						
Total Entitle- ments ^(b)	2,887,260	3,058,846	3,298,235	3,501,710	3,694,269	3,958,190	4,108,321

- a) For the years 1984 through 1987, amounts include non-SWP water pumped through interim facilities to Napa County Flood Control and Water Conservation District.
- b) Maximum amounts that could be requested under the water supply contracts (derived from Table B-4 by adding Non-SWP water for Napa County Flood Control and Water Conservation District in 1984 and 1985).

tial reductions in MWDSC's previous 1986 request, made in anticipation of abundant supplies from other sources. The longer-range contractor requests for entitlement water are presented in Table B-5B (in Appendix B).

Surplus Water

September 1984 requests for 1985 surplus water totaled 402,461 acre-feet. In December 1984, DWR committed to deliver the full amount of surplus water requested, based on the initial 1985 rule curve analysis. Subsequently, six contractors signed 1985 surplus water contracts.

Actual precipitation during the first half of 1985 was significantly less than projected. As a result, Water Service Contractors Council Memo No. 1729 was issued on May 31, 1985, alerting contractors that deficiencies in fall surplus deliveries may be imposed if summer SWP operations result in less reservoir storage than required to meet carry-over objectives.

The annual surplus water contracts incorporate the basic principles set forth in Water Contractors Council Memo No. 1585, "Policy on Pricing Power for Pumping Surplus Water". Under contract terms, if DWR has excess electrical capacity and energy produced by SWP facilities or through contractual arrangements, such power may be used for surplus water delivery. In this case, the contractor receiving surplus water will be charged the market value of the last incremental unit of such power based on an assessment of actual sales.

If DWR does not have excess power for pumping surplus water, or if it is possible to purchase less expensive power, then contractors receiving surplus water must pay the actual cost of such electrical capacity, energy, and additional transmission service purchased specifically to deliver surplus water.

In addition, if the delivery of surplus water reduces the water level in San Luis Reservoir, contractors must pay for the electrical capacity and energy required to return the level of San Luis Reservoir to what it would have been without surplus water delivery. Finally, in addition to the cost of power, the contractors must pay the administrative and variable replacement costs incurred in delivering surplus water.

Since the market price of power varies, DWR is sending a letter each month to those agencies contracting for 1985 surplus water. This letter establishes the respective agency's maximum rate per acre-foot of surplus water delivery for the month.

The procedure for pricing power for pumping surplus water is being discussed with the State Water Contractors Contract Issues Committee. The procedure may be adjusted in future contracts to reflect agreements reached from these discussions.

Under terms of the annual surplus water contracts, the following monthly percentages of annual entitlement amounts must be delivered before delivery of surplus water can begin:

	Agricultural Use	Municipal and Industrial Use
January	2%	5%
February	3%	5%
March	6%	6%
April	8%	9%
May	10%	10%
June	16%	11%
July	18%	11%
August	18%	11%
September	9%	11%
October	4%	9%
November	3%	7%
December	3%	5%
	100%	100%

Unscheduled Water

Unscheduled water is delivered on an as-available basis when water supplies to meet all surplus water requests are not assured. Because all requested 1985 surplus water was declared available in December 1984, and included in the initial approved 1985 water delivery schedules, it was not necessary to execute separate contracts for delivery of unscheduled water in 1985.

Miscellaneous Water

Approved delivery schedules issued in December 1984 included 7,174 acre-feet of 1977 emergency relief water, 13,558 acre-feet of 1978 exchange water, 1,301 acre-feet of 1982 exchange water from MWDSC storage, and 1,821 acre-feet of 1982 exchange water from Oroville storage. These projected 1985 deliveries, totaling 23,854 acre-feet, were scheduled at the request of Dudley Ridge Water District and Kern County Water Agency. Expected deliveries of recreation water during 1985 total 8,977 acre-feet.

Water Supply and Demand

The SWP's initial conservation storage facilities, Lake Oroville and San Luis Reservoir, store water for delivery later in the year or in subsequent years. The present firm yield of the existing facilities is about 2.4 million acre-feet per year. This is the level of water deliveries that could be sustained through a sequence of dry years (such as occurred in 1928-34) without temporary deficiencies in excess of those specified in the water supply contract definition of minimum project yield.

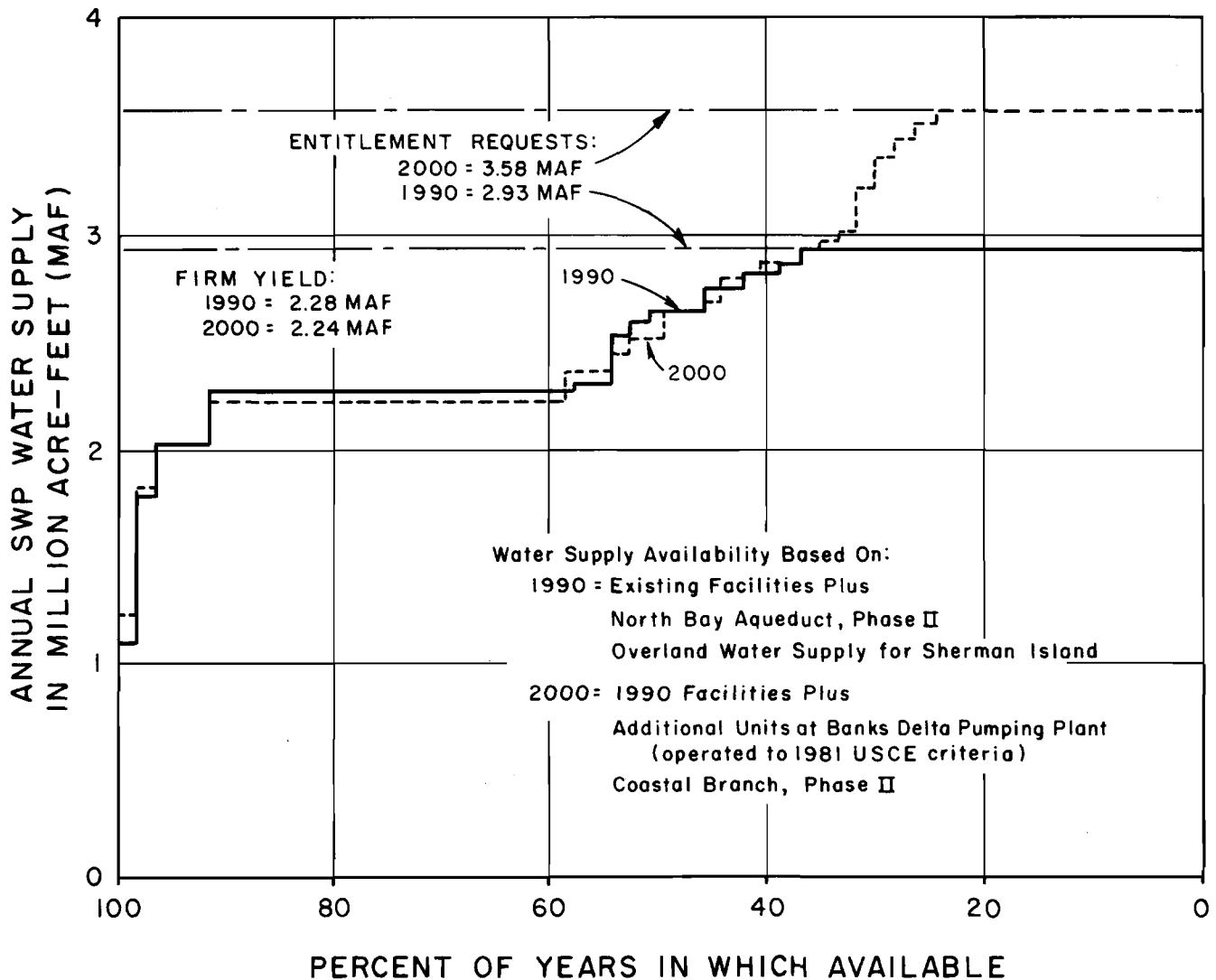
The SWP firm yield developed by existing facilities is expected to decrease to about 2.1 million acre-feet per year by 2000 as (1) water use in areas of origin increases, (2) CVP contractual obligations increase, and (3) use of water associated with other prior rights to Northern California water supplies materializes.

As Table 14 shows, SWP contractor requests for entitlement water deliveries will exceed the firm yield of existing facilities after 1986. Contractor requests are projected to total 2.9 million acre-feet per year by 1990 and to approach 3.6 million acre-feet per year in 2000. Thus, if additional water supplies are not secured, SWP contractors will face increasing risks of water supply deficiencies. However, in years of normal or above-normal precipitation, the existing SWP facilities can deliver more than the firm yield.

Figure 10 presents an updated analysis of SWP water supply capability as projected for 1990 and 2000. A similar chart was included on page 75 of Bulletin 132-84. Several differences in the methods used to draw the figures explain their apparent differences. Most obvious is that the frequency scale at the bottom has been reversed to emphasize that a full water supply to meet requested deliveries will be available less frequently. Second, Figure 10 assumes completion of some additional facilities, whereas the Bulletin 132-84 figure represented existing facilities only. The third major difference is that the generalized relationship between frequency and delivery capability shown in Bulletin 132-84 resulted from plotting delivery quantities for water years (October through September) whereas the annual water supplies shown in Figure 10 are for a full "operational year" (March through February). The operational year corresponds to the period for which future water supply conditions can be reliably predicted from analysis of snowpack and reservoir storage.

Figure 10 shows that the indicated SWP facilities could supply more water than the firm yield in about 60 percent of the operational years. The contractors' request for entitlement water could be met in about 25 to 35 percent of the years.

FIGURE 10: SWP WATER SUPPLY AVAILABILITY



Alternatives for Delta Water Transfer

DWR is continuing to study various solutions to Delta problems that result from the inefficient transfer capability of the Delta. DWR planning efforts are directed toward developing information to solve the following problems:

- o degradation of water quality at the Contra Costa Canal intake and at the Tracy and Banks Delta Pumping Plants caused by salinity carried into the Delta from flow reversals in the San Joaquin River;
- o depletion of upstream reservoir storage because of larger releases necessary to compensate for current inefficient water transfer in the Delta;
- o lowered water levels in Delta channels near the export pumps;
- o potential scouring of channels and erosion of levees in the southern and central Delta;
- o disruption of Delta fish and wildlife habitat and interference with fish migration; and

- o limited conveyance capacity in the southern Delta channels.

Current studies for solutions to these Delta problems will review but not duplicate previous Delta study efforts. These present studies will blend with past efforts to address the important questions posed by the Legislature and others about the Governor's 1984 water package.

Potential Means to Augment Water Supply

DWR is continuing planning for development of new water supplies to meet future delivery requirements under existing SWP long-term contracts. The principal current programs are outlined in this section.

Banks Delta Pumping Plant, Additional Units

The most advanced program is for additional pumping units at the Banks Delta Pumping Plant. (The plant was built to accommodate 11 units, but only 7 were installed initially.) It is currently anticipated that the additional units, each with a capacity of 1,067 cfs, will go into operation in about 1990. A draft EIR on this expansion was distributed in November 1982. Work on the final report is continuing.

The enlargement will proceed in two phases. In the first phase, covered by the current EIR, the final four pumps will be installed but the plant will not pump at more than the average historical pumping rate (pursuant to criteria established by the U.S. Army Corps of Engineers in its Public Notice 5802A, Amended, dated October 1981). The basic purposes of the new units in this phase will be to provide standby capacity for the existing units, and to permit a larger share of the pumping to be done with off-peak power. The new units will also allow a small amount of additional pumping to be shifted to the winter months.

For the second phase, DWR will do the necessary environmental review and documentation to obtain a Corps of Engineers' permit to divert and pump more in the winter months for filling off-stream storage reservoirs and ground water basins south of the Delta.

Offstream Storage South of the Delta

A means of providing cost competitive and environmentally acceptable additional water would be to build another reservoir or reservoirs south of the Delta in the western foothills of the San Joaquin Valley; such reservoirs would store excess water pumped from the Delta that would ordinarily flow to the ocean in winter. The additional storage would not only increase SWP supplies, but also provide more flexibility in timing Delta diversions to meet the various seasonal needs of salmon, steelhead, and striped bass.

In July 1983, DWR began a reconnaissance investigation of possible off-stream storage reservoirs south of the Delta. A progress report, "Alternative Plans for Offstream Storage South of the Delta," was issued in May 1984. This reconnaissance evaluation identified and appraised 29 reservoir alternatives at 13 storage sites. DWR reviewed available information on geologic and seismic conditions and made preliminary estimates of cost, yield, and net energy requirements for each alternative. A preliminary environmental assessment was also made to summarize what was already known about each site and to identify any critical concerns that might affect the choice of site.

The May 1984 progress report recommended that future offstream storage studies focus on determining the feasibility of constructing Los Banos Grandes Reservoir, just south of the existing San Luis Reservoir in Merced County. The report also suggested further consideration of a possible federal-state-local development at the

Los Vaqueros or Kellogg reservoir sites in Contra Costa County.

Los Banos Grandes Reservoir. Los Banos Grandes Reservoir compares favorably as one of the most cost effective means of increasing the water yield of the SWP. On September 30, 1984, the Governor signed Assembly Bill 3792 (Isenberg), which authorized Los Banos Grandes Reservoir to become part of the State Water Resources Development System (with improved water quality and fish and wildlife preservation and enhancement as project purposes). The bill also directs DWR, in conducting feasibility studies of Los Banos Grandes, to determine if adding Los Banos Grandes to the SWP would adversely affect drainage problems, including occurrence and distribution of selenium in drain water, on nearby farm lands.

Los Banos Grandes Reservoir site (Figure 11) is in western Merced County on Los Banos Creek, 79 miles south of Clifton Court Forebay. The main dam-site lies about 6 miles west of the California Aqueduct, 1 mile west of the existing Los Banos Detention Reservoir, and 6 miles south of the existing San Luis Dam.

Available Delta flows would be pumped into Los Banos Grandes Reservoir as capacity in the California Aqueduct permitted. Reservoir releases would be made through reversible pumping-generating plants to the California Aqueduct to help meet SWP water delivery and energy requirements.

Los Banos Grandes damsite is located in a relatively narrow canyon on Los Banos Creek. The dam currently under study would be an embankment type structure. Its crest length would be between 1,200 and 1,800 feet, depending on the size of the reservoir adopted for construction. In addition to the main dam, from two to seven auxiliary or saddle dams could be required depending on the reservoir capacity selected.

Water released from Los Banos Grandes Reservoir would return through Los Banos Detention Reservoir enroute to the California Aqueduct. Under current plans, the flood control storage space reservation at the detention reservoir would be shifted to Los Banos Grandes Reservoir so that the detention reservoir could serve as a forebay/afterbay for the larger reservoir.

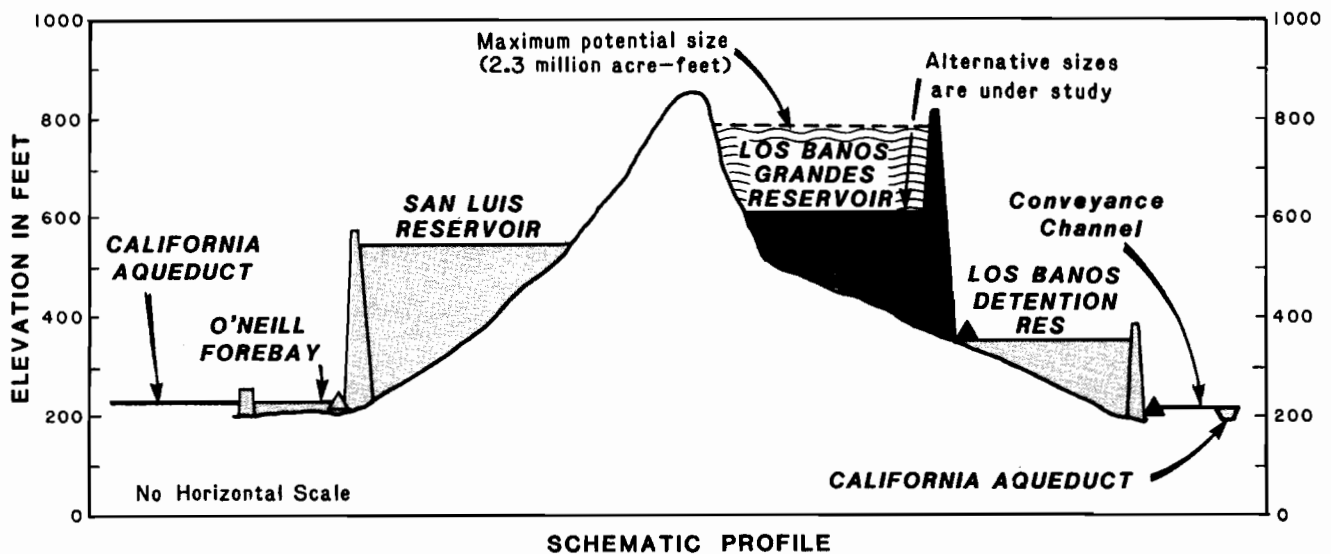
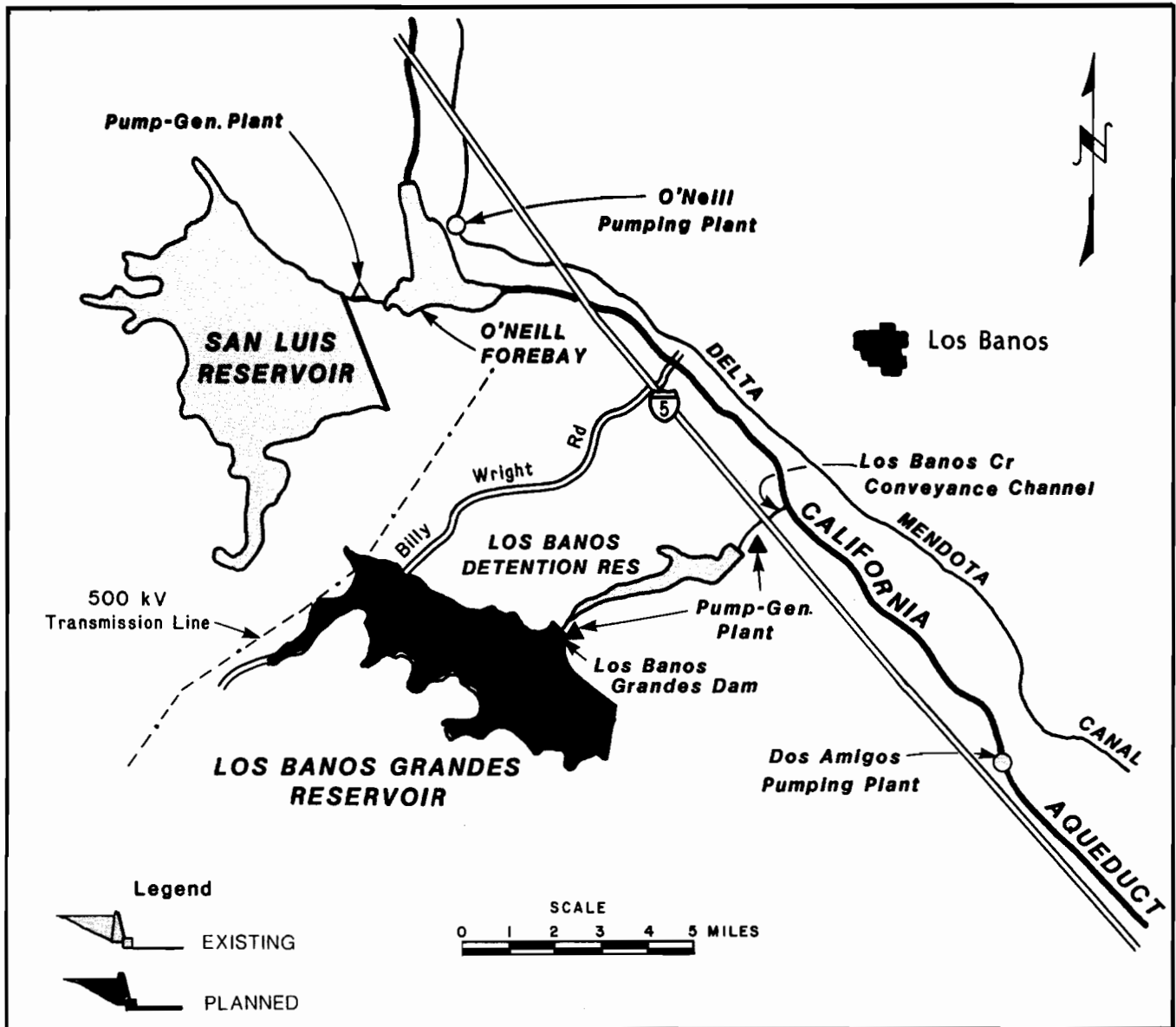
In July 1984, DWR began a four-year feasibility study of Los Banos Grandes to determine its engineering, geologic, economic, financial, and environmental feasibility. The first objective is to determine the most cost-effective off-stream storage plan at that site. Reservoir sizes ranging from 500,000 acre-feet to 2,300,000 acre-feet are being studied. For each reservoir size, several capacities of conveyance systems are being considered, as well as the potential for staged construction of the project.

The initial phase of the feasibility study is examining the formulation of Los Banos Grandes Reservoir under future conditions assuming completion of facilities for improved water transfer in the Delta. Subsequent studies will cover an alternative Los Banos Grandes Reservoir based on the assumption that major Delta water transfer facilities are not constructed. Various modes of project operation are being considered, including pumped-storage power operation, for various project configurations. Project formulation studies and sizing recommendations for the reservoir and conveyance facilities are scheduled for completion by December 1985 and the entire feasibility study and EIR by June 1988. If the plan proves feasible, the earliest operational date is estimated to be 1996, considering time requirements for final design and construction.

Kellogg/Los Vaqueros Reservoirs.

While past studies have indicated that unit costs of new water supplies from Kellogg/Los Vaqueros and Los Banos

FIGURE 11: LOS BANOS GRANDES OFFSTREAM STORAGE PLAN



Grandes were similar, DWR's May 1984 report presented new data that indicate Los Banos Grandes would be more cost-effective. However, Kellogg and Los Vaqueros Reservoirs would be strategically located and would have the potential to provide a more reliable water supply of improved quality to the South Bay counties.

During 1984, several algae blooms in the Delta allegedly contributed to taste and odor problems in the South Bay Aqueduct service area. Following an October 1984 meeting with DWR, the South Bay contractors sent DWR a letter supporting its efforts to (1) provide them with early warning of potential water quality problems and (2) study the potential water quality benefits of reservoirs south of the Delta such as Los Vaqueros or Kellogg.

In response to this statement of support, DWR developed a South Bay Aqueduct Biological Monitoring Program, which was ultimately approved by the contractors and begun in March 1985. The program is designed to provide data on the relationship between phytoplankton and algae and the poor taste of treated water experienced by some water treatment plants served by the South Bay Aqueduct. In addition, an interagency task force was formed to identify problems and recommend planning procedures to evaluate water quality improvements and other potential benefits of offstream storage.

Planning efforts scheduled to commence in July 1985 will include analysis of water quality effects of Los Vaqueros/Kellogg Reservoirs, reconnaissance of offstream sites along the South Bay Aqueduct, and discussions with local agencies that might have an interest or would be impacted by new offstream storage facilities in the Alameda and Contra Costa county areas.

Cottonwood Creek Project

Cottonwood Creek, in Shasta and Tehama Counties, is the largest uncontrolled tributary of the Sacramento River; it is a major contributor to flooding, particularly along the upper river. In the mid-1960s, the Corps of Engineers selected the Cottonwood Creek Project as the most suitable means of providing flood protection and developing additional water supply. The two-dam project was authorized by Congress in the Flood Control Act of 1970.

In 1976, Congress provided the Corps with funds for advanced engineering and design studies. Phase I of these studies was completed in 1983, and the report and final EIS were released in January 1984. The report estimated the total first cost of the Cottonwood Creek Project as \$753 million (at October 1982 price levels). The allocation to municipal and industrial water supply was \$626 million, and financing under the Water Supply Act of 1958 was assumed. In 1984, the applicable interest rate was 10.403 percent. With allowance for construction cost escalation to January 1984 levels, the total cost to the SWP contractors (including operation, maintenance, replacement, and interest during construction as calculated by the Corps) would have been approximately \$70 million annually. There was concern that incremental costs of this magnitude would exceed the contractors' repayment capabilities.

Consequently, in June 1984, DWR asked the Corps to reanalyze the project, looking at ways to reduce the cost. Concurrently, DWR initiated an analysis of previously studied (Bulletin 150, March 1965) tributary reservoirs in the Cottonwood Creek Basin as possible alternatives to the Corps' authorized project.

The Corps' reanalysis estimated the total first cost of the Cottonwood Creek Project as \$571 million (at October 1984 price levels). Most of the cost reduction was achieved by reduction of dam embankment quantities (steepening slopes on the dam section) and by reduction of the contingencies allowance from 25 percent or 20 percent to 15 percent. The cost allocated to municipal and industrial water supply is \$445 million. The Corps' analysis included various repayment options, such as water revenue bonds at 9 percent interest and financing under the Water Supply Act of 1958 at the current interest rate of 10.898 percent. As calculated by the Corps, the total annual cost to the SWP contractors would range from \$49 million to \$58 million.

The DWR analysis estimated the total first cost of three tributary reservoirs (Hulen, Fiddlers, Dippingvat) at \$371 million (October 1984 price levels). The three reservoirs combined would provide a critical period yield of 146,000 acre-feet per year (30,000 acre-feet from Hulén, 73,000 from Fiddlers, and 43,000 from Dippingvat). The allocation of first cost to municipal and industrial water supply was estimated at about \$326 million, which would result in a unit cost of new SWP yield competitive with that of the modified Corps project.

The three tributary reservoirs would reduce the 100-year peak floodflow at Cottonwood from 106,000 cfs to 44,000 cfs and would accrue annual flood control benefits of \$6,950,000 (October 1984 price levels). The Corps' authorized project would limit the 100-year flow to the nondamaging level of 15,000 cfs and accrue annual flood control benefits of \$9,300,000.

Subsequent to discussions with the SWP contractors and a briefing before the California Water Commission in May 1985, DWR decided not to proceed with the purchase of water from the Corps' proposed Cottonwood Creek Project. A

letter explaining DWR's position on the Corps' proposal was transmitted to the Corps in June 1985. The letter reiterated DWR's commitment to help the local counties with their flood problems and that DWR would move ahead with studies on the less costly upstream reservoir alternatives. The letter stated DWR's desire to work with the Corps on the flood control aspects of the alternative projects.

In June 1985, DWR's Northern District published a memorandum report, "Cottonwood Creek Alternatives." The report recommends that a study be made of constructing a combination diversion and storage dam at the lower Dippingvat site, a storage dam at the Schoenfield site, and a conveyance system connecting the two reservoirs. The Dippingvat-Schoenfield studies would be conducted in cooperation with the USBR, Department of Fish and Game, Fish and Wildlife Service, and the Corps of Engineers to include fishery and flood control elements. Communications with Shasta and Tehama Counties and cooperating agencies would be maintained through the formation of an advisory group.

Shasta Lake Enlargement

For several years, the USBR and DWR have been studying the feasibility of enlarging Shasta Dam. The study has been conducted pursuant to a 1980 federal law that authorizes the USBR to consider the enlargement of Shasta Dam as a unit of the CVP. State law provides continuing authority for DWR to study future water supplies for the SWP. To provide for a cooperative study of an enlarged Shasta Dam, the two agencies signed a Letter of Intent in 1979; in 1982, they entered into a contract and developed a Plan of Study. The primary objective of the study is to determine the feasibility of increasing water supplies for the CVP and SWP. Other objectives include increasing power generation and improving fisheries, recreation, and flood control along the Sacramento River.

Recently, many California water interests have recognized that other needs should take priority over the additional storage of an enlarged Shasta Lake. These include solving San Joaquin Valley drainage problems and planning for the expansion of the CVP aqueduct system in the San Joaquin Valley. As a result, the USBR is shifting its planning emphasis toward conveying and protecting the quality of existing supplies before developing new supplies. DWR, responding to growing recognition of increasing project costs, is shifting its planning to smaller, less expensive projects. Both the USBR and DWR are deferring planning activities that were scheduled in the original Plan of Study for Shasta Lake enlargement.

The two agencies will jointly develop an interim status report on the investigation by October 1985. The status report will include the pertinent basic data and findings collected and developed during the study.

Marysville Dam and Reservoir

The initial draft of a preliminary findings report, which reexamines the proposed Marysville Dam and Reservoir on the Yuba River, has been completed. However, revisions are being made to incorporate updated DWR cost estimates of alternative dam sizes. The final report is scheduled for fiscal year 1985-86.

Auburn Dam and Reservoir

In February 1984, Secretary of the Interior Clark and Governor Deukmejian established a State/Federal Task Force to review the possible completion of Auburn Dam and Reservoir on the North Fork of the American River. The task force will review financial participation, recommend partnership arrangements, allocate costs on the basis of benefits to be derived, determine financial capabilities of the beneficiaries,

and recommend contractual/organizational mechanisms for completing the project. A supporting work group has also been established to recommend physical, operational, and financial options to the task force.

The task force met in June and October 1984, under the chairmanship of Assistant Secretary of the Interior Robert Broadbent. The first meeting served as an orientation for the members, and the second was a public meeting.

A workshop was held in January 1985 to hear views from potential beneficiaries of the project as well as those interested in the environmental concerns. The workshop was an attempt to reach a compromise among the groups.

A second workshop in February focused on allocation of the American River water supply to instream and consumptive uses. The American River Committee was formed, with representatives from Placer County, Placer County Water Agency, El Dorado County, Georgetown Divide Public Utility District, Sacramento County, San Joaquin County, Stockton-East Water District, Save the American River Association, and East Bay Municipal Utility District. The first meeting of the committee was in May with its goal the resolution of the water supply issue by the end of 1985. The League of Women voters, National Park Service, Fish and Wildlife Service, the USBR, and DWR will participate as a resource group to the committee.

In May 1985, DWR contracted with Bechtel National, Inc. to review and evaluate Auburn Dam to ascertain whether a project can be constructed at a lower cost. This study is being jointly funded at \$100,000 each by the State and Federal Government. The consultant's final report is expected in the fall of 1985.

Ground Water Storage Programs

DWR has also been studying potential ground water programs to be managed by SWP contractors whose service areas overlie ground water basins. Such programs could be operated by the involved contractors using entitlements and any available surplus water. Such programs could be entirely to the benefit of the individual contractor, or if all contractors agreed, some programs could be fully integrated into the SWP by conjunctive operation of the available ground water storage space with the SWP, including new offstream storage reservoirs south of the Delta. Through conjunctive use, greater amounts of water could be made available for ground water storage, and all contractors would benefit from the increased SWP water deliveries under this option. Senate Bill 187, introduced in January 1985, would clarify DWR's authority to add ground water storage facilities to the State Water Resources Development System.

SWP system operation studies suggest that significant amounts of additional water could be made available through conjunctive use of surface facilities and a ground water storage program. Cooperating contractors could also realize reduced costs through reallocation of a portion of the aqueduct costs from transportation to conservation. To develop specific, workable programs, DWR and the contractors must work together on programs that mutually benefit the SWP and local agencies.

During the past year, the Santa Clara Valley study was completed. The ground water study of the San Bernardino Valley-San Gorgonio Pass area is continuing. A small program was initiated to further define the conjunctive use potential in the Southern San Joaquin Valley. Progress of these investigations during the past year is summarized in the following sections.

Santa Clara Valley. This reconnaissance-level investigation, initiated in September 1981, was completed this year. The investigation indicated that the potential exists for successful operation of a modest ground water storage program. However, it was decided, based on uncertainties in future hydrologic conditions and basin operations, not to proceed to feasibility-level studies at this time.

San Bernardino Valley-San Gorgonio Pass. The cooperative feasibility-level investigation continued during 1984 and is scheduled for completion in September 1985. During the past year, study efforts have been directed toward developing a long-range management plan for meeting local needs. In addition, work continues on developing alternatives for storing or exchanging SWP water, and the legal and institutional aspects of project implementation and operation.

It is likely that decisions on implementing a SWP storage program will be held in abeyance pending resolution of the present high ground water problems. Legislation is currently pending that would authorize formation of a ground water management district (SB 148) and that would authorize DWR to participate in a physical solution to the high ground water problems (SB 73).

San Joaquin Conjunctive Use. This investigation will focus on refining the criteria used for integrating ground water storage and other local operations into SWP operation studies of offstream storage south of the Delta. The refined criteria will allow more effective coordination of SWP studies with ongoing evaluations of water supply enhancement and operations by local agencies. Work activities during the first year have been directed toward estimating the effect of future water supply and hydrologic conditions

in the Southern San Joaquin Valley on deliveries through the California Aqueduct. A river basin index for the Southern San Joaquin Valley will be developed similar to the Four Basin Index in the Sacramento Valley. The index be used in determining potential demands for SWP water.

Local Water Supply Projects

In February 1979, DWR issued "Guidelines on Funding Local Water Supply Projects for Inclusion in the State Water Project." In 1982, the guidelines were revised to (1) address the role of the SWP contractors, (2) establish procedures for determining the feasibility of a proposed local water supply project for inclusion in the SWP and, (3) reflect the provisions of a water supply contract amendment executed between DWR and the contractors to allow for repayment of construction and operation costs of a local water supply project. On December 30, 1982, the DWR Director approved "Revised Guidelines on Funding Local Water Supply Projects for Inclusion in the State Water Project." This policy statement was developed to serve as a guide to local agencies, water supply contractors, and DWR regarding implementation and inclusion of local projects as units of the SWP. The basic assumptions are as follows:

- o Any necessary SWP contract amendments are executed.
- o Yield developed by a local project as a unit of the SWP becomes part of the yield of the SWP, whether for the life of the SWP or for an interim period.
- o The local project must not adversely affect either the costs or water deliveries of nonparticipating SWP contractors.

DWR will conduct a feasibility study of a local project when it appears, from both the conceptual report and the

reconnaissance report, that the local project may be designated as a future unit of the SWP, and there is general support from the SWP contractors. Local projects must be feasible on an engineering and financial basis and must be economically and environmentally sound before they can become units of the SWP.

Local projects eligible to be added to the SWP may be financed with available SWP funds. Should the costs of construction of the local project exceed the funds available from the SWP, local participation in financing the construction will be required. SWP financing will not exceed the actual construction cost of the local project. The local project will not become a unit of the SWP until an agreement is signed.

Further evaluation of the guidelines will continue along with the examination of methods of financing future SWP features, including local projects, because of recent financial problems associated with availability of Tideland Oil revenues and other funds.

Santa Barbara County. Since mid-1981, DWR has completed review of six conceptual reports submitted by Santa Barbara County Flood Control and Water Conservation District (SBCFC&WCD). The six reports covered eight local projects, six of which appeared to warrant further investigation (enlarging Cachuma Reservoir, constructing Hot Springs Dam and Reservoir immediately upstream of Cachuma Reservoir, enlarging Gibraltar Reservoir, constructing Camuesa Dam and Reservoir, and water reuse projects proposed by Goleta Water District and the City of Santa Barbara).

Following these investigations, it was recognized that Santa Barbara County local projects could not be studied independently from the total countywide system. It became apparent that various combinations of local projects and a downsized Coastal Branch should be

investigated. Thus, SBCFC&WCD and DWR entered into an agreement in January 1983 to conduct a cooperative reconnaissance study to evaluate the various SWP alternatives available to Santa Barbara County, and to provide guidance to DWR on future plans for the Coastal Branch. This study was completed and a report, "Santa Barbara County State Water Project Alternatives," was released in April 1985.

The focus of the Santa Barbara study was to evaluate local projects suggested by the County that would be eligible as units of the SWP. These projects would be developed in conjunction with a scaled-down Coastal Branch. The evaluation took into account engineering, economic, financial, and environmental impacts of each project on an individual basis. The analyses in this report will help water agencies in Santa Barbara County make informed decisions regarding the water supply alternative that will best serve their needs.

A similar study is being conducted for San Luis Obispo County. The two county studies will provide information necessary for a joint decision on the size and timing of the Coastal Branch.

Stevens Creek. During 1983, DWR initiated review of a reconnaissance report by the Santa Clara Valley Water District for the proposed Stevens Creek Dam Project. The proposed local project involves reinforcement of the existing Stevens Creek Dam to improve its capability to withstand earthquakes and permit increasing the usable reservoir capacity from 1,200 to 3,600 acre-feet. According to the District, use of the full capacity of the reservoir and operation in conjunction with onstream ground water recharge facilities could increase the annual yield of Stevens Creek Reservoir by about 1,400 acre-feet per year.

Based on the initial review, the proposal meets the necessary criteria and qualifies as a local project. However, Santa Clara Valley Water District

decided to proceed with strengthening the dam on its own, and DWR has stopped planning studies.

Water Purchases

As outlined in the following paragraphs, DWR is considering a number of possibilities for augmenting SWP water supplies through purchases.

CVP Purchases. For the past few years, DWR and the USBR have discussed the possible wheeling of CVP water through SWP facilities on a long-term basis. Under contracts executed in 1975 and 1976, DWR wheels CVP water through SWP facilities to the turnout to Kern County Water Agency's Cross Valley Canal, west of Bakersfield. The Cross Valley Canal wheeling contracts, which extend to 1995, provide that conveyance of CVP water shall not interfere with, adversely affect the quality of, or add to the cost of the delivery of SWP water to SWP contractors. DWR has also entered into annual wheeling agreements in recent years to serve other CVP customers in the San Joaquin Valley.

DWR has expressed interest in purchasing existing CVP water supplies that the CVP will not need for at least 10 to 20 years. DWR is interested in acquiring such interim supplies to meet near-term SWP needs, while continuing to plan SWP facilities for the long term.

Recognizing that many wheeling and purchase issues are similar, and that both the SWP and CVP could gain from such an arrangement, the USBR and DWR broadened the scope of the 1985 negotiations on the Coordinated Operation Agreement. As noted in Chapter III, the USBR and DWR reached accord on a proposed agreement on May 6, 1985. The proposed agreement provides that the USBR and DWR will negotiate a contract by December 31, 1988 for the sale of interim Federal water to DWR and for the conveyance of Federal water through SWP aqueduct facilities.

Garden Bar Project. Another possible source of water for the SWP is the South Sutter Water District (SSWD), which has been working for several years on a proposal to construct Garden Bar Dam and Reservoir on the Bear River immediately upstream of Camp Far West Reservoir, which SSWD owns and operates. SSWD has formed a Garden Bar development team with Parsons Brinckerhoff Quade and Douglas, Inc., and Guy F. Atkinson Construction Co. The development team is pursuing a plan that would provide for the sale of water and energy outside SSWD to finance the project.

In January 1982, the development team approached DWR and the State Water Contractors with the concept of selling water to the SWP. In order for DWR to support such an arrangement, a comprehensive understanding of the project's accomplishments and costs is required, including financial impacts on the SWP and a number of substantial legal and institutional issues.

In January 1985, DWR sent a letter to SSWD expressing interest in continuing discussions for the possible purchase of a firm supply of up to 60,000 acre-feet per year. Also in January 1985, SSWD's three-year preliminary permit from the Federal Energy Regulatory Commission (FERC) expired. The Garden Bar development team then filed an application for license with FERC.

Before construction could commence, SSWD would have to enter into a water purchase contract with DWR. DWR's Garden Bar Work Group will continue to review and analyze the project as the project sponsors develop the information required by FERC.

Cosumnes River. On the Cosumnes River, the counties of Sacramento, San Joaquin, Amador, and El Dorado joined to create the Cosumnes River Water and Power Authority (CRWPA). The purpose of this authority is to investigate the

feasibility of developing a water supply and hydro power project that would satisfy the water supply needs of the member entities.

On November 8, 1983, CRWPA wrote DWR a letter proposing entering into negotiations leading to a Memorandum of Understanding regarding project development. Specifically, CRWPA was proposing that DWR purchase the available firm yield of the project (estimated to be 172,000 acre-feet per year initially, declining to 102,000 acre-feet over the next 45 years). CRWPA also wanted DWR to finance pre-licensing costs, an estimated \$6 million.

Between November 1983 and August 1984, DWR representatives met numerous times with CRWPA representatives to obtain additional detailed information about the proposed project. Following review and analysis of pertinent information, including SWP needs and capabilities, DWR responded to CRWPA on August 1, 1984, as follows:

- o DWR is not in a position at this time to finance pre-licensing study costs.
- o DWR suggests the project could be reformulated and modified to reduce project and water costs.
- o DWR is concerned about losses of water from the natural channels between the project and the Delta.
- o DWR's rejection of participation in the CRWPA's project as currently proposed does not preclude future consideration of a reformulated project selling water at a lower price.

In May 1985, the CRWPA Board of Directors directed its engineering consultant to develop a plan to build the project in stages.

Orestimba Creek. The Wolfson Land and Cattle Company is studying the possibility of constructing a reservoir on Orestimba Creek upstream from the California Aqueduct in Stanislaus County. The plan might include an offer of water supply to the SWP. Some discussions have taken place between DWR and the company's consultant. By letter of October 25, 1984, DWR notified the consultant of its general interest in water purchase plans for the SWP, and described the types of information needed initially from the participating agencies for DWR consideration. There was no further follow-up action on this plan in 1984, however, by any of the involved parties.

Water Conveyance Facilities

In addition to seeking means of augmenting SWP water supplies, DWR is continuing analysis of the capability of existing SWP conveyance facilities and evaluation of possible additional facilities.

California Aqueduct Use Study

In early 1985, DWR's Division of Planning completed a technical study of the future use of the California Aqueduct for 1985-2020. SWP operations were simulated over the 57-year historic hydrologic period (1922-78) for each of seven levels of development. Each such simulation was based on projected contractor requests for future deliveries of entitlement water and numerous assumptions about future SWP facilities and operating criteria. The detailed assumptions and results of the study are described in the technical report, "California Aqueduct Use Study," February 1985.

The California Aqueduct Use Study was designed to show the degree to which SWP contractor requests for water could be met in the future under varying hydrologic conditions, with existing and assumed facilities and operating

criteria. It was also structured to show the amount and frequency of unused capacity that might be available in various reaches of the California Aqueduct to transport interim supplies to SWP contractors or non-SWP water users. (Over the past few years, DWR has received several inquiries about such possible service.)

In brief, the study showed that as projected contractor requests for water increase after 1985, the SWP, even with assumed new facilities, will frequently be unable to deliver the full amounts of requested entitlement water unless substantial additional supplies are made available. The study also showed that, under assumed conditions, significant amounts of unused aqueduct capacity, which could be used to transport non-SWP supplies, could continue to be available for many years.

While the greatest amounts of unused capacity would occur in years of inadequate SWP supplies, the study showed that substantial amounts of unused capacity can be expected in years when the SWP is meeting requested deliveries. Usability of this capacity after 1990 is highly dependent on the assumed completion of a Delta water transfer facility and full operation of the completed Banks Delta Pumping Plant.

The time of year when unused aqueduct capacity was available from the Delta varied widely from year to year, depending on hydrology; but, capacity tended to be available most often in April, late summer, and early fall. The amount and frequency of unused capacity also varied for different aqueduct reaches. In general, the longer the reach or farther downstream the reach, the smaller the available capacity.

The knowledge gained from this investigation will be applied in coordinated planning for a number of potentially competitive aqueduct uses.



The California Aqueduct Use Study shows that significant amounts of unused capacity may be available periodically through most of the Aqueduct for many years to come.

East Branch Enlargement

Increased capacity is needed in the East Branch of the California Aqueduct, primarily to help meet the needs of MWDSC when its entitlements to Colorado River water are reduced. The expansion would include (1) 92 miles of canal enlargement, (2) installation of additional barrels at some of the 15 inverted siphons between Alamo Powerplant and Silverwood Lake, and (3) additional units at Pearblossom Pumping Plant and at Alamo and Devil Canyon Powerplants.

DWR completed a draft EIR on a 1,200-cfs enlargement in June 1983. Following analysis of comments on the EIR, the proposed plan was modified to

provide for initial enlargement to add 600 cfs of capacity, with provision for further enlargement up to 1200 cfs if needed. The final EIR was completed in April 1984; the Notice of Determination was filed with the Secretary for Resources in May 1984. While the decision on enlargement was pending, MWDSC agreed in January 1984 to temporarily bear the cost of modifying the forebay at Pearblossom Pumping Plant during a scheduled outage in conjunction with construction of Alamo Powerplant. The forebay enlargement, to allow future expansion of pumping capacity without an additional extended outage, was completed between September 24 and December 30, 1984, at a cost of about \$1 million.

In July 1984, DWR began design work on improvements needed to bring the East Branch up to its design capacity and to add operational flexibility to the system. These improvements include installation of an additional (seventh) unit at Pearblossom Pumping Plant. The additional pumping unit will provide spare capacity in the event of outage of another unit, and may permit more off-peak pumping to reduce energy costs. MWDSC also agreed to bear the cost of design work on these improvements, pending agreement on allocation of costs among contractors.

In April 1985, MWDSC completed analyses of the East Branch enlargement and alternatives involving construction of the middle reach of its Foothill Feeder. MWDSC selected the East Branch enlargement as the preferred alternative and began work on a supplemental EIR. In addition to an initial 600-cfs enlargement, MWDSC is considering a 900-cfs initial enlargement as an alternative.

Following the MWDSC decision, DWR began preliminary design work on the full East Branch enlargement, focusing initially on those facilities whose design is independent of the initial sizing of enlargement. If all necessary approvals are received in timely fashion, design and construction of the basic East Branch enlargement could be completed in 1991. The operational date is controlled by the time required to procure and install additional units at Pearblossom Pumping Plant.

San Luis Canal Enlargement

The San Luis Joint-Use Facilities are the integrated works of the SWP and CVP along the California Aqueduct between the north end of O'Neill Forebay and Check 21 near Kettleman City. The joint-use facilities include approximately 102 miles of canal (the San Luis Canal) and Dos Amigos Pumping Plant. Design capacity of the San Luis Canal varies from 13,100 cfs at the north end to 8,350 cfs at Check 21.

As a joint SWP-CVP facility, the San Luis Canal was constructed to provide the SWP with a capacity of about 7,100 cfs (there are no SWP deliveries from this reach). The 7,100-cfs size was based upon 1959 estimates of the distribution of the original SWP minimum Project yield of 4,000,000 acre-feet per year. This distribution changed under the subsequent water contracting program. Also, in 1964, after the San Luis Canal was under construction, the minimum Project yield was increased by 230,000 acre-feet in response to the Supreme Court decision that reduced California's share of water from the Colorado River. The redistribution of original yield and subsequent yield increase meant that more SWP water would be moved through the San Luis Canal. Additional capacity was incorporated in the California Aqueduct south of Check 21, bringing the total capacity to 8,100 cfs. This left an insufficiency of about 1,000 cfs in State capacity in the San Luis Canal. At the time, it was contemplated that the canal would have to be enlarged at some future time when SWP and CVP demands approached maximum levels.

An analysis of the need for enlarging the SWP share of the San Luis Canal was performed in 1984. The analysis showed that enlargement would be required by 1997 under the design and operating criteria originally used to determine canal sizing. However, with the delivery patterns shown in current contractor requests, enlargement would not be needed to deliver maximum annual entitlements (although there would be some reduction in reliability and flexibility of service from the terminal reservoirs). The analysis also showed that decreased on-peak pumping made possible by enlargement would not result in significant savings in power costs. Consequently, further effort on the enlargement has been deferred, pending changes in Project operation that would justify proceeding with the enlargement.

Coastal Branch, Phase II

The Phase I Coastal Branch facilities, consisting of the first 15 miles leading from the California Aqueduct, were constructed in the late 1960s to serve agricultural water contractors near Avenal Gap. The Phase I facilities include Las Perillas and Badger Hill Pumping Plants.

Phase II was planned to be constructed later to transport SWP water to Santa Barbara and San Luis Obispo County Flood Control and Water Conservation Districts (SBCFC&WCD and SLOCFC&WCD). Phase II would extend approximately 81 miles to a terminus near Santa Maria. Phase II would include Devil's Den, Sawtooth, and Polonio Pumping Plants and San Luis Obispo Powerplant.

In early 1984, the Districts requested a further two-year delay to July 1986 for a decision to initiate design and construction of Phase II. Under this schedule, delivery of SWP water could not begin sooner than the early 1990s.

Following rejection by Santa Barbara County voters in March 1979 of a \$102 million bond issue for the construction of distribution facilities for SWP water, SBCFC&WCD took two actions. First, as described earlier in this chapter, SBCFC&WCD is evaluating local projects that may qualify for SWP funding under DWR guidelines. Second, SBCFC&WCD voted in 1981 to reduce its maximum annual entitlement from 57,700 acre-feet to 45,486 acre-feet and reduce its share of aqueduct capacity by 17 cfs. As described in Chapter III, six contractors have expressed interest in purchasing all or a portion of the relinquished capacity and entitlement water.

Because of the uncertainty regarding the timing of construction and operation of Phase II of the Coastal Branch, no costs are projected for this facility in the financial analysis presented in Chapter VII or in Appendix B of this bulletin.

CHAPTER VI

SWP POWER SUPPLY, PRESENT AND FUTURE

This chapter assesses SWP power needs, the resources available to meet those needs, and the projected costs for power.

Power Requirements

Each year, when preparing Statements of Charges to water contractors, DWR develops and assesses short and long-range aqueduct operation studies. These studies are needed to project the amount of electrical capacity and energy required to operate the SWP in future years, including pumping to (1) deliver the SWP contractors' requested entitlement water, (2) provide recreation water, (3) replace reservoir and aqueduct losses, and (4) provide additions to reservoir storage south of the Delta. In comparison to entitlement deliveries, the latter factors are relatively minor. The operation studies do not project the amount of electrical capacity and energy required to deliver surplus water.

The SWP aqueduct operation studies are based on median-year water supply conditions. However, SWP power requirements can vary significantly, depending on the balance of water supply and water demand in a given year. Dry conditions in Northern California reduce the supply of water available for delivery and decrease power requirements if the SWP cannot deliver full entitlement requests. Power requirements also decrease if hydrologic conditions or actions by local water agencies reduce demands for SWP water in the San Joaquin Valley or Southern California. SWP power requirements would be larger than projected only if water demands increased in Southern California or if additional pumping was required to refill reservoirs south of the Delta after a dry year (and sufficient water supplies were available).

Table 15 shows the projected entitlement water requests, the electrical energy required to deliver entitlement water, and transmission losses. Losses depend on contractual arrangements with utilities providing transmission services.

In addition to energy requirements, DWR must also consider electrical capacity requirements--the rate of delivery or demand for electrical energy during a given time period. Since DWR has flexibility in regulating the SWP's electrical demand, the SWP is operated to minimize pumping demand during on-peak periods, when capacity and energy costs are greatest. Thus, the SWP's maximum electrical capacity requirement occurs during off-peak periods (nights, weekends, and holidays). As an illustration of the monthly capacity studies that are made, Table 16 shows the projected SWP on-peak and off-peak maximum pumping demands (capacity requirements) for 1990 and 2000 during the months of highest system use. In this particular study, both the on-peak and off-peak maximum monthly pumping loads are projected to occur in the winter, thus taking advantage of seasonal power cost differentials.

The total capacity requirements in Table 16 consist of pumping loads, reserve margin requirements, transmission losses, and DWR capacity obligations to the Southern California Edison Company (SCE). Under the 1979 DWR-SCE Power Contract, SCE can call upon 485 MW of DWR capacity at any time (350 MW from Hyatt-Thermalito, 15 MW from Alamo, and 120 MW from Devil Canyon). Under the 1981 DWR-SCE Capacity Exchange Agreement, DWR will provide SCE with 225 MW of on-peak capacity. (See the discussion of "Exchanges" on pages 94-96.)

TABLE 15: PROJECTED WATER DELIVERIES AND ENERGY REQUIREMENTS

(Does not include energy deliveries to SCE pursuant to 1979
Power Contract and 1981 Capacity Exchange Agreement)

	Calendar Year			
	1985	1990	1995	2000
Entitlement Requests (Thousands of Acre-Feet)				
Feather River Area	3	4	31	33
North Bay Area	4	26	43	52
South Bay Area	136	150	184	188
San Joaquin Valley Area	1,108	1,355	1,355	1,355
Southern California Area	748	1,400	1,615	1,887
Central Coastal Area	0	0	70	70
Total	1,999	2,935	3,298	3,585
Pumping Energy Requirements (Millions of kWh)				
North Bay Aqueduct Plants				
Barker Slough	-	3	7	9
Cordelia	2	3	6	7
South Bay Aqueduct Plants				
South Bay	101	121	147	150
Del Valle	1	1	2	2
California Aqueduct Plants				
Banks Delta	602	863	998	1,084
San Luis	134	205	222	256
Dos Amigos	288	388	424	469
Buena Vista	288	406	450	528
Wheeler Ridge	289	444	499	595
Wind Gap	619	919	1,036	1,244
A.D. Edmonston	2,113	3,108	3,521	4,242
East Branch Plant				
Pearblossom	254	582	375	367
West Branch Plant				
Oso	158	147	277	366
Coastal Branch Plants				
Las Perillas	9	10	16	16
Badger Hill	24	26	40	40
Devil's Den	-	-	44	44
Sawtooth	-	-	35	35
Polonio	-	-	93	93
Total Pumping Energy Requirements(a)	4,882	7,226	8,192	9,547
Transmission Losses(b)	281	279	302	324
Total Energy Requirements	5,163	7,505	8,494	9,871

a) Pumping energy requirements based on energy to deliver SWP contractors' requested entitlement water, recreation water, reservoir and aqueduct losses, and replacement of reservoir storage south of Delta.

b) Transmission losses depend on contractual arrangements with the utilities rather than actual losses.

TABLE 16: PROJECTED ELECTRICAL CAPACITY REQUIREMENTS

Pumping Plant	Peak Demand Load During Month of Highest System Use (MW)			
	1990		2000	
	On-Peak	Off-Peak	On-Peak	Off-Peak
North Bay Aqueduct				
Barker Slough	1	(a	1	1
Cordelia	(a	(a	1	1
South Bay Aqueduct				
South Bay	17	9	18	13
Del Valle	(a	(a	(a	(a
California Aqueduct				
Delta	6	250	93	250
San Luis	0	126	1	192
Dos Amigos	55	37	58	39
Buena Vista	44	75	57	82
Wheeler Ridge	44	95	62	105
Wind Gap	86	207	137	223
A.D. Edmonston	287	746	459	746
East Branch				
Pearblossom	59	137	1	111
West Branch				
Oso	(a	55	48	62
Coastal Branch				
Las Perillas	2	1	2	1
Badger Hill	4	2	5	3
Devil's Den	-	-	6	6
Sawtooth	-	-	5	5
Polonio	-	-	12	12
Total Capacity Needed To Pump				
Entitlement Water	605	1,740	966	1,852
Transmission Losses (5% of Pumping)	30	87	48	93
Reserve Margin (10% of Pumping and				
Losses) (b	64	183	101	195
Capacity Obligations To SCE (c	710	485	710	485
Total Capacity Requirements	1,409	2,495	1,825	2,625

a) Less than 0.5 MW.

b) During the on-peak period, 10% of the pumping load may be insufficient to meet contractual requirements for spinning reserve or Western Systems Coordinating Council standards for regulation and frequency bias. Additional spinning reserve may be required based on the largest single contingency.

c) Includes 350-MW contractual obligation to SCE, but it is anticipated that SCE will have little or no demand for this capacity during off-peak periods.

Power Resources

The basic goals of DWR's long-range power supply program are to:

- o obtain adequate, reliable, competitively-priced power supplies and transmission services, so that the SWP will be energy self-sufficient and can operate as an independent and interconnected utility;
- o develop and manage these power resources to provide flexibility in meeting water delivery obligations at minimum cost and to maximize benefits to the people of California;
- o minimize the impact on the SWP when key contractual arrangements expire in 2004.

DWR's power supply program aims to restructure the use of existing SWP resources for maximum benefit to the SWP and to reduce dependence on utilities that may rely on costly fuel oil and natural gas for a major portion of their power generation. This has led to construction and acquisition of hydro, coal, geothermal, and purchased power resources. Figure 12 shows the SWP power facilities currently in operation or under construction. These, and other power resources available to the SWP, are described in the following sections.

Hydro

Economical hydroelectric generation provides the largest share of the SWP power resources. The 900 MW at Hyatt-Thermalito supply about 2.3 billion kWh in a median water supply year. Generation at the existing SWP power recovery plants (San Luis, Devil Canyon, Warner, and Castaic) varies with water conveyance; in general, the combined 631 MW at these four plants will be able to recover about one-fourth of the total energy used for SWP pumping.

Two additional hydroelectric facilities are under construction. The Alamo Powerplant, a 17-MW recovery plant, is expected to be commercially operable in July 1986. Ground breaking for the Thermalito Diversion Dam Powerplant, a 3-MW facility, took place in December 1984; the plant is expected to be on line in the summer of 1987. Current SWP power studies also assume that San Luis Obispo Powerplant, with a capacity of about 5 MW, will be constructed for power recovery on the Coastal Branch, Phase II; however, as discussed in Chapter V, completion of the Coastal Branch is under review.

For energy accounting purposes in this bulletin, all of the output of the Hyatt-Thermalito, Devil Canyon, and Alamo facilities is included as a part of the basic SWP resources; the energy returned off-peak by SCE is treated separately, as described in the following discussion of "Exchanges".

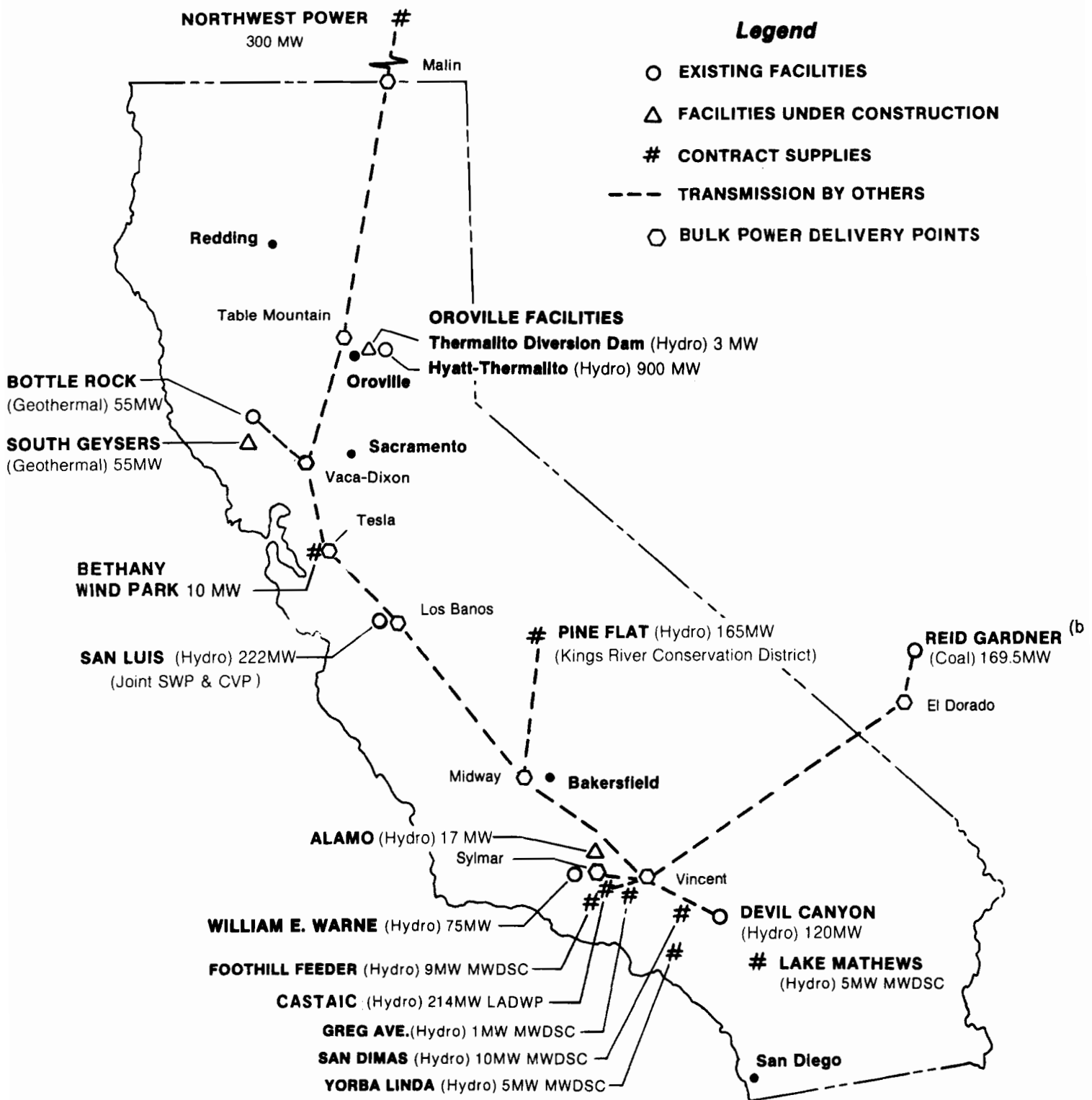
DWR has also purchased hydro generation developed by others. For example, DWR has purchased the output of the 165-MW Pine Flat Powerplant from the Kings River Conservation District. This facility is comprised of three 55-MW turbine-generating units, the last of which became commercially operable on April 1, 1984. Pine Flat Powerplant will provide an average of approximately 420 million kWh per year to the SWP.

DWR also has contracted for the output from five hydroelectric facilities owned and operated by MWDSC. (See following discussion of "Exchanges".)

Exchanges

Another major SWP power resource results from the 1979 Power Contract and the 1981 Capacity Exchange Agreement with SCE. Services under the 1979 Power Contract were available in April 1983; services under the 1981 Capacity Exchange Agreement shall

FIGURE 12: SWP POWER FACILITIES ^(a)



NOTES:

- Power exchange and transmission services provided by Pacific Gas and Electric Co., Southern California Edison Co., San Diego Gas and Electric Co., and Los Angeles Department of Water and Power.
- SWP owns a 169.5-MW share of Reid Gardner Unit No. 4, but under agreement with Nevada Power Company, receives up to 226 MW on an interruptible basis.

become available no later than April 1987. The net energy benefit provided to the SWP through these transactions is about 0.8 to 1.2 billion kWh annually.

Under the 1979 Power Contract, DWR delivers to SCE:

- o 350 MW of capacity and approximately 40 percent of the energy from Hyatt and Thermalito Powerplants;
- o up to 120 MW and all of the energy output of Devil Canyon Powerplant;
- o up to 15 MW and all of the energy output of Alamo Powerplant.

In return, SCE delivers to the SWP a greater amount of energy than received. This energy is delivered during off-peak hours.

Pursuant to the 1981 Capacity Exchange Agreement, DWR will deliver to SCE 225 MW of on-peak capacity and 412.5 million kWh per year. In return, SCE will deliver, during off-peak hours, a greater amount of energy than received.

Under the DWR-SCE Power Contract, the energy from four of the five MWDSC hydro plants is delivered to SCE for its use, with exchange energy later returned to the SWP during off-peak periods. Under a 1983 agreement with the Los Angeles Department of Water and Power (LADWP) the energy from the fifth MWDSC hydro facility is made available by DWR to LADWP, and LADWP later returns exchange energy off-peak to DWR. Combined, the five MWDSC facilities are rated at 29.5 MW.

Through the signing of additional interchange agreements, DWR has expanded its opportunities for the interchange of economy energy with 16 utilities in California, the Pacific Northwest, and the Southwest. These agreements, common in the electric utility industry, provide for hourly or

daily economy energy transactions. This permits more efficient use of generation capacities, more efficient scheduling of energy deliveries, and general economies through interchange of energy. The terms of these agreements are generally between 25 and 30 years. Negotiations for additional interchange agreements in the Pacific Northwest and the Southwest are currently underway.

Coal

DWR is joint owner of a coal-fired facility with Nevada Power Company (NPC), from which it began receiving energy in July 1983. The Reid Gardner station is located east of Las Vegas. Units 1, 2, and 3, with a combined capacity of 330 MW, are owned exclusively by NPC. Unit 4, rated at 250 MW, is jointly owned by DWR (67.8 percent) and NPC (32.2 percent), which gives DWR a 169.5-MW share of ownership of the rated capacity. Under the participation agreement with NPC, DWR receives up to 226 MW from Reid Gardner Unit No. 4 in exchange for NPC's limited right to interrupt DWR deliveries. DWR receives return energy or payment based on combustion turbine cost whenever NPC schedules energy from DWR's share of the unit output. The scheduling of energy to the SWP depends on the manner in which NPC exercises its rights to obtain peaking capacity through interruption of SWP service. After 15 years of operation, NPC will have an annual option to buy back up to 6 percent of the original DWR share each year.

Geothermal

Construction of DWR's 55-MW Bottle Rock Powerplant in the Geysers area of Lake County was essentially completed in the fall of 1984 and the plant began generating power in February 1985. Bottle Rock Powerplant is being operated and maintained by DWR. Geothermal steam for the plant is provided under a contract with MCR Geothermal and others.

DWR's second geothermal facility is the South Geysers Powerplant in Sonoma County. Three steam wells were originally drilled on the property; these provided the basis for DWR's decision to construct the plant. In the summer of 1984, Geothermal Kinetics Inc., and Trans Canada Pipelines Ltd., drilled a well and two side tracks that failed to produce commercial quantities of steam. Subsequent analyses by geothermal reservoir consultants indicated that the steam resources available from the lease were not capable of supporting a 55-MW power plant. Effort was then concentrated on assessing all steam supply alternatives and securing an assured supply. In the meantime, construction work under contracts already awarded will be brought to a conclusion to minimize financial commitment. Equipment being fabricated under the major furnish-and-install contracts will be stored off the site. Once a steam supply is assured, contracts for the remaining construction will be advertised, and a schedule for completion of the plant will be established.

Wind

DWR has an agreement with TERA Power Corporation to purchase wind-generated electrical energy delivered from the Bethany Wind Park to South Bay Pumping Plant near Tracy. When the Bethany Wind Park is fully completed in 1985, TERA will have 200 wind turbines (10 MW total) in operation.

Power Purchases

Power purchases are defined as capacity and energy purchases (firm purchases) during a definite period of time. These purchases are an important component of DWR's power supply program. To make optimum use of all resources and to obtain economical power, DWR is party to various power contracts with utilities. DWR currently has contracts to purchase power from SCE and

the Bonneville Power Administration. During the past year, DWR also signed agreements with Portland General Electric Company and Pacific Power and Light Company for short-term purchases of power. In addition, DWR will receive power from Pacific Gas and Electric Company (PGandE) during the fall and winter of 1985 as partial payment for power sold to PGandE during the summer of 1985. Table 17 summarizes the major long-term SWP power contracts.

Energy Purchases

In addition to power purchases, DWR has several agreements for the purchase of interruptible economy energy. Utilities with whom DWR has executed such economy energy purchases are listed in Table 17.

Other Projects

In addition to the resources described in the preceding paragraphs, other projects have been considered or are currently being considered for potential inclusion in DWR's power supply program. These projects are evaluated on the basis of such factors as ability to meet anticipated power requirements, cost, financing considerations, environmental impacts, and operating characteristics. Based on the results of these evaluations, a project may be recommended for inclusion, exclusion, or deferral in the program.

Four small hydroelectric plants on the San Bernardino Valley Municipal Water District (SBVMWD) water system were evaluated this year. A feasibility study determined that these hydroelectric plants would not be an economic energy resource for the SWP at this time. However, DWR may wish to pursue development if future conditions warrant reconsideration and SBVMWD does not proceed with development of the projects.

TABLE 17: SUMMARY OF MAJOR

Contract Title (Short Form) and Date Signed	With	Providing	To
1. West Branch Cooperative Development (9/2/66)	Los Angeles Department of Water and Power	Joint development of Castaic Powerplant on the California Aqueduct, West Branch	1/1/42
2. Extra High Voltage (EHV) Intertie (8/1/67)	Pacific Gas and Electric Co., Southern California Edison Co., San Diego Gas and Electric Co.	300 MW of EHV transmission from the Oregon border to specific points in California by SWP and purchase of off-peak energy to the extent of purchased transmission capacity	1/1/05
3. Bonneville Power Administration (9/5/67)	Bonneville Power Administration	Purchase of surplus BPA energy at Oregon-California border	8/30/86
4. Fourth Supplemental Resolution, Oroville (9/28/77)	DWR Resolution	Replacement of Power Sale Contract, effective 4/1/83	Repayment of last Bonds or 11/29/17, whichever later
5. MWD Hydro (1/9/78)	The Metropolitan Water District of Southern California	Effective 4/1/83 provides for purchase of output from five small hydro developments totaling 29.5 MW in capacity	At least to 4/1/08
6. San Diego Gas and Electric EHV Settlement (5/25/78)	San Diego Gas and Electric Company	Establishes extent of SDG&E's obligation to supply off-peak energy during the remaining term of the EHV contract, and resolves disputes concerning DWR's use of its EHV transmission entitlement	1/1/05
7. Reid Gardner Unit 4 Participation (7/11/79)	Nevada Power Company	Joint ownership of an additional unit at an existing coal-fired plant near Las Vegas	7/26/13
8. Power Contract (10/11/79)	Southern California Edison Company	Commencing 4/1/83, provides: a. transmission service in SCE's service area b. rights to purchase up to 300 MW firm capacity and/or spinning reserves c. rights to purchase off-peak energy d. exchanges of off-peak energy for 485 MW of DWR's on-peak capacity	1/1/05
9. Firm Transmission Service Agreement (10/11/79)	Southern California Edison Company	Transmission service between Eldorado and Vincent Substations	7/26/13
10. Edison-DWR 1979 (10/11/79)	Southern California Edison Company	Establishes rate of SCE's off-peak energy under the EHV contract effective 1/1/83	1/1/05
11. Pine Flat (11/6/79)	Kings River Conservation District	Purchase of hydroelectric output from Pine Flat Powerplant	4/1/34
12. Southern California Edison Agreement for Emergency Services (7/21/80)	Southern California Edison Company	Emergency service between the parties	12/31/04
13. Capacity Exchange Agreement (9/17/81)	Southern California Edison Company	Exchanges 225 MW of on-peak capacity from Hyatt-Thermalito for: a. up to 600 MW of SCE's capacity during off-peak periods b. up to 225 MW of SCE's capacity during partial-peak periods c. a 75% reduction in transmission service charges for transmission under Power Contract and Firm Transmission Service Agreement	12/31/04
14. Agreement for Sale of Interruptible Energy (3/8/82)	British Columbia Hydro and Power Authority	Sale of B.C. Hydro surplus interruptible energy to DWR	12/31/91 or upon one month notice by either party
15. Agreement for Sale of Nonfirm Thermal Energy (3/8/82)	Pacific Power and Light Company	Sale of nonfirm thermal energy to DWR	12/31/91 or upon one month notice by either party
16. Comprehensive Agreement (4/22/82)	Pacific Gas and Electric Company	Up to 1465 MW of firm energy transmission service in PG&E's service areas effective 4/1/83	12/31/04 with option for 10-year extension
17. Generation Replacement Agreement (6/14/82)	Southern California Edison Company	Provides energy from DWR resources to replace lost generation of two SCE plants on San Bernardino Valley Municipal Water District system.	6/1/12
18. Energy Purchase Agreement (6/14/82)	San Bernardino Valley Municipal Water District	District to pay DWR for energy supplied to SCE under the Generation Replacement Agreement, and give DWR option to develop four small hydro plants on District's system	6/1/12
19. Power Sale Agreement (5/14/82)	TERA Power Corporation	Sale of energy to DWR from wind-powered generation facilities constructed by TERA	5/3/02

SWP POWER CONTRACTS

Contract Title (Short Form) and Date Signed	With	Providing	To
20. Southern California Edison EHV Settlement Agreement/Pacific Gas and Electric EHV Settlement Agreement (12/31/82)	Southern California Edison Co./Pacific Gas and Electric Co.	Establishes the extent of DWR's ability to exercise its rights to 300 MW of EHV transmission from the Pacific Northwest. PGandE Agreement also defines the rate for EHV off-peak energy purchases	12/31/04 and 1/1/05, respectively
21. Interchange Agreement (6/29/83)	San Diego Gas and Electric Company	Energy exchanges between SDGandE and DWR	7/31/10
22. Greg Avenue Powerplant Energy Exchange Agreement (8/29/83)	Los Angeles Department of Water and Power	Exchange of DWR's entitlement to Greg Avenue Powerplant energy for credit and off-peak energy	Until terminated by either party upon two-year advance written notice
23. Edison-DWR Interruptible Transmission Service Agreement (9/6/83)	Southern California Edison Company	Interruptible transmission service between Vincent Substation and San Onofre Generating Station and between Vincent and Sylmar Substations	12/31/04
24. Economy Energy Agreement (9/22/83)	Los Angeles Department of Water and Power	Bilateral sale of economy energy	Until terminated by either party
25. Coordination Agreement between SCE and DWR (10/8/83)	Southern California Edison Company	Nonfirm energy sales to SCE, short-term exchanges, allows SCE to bank energy at San Luis Reservoir, and allows for seasonal capacity and energy exchange	12/31/05
26. Service Agreement (2/24/84)	Portland General Electric Company	Sale of nonfirm energy to DWR	12/31/87
27. Energy Interchange Agreement (6/6/84)	Tucson Electric Power Company	Bilateral sale of economy energy	12/31/08
28. Energy Interchange Agreement (7/27/84)	City of Pasadena	Bilateral sale of economy energy and interruptible transmission service	12/31/11
29. Energy Interchange Agreement (7/27/84)	City of Riverside	Bilateral sale of economy energy	12/31/13
30. Energy Interchange Agreement (7/27/84)	City of Glendale	Bilateral sale of economy energy	12/31/12
31. Energy Interchange Agreement (7/31/84)	City of Burbank	Bilateral sale of economy energy	12/31/13
32. Interconnection Agreement (7/31/84)	Nevada Power Company	Bilateral sale of economy energy	12/31/06
33. Energy Interchange Agreement (9/17/84)	City of Anaheim	Bilateral sale of economy energy	12/31/13
34. Service Agreement (11/1/84)	Montana Power Company	Sale of nonfirm energy to DWR	Until terminated by either party
35. Economy Energy Agreement (11/6/84)	Salt River Project	Bilateral sale of economy energy	12/31/13
36. Energy Interchange Agreement (12/1/84)	Northern California Power Agency	Bilateral sale of economy energy	12/31/09
37. Edison-DWR Interruptible Transmission Service Agreement (12/19/84)	Southern California Edison Company	Interruptible transmission service between Palo Verde Generating Station and Vincent Substation, between Eldorado and Mead Substations, etc.	12/31/04
38. Service Agreement (1/7/85)	Idaho Power Company	Sale of nonfirm energy to DWR	Until terminated by either party
39. Energy Interchange Agreement (4/18/85)	El Paso Electric Company	Bilateral sale of economy energy	12/31/10
40. Interconnection Agreement (4/18/85)	Portland General Electric Company	Bilateral sale of economy energy	12/31/10
41. Interconnection Agreement (4/30/85)	Pacific Power and Light Company	Bilateral sale of economy energy	12/31/09
42. Energy Interchange Agreement (4/30/85)	Seattle City Light	Bilateral sale of economy energy	12/31/15
43. Power and Energy Interchange Agreement (6/3/85)	Arizona Public Service Company	Bilateral sale of economy energy	12/31/10

Projects currently being evaluated include Mojave Siphon Powerplant and additional units at San Luis, Devil Canyon, and Alamo Powerplants. The opportunity for additional capacity at the Hyatt-Thermalito facilities is also being studied.

In addition, DWR is evaluating the additional load management capability that will result from construction of the final four units at the Banks Delta Pumping Plant. Also, existing contractual power resources are being reevaluated to assure an equitable sharing of benefits.

DWR is a party to the Heber Binary Geothermal Demonstration Project, which is being managed by the San Diego Gas and Electric Company (SDGandE). It has been determined for several reasons

that liquid-dominated geothermal technologies will not contribute to SWP power resources in the foreseeable future. DWR is therefore negotiating with SDGandE to revise its status to "contributor" (non-owner and receives no generation) and to reduce its capital obligation.

DWR has a 25 percent interest in the South Brawley Geothermal Project. Because of the estimated high cost of power, DWR decided not to proceed further with the project. Disposition of DWR's interest is under negotiation.

DWR owns a Federal Geothermal Leasehold in Lake County (the Binkley Leasehold). Disposition of this asset will be decided after determination of whether it will be required in South Geysers steam supply negotiations.



Construction of Thermalito Diversion Dam Powerplant began in early 1985.

Transmission Service

DWR must make arrangements for transmission service between SWP resources and loads and to inter-connected utilities for purchases, sales, and exchanges of power. At present, most SWP transmission needs are met by contractual arrangements with California utilities (Table 17). DWR's long-term objectives include acquisition of its own transmission facilities between resources and loads where feasible. To this end, DWR will continue to participate in studies to:

- o develop new transmission interties from the Oregon-California border to Southern California;

- o develop alternative transmission paths between DWR resources and loads to achieve a greater degree of operating flexibility;
- o develop additional transmission arrangements to the Southwest.

Since May 1983, DWR has had a temporary interconnection between the Hyatt-Thermalito Line No. 1 and the Western Area Power Administration (WAPA) 230-kV Cottonwood-Elverta No. 3 line. This interconnection is to remain in effect until the upgrade of the 500-kV transmission line between Table Mountain, Tesla, and Vaca-Dixon Substations is complete, probably late in 1985. The interconnection permits DWR to send up



Alamo Powerplant will recover energy formerly dissipated in the Cottonwood Chutes (right).

to 270 MW from Hyatt Units 1 and 2 over WAPA's transmission line to Tesla Substation. This action was necessary to prevent extensive curtailments of firm Hyatt-Thermalito power.

DWR has contracted for 300 MW of transmission capacity in the extra high voltage (EHV) Pacific Northwest Intertie from the Oregon-California border to the Table Mountain, Tesla, Los Banos, and Midway Substations through 2004. DWR plans to retain its entire 300-MW share of this EHV transmission capacity in order to maintain access to Northwest power markets, where potential purchases of less expensive power and exchanges could result in significant savings for the SWP.

On December 14, 1984, DWR signed a Memorandum of Understanding with the major California public and private electric utilities pertaining to construction and operation of a new third transmission line connecting California with the Pacific Northwest. Under the Memorandum of Understanding, if the transmission line is built and certain other conditions are met, DWR will have an option to purchase a portion of the transmission line presently estimated at about 100 MW and an option to extend its 300 MW of transmission capacity entitlement for the life of the existing intertie lines.

The 1982 Comprehensive Agreement with PGandE provided DWR the option to purchase a share of the Geysers-Lakeville 230-kV transmission line. On May 25, 1984, DWR entered into an interim agreement with PGandE for the ownership of 165 MW of capacity on the Geysers-Lakeville line. DWR completed payment for its share of the transmission line in February 1985. The agreement preserves DWR's right for cotenancy of the line; it also contains the principles for the cotenancy agreement, which is being negotiated and is scheduled for execution in late 1985.

The 1982 EHV Settlement Agreement with PGandE obligated DWR to purchase 75 percent of the Stub Transmission Line (Midway to Wheeler Ridge line), which serves Buena Vista, Wheeler Ridge, and Wind Gap Pumping Plants. The Settlement Agreement also established principles for this purchase. A contract for the purchase, operation, and maintenance of the Stub Transmission Line was signed on November 15, 1984. The closing of the purchase of this line is expected by the end of 1985. Ownership of the Stub Transmission Line will result in less costly and more reliable transmission service for DWR.

On December 19, 1984, DWR signed an interruptible transmission agreement with SCE providing additional transmission service between Arizona and the DWR system. Additional transmission arrangements are being evaluated to expand opportunities for interchanges with other utilities. Through the Western Systems Coordinating Council, DWR has also been monitoring studies being conducted by the Bonneville Power Administration, Pacific Power and Light Company, PGandE, and SCE to upgrade the existing Pacific Northwest Intertie to 3200 MW.

Sales

DWR has entered into agreements for short-term power sales and economy sales (sales of nonfirm energy). These agreements provide DWR with additional markets to sell power that is in excess of SWP needs. Surpluses may develop as a result of reduced demands for water deliveries in a given year or an abundance of hydro energy available from SWP facilities.

DWR currently has contracts for short-term sales of economy energy with many utilities, as shown in Table 17. In addition, DWR has entered into contracts or exchange arrangements that may be in force for only a few months. For exam-

ple, from January through June 1985, DWR sold or exchanged energy with:

- o Cities of Anaheim, Burbank, Glendale, Pasadena, Riverside, Santa Clara, and Vernon;
- o Los Angeles Department of Water and Power;
- o Northern California Power Agency;
- o Pacific Gas and Electric Company;
- o Southern California Edison Company;
- o San Diego Gas and Electric Company;
- o Salt River Project.

Negotiations are continuing with Pacific Northwest utilities to develop long-term arrangements for purchases, sales, and exchanges to optimize the use of DWR's 300 MW of transmission capacity on the Pacific Northwest Intertie. DWR intends to use this transmission capacity to the maximum extent possible to reduce SWP costs. Power will be purchased for resale, as well as for direct SWP use.

Negotiations also continue with Southwest utilities for purchases and sales of power to maximize the power benefits to the SWP.

Comparison of Power Requirements and Resources

Figure 13 compares the projected annual energy resources expected to be available to the SWP with the projected annual SWP energy requirements for the remainder of the century. The projected energy requirements shown include total SWP pumping requirements and transmission losses, as illustrated in Table 15. The projected energy resource outputs shown in Figure 13 include allowances for scheduled maintenance and forced outages. The resources include the net energy provided by SCE in exchange for SWP energy under the terms

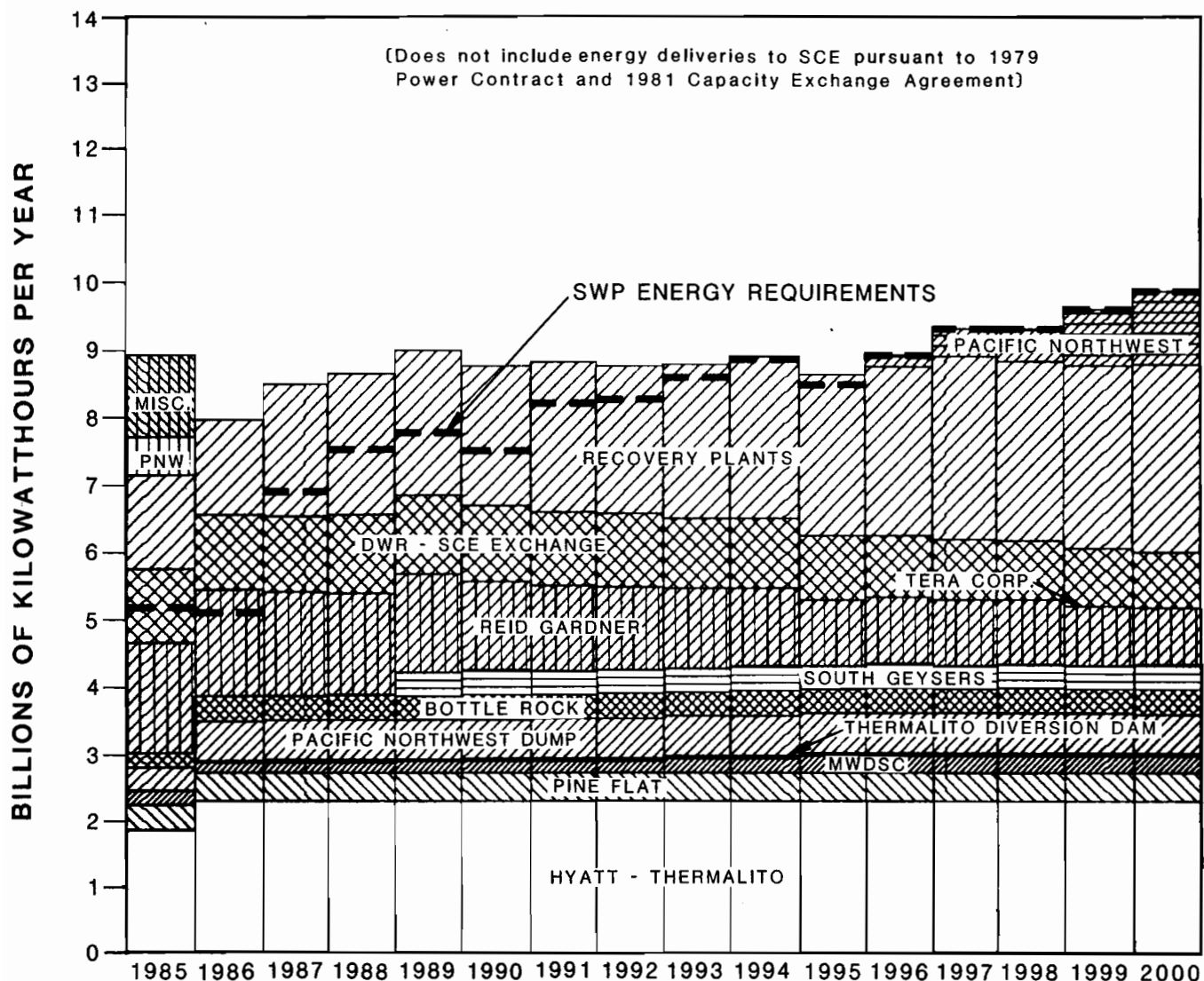
of the 1979 Power Contract and the 1981 Capacity Exchange Agreement. Finally, the projected energy resources include potential purchases from the Pacific Northwest; if purchased, this energy could be imported through use of the 300 MW of transmission capacity that the SWP has on the Pacific Northwest Intertie.

Figure 13 shows only the energy requirements for pumping entitlement water and other related water. In addition, the SWP has energy requirements as a result of the contractual obligations to SCE. Figure 13A illustrates total SWP energy requirements, including both the pumping energy and the contractual requirements. In Figure 13A, the total energy deliveries to SCE are included in the energy requirements and the total energy provided by SCE is shown as a resource.

Figure 14 shows a monthly comparison of SWP energy resources and requirements for pumping in 1985, 1990, 1995, and 2000. As in Figure 13, the energy requirements shown in Figure 14 include only those for SWP water service, and the resources include only the net energy received from the SCE exchange. Apparent energy surpluses and deficits occur in some months because energy requirements and resources were balanced on an annual basis. Load management techniques or energy exchanges with utilities will be used to balance monthly requirements and resources.

The projected SWP on-peak and off-peak monthly capacity requirements and the SWP resources planned to meet these loads for 1990 and 2000 are shown in Figure 15. As shown in Table 16, both the on-peak and off-peak capacity requirements in Figure 15 include (1) transmission losses equal to 5 percent of the on-peak/off-peak pumping requirement; (2) a reserve margin allowance equal to 10 percent of pumping requirements plus losses; and (3) allowances for capacity commitments to SCE under

FIGURE 13: ANNUAL SWP PUMPING ENERGY REQUIREMENTS AND RESOURCES

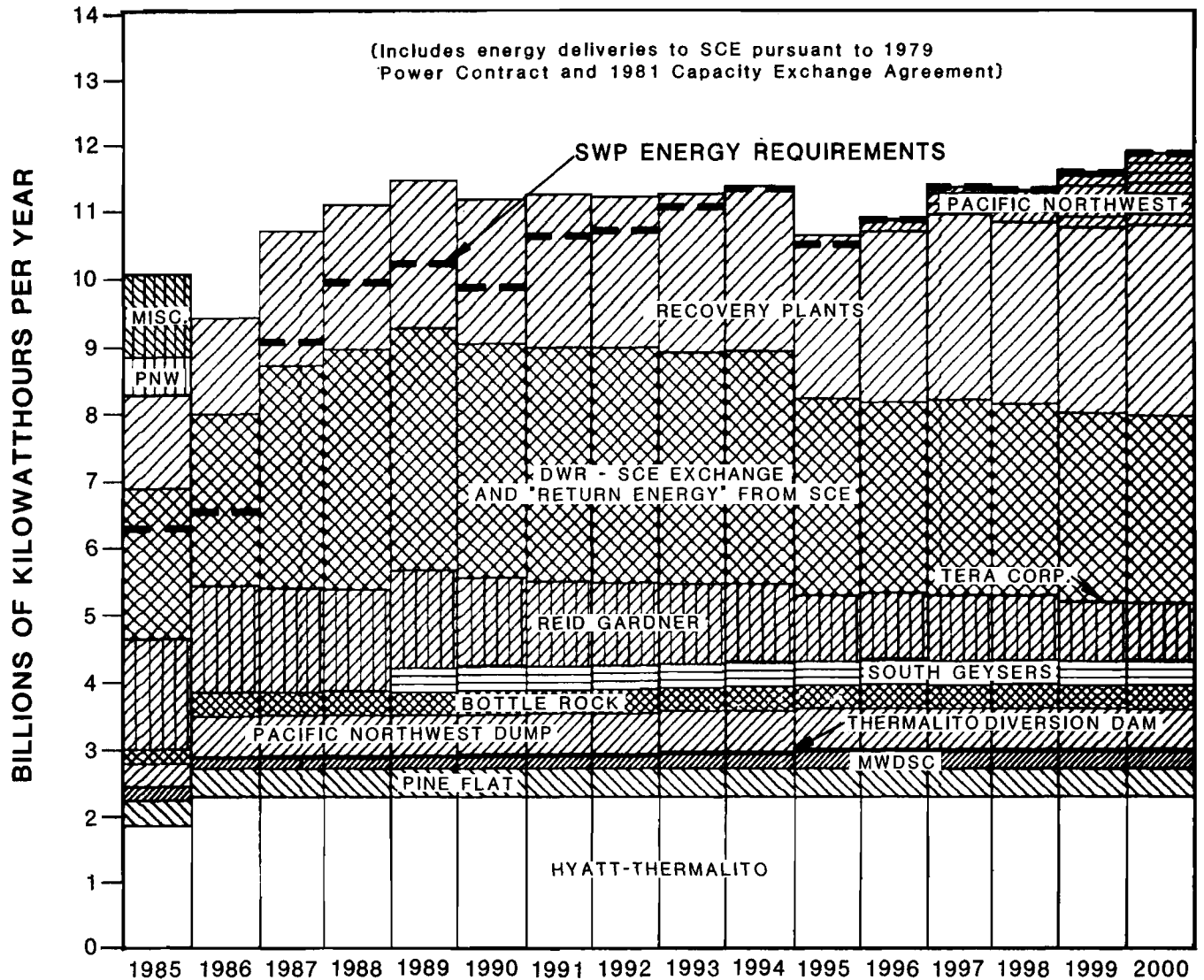


SWP energy requirements are based on delivery of requested entitlement water, recreation water, water to replace reservoir and aqueduct losses, and additions to reservoir storage south of the Delta (all assuming median statewide water supply conditions). All associated transmission losses are included. Placement of resources in figure does not indicate a priority of use or need. Identified resources are:

2000 Supply
(billions of kWh)

Hyatt-Thermalito.	2.30
Pine Flat (purchase under contract with Kings River Conservation District).	0.42
MWDSC Hydro (output of 5 small hydro plants on MWDSC distribution system, purchase under contract).	0.25
Thermalito Diversion Dam (operational in 1987).	0.02
Pacific Northwest Dump Power (purchases from utilities in the Pacific Northwest).	0.59
Bottle Rock (SWP geothermal plant, operational in 1985).	0.36
South Geysers (SWP geothermal plant, operational in 1989).	0.36
Reid Gardner Unit No. 4 (SWP share under 1979 agreement with Nevada Power Company).	0.84
Wind (purchase under contract with TERA Power Corporation).	0.02
DWR-SCE Exchange (net energy gained from Southern California Edison Co. under 1979 DWR-SCE Power Contract and 1981 Capacity Exchange Agreement).	0.83
Recovery Plants (6 aqueduct energy recovery plants - San Luis, Alamo, Devil Canyon, Warner, Castaic, and San Luis Obispo).	2.80
Pacific Northwest Power and other purchases	1.08
Total resources to meet SWP energy requirements (as shown in Figure 13).	9.87
"Return Energy" from Southern California Edison Co. under 1979 DWR-SCE Power Contract and 1981 Capacity Exchange Agreement.	1.98
Total resources to meet SWP energy requirements and DWR-SCE contractual obligations (as shown in Figure 13A).	11.85

FIGURE 13A: ANNUAL SWP TOTAL ENERGY REQUIREMENTS AND RESOURCES

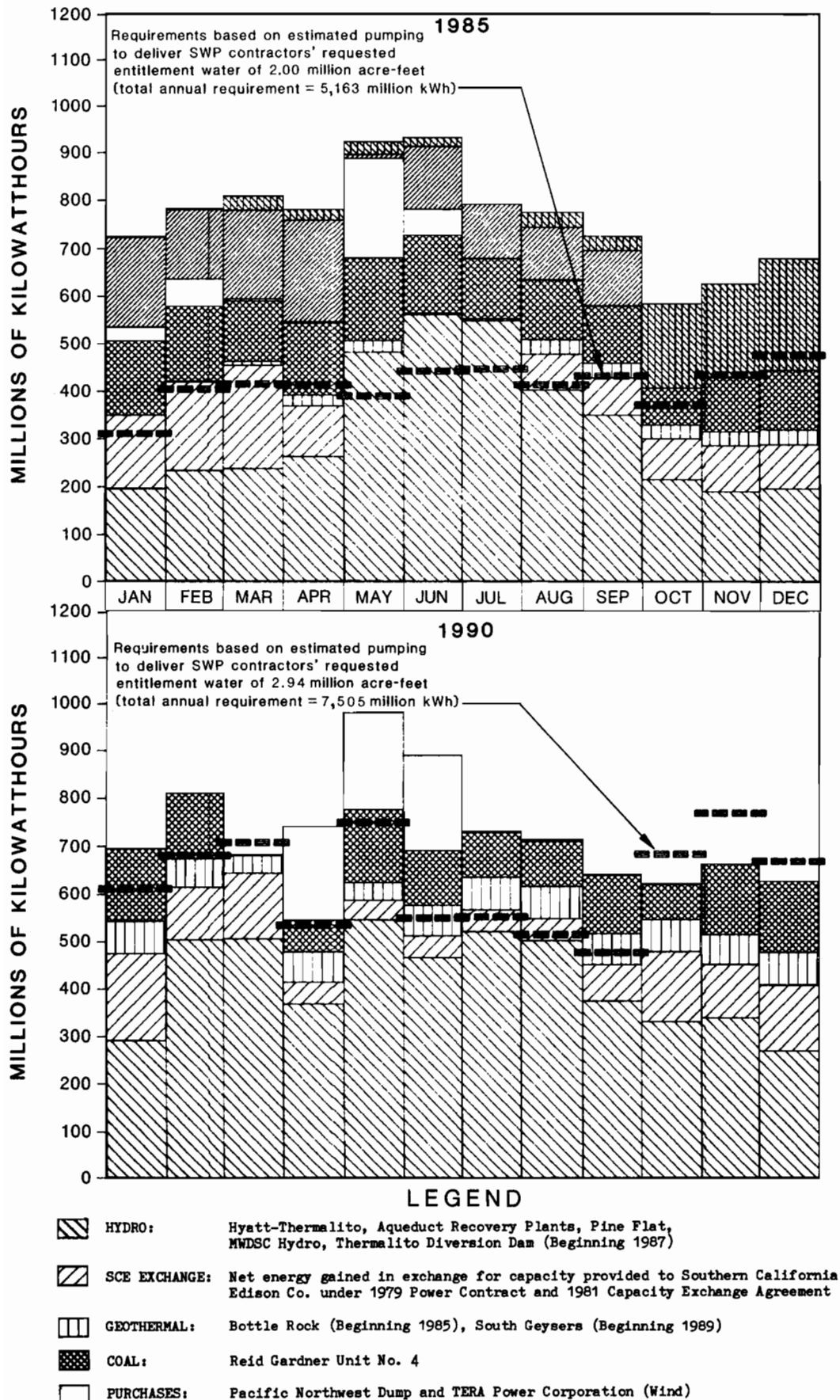


the 1979 Power Contract and the 1981 Capacity Exchange Agreement. Thus, the presentation in Figure 15 is similar to that of Figure 13A; the obligations to SCE are included in the SWP load and the full capacity furnished by SCE is part of the resources.

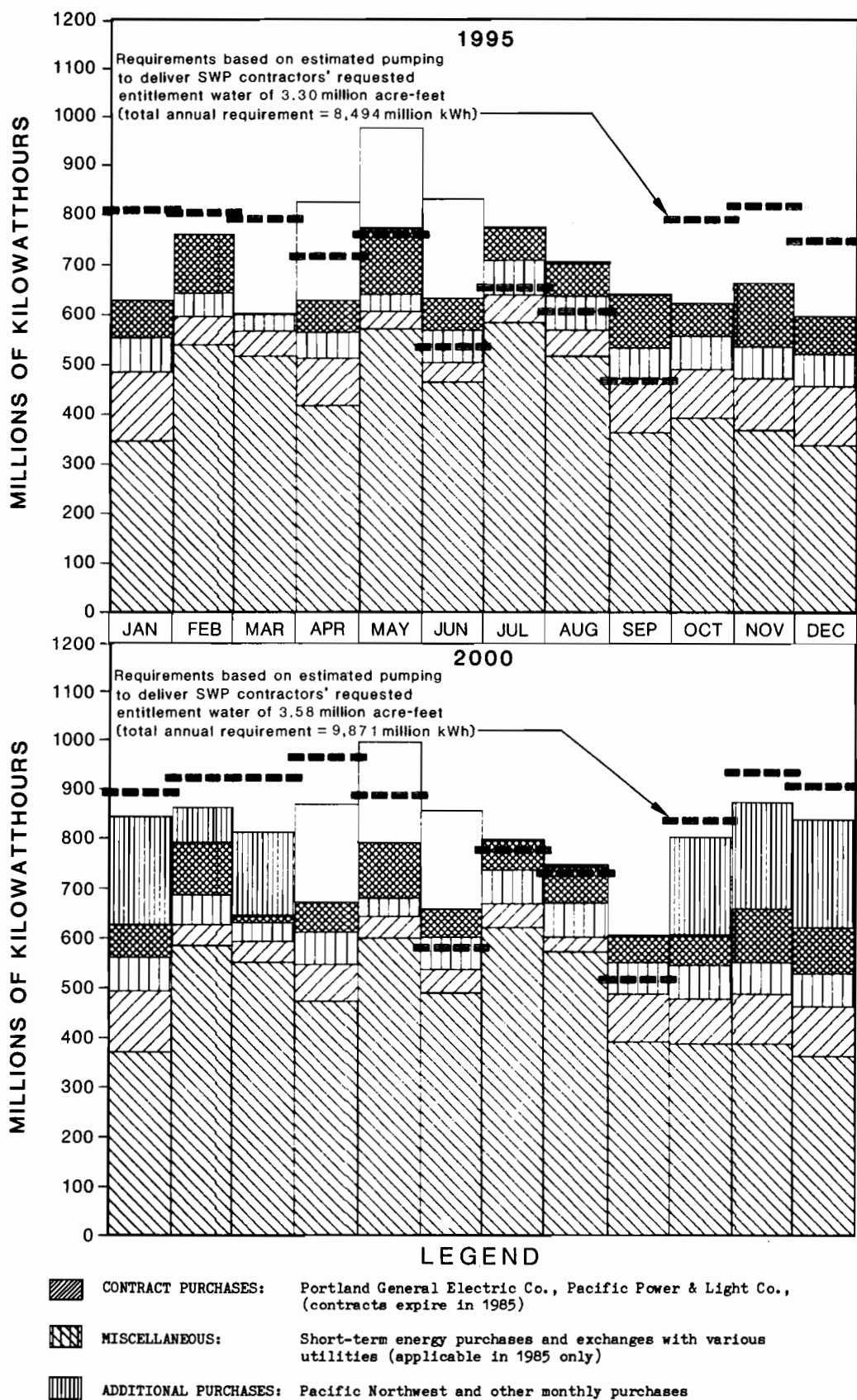
The indicated on-peak capacity resources in Figure 15 do not include any on-peak capacity from Reid Gardner Unit No. 4 because the contract allows NPC to interrupt SWP generation at any time--with certain limitations. Nevertheless, during on-peak periods, there is likely to be power available from Reid Gardner

Unit No. 4 for SWP use, but some interruptions must be anticipated. The same contractual arrangement exists for interruption of off-peak generation from Reid Gardner Unit No. 4. However, off-peak capacity for Reid Gardner Unit No. 4 is shown in Figure 15 because it is unlikely that NPC will use significant off-peak capacity, due to minimum service area load concerns and high contractual penalty costs. The contract with NPC requires advance notice for use of capacity, which will give DWR adequate time to adjust loads and other resources.

FIGURE 14: MONTHLY ENERGY REQUIREMENTS

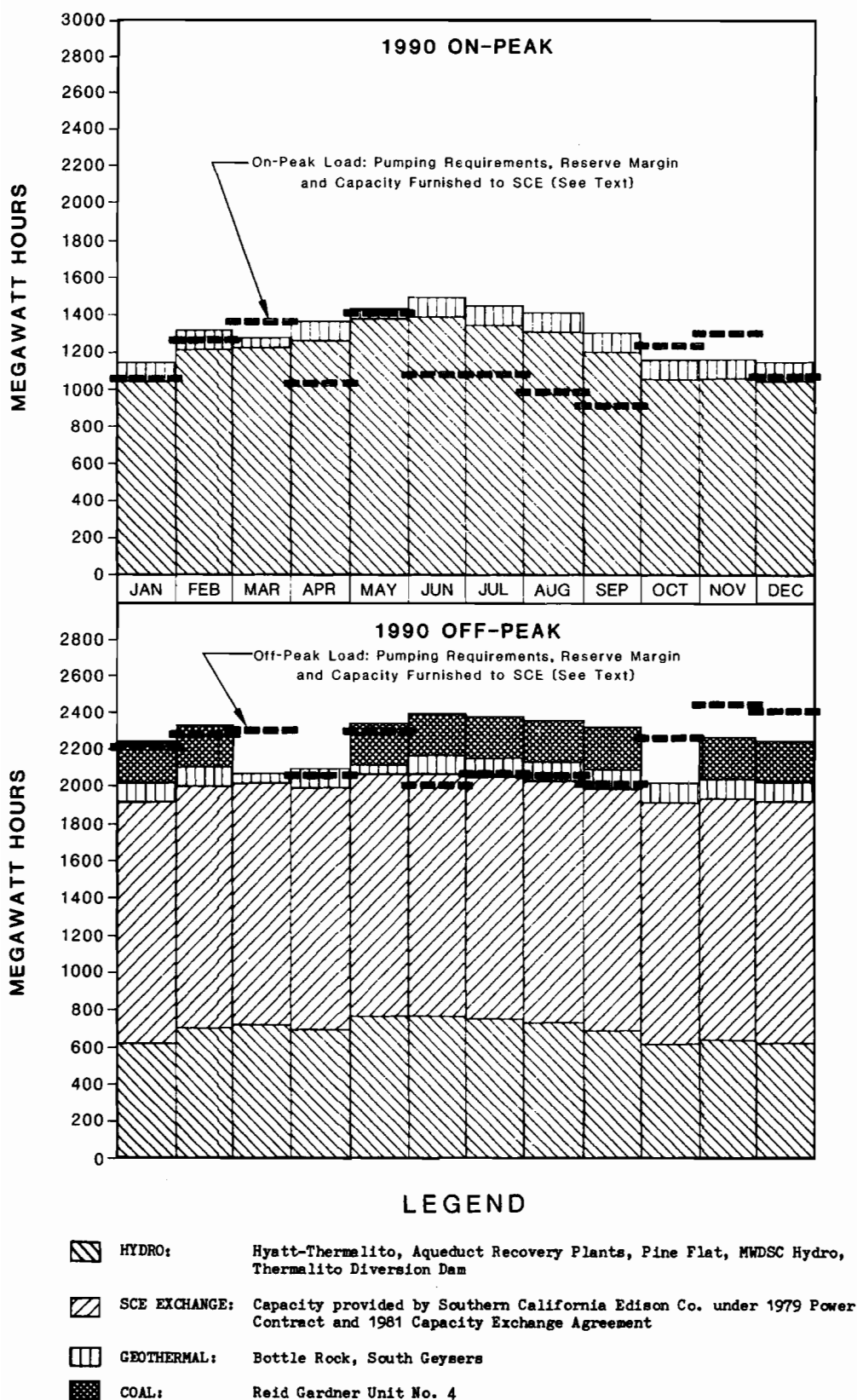


AND RESOURCES FOR SWP PUMPING

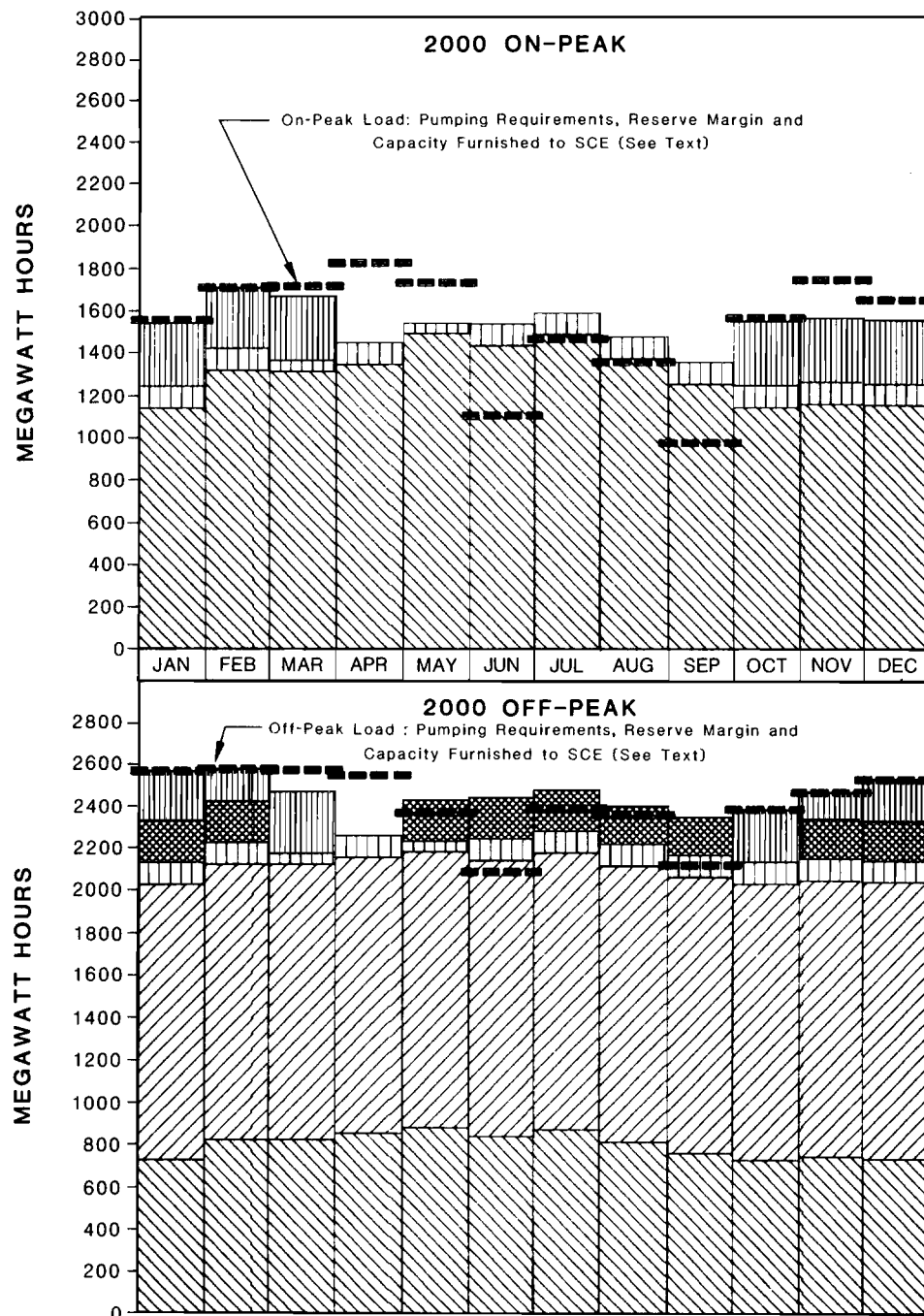


NOTE: Projected loads and resources were balanced on an annual basis. Apparent monthly energy deficits will be met by load management and/or energy exchanges with utilities. Placement of resources in figure does not indicate a priority of use or need.

FIGURE 15: TOTAL MONTHLY ON-PEAK AND OFF-PEAK



SWP CAPACITY LOADS AND RESOURCES



LEGEND

▨ ADDITIONAL PURCHASES: Pacific Northwest and other monthly purchases.

- NOTES:
1. The 350-MW contractual obligation to SCE is included in the load requirement, but it is anticipated that SCE will have little or no demand for this capacity during off-peak periods.
 2. Projected loads and resources were balanced on an annual basis. Apparent monthly capacity deficits will be met by load management and/or energy exchanges with utilities.
 3. Placement of resources in figure does not indicate a priority of use or need.

TABLE 18: PROJECTED ENERGY RESOURCES AND COSTS

(Does not include energy deliveries to SCE pursuant to
1979 Power Contract and 1981 Capacity Exchange Agreement.)

	Calendar Year			
	1985	1990	1995	2000
ENERGY RESOURCES (millions of kWh)				
Hyatt-Thermalito	1,870	2,304	2,304	2,304
SWP Recovery Plants				
San Luis	129	169	146	179
Alamo	0	103	72	73
Devil Canyon	410	977	569	565
W. E. Warne	335	324	570	634
Castaic	534	527	993	1,298
San Luis Obispo	0	0	47	47
Pine Flat	384	423	423	423
MWDSC Hydro	203	172	261	246
Thermalito Diversion Dam	0	17	17	17
SCE Exchange ^(a)	1,095	1,127	947	831
Reid Gardner Unit No. 4	1,630	1,306	986	840
Bottle Rock	211	361	345	361
South Geysers	0	361	345	361
TERA Power Corp. (Wind)	6	21	21	21
Pacific Northwest Existing Contracts	1,217	0	0	0
Pacific Northwest Dump	342	590	590	590
Pacific Northwest and other purchases	0	0	0	1,081
Miscellaneous ^(b)	573	0	0	0
Total Resources	8,939	8,782	8,636	9,871
Total SWP Energy Requirement^(c)	5,163	7,505	8,494	9,871
Surplus Energy for Sale	3,776	1,277	142	0
RESOURCES' COST (mills per kWh)^(d)				
Hyatt-Thermalito	12	11	12	14
SWP Recovery Plants				
San Luis	25	25	25	25
Alamo ^(e)	-	53	76	77
Devil Canyon	25	25	25	25
W. E. Warne	25	25	25	25
Castaic	25	25	25	25
San Luis Obispo	25	25	25	25
Pine Flat	30	32	36	43
MWDSC Hydro	53	64	82	105
Thermalito Diversion Dam ^(e)	-	87	87	87
SCE Exchange	0	0	0	0
Reid Gardner Unit No. 4	51	74	113	140
Bottle Rock	93	73	101	140
South Geysers	-	63	87	123
TERA Power Corp. (Wind)	85	85	68	68
Pacific Northwest Existing Contracts ^(f)	25(7)	-	-	-
Pacific Northwest Dump	19	25	34	46
Pacific Northwest and other purchases ^(f)	-	-	-	46(18)
Miscellaneous ^(b)	19	-	-	-
Composite Resource Cost	27	31	38	48
Value of Potential Energy Sales	21^(g)	28	38	-
Net Cost of Energy	26	32	39	49
Transmission Cost	6	2	2	2
Effective Unit Cost	32^(h)	34	41	51

a) Net energy gained from Southern California Edison Co. under 1979 DWR-SCE Power Contract and 1981 Capacity Exchange Agreement.

b) Miscellaneous resources include short-term energy purchases and/or energy exchange arrangements with utilities.

c) Requirement based on energy to deliver SWP contractors' requested entitlement water, recreation water, reservoir and aqueduct losses, and replacement of reservoir storage south of Delta; includes transmission losses.

d) Includes allowance for future cost escalation.

e) The method of determining the unit costs and credits for Alamo and Thermalito Diversion Dam Powerplants is under review and may be revised in the future.

f) The number in parentheses is the associated capacity charge (\$ per kW-month).

g) The value of July-December surplus energy sales is based on 21 mills per kWh; January-June energy sales reflect actual values.

h) 1985 costs are estimated costs as of July 24, 1985.

Power Costs

On April 1, 1983, DWR began operation as a bulk power agency. This change resulted from 1977 decisions to cancel both the 1966 Suppliers Contract and the 1967 Power Sale Contract, under which the SWP had operated. DWR subsequently elected to secure the power resources necessary to operate the SWP independently. The numerous power contracts outlined in Table 17 and the SWP power resources are now able to meet SWP power needs at a relatively economical cost.

Table 18 is a detailed summary of the most recent projections of SWP energy resources and their costs. The top section of the table shows the estimated present and future energy supply from each resource at five-year intervals from 1985 through 2000. The energy supplies shown are based on average water supply conditions. The SWP total energy requirements, taken from Table 15, represent the pumping energy requirements, plus all transmission losses. The pumping energy requirements include pumping for delivery of entitlement water, recreation water, reservoir and aqueduct losses, and additions to reservoir storage south of the Delta. The excess of projected resources over requirements is shown as surplus energy available for sale.

The lower section of Table 18 shows current projections of the average unit cost of energy from the various sources. These projections include allowances for future escalation of operation and maintenance costs (at 6 percent per year) and appropriate allowances for escalation of fuel costs. To develop the unit energy costs shown in Table 18, the comparable unit costs from Bulletin 132-84 were revised to reflect the most recent cost and financing information.

Most of the differences between the Bulletin 132-85 and Bulletin 132-84 resource costs reflect updated estimates for project financing and operation and maintenance costs. Pacific Northwest dump energy costs are based on 1985 estimates and are escalated at 6 percent annually. The 1985 Pacific Northwest energy and capacity costs are based on several existing short-term contracts. As shown in Figures 14 and 15, additional monthly energy and capacity purchases are needed (from utilities in the Pacific Northwest or elsewhere) to meet pumping requirements in the year 2000. The costs for these additional energy purchases are assumed to be the same as for Pacific Northwest dump energy. The costs for these additional capacity purchases are assumed to be \$18 per kilowatt - month (\$7.50 per kWh-month in 1985, escalated to 2000 at 6 percent annually).

The composite resource costs shown in Table 18 represent the weighted average unit cost of all SWP energy from the listed sources. The values of potential sales of surplus SWP energy are based on 1985 estimated value and are escalated at 6 percent. The net cost of energy for SWP use is the unit cost of the energy actually used for SWP purposes. The unit transmission costs shown are calculated by dividing total annual SWP expenditures for power transmission services by the total annual SWP energy requirement.

The effective unit cost shown in Table 18 represents the average cost for energy used to operate the SWP. This does not, however, represent actual energy costs in water contractor bills because of allocation adjustments for costs of Off-Aqueduct power facilities and credits for generation at SWP energy recovery plants.

CHAPTER VII

FUTURE COSTS AND FINANCING

This chapter presents both a summary and detailed explanation of SWP capital costs and financing, revenues and expenses, and bond activities. The overall summary is in Table 19, while more detailed presentations of financial matters are shown in additional tables, figures, and line item descriptions throughout the chapter.

Capital costs and financing have been changed from those in Bulletin 132-84 to reflect changes in construction scheduling and cost estimates. Projected bond activities have been revised to reflect these changes. Tideland Oil revenues have been included as a revenue source in the analysis for the years 1985 and 1986. Pending legislative action on a future water program, only that small portion of Tideland Oil revenues needed to fund annual drainage and desalting studies and activities is included as a revenue source after 1986. However, until there is some legislative action, DWR expects to continue to receive Tideland Oil revenues as in the past.

Through 1984, about \$3.5 billion had been expended by DWR for SWP facilities, of which \$3.2 billion had been disbursed for construction expenditures and \$0.3 billion for other capital requirements. The financial analysis shown in Table 19 excludes the costs and financing of facilities to develop the remaining 2+ million acre-feet of yield to meet the total contractual commitment to all long-term SWP water contractors.

However, the following major SWP facilities planned for completion by 1991 are included in the financial analysis:

- o North Bay Aqueduct - Phase II;
- o Suisun Marsh Facilities (first stage of final facilities);

- o final four units at Banks Delta Pumping Plant;
- o small hydroelectric and Off-Aqueduct power generation facilities sufficient to secure an economical and reliable power supply to meet SWP energy needs.

The financial analysis demonstrates that projected contractor payments and other revenues will be adequate to pay annual OMP&R costs and to meet all repayment obligations on funds used to finance SWP construction and other authorized costs. The current analysis indicates that future capital requirements through 1995 for power and water facilities and the Davis-Grunsky Act Program, along with special requirements for revenue bond financing, will be \$446 million in escalated dollars, expended in the years indicated.

The current SWP financial analysis is shown in Table 19 in two parts. Actual and projected capital expenditures and sources of financing are shown on the left hand page. The right hand page shows actual and anticipated revenues and their application to pay SWP operating expenses and principal and interest on bonds, and provide a limited amount of construction funding. The financial analysis excludes costs of associated works that, although essential for realizing full SWP benefits, are financed and constructed by local interests or State agencies other than DWR. These works include onshore recreation developments at SWP facilities and local distribution facilities. DWR currently estimates that the 30 long-term contractors ultimately will spend more than \$2 billion for local distribution facilities, of which about half has been spent to date.

Capital expenditures for the SWP also include requirements other than those for construction, such as disbursements

TABLE 19: SWP FINANCIAL

(In 1,000 Dollars)^a

PART I

Line No.	Line Item	Calendar Year												Total 1985-1995	Total 1952-1995
		1952-1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995		
	CAPITAL REQUIREMENTS														
1.	Initial Project Facilities	2,202,316	0	0	0	0	0	0	0	0	0	0	0	0	2,202,316
2.	Phase II of the North Bay Aqueduct	12,286	19,018	32,791	24,631	893	41	0	0	0	0	0	0	77,374	89,660
3.	Delta and Suisun Marsh Facilities	75,292	5,089	6,531	13,238	5,758	2,320	2,466	89	0	0	0	0	35,491	110,783
4.	Final 4 Units at Banks Delta Pumping Plant	1,201	359	1,057	7,448	13,031	16,230	10,951	37	0	0	0	0	49,113	50,314
5.	San Luis Canal Enlargement	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6.	Final 3 Units at A. D. Edmonston Pumping Plant	22,979	6,850	13	0	0	0	0	0	0	0	0	0	6,863	29,842
7.	Units on Coastal Branch and South of A. D. Edmonston	28,716	0	0	0	0	0	0	0	0	0	0	0	0	28,716
8.	Warne Powerplant and Peace Valley Pipeline	120,499	3,751	806	3,820	2,722	0	0	0	0	0	0	0	11,099	131,598
9.	Enlargement of the East Branch of the California Aqueduct	160	11,041	20,312	8,832	0	0	0	0	0	0	0	0	40,185	40,345
10.	Additional Conservation Facilities	31,164	6,623	4,202	4,657	4,304	3,263	2,770	1,753	1,858	1,969	2,087	2,213	35,699	66,863
11.	Small Hydroelectric Power Generating Facilities	53,021	11,523	7,453	1,547	24	0	0	0	0	0	0	0	20,547	73,568
12.	Power Generation and Transmission Facilities	355,473	58,824	4,214	14,484	13,586	4,018	0	0	0	0	0	0	95,126	450,599
13.	San Joaquin Drainage Facilities	14,122	5,610	3,945	3,893	2,226	344	365	387	410	435	461	489	18,565	32,687
14.	Other Costs	173,216	17,248	4,821	2,793	940	955	889	883	575	570	600	630	30,904	204,120
15.	TOTAL PROJECT CONSTRUCTION EXPENDITURES	3,090,445	145,936	86,145	85,343	43,484	27,171	17,441	3,149	2,843	2,974	3,148	3,332	420,966	3,511,411
16.	Davis-Grunsky Act Program Costs	115,144	2,300	4,200	4,200	4,156	0	0	0	0	0	0	0	14,856	130,000
17.	Special Capital Requirements Under Revenue Bond Financing	246,715	0	0	10,240	0	0	0	0	0	0	0	0	10,240	256,955
18.	TOTAL CAPITAL REQUIREMENTS	3,452,304	148,236	90,345	99,783	47,640	27,171	17,441	3,149	2,843	2,974	3,148	3,332	446,062	3,898,366
19.	Power Facilities Capital Requirements	1,051,610	74,098	12,473	19,851	16,332	4,018	0	0	0	0	0	0	126,772	1,178,382
20.	Water Facilities Capital Requirements	2,400,694	74,138	77,872	79,932	31,308	23,153	17,441	3,149	2,843	2,974	3,148	3,332	319,290	2,719,984
	FINANCING OF CAPITAL REQUIREMENTS														
	POWER REVENUE BOND PROCEEDS														
21.	Power Bonds through Reid Gardner Series B	679,898	0	0	0	0	0	0	0	0	0	0	0	0	679,898
22.	Reid Gardner Series C	125,000	0	0	0	0	0	0	0	0	0	0	0	0	125,000
23.	Small Hydro - South Geysers Series D	64,909	10,091	0	0	0	0	0	0	0	0	0	0	10,091	75,000
24.	Bottle Rock Series E	123,048	1,952	0	0	0	0	0	0	0	0	0	0	1,952	125,000
25.	Alamo - South Geysers Series F	58,755	16,245	0	0	0	0	0	0	0	0	0	0	16,245	75,000
26.	Assumed Future Power Revenue Bonds	0	0	0	56,372	13,610	4,018	0	0	0	0	0	0	74,000	74,000
27.	SUBTOTAL POWER REVENUE BONDS	1,051,610	28,288	0	56,372	13,610	4,018	0	0	0	0	0	0	102,288	1,153,898
	OTHER CAPITAL FINANCING														
28.	Initial Project Facilities and Additional Conservation Facilities Bond Proceeds	1,452,261	0	0	0	0	0	0	0	0	0	0	0	0	1,452,261
29.	APPLICATION OF PROCEEDS FROM SALE OF WATER BONDS, DAVIS-GRUNSKY ACT PROGRAM	115,144	2,300	4,200	4,200	4,156	0	0	0	0	0	0	0	14,856	130,000
30.	APPLICATION OF CALIFORNIA WATER FUND MONIES (TIDELAND OIL REVENUES)	461,376	33,949	25,000	3,893	2,226	344	365	387	410	435	461	489	67,959	529,335
31.	APPLICATION OF MISCELLANEOUS RECEIPTS TO CONSTRUCTION	371,913	83,699	16,057	8,882	6,104	5,202	5,000	2,762	2,433	2,539	2,687	2,843	138,208	510,121
32.	Revenue Transfers Applied	0	0	23,458	25,566	21,544	17,607	12,076	0	0	0	0	0	100,251	100,251
33.	APPLICATION OF PROCEEDS FROM SALE OF SUPPLEMENTAL WATER REVENUE BONDS AND OTHER SOURCES	0	0	21,630	870	0	0	0	0	0	0	0	0	22,500	22,500
34.	SUBTOTAL OTHER CAPITAL FINANCING	2,400,694	119,948	90,345	43,411	34,030	23,153	17,441	3,149	2,843	2,974	3,148	3,332	343,774	2,744,468
35.	TOTAL FINANCING OF CAPITAL REQUIREMENTS	3,452,304	148,236	90,345	99,783	47,640	27,171	17,441	3,149	2,843	2,974	3,148	3,332	446,062	3,898,366

a) Amounts shown in future years have been escalated to account for anticipated inflation.

ANALYSIS, JUNE 30, 1985

(In 1,000 Dollars)^(a)

PART II

Line No.	Line Item	Calendar Year												Total 1985-1995	Total 1952-1995
		1952-1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995		
	PROJECT REVENUES														
36.	Miscellaneous Receipts	607,269	23,106	7,858	8,472	6,083	5,201	5,000	5,112	5,363	5,651	5,955	6,274	84,075	691,344
	WATER CONTRACTOR PAYMENTS														
37.	Transportation Capital	1,128,819	88,896	88,237	95,065	96,901	97,657	98,347	98,579	98,592	98,593	98,593	98,593	1,058,053	2,186,872
38.	Transportation Minimum	539,658	200,910	189,314	225,020	225,606	231,965	233,799	234,451	232,728	231,855	233,471	229,068	2,468,187	3,007,845
39.	Transportation Variable	302,385	76,987	73,013	77,583	78,307	71,511	90,583	112,447	113,481	124,323	123,708	141,503	1,083,446	1,385,831
40.	Delta Water Charge	309,616	43,235	49,872	52,954	55,866	59,858	62,129	62,868	62,990	63,114	63,224	63,360	639,470	949,086
41.	Adjustment for Bond Service	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42.	SUBTOTAL WATER CONTRACTOR PAYMENTS UNDER LONG-TERM WATER SUPPLY CONTRACTS	2,280,478	410,028	400,436	450,622	456,680	460,991	484,858	508,345	507,791	517,885	518,996	532,524	5,249,156	7,529,634
43.	Off-Aqueduct Cover Adjustment	0	-2,976	-9,588	-13,454	-13,449	-14,796	-14,800	-14,809	-14,809	-14,815	-14,811	-14,811	-143,118	-143,118
	OTHER REVENUES														
44.	Federal Payments for Project Operating Costs	39,226	5,465	5,363	5,688	5,774	5,774	5,776	7,241	8,071	8,277	7,674	11,408	76,511	115,737
45.	Appropriations for Operating Costs Allocated to Recreation	16,657	0	13,200	4,300	4,300	4,300	4,300	4,300	4,300	4,300	4,300	4,300	51,900	68,557
46.	Local Agency Payments Under Davis-Grunsky Loan Repayment Contracts	10,046	1,902	1,962	1,984	1,960	2,012	1,977	1,970	1,970	1,970	1,970	1,970	21,647	31,693
47.	Miscellaneous Revenues	446,039	16,758	10,000	18,750	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	125,508	571,547
48.	Payments Under Oroville-Thermalito Power Sale Contract	249,279	0	0	0	0	0	0	0	0	0	0	0	0	249,279
49.	SUBTOTAL OTHER REVENUES	761,247	24,125	30,525	30,722	22,034	22,086	22,053	23,511	24,341	24,547	23,944	27,678	275,566	1,036,813
50.	TOTAL OPERATING REVENUES	3,041,725	431,177	421,373	467,890	465,265	468,281	492,111	517,047	517,323	527,617	528,129	545,391	5,381,604	8,423,329
51.	TOTAL OPERATING REVENUES AND MISCELLANEOUS RECEIPTS	3,648,994	454,283	429,231	476,362	471,348	473,482	497,111	522,159	522,686	533,268	534,084	551,665	5,465,679	9,114,673
	PROJECT EXPENSES														
52.	Project Operation, Maintenance, and Power Costs	993,424	218,566	220,569	235,644	234,654	232,678	251,295	276,534	273,854	285,684	285,181	300,469	2,815,128	3,808,552
53.	Deposits to Replacement Reserves	61,251	9,526	9,417	10,358	10,781	11,167	11,041	13,065	13,985	14,874	14,848	18,922	137,984	199,235
54.	Deposits to Special Reserves Under Revenue Bond Financing	275,363	-51,763	-2,708	12,521	1,355	-2,050	-2,044	2,343	2,930	3,106	3,265	3,425	-29,620	245,743
	PAYMENTS OF DEBT SERVICE														
55.	Principal Repayment on Bonds Sold Through June 30, 1985	222,151	36,150	33,200	35,675	38,280	40,380	42,455	44,295	46,205	48,880	51,600	53,965	471,085	693,236
56.	Interest on Bonds Sold Through June 30, 1985	1,614,955	137,265	141,494	139,640	137,679	135,608	133,442	131,136	128,715	126,191	123,509	120,655	1,455,334	3,070,289
57.	Future Power Bond Principal Repayment	0	0	0	105	510	555	605	660	720	780	795	930	5,660	5,660
58.	Future Power Bond Interest Payments	0	0	0	6,650	6,650	6,604	6,555	6,500	6,441	6,376	6,306	6,229	58,311	58,311
59.	Future Water Bond Principal Repayment	0	0	0	280	305	330	360	390	420	455	495	540	3,575	3,575
60.	Future Water Bond Interest Payments	0	0	521	1,041	1,017	992	963	933	900	864	825	783	8,839	8,839
61.	TOTAL PRINCIPAL	222,151	36,150	33,200	36,060	39,095	41,265	43,420	45,345	47,345	50,115	52,890	55,435	480,320	702,471
62.	TOTAL INTEREST	1,614,955	137,265	142,015	147,331	145,346	143,204	140,960	138,569	136,056	133,431	130,640	127,667	1,522,484	3,137,439
63.	SUBTOTAL DEBT SERVICE	1,837,106	173,415	175,215	183,391	184,441	184,469	184,380	183,914	183,401	183,546	183,530	183,102	2,002,804	3,839,910
64.	California Water Fund Appropriation to Non-SWP Purposes	70,000	0	0	0	0	0	0	0	0	0	0	0	0	70,000
65.	TOTAL OPERATING EXPENSES AND DEBT SERVICE	3,237,144	349,744	402,493	441,914	431,231	426,264	444,672	475,856	474,170	487,210	486,824	505,918	4,926,296	8,163,440
66.	Deposits to Operating Reserves Added	39,937	8,063	0	0	0	0	0	0	0	0	0	0	8,063	48,000
67.	California Water Fund Repayment Required for Current Construction	0	0	10,681	25,566	21,544	17,607	12,076	0	0	0	0	0	87,474	87,474
68.	California Water Fund Repayment Available for Future Construction	0	12,777	0	0	12,469	24,409	35,363	43,541	46,083	43,519	44,573	42,904	305,638	305,638
69.	Miscellaneous Receipts Used for Construction	371,913	83,699	16,057	8,882	6,104	5,202	5,000	2,762	2,433	2,539	2,687	2,843	138,208	510,121
70.	TOTAL PROJECT EXPENSES	3,648,994	454,283	429,231	476,362	471,348	473,482	497,111	522,159	522,686	533,268	534,084	551,665	5,465,679	9,114,673

under the Davis-Grunsky Act Program (Line 16), and special capital requirements under revenue bond financing (Line 17).

The financial analysis assumes that, pursuant to Sections 12937 and 12938 of the Water Code, available contractor revenues (after payment of operating costs and debt service) will be transferred to the California Water Fund. This analysis indicates that all funds available at least through 1987 will be required for SWP construction and should be transferred and expended for that purpose. After 1987, a portion of the funds available will be needed each year for SWP construction.

Future conditions will require changes in the financial analysis. For this reason, basic assumptions are reviewed and the financial analysis is updated annually. Notable contingencies that could change the financial analysis are:

- o deviation from the assumptions regarding SWP power resources;
- o deviation of actual rates of future construction-price escalation from those currently assumed for cost estimates;
- o rescheduling of currently planned construction for future facilities;
- o development of alternative sources of water not foreseen at this time;
- o completion of Phase II of the Coastal Branch to serve San Luis Obispo County FC&WCD and Santa Barbara County FC&WCD;
- o construction of Buttes Reservoir for Antelope Valley-East Kern Water Agency;
- o enlargement of the San Luis Canal or the East Branch of the California Aqueduct;
- o changes in SWP contractors' entitlements due to changes in water needs, water conservation, or reclamation.
- o inability of DWR to market sufficient revenue bonds;
- o changes in economic conditions including interest rates;
- o adverse impacts on water contractors, resulting from water shortages due to insufficient supplies (see Chapter V);
- o adverse impacts on the abilities of SWP contractors to pay SWP costs;
- o the outcome of certain lawsuits now pending before the courts (see Chapter III);
- o adverse rulings by regulatory agencies.

Capital Requirements

Table 20 shows actual and projected SWP construction expenditures, together with a preliminary allocation of such expenditures among SWP purposes. Estimates of future capital expenditures include allowances for escalation of construction costs at 3 percent per year for 1985 and 1986 and at 6 percent per year thereafter; land acquisition costs and State salaries are assumed to escalate at 6 percent per year. A generalized construction schedule for current and future contracts is shown in Figure 16.

The following sections describe DWR's current assumptions concerning the costs of each facility of the future construction program through 1995, as shown in Table 19. Decisions to commence construction on facilities not yet underway will be made only after an examination of alternatives and on completion of final EIRs and other review processes.

TABLE 20: SWP CAPITAL EXPENDITURES

(in thousands of dollars)

Facilities and Construction Divisions	Expenditures Incurred Through 1984	Future Expenditures	Total	Preliminary Allocation Among Project Purposes			
				Water Supply and Power Generation	Flood Control ^(a)	Recreation and Fish and Wildlife Enhancement	Other ^(b)
PROJECT CONSTRUCTION EXPENDITURES							
Upper Feather Division	15,678	154	15,832	1,154	0	14,678	0
Oroville Division	540,434	30	540,464	451,882	69,994	18,588	0
North Bay Aqueduct	15,388	77,374 ^(c)	92,762	92,762	0	0	0
Delta Facilities	95,478	35,491	130,969	113,864	0	17,105	0
South Bay Aqueduct	72,779	571	73,350	51,950	7,430	13,946	24
California Aqueduct							
North San Joaquin Division	173,860	52,144	226,004	217,853	0	8,151	0
San Luis Division	200,921	2,577	203,498	193,283	0	10,006	209
South San Joaquin Division	270,790	11,556	282,346	266,501	0	15,845	0
Tehachapi Division	308,356	4,039	312,395	294,960	0	17,435	0
Mojave Division	228,189	44,896 ^(d)	273,085	257,721	0	15,364	0
Santa Ana Division	192,515	476	192,991	172,170	0	20,821	0
West Branch	503,027	14,444	517,471	484,678	0	32,287	506
Coastal Branch	16,608	745	17,353	17,250	0	0	103
Subtotal, California Aqueduct	1,894,266	130,877	2,025,143	1,904,416	0	119,909	818
Small Hydroelectric Power Generating Facilities	53,021	20,547	73,568	70,057	0	3,511	0
Off-Aqueduct Power Generating Facilities	355,473	84,226	439,699	439,699	0	0	0
San Joaquin Drainage Facilities	14,122	18,565	32,687	0	0	0	32,687
Planning and Preoperations ^(e)	31,164	35,699	66,863	66,863	0	0	0
Unassigned	2,642	17,432	20,074	0	0	0	20,074
SUBTOTAL, PROJECT CONSTRUCTION EXPENDITURES	3,090,445	420,966	3,511,411	3,192,647	77,424	187,737	53,603
OTHER CAPITAL REQUIREMENTS							
Davis-Grunsky Act Program	115,144	14,856	130,000	0	0	0	130,000
TOTAL CAPITAL EXPENDITURES	3,205,589	435,822	3,641,411	3,192,647	77,424	187,737	183,603

a) Reflects DWR's allocation to this purpose, irrespective of federal payments.

b) Includes costs currently unassigned to purpose, planning costs of deleted features of Project facilities, initial costs of inventoried items, joint costs assigned to the Federal Government, and cost assigned to the Davis-Grunsky Act Program.

c) Includes added Phase II costs to provide capacity for the City of Vallejo and excess capacity to meet possible peak summer demands.

d) Includes costs of improvements on the East Branch of the California Aqueduct and costs of preliminary design for enlargement of the East Branch.

e) Includes planning and preoperation expenses allocated to conservation facilities.

Line 1: Initial Project Facilities

Facilities included in the initial construction program are those completed before 1974 (see Bulletin 132-74, Chapter II). Additional costs after 1973 and estimated costs of remaining work on the initial SWP facilities are not included in this line.

existing Phase I facilities, will consist of pipelines, pumping plants, and a small reservoir necessary to divert water from the western Delta to Napa and Solano Counties for urban use. Costs incurred prior to 1974 are included in the history column (in Bulletin 132-84 these costs were in Line 1).

Line 2: Phase II of the North Bay Aqueduct

Phase II of the North Bay Aqueduct, which will connect at Cordelia with

Included in the future costs are added costs for increased capacity for the City of Vallejo and to provide excess capacity to meet possible future peak

FIGURE 16: GENERALIZED CONSTRUCTION SCHEDULE

FACILITY, CONSTRUCTION DIVISION OR FEATURE	CALENDAR YEAR										
	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
BOTTLE ROCK POWERPLANT											
SOUTH GEYSERS POWERPLANT											
OROVILLE DIVISION											
THERMALITO DIVERSION DAM POWERPLANT											
SUISUN MARSH											
NORTH BAY AQUEDUCT (PHASE II), BARKER SLOUGH THROUGH CORDELIA SURGE TANK											
NORTH SAN JOAQUIN DIVISION HARVEY O. BANKS DELTA PUMPING PLANT UNITS 8, 9, 10, & 11											
TEHACHAPI DIVISION A. D. EDMONSTON PUMPING PLANT, UNITS 10, 12, & 14 (FINAL)											
MOJAVE DIVISION ALAMO POWERPLANT											
SAN JOAQUIN DRAINAGE FACILITIES LOS BANOS DEMONSTRATION DESALTING FACILITY											

summer demands. A portion of these additional costs will be funded by advance payments from the Solano County Flood Control and Water Conservation District. These advance payments are included in Line 36.

Line 3: Delta and Suisun Marsh Facilities

The history column (1952-1984) of Line 3 includes costs for general Delta facilities and planning costs associated with the previously-planned Peripheral Canal and overland water delivery facilities for the western Delta. Included for Suisun Marsh are historic planning costs as well as construction costs through 1984.

The columns for 1985-1995 show Delta facilities planning costs and costs for construction of Suisun Marsh facilities. The construction costs are for

only a portion of the final Suisun Marsh facilities: the Montezuma Slough Control Structure and an access road. Present plans are to evaluate the effectiveness of the Control Structure before proceeding with any additional facilities at Suisun Marsh.

Line 4: Final Four Units at Banks Delta Pumping Plant

The first two of the final four 1,067-cfs units are scheduled to be operational in 1989 and the last two in 1990.

Line 5: San Luis Canal Enlargement

About 102 miles of the California Aqueduct between O'Neill Forebay and Kettleman City were constructed with a smaller capacity than needed to met the criteria for SWP deliveries. It was contemplated that this section (the San

Luis Canal) would be enlarged at some future time when SWP and CVP demands approached maximum levels. As explained in Chapter V, a 1984 study indicated that enlargement would not be needed to meet the delivery patterns shown in current contractor requests. Consequently, no further efforts are being made toward enlargement at this time and no costs are shown in Line 5.

Line 6: Final Three Units at
A.D. Edmonston Pumping Plant

These three 315-cfs units became operational in December 1984. Final testing is scheduled for the fall of 1985.

Line 7: Units on Coastal Branch and
South of Edmonston

This line shows expenditures for completion of staged facilities on the California Aqueduct south of Edmonston Pumping Plant and for purchase of pumping units at Las Perillas and Badger Hill Pumping Plants on the Coastal Branch. Construction of the second stage of the Castaic Dam Outlet Works, formerly scheduled to begin in 1987, has been postponed until additional capacity on the West Branch is necessary. The Berrenda Mesa Water District installed three pumps at each of the Coastal Branch pumping plants at its own expense in 1971; DWR has purchased two pumps at each plant at depreciated value. The final units will be purchased when Phase II of the Coastal Branch is constructed, but no costs are included in Line 7 because of the uncertainty regarding the timing of construction.

Line 8: Warne Powerplant and Peace
Valley Pipeline

This line shows capital expenditures for construction of Quail Lake, the Lower Quail Canal, and the first stages of the Peace Valley Pipeline and William E. Warne Powerplant. This line includes the cost of repairs to the Quail Canal at the site of the January 1984 break

(see Chapter IV) and future costs of Gorman Creek channel modifications. The second of two 37.5-MW generating units at Warne Powerplant went into operation in February 1983 and construction of the second unit was completed in 1984. Warne Powerplant is designed to allow future installation of two additional 37.5-MW generating units, but that expansion is not presently scheduled.

Line 9: Enlargement of the East
Branch of the California Aqueduct

The costs shown in Line 9 are for improvements on the East Branch and for preliminary design work for the enlargement of the East Branch through 1987. The financial analysis assumes that repayment of the improvement costs is borne by MWDSC pending an allocation of costs between improvement and enlargement. No other costs for East Branch enlargement are shown, since project sizing, the construction schedule, and a financing plan are currently under review.

Line 10: Additional Conservation
Facilities

The costs shown in Line 10 are for planning of additional conservation facilities. No costs are shown in the financial analysis for construction of additional conservation facilities. In Bulletin 132-84, this line showed only costs of planning studies for the Middle Fork Eel River Development, conducted between 1964 and 1975; planning costs for other additional conservation facilities were included in Line 14 of Bulletin 132-84.

Line 11: Small Hydroelectric Power
Generating Facilities

Future expenditures included in Line 11 are for completion of Alamo and Thermalito Diversion Dam Powerplants. Total estimated capital costs are \$47.7 million for Alamo Powerplant and \$11.8 million for Thermalito Diversion Dam Powerplant.

Line 12: Power Generation and
Transmission Facilities

Total estimated capital costs for
facilities included in Line 12 are:

<u>Powerplants</u>	<u>Cost (millions)</u>
Reid Gardner	\$239.5
Bottle Rock	\$101.2
South Geysers	\$ 91.3

Transmission Lines

Geysers-Lakeville	\$ 6.5
Midway-Wheeler Ridge	\$ 10.9

Line 13: San Joaquin Drainage
Facilities

Included are the costs of (1) securing commitments for repayment from local agencies, (2) assuring that local waste disposal plans are compatible with the recommended plan of the Interagency Drainage Program, (3) monitoring and reporting the quality and quantity of agricultural waste waters in the San Joaquin Valley, and (4) the Los Banos Demonstration Desalting Facility (see Chapter III). Desalting Facility operation and maintenance costs are shown through mid-1988. These costs are financed by the California Water Fund. Costs beyond 1988 in Line 13 are for only the waste water monitoring program. No costs shown in this line are charged to SWP water contractors.

Line 14: Other Costs

These expenditures cover such items as general design and construction costs, Delta water quality monitoring, completion of operation and maintenance facilities, and other completion activities for the initial facilities of the California Aqueduct. Portions of these costs will ultimately be allocated to Aqueduct units described in the preceding paragraphs.

Line 14 includes expenditures that cover completion of monitoring and control systems and other completion activities for SWP facilities other than the California Aqueduct. This line also includes past planning costs for Abbey Bridge and Dixie Refuge Dams and Reservoirs in the Upper Feather River area. However, DWR continues to assume that these facilities will be postponed until there is local support and demonstrated need for them.

Line 15: Total Project Construction
Expenditures

This line is the total of Lines 1
through 14.

Line 16: Davis-Grunsky Act Program
Costs

This financial assistance program for water developments constructed by local public agencies is discussed in more detail in Chapter III. As of December 31, 1984, DWR had disbursed \$115.1 million (including \$8.0 million for administration) in grants and loans for 114 local agencies throughout the State. DWR estimates that funds presently authorized for the program will be disbursed prior to 1990.

Line 17: Special Capital Require-
ments Under Revenue Bond Financing

This line shows the special capital requirements at the time revenue bonds are sold, to pay for specific costs in the first few years following bond sale. The financial analysis assumes that proceeds from future power facility revenue bonds will pay bond interest through one year following the bond sale and pay operation and maintenance costs for the first year of operation. Special capital requirements for future revenue bonds for facilities other than power generating facilities (hereafter termed water revenue bonds) are not included, since the current assumption is that

water contractors would begin paying immediately for bond debt service. (This assumption has been made to limit financing costs.) Special capital requirements are also included in Line 47 as a Miscellaneous Revenue. Application of proceeds to these special requirements for actual and assumed revenue bond sales is shown in Table 21.

Line 18: Total Capital Requirements

This line is the total of Lines 15, 16, and 17.

Line 19: Power Facilities Capital Requirements

This line is the total of capital requirements for power facilities contained in Lines 1-14, and that part of Line 17 associated with power revenue bonds.

Line 20: Water Facilities Capital Requirements

This line is the total of capital requirements for water facilities contained in Lines 1-14.

Financing of Capital Requirements

Three general types of financing have been used for the SWP:

- o Burns-Porter Financing, derived from the sale of California Water Resources Development Bonds (general obligation bonds) and the State's Tideland Oil revenues deposited in the California Water Fund as authorized by the Burns-Porter Act (California Water Code Sections 12930-12944), approved by the electorate in November 1960.

TABLE 21: APPLICATION OF REVENUE BOND PROCEEDS

(in millions)

Application of Revenue Bond Proceeds	Oroville (Actual)	Devil Canyon-Castaic (Actual)	Pyramid Series A (Actual)	Reid Gardner Series B (Actual)	Reid Gardner Series C (Actual)	Small Hydro-South Geysers Series D (Actual)	Bottle Rock Series E (Actual)	Alamo-South Geysers Series F (Actual)	Supplemental Power (Assumed)
Construction Expenditures	\$218.0	\$126.4	\$74.0	\$146.1	\$ 91.1	\$49.6	\$96.9	\$59.1	\$63.8
Plus, Other Capital Requirements:									
Reimbursement of General Fund	\$ 2.6	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0
Bond interest through one year following completion of construction	\$ 19.9	\$ 10.0	\$19.2	\$ 41.9	\$ 17.9	\$19.9	\$22.0	\$14.2	\$ 4.4
Operating costs for one year following completion of construction	\$ 1.5	\$ 0.7	\$ 1.0	\$ 0.0	\$ 7.9	\$ 0.0	\$ 3.7	\$ 0.0	\$ 4.3
Bond discount and financing costs	\$ 3.0	\$ 2.1	\$ 1.6	\$ 12.0	\$ 8.1	\$ 5.5	\$ 2.4	\$ 1.7	\$ 1.5
Subtotal	\$ 27.0	\$ 12.8	\$21.8	\$ 53.9	\$ 33.9	\$25.4	\$28.1	\$15.9	\$10.2
TOTAL, Principal amount of bonds	\$245.0	\$139.2	\$95.8	\$200.0	\$125.0	\$75.0	\$125.0	\$75.0	\$74.0

- o Revenue Bond Financing, derived from the sale of revenue bonds as authorized by the Central Valley Project Act (California Water Code Sections 11100-11925). DWR's authority to issue revenue bonds was confirmed by a decision of the California Supreme Court in 1963 (Warne v. Harkness, 60 Cal. 2d 579).
- o Miscellaneous Receipts, derived from payments and appropriations (including a portion of Tideland Oil revenues) as authorized by a variety of special contracts, cost-sharing agreements, and legislative actions concerning the SWP, plus accrued interest on these funds.

To date, general obligation bonds have financed the largest segment of the SWP construction. The Burns-Porter Act authorized an issue of \$1.75 billion of general obligation bonds of the State, which are repaid by revenues received under the water supply contracts. This bond issue authorization includes a reservation of \$130 million specifically for the Davis-Grunsky Act Program. Proceeds from the sale of general obligation bonds are deposited in the California Water Resources Development Bond Fund--Bond Proceeds Account, from which monies may be expended only for the construction of SWP facilities and for the Davis Grunsky Act Program.

Monies deposited in the California Water Fund are appropriated for purposes of the Burns-Porter Act. Such deposits are derived from a portion of the State's Tideland Oil revenues under a continuing authorization. In the past, the Legislature has acted both to decrease and increase the level of deposits to the Fund.

As of June 30, 1985, DWR had sold \$1.3 billion of revenue bonds, including \$239 million of Reid Gardner Project Series G Revenue Bonds sold March 13, 1985 at an effective interest rate of 9.5 percent. The Series G bonds will

refund the Reid Gardner Project Series B Revenue Bonds issued in July 1982 at an effective interest rate of 12.8 percent. The net savings in interest cost to the SWP over the life of the bonds will be \$36.5 million.

Additional issues of revenue bonds are planned to fund future SWP construction. Proceeds from the sale of revenue bonds are deposited in the Central Valley Water Project Construction Fund, from which money is expended only for purposes specified in the resolution authorizing each bond sale. These purposes, in addition to construction, planning, and right of way costs, may include the payment of (1) bond interest during the construction period, and for one year following completion of construction, and (2) operation and maintenance costs for one year after completion of construction.

Miscellaneous receipts are deposited in the Central Valley Water Project Construction Fund and may be expended for (1) general obligation bond interest, and (2) construction of SWP facilities. Under DWR's financial management, miscellaneous receipts are first used to the extent needed for coverage of any general obligation bond debt service that exceeds revenues collected under the Burns-Porter Act for this purpose (second priority revenues).

The financing of capital expenditures is described in Lines 21 through 35.

Line 21: Power Bonds Through Reid Gardner Series B

This line shows the proceeds from power revenue bonds for Oroville, Devil Canyon-Castaic, and Warne (formerly Pyramid) Powerplants, and a portion of the Reid Gardner Project.

All proceeds from the sale of Oroville Power Revenue Bonds in April 1968 (Series A) and in April 1969 (Series B) had been applied as of December 31, 1973.

Construction funds provided by the sale of Devil Canyon-Castaic Power Revenue Bonds, in August 1972, included (1) \$98.9 million that reimbursed other SWP funds used to finance construction of the Devil Canyon and Castaic facilities prior to the delivery of the bonds, and (2) \$27.5 million reserved to complete construction of the facilities. Of this amount, \$2.5 million was transferred to the trustee during 1981 as required by the bond resolution.

Power revenue bonds were sold in October 1979 for construction of the portion of the Warne Powerplant and related facilities allocated to power. The construction proceeds provided (1) \$31.6 million that reimbursed other SWP funds used to finance construction of these facilities prior to delivery of the bonds, and (2) \$42.4 million reserved to complete construction. The remaining proceeds are used for other requirements as shown in Line 17.

For the Reid Gardner Project, DWR sold Series B power revenue bonds for \$200 million on July 7, 1982. Approximately \$143 million was set aside from the proceeds to repay the \$150 million bond anticipation notes sold on June 30, 1981. About \$22 million provided reimbursement of other SWP funds used to finance construction of these facilities prior to delivery of the bonds, and the remaining proceeds were used for other requirements as shown in Line 17.

Line 22: Reid Gardner Series C

DWR sold additional power revenue bonds of \$125 million for the Reid Gardner Project on November 16, 1982 as Series C. About \$47.1 million provided reimbursement of other SWP funds used to finance construction of these facilities prior to delivery of the bonds, and about \$44 million remained to complete construction of the facilities. The remaining proceeds are used for other requirements as shown in Line 17.

Line 23: Small Hydro - South Geysers Series D

On November 16, 1982, DWR sold \$75 million of power revenue bonds to fund the initial costs of Small Hydroelectric Project I and the South Geysers Geothermal Project. The bond proceeds provided (1) \$10.6 million for reimbursement to the State for construction prior to delivery of the Series D bonds, and (2) \$39.0 million for deposit to the Central Valley Water Project Construction Fund for a portion of the remaining construction cost of these facilities. The remaining proceeds are used for other requirements as shown in Line 17.

Line 24: Bottle Rock Series E

DWR sold \$125 million of power revenue bonds on April 27, 1983 for construction of Bottle Rock Powerplant. Approximately \$76.9 million was set aside to repay the Bottle Rock Bond Anticipation Notes sold on December 1, 1981 (redeemed December 1, 1983). About \$20.0 million was for completion of this facility, and the remaining proceeds were used for other requirements as shown in Line 17.

Line 25: Alamo - South Geysers Series F

On April 27, 1983, DWR sold \$75 million of power revenue bonds for a portion of the construction cost of the Alamo Hydroelectric Project and South Geysers Geothermal Powerplant. Approximately \$25.6 million was set aside to repay the Alamo Bond Anticipation Notes sold on December 1, 1981 (redeemed December 1, 1983). The bond proceeds provided (1) \$4.5 million for reimbursement of other SWP funds used to finance construction of the Alamo Project prior to delivery of the bonds, and (2) \$29.0 million for construction of these facilities. The remaining proceeds were used for other requirements as shown in Line 17.

Line 26: Assumed Future Power
Revenue Bonds

Future power revenue bonds (those sold after June 30, 1985) are needed to provide \$74 million for construction of power-generating facilities and for special capital requirements under revenue bond financing (interest for one year following bond sale, the first year of operating cost, and discount and finance costs of the bonds). The financial analysis assumes that the additional power revenue bonds will be sold in early 1987 in order to finance completion of Alamo and South Geysers Powerplants. (See schedule for projected future bond sales shown in Table 22.)

Line 27: Subtotal Power Revenue
Bonds

This line is the total of Lines 21-26.

Line 28: Initial Project Facilities
and Additional Conservation Facilities
Bond Proceeds

This line includes financing of initial SWP facilities and planning costs for certain additional conservation facilities. Financing of initial facilities from general obligation bonds was completed in mid-1972, and amounted to \$1.444 billion -- i.e., the total of \$1.75 billion Burns-Porter Act authorization, less \$130 million reserved for the Davis-Grunsky Act Program, and \$176 million "offset" for additional conservation facilities. The Burns-Porter Act provides that to the extent California Water Fund monies are expended, an equal amount of general obligation bonds are reserved ("offset") for financing the construction of additional conservation facilities in certain watersheds.

In mid-1972, the reservation of "offset" bonds was effectively limited to \$176 million -- the total amount of California Water Fund monies that had

been expended up to that time. By mid-1972, all general obligation bond proceeds from the Burns-Porter authorization had been "offset", reserved for the Davis-Grunsky Act Program, or expended for SWP construction.

Approximately \$8.5 million of the "offset" bonds have been used to finance planning studies of the Middle Fork Eel River Development (Line 10). This analysis does not use any "offset" bond proceeds to meet capital requirements. If at some time the State constructs an additional conservation facility as specified in Water Code Section 12938, the remaining "offset" bonds could be sold.

Line 29: Application of Proceeds
From Sale of Water Bonds, Davis-Grunsky
Act Program

For simplification, the entire \$130 million of capital expenditures authorized for the Davis-Grunsky Act Program under the Burns-Porter Act are shown to be funded solely by proceeds from the sale of general obligation bonds. In fact, \$28.0 million from the California Water Fund was used for the program in lieu of bond proceeds prior to 1969. The financial analysis assumes that the remaining \$12.25 million in authorized Davis-Grunsky bonds will be sold in 1986.

Line 30: Application of California
Water Fund Monies (Tideland Oil
Revenues)

The Burns-Porter Act provides that any available money in the California Water Fund shall be used for construction in lieu of proceeds from the sale of general obligation bonds. When the Act became effective in late 1960, approximately \$97 million had been accumulated in the Fund. This balance and continuing annual appropriations to the Fund through June 28, 1968 financed a total of \$176 million of project construction costs.

TABLE 22: PROJECTED BOND SALES

Bond Sale	Purpose	Date of Sale
Series W Water Bonds (\$12,250,000)	Davis-Grunsky Act Program	Second Quarter of 1986
Power Revenue Bonds (\$74,000,000)	Alamo and South Geysers Powerplants	First Quarter of 1987

On June 28, 1968, SB 261 became effective (California Statutes of 1968, Chapter 411), which transferred the remaining balance of the California Water Fund to the Central Valley Water Project Construction Fund and deferred accruals to the California Water Fund until July 1, 1972. Since the latter date, appropriations from Tideland Oil revenues have been deposited in the California Water Fund in annual amounts of \$25 million through Fiscal Year 1980-81 and in the following amounts thereafter:

1981-82: \$27,789,800
 1982-83: \$14,710,000
 1983-84: none
 1984-85: \$25,000,000
 1985-86: \$22,533,000*

*Plus \$2,467,000 for non-SWP purposes

The financial analysis assumes that \$25 million will be appropriated in Fiscal Year 1986-87 and that appropriations of Tidelands Oil revenues after 1986-87 will be made as needed to fund the Los Banos Demonstration Desalting Facility and the San Joaquin drainage monitoring program (see Line 13).

Line 31: Application of Miscellaneous Receipts to Construction

This line shows the application of Miscellaneous Receipts for capital expenditures (see description for Line 36).

Line 32: Revenue Transfers Applied

This line shows the application of SWP revenues for capital expenditures (see

following description of Project Revenues). These are monies that are assumed to be transferred to the California Water Fund pursuant to provisions of the Burns-Porter Act (see description of Project Expenses later in this chapter), and subsequently reappropriated to construction.

Line 33: Application of Proceeds From Sale of Supplemental Water Revenue Bonds or Other Funding Sources

Proceeds shown in this line reflect capital requirements necessary for funding future water facilities (1985-1995). The amounts shown represent that portion of financing of water facilities required beyond the portion funded by project revenues and miscellaneous receipts. It is anticipated that the additional funding requirements shown for 1987 and 1988 can be met without the sale of supplemental water revenue bonds.

Line 34: Subtotal Other Capital Financing

This line is the total of Lines 28-33.

Line 35: Total Financing of Capital Requirements

This line is the total of Lines 27 and 34.

Project Revenues

SWP revenues, consisting primarily of SWP contractor payments, are deposited in two funds: the Central Valley Water Project Revenue Fund, in which are placed all revenues pledged to revenue

bonds, and the California Water Resources Development Bond Fund--Systems Revenue Account, in which all other SWP operating revenues are placed, including interest earnings on any unexpended proceeds from the sale of general obligation bonds. Use of these funds is limited to operating costs and debt service, except that revenues in excess of such costs can be transferred to the California Water Fund.

Line 36: Miscellaneous Receipts

Sources of Miscellaneous Receipts are (1) federal payments for SWP capital expenditures, (2) appropriations for capital costs allocated to recreation and fish and wildlife enhancement, (3) appropriations for SWP capital expenditures prior to the Burns-Porter Act and under SB 261, (4) Los Angeles Department of Water and Power payments for Castaic power development, (5) water contractor advances for construction of requested works, (6) investment earnings on unexpended miscellaneous receipts, and (7) investment earnings on unexpended revenue bond proceeds.

Historically, appropriations for capital costs allocated to recreation and fish and wildlife enhancement have amounted to \$5 million per year, appropriated by the Legislature from Tideland Oil revenues. The financial analysis assumes that such appropriations will continue at \$5 million per year throughout the period from 1985 through 1995.

Line 37-40: Water Contractor Payments

These lines show the separate elements of water contractor payments. The payments identified in Lines 37-40 are described in detail in Appendix B, with supplemental discussion in the following paragraphs. Line 39 also includes revenues sufficient to cover additional operating costs associated with power

generation beyond that actually needed for water delivery. Such revenues are assumed to come from sales of excess power, rather than from water contractors.

OMP&R costs currently are paid under the Transportation Charge and therefore do not include any interest charges. Construction costs under the Transportation Charge and all construction and annual OMP&R costs under the Delta Water Charge are to be repaid with interest at the Project Interest Rate.

The Project Interest Rate is defined in Article 1(r) of the Standard Provisions for Water Supply Contracts as the weighted average of the rates paid on securities issued and loans obtained to finance SWP facilities, excluding Oroville Revenue Bonds. Under original contract provisions, the basis for determining the Project Interest Rate was the weighted average of rates paid on general obligation bonds sales only. Under contract amendments executed in 1969, after issuance of Oroville Revenue Bonds, the basis was expanded to include rates on all other securities sold and loans obtained thereafter for financing SWP facilities, including revenue bonds (see Bulletin 132-70, page 28).

However, not all proceeds from the sale of revenue bonds are melded into the calculation of the Project Interest Rate. Only those proceeds applied to construction costs (the only application of general obligation bonds permitted by law) and those consumed by the bond discount (a component of the total interest cost of a revenue bond issue) are included in the calculation. In addition, proceeds from the sale of power revenue bonds for Off-Aqueduct power facilities are not included in the calculation. Table 23 shows the percentage of total proceeds from revenue bond issues that affect the Project Interest Rate.

**TABLE 23: REVENUE BOND PROCEEDS AFFECTING THE
PROJECT INTEREST RATE**

(in millions)

Revenue Bond Proceeds	Devil Canyon Castaic Revenue Bonds	Pyramid William A. Warne Hydroelectric Revenue Bonds (Series A)	Alamo Hydroelectric Bond Anticipation Note	Small Hydro Project I Revenue Bonds (Series D)	Alamo Hydroelectric Revenue Bonds (Series F)
Applied to construction costs	\$125.3	\$71.2	\$16.8	\$25.4	\$38.9
Less portion of such proceeds derived from interest earnings prior to delivery of bonds	1.5	0.5	0.1	0.2	0.3
Plus bond discount and financing costs	1.4	1.1	0.3	1.5	0.7
Subtotal, proceeds included in calculating the Project Interest Rate	\$125.2	\$71.8	\$17.0	\$26.7	\$39.3
Principal amount of bonds	\$139.2	\$95.8	\$24.4	\$37.5	\$50.0
Percent total principal amount included in calculating the Project Interest Rate	90%	75%	70%	71%	79%

In 1982, a contract amendment was signed by all contractors (except Coachella Valley Water District, which signed the amendment in 1985) that deals in part with cost allocation of Off-Aqueduct power plants. That amendment excludes financing for Off-Aqueduct power facilities (such as Reid Gardner) from the Project Interest Rate calculation. The amendment shifts such costs from the capital component of the Transportation Charge to the minimum OMP&R component.

Table 24 presents information basic to the calculation of the Project Interest Rate. The Project Interest Rate has been revised from the 4.736 percent rate used in Bulletin 132-84 to 4.727 percent. This minor revision was made to include the effect of allocating finance expenses and interest earned during construction among bonds sold for construction, bonds sold for interest payments during construction, and first year operating reserves.

The discussion of contractors' water charges in Appendix B is based on presently known conditions and supports

DWR's determination of 1986 water charges, which were billed July 1, 1985. However, the following are significant differences between the sum of future charges shown in Line 42 and the substantiation of 1986 charges discussed in Appendix B:

- o Future capital costs discussed in Appendix B are based on prices prevailing on December 31, 1984. Those shown in the financial analysis include allowances for price escalation.
- o Pre-1985 charges discussed in Appendix B represent what the charges should have been under presently known conditions. Pre-1985 charges shown in Table 19 are those actually paid under previously determined bills.
- o Charges discussed in Appendix B are unadjusted for past over- or underpayments. Table 19 charges for 1985 and thereafter include adjustments for any apparent overpayments or underpayments of pre-1985 charges.

TABLE 24: ACTUAL BOND SALES AND PROJECT INTEREST RATES

Bond Sales	Date of Sale	Dollar-Years ^(a) (in 1,000s)	Interest Cost (\$1,000)	Percent Interest Cost ^(b)	Project Interest Rate (%) ^(c)
	(1)	(2)	(3)	(4)	(5)
Actual Issues					
\$50,000,000 Bond Anticipation Notes	11/21/63	26,944	531	1.970	1.970
\$100,000,000 Series "A" Water Bonds	2/18/64	3,402,000	119,750	3.520	3.508
\$50,000,000 Series "B" Water Bonds	5/5/64	1,726,000	60,986	3.533	3.516
\$100,000,000 Series "C" Water Bonds	10/7/64	3,452,000	123,764	3.585	3.544
\$100,000,000 Series "D" Water Bonds	2/16/65	3,497,900	122,403	3.499	3.531
\$100,000,000 Series "E" Water Bonds	11/23/65	3,497,900	130,029	3.717	3.573
\$100,000,000 Series "F" Water Bonds	6/8/66	3,497,900	137,359	3.927	3.638
\$100,000,000 Series "G" Water Bonds	11/22/66	3,497,900	143,788	4.111	3.711
\$100,000,000 Series "H" Water Bonds	3/21/67	3,497,900	129,261	3.695	3.709
\$100,000,000 Series "J" Water Bonds	7/18/67	3,497,900	143,199	4.094	3.754
\$100,000,000 Series "K" Water Bonds	11/14/67	3,497,900	163,887	4.685	3.853
\$150,000,000 Revenue Bonds, Oroville Division, Series "A"	4/3/68	5,228,700	270,289	5.197	-
\$100,000,000 Series "L" Water Bonds	7/11/68	3,497,900	166,918	4.772	3.941
\$100,000,000 Series "M" Water Bonds	10/22/68	3,497,900	169,989	4.860	4.021
\$94,995,000 Revenue Bonds, Oroville Division, Series "B"	4/1/69	3,423,460	195,902	5.767	-
\$46,761,000 Cumulative 1970 General Fund Borrowing; repaid 7/10/70	-	4,938	346	7.007	4.021
\$200,000,000 Series "N" and "P" Bond Anticipation Notes	6/16/70	200,000	11,660	5.830	4.030
\$100,000,000 Series "N" Water Bonds	2/2/71	3,447,900	190,292	5.519	4.148
\$100,000,000 Series "Q" Bond Anticipation Notes	3/10/71	100,000	2,349	2.350	4.143
\$100,000,000 Series "P" Water Bonds	4/21/71	3,397,900	193,377	5.691	4.255
\$150,000,000 Series "Q" and "R" Water Bonds	11/9/71	5,171,850	265,734	5.138	4.342
\$40,000,000 Series "S" Water Bonds	3/28/72	1,399,160	76,509	5.468	4.371
\$139,165,000 Devil Canyon-Castaic Revenue Bonds ^(d)	8/8/72	4,776,204	258,839	5.419	4.457
\$10,000,000 Series "T" Water Bonds	3/20/73	185,265	9,491	5.122	4.459
\$10,000,000 Series "U" Water Bonds	1/13/76	158,750	8,731	5.50	4.462
\$10,000,000 Series "V" Water Bonds	11/15/77	158,750	7,573	4.769	4.462
\$95,800,000 Pyramid Hydroelectric Revenue Bonds ^(d)	10/23/79	2,260,072	172,495	7.632	4.584
\$150,000,000 Reid-Gardner Project, Series A Bond Anticipation Notes	7/1/81	347,906	29,572	8.500	-
\$75,600,000 Bottle Rock Bond Anticipation Notes	12/1/81	264,600	25,137	9.500	-
\$24,400,000 Alamo Bond Anticipation Notes ^(d)	12/1/81	24,266	2,305	9.500	4.589
\$200,000,000 Reid-Gardner Project, Series B Revenue Bonds	7/7/82	4,623,137	553,793	11.979	-
\$125,000,000 Reid-Gardner Project, Series C Revenue Bonds	11/16/82	2,720,045	255,744	9.402	-
\$37,500,000 Small Hydro Project I, Series D Revenue Bonds ^(d)	11/16/82	837,769	84,587	10.097	4.666
\$37,500,000 South Geysers Project, Series D Revenue Bonds	11/16/82	930,325	90,021	9.676	-
\$125,000,000 Bottle Rock Project, Series E Revenue Bonds	4/27/83	2,624,805 ^(d)	225,102 ^(d)	8.576	-
\$50,000,000 Alamo Project, Series F Revenue Bonds ^(d)	4/27/83	1,190,763 ^(d)	100,836 ^(d)	8.435	4.727
\$25,000,000 South Geysers Project, Series F Revenue Bonds	4/27/83	608,550	52,578	8.640	-
TOTAL (Excluding Oroville CVP Revenue Bonds and Power Revenue Bonds for Off-Aqueduct Facilities)		63,401,631	2,996,988		

a) A unit equivalent to one dollar of principal amount outstanding for one year.

b) The total interest cost (without regard to premiums received) divided by the total dollar-years, expressed as a percent.

c) Determined by dividing cumulative interest costs by cumulative dollar-years, expressed as a percent. Excluding Central Valley Project Revenue Bonds, Oroville Division and Power Revenue Bonds for Off-Aqueduct Facilities, which do not affect the "Project Interest Rate".

d) These revenue bonds and revenue bond anticipation notes were sold at the following net interests costs and the indicated amounts (representing the sum of proceeds used for construction and the bond discount) were used in the calculations of the Project Interest Rate:

Devil Canyon-Castaic Revenue Bonds:	5.446%	\$126,893,000
Pyramid Hydroelectric Revenue Bonds:	7.680%	\$ 75,586,000
Alamo Bond Anticipation Notes:	10.056%	\$ 18,034,000
Small Hydro Project I, Series D Revenue Bonds:	10.275%	\$ 28,012,000
Alamo Project, Series F Revenue Bonds:	8.525%	\$ 40,114,000

The payments shown in Table 19 also include revenue that would be pledged to provide bond cover to support supplemental revenue bonds. The amount of revenue pledged is that portion identifiable with the facilities financed with revenue bonds.

Line 41: Revenue Adjustment for Bond Service

If supplemental water revenue bonds were to be sold in the future, this line would show the additional payments required from the water contractors. It is anticipated that the annual payments would match the annual bond service. Allocation among water contractors would be determined by contract amendments to existing repayment provisions.

Line 42: Subtotal Water Contractor Payments

This line is the total of lines 37-41.

Line 43: Off-Aqueduct Cover Adjustment

This line shows the credit to contractors resulting from the additional cover of 25 percent of one year's debt service for Off-Aqueduct power facility bonds. This amount is charged annually to contractors and collected through the minimum OMP&R component of the Transportation Charge; it is credited back to the contractors in the following year. The amount varies in proportion to the debt service for these facilities.

Line 44: Federal Payments for Project Operating Costs

Under the December 31, 1961 agreement between the State and the United States, DWR operates and maintains the San Luis Joint-Use Facilities. Under the January 12, 1972 supplement to the agreement, the USBR paid 45 percent of OM&R costs for these activities. (The

percentage does not apply to power costs; the USBR and DWR provide their own power to pump their respective amounts of water through the joint facilities.) This percentage was reviewed in 1980 and changed to 44.47 percent through December 31, 1985, subject to review again in 1985. The amounts shown in Line 44 are based on the assumption that the 44.47 percent federal share will continue.

Line 45: Appropriations for Operating Costs Allocated to Recreation

Under the Davis-Dolwig Act, the Legislature declared its intent that, except for funds provided pursuant to AB 12 (1966), DWR's budget shall include appropriations from the General Fund of monies necessary for enhancement of fish and wildlife and for recreation in connection with State water projects. Annual OMP&R costs allocated to recreation and fish and wildlife enhancement are paid by annual General Fund appropriations. For Fiscal Year 1983-84, no funds were appropriated for this purpose. The financial analysis assumes that funds will be appropriated from the General Fund through 1995 to cover all of the OMP&R costs allocated to recreation and fish and wildlife enhancement. The amount shown in Line 45 for 1986 includes appropriations expected to be received for previous unpaid allocations.

Line 46: Local Agency Payments Under Davis-Grunsky Loan Repayment Contracts

As pointed out in Chapter III, over \$46 million of loan funds have been disbursed as of December 31, 1984. Loan repayments received through December 31, 1984 are shown in the history column. The future amounts on line 46 are based on the loans currently outstanding. Repayment on any future loans under the Davis-Grunsky Act Program was assumed to be deferred beyond the period covered by the financial analysis.

Line 47: Miscellaneous Revenues

Miscellaneous revenues include interest earnings on unexpended proceeds from sale of general obligation bonds, interest on operating reserves, and other short-term investment earnings on SWP revenues. Based on experience to date, interest earnings for 1986 and beyond are estimated at \$10 million per year.

This line also includes bond proceeds that are special reserves under revenue bond financing, described in Line 17. These proceeds are not classified as revenues, but are shown in this line to simplify the financial presentation since they are used for capitalized OMP&R costs and for revenue bond service.

Line 48: Payments Under Oroville-Thermalito Power Sale Contract

Prior to April 1, 1983, all of the power generation from Hyatt and Thermalito Powerplants was sold under a Power Sale Contract dated November 29, 1967 to three electric utilities (Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas and Electric Company). The 1952-1984 entry includes final settlement of payments under the contract.

Line 49: Subtotal Other Revenues

This is the total of Lines 44-48.

Line 50: Total Operating Revenues

This is the total of Lines 42 and 49.

Line 51: Total Operating Revenues and Miscellaneous Receipts

This is the total of Lines 36 and 50.

Project Expenses

Project expenses include operation, maintenance, and power (OM&P) costs, deposits to replacement reserves, deposits to special reserves (see Line

54 description), debt service, deposits to operating reserves, repayment of the California Water Fund, and application of miscellaneous receipts for construction (see Line 31 description).

Revenue bond proceeds that are earmarked for both debt service during construction and the first year's operating expenses are deposited in the Central Valley Water Project Construction Fund, and are disbursed in accordance with resolutions authorizing the issuance of such bonds. Water contractor revenues associated with power facility operating costs and debt service are deposited in the Central Valley Water Project Revenue Fund for appropriate disbursement. All other operating revenues, deposited in the California Water Resources Development Bond Fund--Systems Revenue Account, are disbursed in accordance with the following priorities of use as specified in the Burn-Porter Act:

- o first, SWP operation, maintenance, power, and replacement costs;
- o second, general obligation bond debt service;
- o third, repayment of expenditures from the California Water Fund;
- o fourth, deposits to a reserve for future SWP construction.

Line 52: Project Operation, Maintenance, and Power Costs

Historical and projected OM&P costs are presented in Table 25 by project facility, by composition, and by project purpose. Line 52 shows the OM&P portion of the Table 25 costs. Table 25 and Line 52 also include the operation and maintenance costs for the federal share of joint facilities and those OM&P costs allocated to recreation, which are intended to be offset by revenues shown in Lines 44 and 45, respectively. Allowances for cost escalation are included in OM&P

TABLE 25: SWP OPERATION, MAINTENANCE, POWER, AND REPLACEMENT COSTS

(IN THOUSANDS OF DOLLARS)

FEATURE	CALENDAR YEAR														TOTAL
	1962-1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996-2035		
BY PROJECT FACILITY															
Feather River Facilities	120,564	-6,481	-4,942	-3,580	-6,163	-6,902	-6,986	-6,940	-6,932	-6,919	-6,920	-6,897	-270,240	-219,338	
North Bay Aqueduct	2,394	288	221	658	629	619	647	688	711	750	773	838	53,951	63,167	
Suisun Marsh	0	744	758	934	897	889	890	891	891	891	891	891	35,713	45,280	
South Bay Aqueduct	41,331	6,516	6,304	6,545	6,437	6,359	6,725	7,121	7,197	7,476	7,545	8,077	381,589	499,222	
California Aqueduct															
Delta to Edmonston	419,939	88,615	94,765	103,529	105,894	103,475	110,321	123,076	122,726	130,177	128,454	145,663	8,592,972	10,269,606	
Edmonston to Perris	310,358	70,676	68,649	71,864	70,691	66,986	76,882	88,941	89,646	94,531	93,815	116,695	7,994,955	9,214,689	
West Branch	43,813	-3,634	-5,862	-8,103	-8,922	-8,420	-8,825	-6,531	-9,143	-7,649	-6,048	-27,088	-1,033,007	-1,089,419	
Coastal Branch	19,684	2,621	2,702	2,917	2,917	2,951	3,049	3,132	3,798	3,864	3,841	4,008	180,966	236,450	
Off-Aqueduct Power Generating Facilities	50,160	59,094	70,982	69,083	70,921	76,702	79,144	77,492	77,072	75,421	75,519	74,903	1,025,576	1,882,069	
Water Quality Monitoring	13,087	4,895	5,524	6,436	6,272	5,182	4,342	5,439	5,441	5,441	5,441	5,441	162,905	235,846	
Davis-Grunsky Act Program	1,319	150	150	150	150	150	150	150	150	150	150	150	6,000	8,969	
SUBTOTAL: Charges to SWP Contractors	1,022,649	223,484	239,251	250,433	249,723	247,991	266,339	293,459	291,557	304,133	303,461	322,681	17,131,380	21,146,541	
Payments to/Credits from PG&E under Comprehensive Agreement	32,026	4,608	-9,265	-4,431	-4,288	-4,146	-4,003	-3,860	-3,718	-3,575	-3,432	-3,290	-23,185	-30,559	
TOTAL OMP&R COSTS	1,054,675	228,092	229,986	246,002	245,435	243,845	262,336	289,599	287,839	300,558	300,029	319,391	17,108,195	21,115,982	
BY COMPOSITION															
Salaries and Expenses of Headquarters Personnel	263,046	28,217	32,712	36,853	37,448	36,144	35,191	34,661	34,661	34,661	34,661	34,661	1,390,605	2,033,521	
Salaries and Expenses of Field Personnel	431,443	53,977	60,860	66,429	65,573	65,575	65,574	67,145	67,144	67,147	67,146	67,146	2,630,819	3,775,978	
Pumping Power															
Used by Pumping Plants	358,941	127,162	127,714	144,464	146,107	141,391	156,319	185,565	182,697	198,233	200,503	216,528	15,432,053	17,617,677	
Produced by Generation Plants	-72,459	-54,194	-62,055	-76,787	-81,144	-83,083	-81,054	-84,643	-84,243	-86,444	-89,457	-89,720	-4,267,809	-5,213,092	
Payments to/Credits from PG&E under Comprehensive Agreement	32,026	4,608	-9,265	-4,431	-4,288	-4,146	-4,003	-3,860	-3,718	-3,575	-3,432	-3,290	-23,185	-30,559	
Off-Aqueduct Power Generating Facilities Requirement	50,160	59,094	70,982	69,083	70,921	76,702	79,144	77,492	77,072	75,421	75,519	74,903	1,025,576	1,882,069	
Oroville-Thermalito Insurance Premiums	4,928	324	324	324	324	324	324	324	324	324	324	324	12,960	21,452	
Less: Portion of Costs Incurred During Construction	-74,661	-622	-703	-291	-287	-229	-200	-150	-83	-83	-83	-83	-1,205	-78,680	
SUBTOTAL	993,424	218,566	220,569	235,644	234,654	232,678	251,295	276,534	273,854	285,684	285,181	300,469	16,199,814	20,008,366	
Deposits to Replacement Reserves	61,251	9,526	9,417	10,358	10,781	11,167	11,041	13,065	13,985	14,874	14,848	18,922	908,381	1,107,616	
TOTAL OMP&R COSTS	1,054,675	228,092	229,986	246,002	245,435	243,845	262,336	289,599	287,839	300,558	300,029	319,391	17,108,195	21,115,982	
BY PROJECT PURPOSE															
Water Supply and Power Generation	956,147	213,615	229,230	239,538	238,663	236,957	255,423	280,913	278,300	290,521	290,442	305,910	16,472,988	20,288,647	
Payments to/Credits from PG&E under Comprehensive Agreement	32,026	4,608	-9,265	-4,431	-4,288	-4,146	-4,003	-3,860	-3,718	-3,575	-3,432	-3,290	-23,185	-30,559	
Recreation and Fish and Wildlife Enhancement	19,993	3,790	4,164	4,654	4,721	4,696	4,574	4,736	4,617	4,765	4,777	4,792	210,292	280,571	
Flood Control	726	113	144	175	180	179	181	185	184	185	185	186	8,056	10,679	
Miscellaneous Purposes															
Federal Share, San Luis and Delta Facilities	41,739	5,465	5,363	5,688	5,775	5,775	5,776	7,240	8,071	8,277	7,672	11,408	424,651	542,900	
Other (Davis-Grunsky, Drainage, City of Los Angeles)	4,044	501	350	378	384	384	385	385	385	385	385	385	15,393	23,744	
TOTAL OMP&R COSTS	1,054,675	228,092	229,986	246,002	245,435	243,845	262,336	289,599	287,839	300,558	300,029	319,391	17,108,195	21,115,982	

costs through 1987. Allowances for further future long-term price escalation are not included in these estimates since changes in OM&P costs do not substantially affect the overall results of the financial analysis. (For the most part, changes in OM&P costs cause direct offsetting changes in operating revenues.)

Power cost is the major item of annual operating expense for the SWP, and there have been significant changes in the assumptions regarding future power sources and costs (see Chapter VI). Line 52 also includes costs associated with power generation beyond that actually needed for water delivery, assumed to be sold as excess power (refer to discussion of Lines 37-40).

Line 53: Deposits to Replacement Reserves

This line includes funds set aside as required by contract for replacement of existing SWP facilities. As of December 31, 1984, \$4.6 million had been spent for replacement costs; the balance of the replacement reserve as of this date was \$57 million. Replacement reserve amounts are also shown in Table 25.

Line 54: Deposits to Special Reserves Under Revenue Bond Financing

Line 54 is the net of two major components: special reserves deposits, and the amount of miscellaneous receipts carry-over from prior years needed for construction in the current year.

Special reserves deposits are the net of several income and expenditure items. The income items are deposits for power revenue bonds as follows:

- o proceeds set aside to pay bond interest through one year following construction (capitalized interest);

- o proceeds set aside for the first year of operating costs (capitalized OMP&R);
- o water contractor payments for debt service reserves;
- o water contractor payments for power revenue bond cover requirements.

The history entry for Line 54 includes deposits to special reserves for all past bond sales shown in Table 21. For future power revenue bonds, deposits to special reserves are included in the year of assumed sale.

The expenditure items are:

- o total capitalized interest paid out;
- o total capitalized OMP&R paid out;
- o debt service cover payments returned to water contractors.

Special reserves are reduced over time as reserved amounts are used for their respective purposes. The amount shown each year in Line 54 indicates net change from the previous year. A negative number means a net withdrawal of special reserves to meet expenses, while a positive number represents a net deposit.

Lines 55-56: Payment of Service on Bonds Sold Through June 30, 1985

These two lines show the total principal and interest payments on bonds sold to date. Table 26 summarizes payments on general obligation bonds (Series A through V), Oroville Revenue Bonds, Devil Canyon-Castaic Project Revenue Bonds, Pyramid Hydroelectric Project Revenue Bonds, Reid Gardner Project Revenue Bonds, Small Hydroelectric Project I Revenue Bonds, South Geysers Project Revenue Bonds, Bottle Rock Project Revenue Bonds, and Alamo Project Revenue Bonds.

The last bonds sold were the Series G Power Revenue Bonds in March 1985. Proceeds from the Series G bonds were used for defeasance of the Series B bonds sold July 7, 1982. The principal and interest schedule for Series G replaces the Series B schedule beginning in 1985.

Annual interest and principal payments on individual series of general obligation bonds and the two series of Oroville Revenue Bonds are shown in the following bulletins:

<u>Bond Series</u>	<u>Bulletin</u>	<u>Table</u>
General Obligation		
A-R	132-72	13
S	132-73	10
T	132-74	10
U	132-76	11
V	132-79	11
Oroville Revenue		
A and B	132-72	12

Since 1978, the trustee has been retiring Oroville Revenue Bonds prior to the fixed maturity date as follows:

<u>Year</u>	<u>Bonds Retired</u>	<u>Cost</u>
1978	\$ 4,045,000	\$3,845,099
1979	9,730,000	8,933,093
1980	1,350,000	1,227,600
1981	2,865,000	1,805,862
1982	15,890,000	9,623,312
1983	18,865,000	16,776,000
1984	7,640,000	6,807,020

The schedule for service of Oroville Revenue Bonds that is shown in Table 26 is based on a revised bond maturity schedule that reflects these early bond retirements.

Line 56 also includes over \$0.3 million in interest payments to the General Fund for the temporary loan of \$46.8 million in 1970. This loan was repaid by proceeds from the sale of Series N Water Bond Anticipation Notes.

Lines 57-58: Payments on Projected Future Power Revenue Bonds

These lines show the projected annual service for future power revenue bonds shown on Line 26. Assumptions concerning the service on these future bonds are as follows:

- o The net interest costs for the power revenue bonds are estimated to average 9.0 percent.
- o For Off-Aqueduct power facilities, the debt service pattern would provide for initial maturities in the year following bond sale, with the latest maturities in 2016. For other power facilities, maturities would begin in the year of the bond sale and extend through 2022.

Lines 59-60: Payments on Projected Future Water Bonds

These lines show the projected annual service on the projected sale of \$12.25 million of Davis-Grunsky bonds in 1986, at an assumed net interest cost averaging 8.5 percent. The bonds were assumed to be 20-year issues, with maturities commencing in 1987. If supplemental water revenue bonds are sold in the future, the annual service would be included in these lines.

Lines 61-62: Total Payments of Bond Service

This is the total of interest payments shown on Lines 56, 58, and 60 and the total of principal payments shown on Lines 55, 57, and 59, respectively.

Line 63: Subtotal Debt Service.

This is the total of Lines 61 and 62.

Line 64: California Water Fund Appropriation to Non-SWP Purposes

In 1982 and 1983, DWR transferred \$70 million to the California Water Fund as

TABLE 26: ANNUAL SERVICE ON BONDS

Calendar Year	Amounts in Thousands of Dollars									
	Series A Through V Water Bonds		Oroville Revenue Bonds		Devil Canyon-Castaic Project Revenue Bonds		Pyramid Hydroelectric Bonds Sold October 23, 1979		Reid Gardner Project Revenue Bonds Sold July 7, 1982	
	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest
1964	0	3,333	0	0	0	0	0	0	0	0
1965	0	11,114	0	0	0	0	0	0	0	0
1966	0	16,742	0	0	0	0	0	0	0	0
1967	0	26,912	0	0	0	0	0	0	0	0
1968	0	37,760	0	3,876	0	0	0	0	0	0
1969	0	47,461	0	10,448	0	0	0	0	0	0
1970	0	53,291	0	13,145	0	0	0	0	0	0
1971	0	63,035	0	13,145	0	0	0	0	0	0
1972	0	69,148	1,260	13,112	0	0	0	0	0	0
1973	1,200	69,348	1,330	13,042	0	7,708	0	0	0	0
1974	3,000	69,533	1,400	12,969	0	7,708	0	0	0	0
1975	5,000	69,366	1,475	12,893	0	7,708	0	0	0	0
1976	7,000	69,408	1,555	12,811	0	7,708	0	0	0	0
1977	10,200	69,323	1,635	12,727	0	7,708	0	0	0	0
1978	12,700	69,312	1,725	12,637	0	7,708	0	0	0	0
1979	13,650	68,690	1,815	12,540	0	7,708	0	0	0	0
1980	16,050	67,968	1,915	12,441	0	7,708	0	7,900	0	0
1981	18,050	67,109	2,020	12,334	0	7,708	0	7,292	0	0
1982	19,250	66,162	2,130	12,221	0	7,708	0	7,292	0	7,972 ^(b)
1983	20,520	65,148	2,245	12,101	900	7,708	0	7,292	0	23,917 ^(b)
1984	21,785	64,068	2,365	11,982	955	7,647	640	7,292	0	23,917 ^(b)
1985	22,555	62,932	2,485	8,417	1,010	7,583	675	7,238	8,355 ^(c)	15,407 ^(c)
1986	23,830	61,742	2,605	8,295	1,070	7,515	715	7,180	2,565	21,198
1987	25,495	60,492	2,735	8,165	1,135	7,442	755	7,120	2,710	21,054
1988	26,770	59,165	2,870	8,029	1,205	7,366	795	7,055	2,865	20,898
1989	28,145	57,825	3,015	7,885	1,275	7,284	840	6,988	3,040	20,719
1990	29,385	56,473	3,175	7,729	1,355	7,198	890	6,916	3,250	20,514
1991	30,365	55,070	3,335	7,564	1,435	7,107	940	6,841	3,485	20,278
1992	31,295	53,640	3,510	7,391	1,520	7,010	995	6,761	3,755	20,008
1993	32,940	52,183	3,695	7,208	1,610	6,907	1,050	6,693	4,050	19,708
1994	34,525	50,660	3,885	7,016	1,705	6,799	1,115	6,622	4,390	19,376
1995	35,660	49,073	4,085	6,814	1,810	6,684	1,180	6,545	4,755	19,007
1996	36,900	47,436	4,300	6,602	1,920	6,561	1,250	6,464	5,165	18,598
1997	36,595	45,818	4,525	6,378	2,035	6,432	1,325	6,376	5,615	18,143
1998	36,675	44,226	4,760	6,142	2,155	6,295	1,405	6,283	6,125	17,638
1999	37,600	42,655	5,005	5,894	2,285	6,160	1,490	6,184	6,685	17,081
2000	38,890	41,033	5,280	5,623	2,420	6,040	1,580	6,078	7,295	16,466
2001	39,980	39,351	5,565	5,338	2,565	5,912	1,680	5,964	7,975	15,787
2002	41,120	37,620	5,865	5,036	2,720	5,773	1,785	5,842	8,725	15,038
2003	42,970	35,835	6,180	4,719	2,885	5,626	1,900	5,712	9,545	14,218
2004	45,160	33,957	6,520	4,384	3,055	5,470	2,020	5,573	10,450	13,311
2005	46,450	31,995	6,870	4,030	3,240	5,305	2,150	5,424	11,445	12,318
2006	47,740	29,971	7,245	3,658	3,435	5,130	2,290	5,268	12,530	11,231
2007	49,230	27,883	7,635	3,265	3,640	4,945	2,445	5,102	13,725	10,040
2008	51,220	25,727	8,050	2,850	3,860	4,749	2,605	4,925	15,025	8,736
2009	53,560	23,478	8,490	2,414	4,090	4,540	2,780	4,736	16,470	7,294
2010	55,250	21,134	8,950	1,953	4,335	4,319	2,960	4,534	18,045	5,713
2011	56,740	18,717	4,735	1,467	4,595	4,085	3,160	4,305	19,785	3,981
2012	58,530	16,216	4,195	1,199	4,875	3,837	3,370	4,060	21,680	2,081
2013	60,370	13,676	4,435	958	5,165	3,574	3,600	3,799	0	0
2014	57,900	11,244	4,705	703	5,475	3,303	3,840	3,520	0	0
2015	53,690	8,838	5,005	433	5,805	3,015	4,095	3,222	0	0
2016	46,130	6,626	2,520	145	6,150	2,710	4,370	2,905	0	0
2017	38,060	4,614	0	0	6,520	2,388	4,665	2,566	0	0
2018	25,350	2,980	0	0	6,910	2,045	4,975	2,204	0	0
2019	16,890	1,778	0	0	7,325	1,682	5,310	1,819	0	0
2020	17,320	934	0	0	7,765	1,298	5,665	1,407	0	0
2021	8,510	301	0	0	8,230	890	6,045	968	0	0
2022	1,800	48	0	0	8,725	458	6,450	500	0	0
TOTAL	1,570,000	2,377,577	179,100 ^(h)	362,128 ^(h)	139,165	283,872	95,800	228,767	239,505	481,647

a) Serial maturities or mandatory redemption requirements for term bonds.

b) Interest on the Series B bonds is capitalized to August 1, 1984.

c) Principal and interest amounts on the Series B bonds are replaced by the amounts for the Series G bonds beginning in 1985.

d) Interest on the Series C bonds is capitalized to August 1, 1984.

SOLD THROUGH JUNE 30, 1985

Calendar Year	Amounts in Thousands of Dollars									
	Reid Gardner Project Revenue Bonds Sold November 16, 1982		South Geysers and Small Hydro I Revenue Bonds Sold November 16, 1982		Bottle Rock Project Revenue Bonds Sold April 27, 1983		South Geysers and Alamo Project Revenue Bonds Sold April 27, 1983		Total	
	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest	Principal ^(a)	Interest
1964	0	0	0	0	0	0	0	0	0	3,333
1965	0	0	0	0	0	0	0	0	0	11,114
1966	0	0	0	0	0	0	0	0	0	16,742
1967	0	0	0	0	0	0	0	0	0	26,912
1968	0	0	0	0	0	0	0	0	0	41,636
1969	0	0	0	0	0	0	0	0	0	57,909
1970	0	0	0	0	0	0	0	0	0	66,436
1971	0	0	0	0	0	0	0	0	0	76,180
1972	0	0	0	0	0	0	0	0	1,260	82,260
1973	0	0	0	0	0	0	0	0	2,530	90,098
1974	0	0	0	0	0	0	0	0	4,400	90,210
1975	0	0	0	0	0	0	0	0	6,475	89,967
1976	0	0	0	0	0	0	0	0	8,555	89,927
1977	0	0	0	0	0	0	0	0	11,835	89,758
1978	0	0	0	0	0	0	0	0	14,425	89,657
1979	0	0	0	0	0	0	0	0	15,465	88,938
1980	0	0	0	0	0	0	0	0	17,965	96,017
1981	0	0	0	0	0	0	0	0	20,070	94,443
1982	0	0	0	0	0	0	0	0	21,380	101,355
1983	0	11,802 ^(d)	0	7,286 ^(e)	0	6,017 ^(f)	0	3,666 ^(g)	23,665	144,937
1984	0	11,802 ^(d)	0	7,286 ^(e)	0	10,315 ^(f)	0	6,285 ^(g)	25,745	150,594
1985	1,070	11,802	0	7,286 ^(e)	0	10,315 ^(f)	0	6,285 ^(g)	36,150	137,265
1986	1,175	11,678	0	7,286	1,240	10,315	0	6,285	33,200	141,494
1987	1,285	11,543	0	7,286	1,305	10,253	255	6,285	35,675	139,640
1988	1,405	11,428	480	7,286	1,390	10,181	500	6,271	38,280	137,679
1989	1,540	11,319	520	7,249	1,470	10,098	535	6,241	40,380	135,608
1990	1,685	11,196	570	7,208	1,575	10,002	570	6,206	42,455	133,442
1991	1,830	11,057	615	7,161	1,680	9,892	610	6,166	44,295	131,136
1992	2,005	10,904	665	7,108	1,805	9,771	655	6,122	46,205	128,715
1993	2,170	10,731	725	7,050	1,940	9,637	700	6,074	48,880	126,191
1994	2,350	10,540	790	6,985	2,085	9,490	755	6,021	51,600	123,509
1995	2,555	10,329	860	6,913	2,245	9,328	815	5,962	53,965	120,655
1996	2,780	10,094	945	6,834	2,425	9,151	880	5,898	56,565	117,638
1997	3,030	9,835	1,030	6,746	2,625	8,957	955	5,827	57,735	114,512
1998	3,310	9,547	1,120	6,649	2,840	8,744	1,025	5,750	59,415	111,274
1999	3,615	9,230	1,230	6,543	3,075	8,511	1,115	5,666	62,100	107,924
2000	3,950	8,879	1,345	6,425	3,340	8,256	1,215	5,573	65,315	104,373
2001	4,310	8,492	1,475	6,294	3,625	7,979	1,310	5,473	68,485	100,590
2002	4,710	8,069	1,615	6,150	3,945	7,675	1,430	5,362	71,915	96,565
2003	5,150	7,608	1,770	5,990	4,285	7,343	1,555	5,242	76,240	92,293
2004	5,640	7,080	1,940	5,875	4,675	6,979	1,695	5,110	81,155	87,739
2005	6,180	6,502	2,125	5,749	5,085	6,582	1,845	4,966	85,390	82,871
2006	6,755	5,868	2,325	5,610	5,545	6,149	2,010	4,809	89,875	77,694
2007	7,405	5,176	2,555	5,459	6,045	5,678	2,190	4,638	94,870	72,186
2008	8,110	4,417	2,800	5,197	6,585	5,164	2,390	4,452	100,645	66,217
2009	8,880	3,586	3,070	4,910	7,185	4,604	2,605	4,249	107,130	59,811
2010	9,735	2,676	3,365	4,596	7,830	3,994	2,840	4,028	113,310	52,947
2011	10,675	1,678	3,690	4,251	8,545	3,328	3,095	3,786	115,020	45,598
2012	11,695	877	4,050	3,873	9,325	2,602	3,380	3,523	121,100	38,268
2013	0	0	4,440	3,457	10,175	1,809	3,685	3,236	91,870	30,509
2014	0	0	4,870	2,997	11,110	944	4,030	2,923	91,930	25,634
2015	0	0	5,350	2,492	0	0	4,395	2,580	78,340	20,580
2016	0	0	1,980	1,936	0	0	4,800	2,207	65,950	16,529
2017	0	0	2,175	1,731	0	0	2,795	1,799	54,215	13,098
2018	0	0	2,390	1,505	0	0	3,055	1,561	42,680	10,295
2019	0	0	2,620	1,257	0	0	3,335	1,301	35,480	7,837
2020	0	0	2,880	986	0	0	3,645	1,018	37,275	5,643
2021	0	0	3,155	687	0	0	3,980	708	29,920	3,554
2022	0	0	3,465	359	0	0	4,350	370	24,790	1,735
TOTAL	125,000	255,745	75,000	207,948	125,000	240,063	75,000	179,924	2,623,570	4,617,671

e) Interest on the Series D bonds is capitalized to December 1, 1985.

f) Interest on the Series E bonds is capitalized to October 1, 1985.

g) Interest on the Series F bonds is capitalized to December 1, 1985.

h) Principal and interest schedule adjusted to reflect early redemption of bonds.

repayment of Tideland Oil revenues advanced in prior years for construction of SWP facilities. The Legislature subsequently appropriated all of these funds to the State's General Fund.

Line 65: Total Operating Expenses and Debt Service

This is the total of Lines 52, 53, 54, 63, and 64.

Line 66: Deposits to Operating Reserves Added

DWR policy for proper fiscal management of the SWP and protection of the interests of bondholders is to maintain reserves of \$48 million for operation, maintenance, and debt service. The financial analysis indicates that the maximum reserve amount will have been reached by the end of 1986. Entries in this line are annual transfers into or out of the reserve.

Line 67: California Water Fund Repayment Required for Current Construction

The Burns-Porter Act requires that, after operation, maintenance, replacement, and bond service requirements have been satisfied, SWP revenues shall be transferred to the California Water Fund to reimburse the fund for monies expended for construction of the State Water Resources Development System. For the financial analysis, repayment amounts through 1990 shown in Line 67 are required for financing currently scheduled and planned future capital expenditures.

Line 68: California Water Fund Repayment Available for Future Construction

Line 68 shows that some revenues in excess of expenses are available, beyond present construction requirements,

to repay the California Water Fund. These funds would be available to fund a portion of future SWP facilities, and/or be credited as repayment against past California Water Fund expenditures (see Line 64). The amount committed for future construction would depend on the funds available and the capital cost schedule of future facilities.

Line 69: Miscellaneous Receipts Used For Construction

This line is the same as Line 31.

Line 70: Total Project Expenses

This is equal to the sum of Lines 65 through 69.

Future Costs of Water Service

Estimates of future water costs are useful to SWP contractors in short- and long-range planning of their water needs, operations, and budgets.

Unit water charges displayed in Table 27 represent future costs of water by SWP service area. The Table 27 unit rates include capital, transportation, and operating costs of existing and future SWP facilities accounted for in Table 19. The unit charges also assume that in 1990 and 2000 the SWP will be able to deliver full contractor requests for water.

The unit water charges shown in Table 27 are shown both as unescalated 1985 dollars, and escalated rates reflecting assumed future inflation. DWR estimates of future capital expenditures include allowances for escalation of construction costs at 3 percent per year through 1986 and at 6 percent per year thereafter. The escalated unit rates for future power sources reflect escalation varying from 7.5 percent to 10 percent, depending on the source of energy.

TABLE 27: ESTIMATED FUTURE UNIT WATER CHARGES

SWP Service Area	Dollars per Acre-Foot ^(a)			
	1990		2000	
	1985 Dollars	Escalated ^(b)	1985 Dollars	Escalated ^(b)
Feather River Capital, OM&R ^{(c)(d)}	26	28	18	27
North Bay Capital, OM&R	202	210	107	127
Power ^(e)	8	8	12	18
Total	<u>210</u>	<u>218</u>	<u>119</u>	<u>145</u>
South Bay Capital, OM&R	58	64	49	78
Power ^(e)	40	42	45	69
Total	<u>98</u>	<u>106</u>	<u>94</u>	<u>147</u>
San Joaquin Valley Capital, OM&R	30	33	30	45
Power ^(e)	20	21	23	35
Total	<u>50</u>	<u>54</u>	<u>53</u>	<u>80</u>
Southern California Capital, OM&R	130	141	98	147
Power ^(e)	119	124	137	213
Total	<u>249</u>	<u>265</u>	<u>235</u>	<u>360</u>

- a) These estimated unit water charges differ from those in Table 27 of Bulletin 132-84 due to a number of factors, primarily (1) changes in projected water deliveries in some service areas, (2) increased OM&R costs projected for future years, and (3) changes in projected power costs.
- b) These values reflect the effects of assumed future cost escalation.
- c) Operation, maintenance, and replacement.
- d) No power costs are incurred for water delivery to Feather River area contractors.
- e) Power costs of Transportation facilities to deliver SWP water to the service area, including costs of Off-Aqueduct power facilities.

CHAPTER VIII

PROFILES OF SWP CONTRACTORS

Thirty local water agencies have long-term contracts with the State for water supplies from the SWP. Bulletins 132-83 and 132-84 each presented profiles of six of the SWP contracting agencies. This edition of Bulletin 132 continues with profiles of six other contractors.

Alameda County Flood Control and Water Conservation District, Zone 7

The Alameda County Flood Control and Water Conservation District, Zone 7 (Zone 7) includes most of Alameda County east of the Bay Plain. (The southern portion of the Bay Plain area is served by another SWP contractor, the Alameda County Water District, and the northern portion by the East Bay Municipal Utility District.) The 425 square miles within Zone 7 include Livermore Valley, Amador Valley, and portions of San Ramon Valley and the Diablo Range.

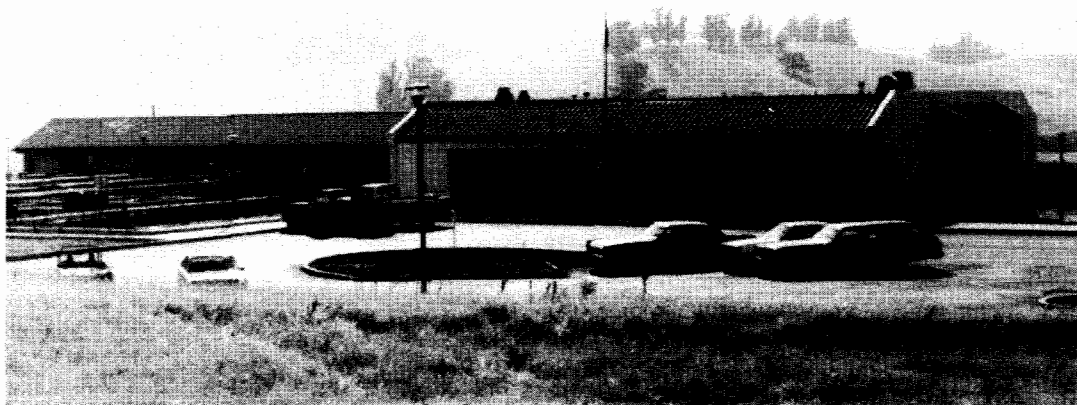
The climate in the valleys is semiarid, with hot, dry summers and cool, moist winters. Average annual precipitation in Livermore Valley is about 15 inches. The principal streams within Zone 7 include Arroyo del Valle, Arroyo de la

Laguna, and Arroyo Mocho, all of which drain to South San Francisco Bay via Alameda Creek.

The present population of Zone 7 is about 113,000, primarily in and around Livermore, Pleasanton, and Dublin. Zone 7 delivers water to retailers serving almost all the population within its boundaries.

The Alameda County Flood Control and Water Conservation District, which has essentially the same boundaries as Alameda County, was established in 1949 by special act of the Legislature. Its purposes are to aid in solution of flood control, storm drainage, and water conservation and supply problems. Zone 7 was formed in 1957 (by vote of its residents) as an amendment to the District Act. Zone 7 is governed by a locally elected Board of Directors; its headquarters is in Livermore.

Until SWP deliveries from the South Bay Aqueduct began in 1962, water demands in the Zone 7 service area were met almost entirely by ground water. Zone 7 currently serves wholesale treated water to the City of Livermore, the



Zone 7's Del Valle Water Treatment Plant south of Livermore treats water delivered from the SWP's South Bay Aqueduct.

California Water Service Company (which serves about 80 percent of Livermore), the City of Pleasanton, the Dublin San Ramon Services District (which supplies Dublin), the Veterans Administration Medical Center, the Camp Parks area, and the Livermore Area Recreation and Parks District. Zone 7 also provides a backup supply to the Lawrence Livermore National Laboratory and delivers untreated SWP water to about 2,000 acres of irrigated agriculture. Zone 7 diverts SWP water directly from the South Bay Aqueduct to its Patterson Pass (east of Livermore) and Del Valle (south of Livermore) water treatment plants. The agricultural users are served untreated water via six turnouts from the South Bay Aqueduct.

Zone 7 has operated a ground water replenishment program since the 1960s. The program supplements natural recharge with excess runoff from Arroyo Del Valle (regulated by Lake Del Valle) and with SWP water. Zone 7 uses controlled releases to natural stream channels for its replenishment program. Zone 7 has two well fields in the Pleasanton area connected to its distribution system, but these are not currently being used under normal water supply conditions.

The City of Pleasanton and the California Water Service Company derive a portion of their water supplies from ground water. Ground water pumping by urban retailers is limited by agreement with Zone 7, and Zone 7 meets the retailers' additional needs with SWP water.

Castaic Lake Water Agency

Castaic Lake Water Agency (CLWA) is located about 35 miles northwest of downtown Los Angeles and about 7 miles northwest of the populous San Fernando Valley. It encompasses all of the Santa Clarita Valley and most of the valley and hill lands along the Upper Santa Clara River. The total CLWA area is 125,000 acres, with about 117,000

acres in Los Angeles County and the remainder in southeastern Ventura County. The valley lands in the service area range from about 1,000 feet above sea level near Castaic Junction to about 1,800 feet in Soledad Canyon. The adjoining hills reach a maximum elevation of about 3,000 feet. The steep mountainous terrain of the Santa Susanna and San Gabriel Mountains constitutes about half of the area of CLWA.

The climate of the area is typical of Southern California, with warm, dry summers and cool, mild winters. Precipitation varies widely from year to year, but nearly all occurs during November through April. Precipitation at Newhall averages about 18 inches per year.



Magic Mountain Six Flags Amusement Park, in the CLWA area, is served by Valencia Water Company; the water in this flume ride is recycled by pumps.

The principal stream in the CLWA area is the Santa Clara River, which flows west to the ocean near Oxnard. Minor streams tributary to the Santa Clara River include Castaic Creek, San Francisquito Canyon, and Bouquet Canyon. During wet years, perennial flow may occur, but the rivers and streams are normally dry in summer and fall. Castaic Lake, terminous of the West Branch of California Aqueduct, is located on Castaic Creek within the CLWA boundaries.

The current population of CLWA is estimated as 93,000, a substantial increase over the 1960 population of about 16,000. The major population centers are the unincorporated communities of Castaic, Newhall, Saugus, Valencia, Val Verde, and Canyon Country.

CLWA was organized in 1962, under the Upper Santa Clara Valley Water Agency

Law (its name was changed to its present form by legislation enacted in 1970). The Agency's primary functions are (1) acquisition of SWP water, and (2) construction and operation of water treatment and transmission facilities. CLWA is governed by a seven-member Board of Directors and maintains offices in Newhall.

The Eastern Santa Clara River Ground Water Basin is the primary source of water for the CLWA area. All ground water extraction facilities are owned and operated by individuals or individual water retailers. CLWA acts as a wholesaler of imported SWP water for domestic, commercial, or industrial use; SWP water currently accounts for about one-third of the total water use within the CLWA service area. Ground water supplies are limited, and SWP water is expected to supply a larger share of total use as population growth continues. CLWA's maximum entitlement



CLWA's Earl Schmidt Filtration Plant, near Castaic Lagoon, can treat up to 12.5 million gallons per day; the installation includes two 5-million gallon storage tanks.

to SWP water is 41,500 acre-feet per year; 1984 deliveries totaled 11,477 acre-feet.

Under contract with CLWA, four water retailers take delivery of the Agency's SWP water. Two are public agencies (Los Angeles County Waterworks District No. 36 and Newhall County Water District), and two are privately owned (Santa Clarita Water Company and Valencia Water Company). The four retailers have contracted to take over 14,000 acre-feet of SWP water in 1986.

SWP water enters the CLWA system at the Castaic Dam outlet, from which it is delivered by gravity flow to the Agency's 12.5- million gallons per day Earl Schmidt Filtration Plant located on a bluff east of Castaic Lagoon. A 900-horsepower pumping facility is available for occasional use when Castaic Lake is too low to permit gravity flow to the filtration plant. From the filtration plant, treated SWP water is conveyed by CLWA's Castaic Conduit to separate laterals that continue east to Canyon Country and south to Newhall. There are several connections to the contracting retailers along the CLWA transmission facilities.

Coachella Valley Water District

As shown in Figure 2 in Chapter I, Coachella Valley Water District (CVWD) is located in central Riverside County, with portions extending into San Diego and Imperial Counties. The 1,000-square mile District includes most of Coachella Valley, including lands bordering the north half of the Salton Sea. Elevations range from about 1,350 feet at the northern end of the valley to about 230 feet below sea level at the surface of the Salton Sea.

Coachella Valley has long, hot summers and mild, warm winters. Average annual rainfall on the valley floor is 3 inches. The principal stream in the area is the Whitewater River, which is dry most of the time.

The current population of CVWD is estimated as about 104,000, representing an increase of approximately 50 percent in the past decade. The principal population centers are the incorporated cities of Cathedral City, Coachella, Indian Wells, Indio, LaQuinta, Palm Desert, and Rancho Mirage; and the communities of Bombay Beach, Desert Shores, Mecca, North Shore, Oasis, Salton Sea Beach, Sky Valley, Thermal, and Thousand Palms.

The initial development of Coachella Valley was founded on its underlying ground water resources, but declining water levels soon resulted. The CVWD was formed in 1918, in recognition of the need to protect ground water supplies and to secure supplemental water to allow expansion of irrigated agriculture. Its functions include water conservation, irrigation and domestic water supply, ground water recharge, agricultural drainage, waste water collection and reclamation, and stormwater protective works. The District is managed by a five-member Board of Directors; its headquarters is in Coachella.

After 30 years of effort by CVWD, the USBR completed the Coachella Branch of the All-American Canal in 1948. The 124-mile-long Coachella Branch delivers Colorado River water for irrigation use in the southern portion of the District. This permitted an increase in irrigated land area within the District from 23,000 acres in 1948 to its present level of about 61,000 acres. The principal crops produced are citrus fruits, dates, grapes, and a wide variety of truck crops.

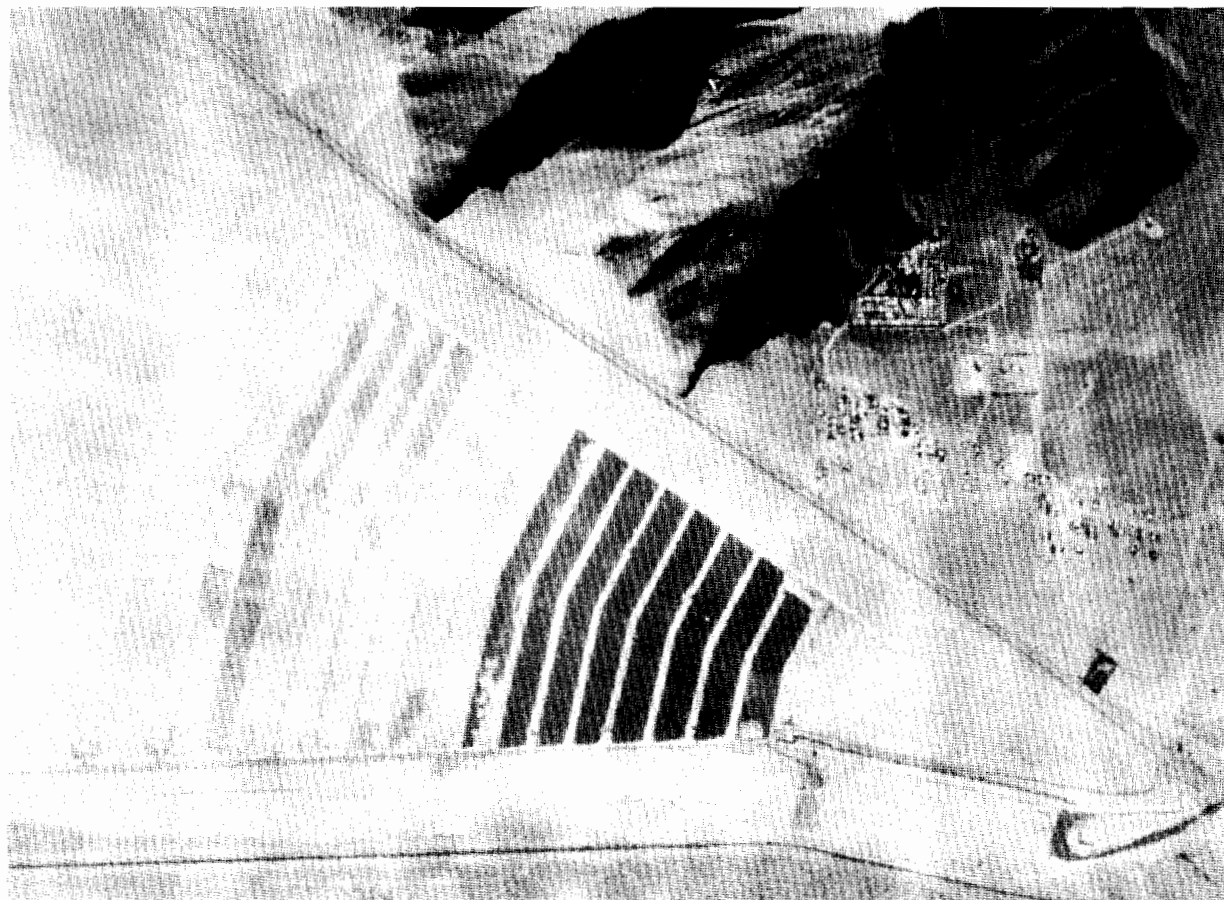
In 1961, CVWD entered the field of urban water supply and now serves water directly throughout most of its area via a system including 55 wells and over 1,000 miles of transmission facilities. The cities of Coachella and Indio operate their own water systems; the remainder are served by the District. All urban water service within the District depends on ground water

and the District collects a replenishment assessment from ground water pumpers to support recharge activities. CVWD has had a ground water recharge program since 1918, when it built spreading basins to increase percolation of natural runoff along a 7-mile reach of the upper Whitewater River.

Ground water levels in the southern portion of CVWD have risen sharply since importation of Colorado River water began in 1949. However, ground water levels in the northern part of the District have continued to decline. In 1963, CVWD contracted for SWP water, with entitlements beginning in 1972 and increasing to a maximum of 23,100 acre-feet per year in 1990.

CVWD lies about 50 miles east of the California Aqueduct and it was originally contemplated that new canal and

pipeline facilities would be constructed to serve CVWD and other contractors along the route. However, CVWD and Desert Water Agency (DWA) have executed exchange agreements with MWDSC. Under these agreements, which extend to 2035, MWDSC takes delivery of CVWD and DWA water in the East Branch of the California Aqueduct and releases an equivalent amount to the Whitewater River from its Colorado River Aqueduct. The agreements include a provision enabling the parties to negotiate for advance delivery of Colorado River water. This will allow MWDSC to predeliver 600,000 acre-feet or more of Colorado River water to CVWD and DWA when the water and pumping power are available; the water will be stored underground, in exchange for MWDSC rights to future deliveries of the other parties' SWP entitlement water.



This ground water spreading area on the Whitewater River includes 19 ponds covering 705 acres; CVWD operates the facility to recharge ground water with both natural flows and imported water.

The DWA service area includes the portion of the upper Coachella Valley west of the CVWD area, and both agencies depend on the same ground water basin. In 1976, CVWD and DWA signed a Water Management Agreement that provides for operating and maintaining the spreading grounds, monitoring, pumping, analyzing ground water, and sharing the cost of purchasing and spreading supplemental water. Under the agreement, both CWD and DWA have been taking delivery of their full entitlements of SWP water (through exchange with MWDSC).

Crestline-Lake Arrowhead Water Agency

The Crestline-Lake Arrowhead Water Agency (CLAWA) encompasses about 55,000 acres of land along the crest of the San Bernardino Mountains about 10 miles north of the City of San Bernardino. The terrain is mountainous and timbered, with elevations ranging from 2,500 to 7,000 feet. Most of the current development, which is largely vacation and recreation oriented, occurs above 4,000 feet.

Much of the CLAWA area is within the Mojave River watershed. Lakes within the Agency include the privately owned Green Valley Lake and Lake Gregory, and the SWP's Silverwood Lake on the East Branch of the California Aqueduct. Lake Arrowhead and the surrounding land was excluded from the Agency by choice of the private company that owned that development.

The climate is typical of high elevations, with warm summers and cold, wet winters. Average annual precipitation ranges from 35 to 45 inches. The permanent population of CLAWA is estimated as about 13,200, but there is a heavy influx of visitors, vacationers, and seasonal residents.

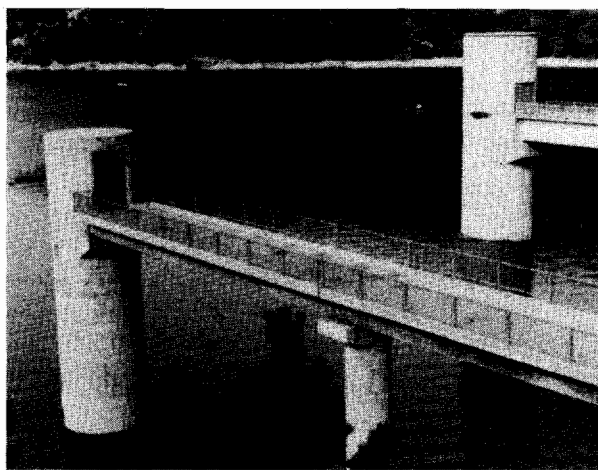
CLAWA was formed in 1962 by special act of the Legislature and approved by local voters in 1963. The main purpose of the Agency is to contract for SWP

water and distribute that water to local purveyors and users. CLAWA also has authorities related to waste water reclamation, water exchanges, ground water replenishment, hydroelectric development, and recreational development on reservoirs it operates.

CLAWA acts as a wholesaler of SWP water for urban use only; it sells to 27 public and private water companies and directly to customers in three improvement districts. The Agency is governed by a five-member Board of Directors representing its five areal divisions.

Ground water resources in the CLAWA area are very limited, although springs and wells supported much of the original development. Local lakes were formerly used to supply water to some areas, but that use was restricted by downstream water rights. SWP water was first delivered to CLAWA in 1972 and currently supplies most of the water used within the service area.

CLAWA pumps SWP water directly from Silverwood Lake to a treatment plant and then into its distribution system. There are four booster stations and nine regulating reservoirs along the system. The first booster station, at the treatment plant, lifts water 1,710



CLAWA's intake tower in Silverwood Lake (left) houses pumps to lift water to its treatment plant; the SWP intake tower for the San Bernardino Tunnel is nearby.

vertical feet (apparently the second highest single lift in California -- exceeded only by the 1,926-foot lift at A.D. Edmonston Pumping Plant). The total pump lift to the highest parts of the service area is over 3,800 feet. CLAWA's maximum entitlement to SWP water is 5,800 acre-feet per year; current SWP deliveries are about one-fourth of that level.

Dudley Ridge Water District

The Dudley Ridge Water District (DRWD) is located in southern Kings County in the western portion of the San Joaquin Valley. The District lies southeast of Kettleman City and is bounded on the north and east by the Tulare Lake Basin Water Storage District, on the south by the Kings-Kern County line, and on the west by the California Aqueduct. The District encompasses nearly 30,000 acres of land that slopes gently to the north and northeast, with elevations ranging from 190 to 350 feet above sea level.

DRWD's summers are hot and dry, and winters are mild and semi-arid, with some frost. Ground and tule fogs are common during the winter and they occasionally persist for days or weeks. Annual precipitation ranges from about 3 to 15 inches per year and averages about 6 inches.

DRWD overlies the western edge of the Tulare Lake Ground Water Basin. The ground water yield is low, and its concentration of total dissolved solids averages 5,000 to 6,000 parts per million. Most of the wells that existed in the District before SWP deliveries began have been abandoned. Only wells in the extreme northern part of the District have ever produced usable water.

There are no major streams in the District. The minor streams in the Kettleman Hills to the west only occasionally produce sufficient runoff during storms to reach the District.

The population of DRWD consists of fewer than 50 permanent residents, and some farm workers who occupy a few farm labor camps.

DRWD was formed in 1963 under the California Water District Law (1913 Act) to contract for SWP water supplies. The District may acquire, construct, and operate works necessary to provide water, related drainage, reclamation, and sewage disposal. Portions of DRWD may form improvement districts to bear the costs of certain works benefiting those areas only. DRWD acts as a retailer of water supplies for agricultural use only; no urban or domestic deliveries are made within the service area boundaries. The District obtains funds through water toll and standby charges. Only landowners may vote in the District elections, on the basis of one vote for each dollar of assessed valuation.

Before SWP deliveries began, irrigation water for the central part of the DRWD area was conveyed about 40 miles from a well field on the east side of the valley. Poor quality ground water was used in the northern part of the District. Both of these sources have been replaced by imported SWP supplies. SWP water is delivered by gravity from the California Aqueduct via the District's system of concrete-lined canals and pipelines.

Other water supplies are obtained from ground water and surface runoff imported by local farm operators who also own land outside the District. These non-firm sources of water include intermittent streamflow from various streams; the available supply varies from none in dry or normal years to excess supplies during flood years. These local supplies are currently limited to a service area of 3,100 acres and could be terminated with a change of ownership.

Soils in the DRWD area are generally saline-free and well-drained. Nearly

all of the District lands are irrigated. Cotton is currently the principal crop, but substantial acreages are devoted to orchards and grain. Field and truck crops are also grown; the acreage devoted to them is expected to increase in response to future higher water costs.

The maximum acreage planned for permanent crops (orchards) is limited to what could be sustained without the nonfirm supplies (including SWP surplus water) and with a 50 percent reduction in SWP entitlement deliveries. Using this approach, the District will limit permanent crops to about 9,600 acres. Presently, permanent crops total just over 7,000 acres (primarily almonds and pistachios).

San Bernardino Valley Municipal Water District

The San Bernardino Valley Municipal Water District (SBVMWD) was incorporated February 17, 1954 under the Municipal Water District Law of 1911. The District covers about 328 square miles in southwestern San Bernardino County, approximately 60 miles east of Los Angeles, and has a population of about 390,000. The District spans the eastern two-thirds of the San Bernardino Valley, the Crafton Hills, and a portion of the Yucaipa Valley, and includes the communities of San Bernardino, Colton, Loma Linda, Redlands, Rialto, Bloomington, Highland, Grand Terrace, East Highlands, and Yucaipa.

SBVMWD is governed by a five-member board of directors, elected for staggered four-year terms from the District's five divisions. The District's headquarters is in San Bernardino.

The SBVMWD area has warm, dry summers and cool, mild winters. Precipitation varies widely from year to year, averaging from 15 inches in the south to nearly 30 inches in the foothills to

the north. The Santa Ana River is the principal stream in the area; its tributaries include Lytle Creek and Cajon Wash from the north and Mill and San Timoteo Creeks from the east and south.

SBVMWD was formed to plan long-range water supply, including importing supplemental water. Its enabling act includes a broad range of powers to provide water, as well as sewer, storm-water disposal, recreation, and fire protection services. It is directly responsible for maintaining court-adjudicated water levels in the Colton-Rialto ground water basin and surface flow through the Riverside Narrows of the Santa Ana River.

The District's annual entitlement to SWP water increases from 1,677 acre-feet in 1972 to 102,600 acre-feet in 1991. Its maximum entitlement is the fifth largest of the 30 SWP contractors.

There are 11 major retail water service areas within the District, including 5 cities, 4 districts, and 2 water companies. Some of these retail agencies derive part of their supply from surface diversions, but ground water is the principal source of supply in the SBVMWD service area.

SBVMWD cooperates in a program to help replenish ground water, using both SWP water and local runoff. The District takes delivery of SWP water at the Devil Canyon Powerplant Afterbay, which is located just within the northern boundary of the District. From there, water is conveyed eastward via the 17-mile long Foothill Pipeline for delivery to various spreading, agricultural, and domestic delivery points. A pipeline extending west from Devil Canyon Powerplant Afterbay is jointly used by San Gabriel Valley Municipal Water District and SBVMWD to deliver water to the Colton-Rialto area for ground water recharge.

Due to a combination of changes in pumping patterns, increased replenishment activities, and several high rainfall seasons, ground water levels in most of the SBVMWD area have recovered significantly from the low levels experienced in the mid-1960s. The principal ground water basin, the Bunker Hill Basin, has returned to pre-1950 levels. In parts of the City of San Bernardino, where ground water extractions have been reduced, artesian conditions similar to the conditions that existed in the early 1900s have returned. Various measures to alleviate high water table conditions in this area are being considered, including pumping

water from the artesian area into the SWP's Santa Ana Valley Pipeline, and gravity diversion of water from the Santa Ana River into the District's facilities for delivery to the Devil Canyon Powerplant Afterbay (without use of any energy for pumping).

Because of the high ground water conditions, deliveries of SWP water within the Bunker Hill Basin have been curtailed. However, long-range projections of water demand indicate that increasing water use and a return to average rainfall conditions will increase the need for SWP deliveries to SBVMWD.



SBVMWD's Foothill Pipeline can deliver SWP water to several spreading facilities for ground water recharge. These spreading facilities near Waterman Canyon, about 4 miles southeast of Devil Canyon Afterbay, are owned and operated by the San Bernardino County Flood Control District. Because of high ground water levels in portions of the Bunker Hill Basin, recharge activities are currently curtailed.

The Yucaipa Basin, in the easternmost part of the SBVMWD area, has experienced a slower recovery in ground water levels. Because of its distance from the SWP source and its high elevation, the Yucaipa area does not have ready access to an economical supplemental water supply. SBVMWD has worked out a complex exchange plan by which high-elevation local runoff is diverted

to the Yucaipa area for ground water replenishment while downstream water rights holders are furnished replacement water from other sources. As part of the exchange, SBVMWD reimburses DWR for SWP energy made available to the Southern California Edison Company to replace lost generation at two hydroelectric plants.

APPENDIX B

**DATA AND COMPUTATIONS USED IN
DETERMINING WATER CHARGES FOR 1986**

APPENDIX B

DATA AND COMPUTATIONS USED IN DETERMINING WATER CHARGES FOR 1986

TABLE OF CONTENTS

	<u>Page</u>
Types of Water Charges.....	152
Composition and Timing of Water Charges.....	154
Bases for Allocating Reimbursable Costs Among Contractors.....	157
Capital and Minimum OMP&R Costs.....	157
Variable OMP&R Costs.....	158
Water Conveyance.....	158
Bases for Reimbursable Costs.....	159
Capital Costs.....	159
Annual Operating Costs.....	161
Project Water Charges.....	162
Transportation Charges.....	162
Delta Water Charges.....	166
Total Water Charges.....	167
Equivalent Total Water Charges.....	167
Equivalent Water Costs by Reach.....	167
Surplus Water Service.....	167

FIGURES

B-1	Relationships of Data Used to Substantiate Statements of Charges.....	153
B-2	Composition of Delta Water Charge and Transportation Charge.....	155
B-3	Cost Allocation Factors.....	160
B-4	Criteria for Amortization of Capital Costs of Transportation Facilities.....	164
B-5	Repayment Reaches and Descriptions.....	168

TABLE OF CONTENTS

TABLES

	<u>Page</u>
B-1 Factors for Distributing Reach Capital Costs Among Contractors.....	170
B-2 Factors for Distributing Reach Minimum OMP&R Costs Among Contractors.....	172
B-3 Power Costs and Credits and Annual Replacement Deposits for Each Aqueduct Pumping and Power Recovery Plant.....	174
B-4 Annual Entitlements to Project Water.....	176
B-5A Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor.....	180
B-5B Annual Water Quantities Delivered to Each Contractor.....	188
B-6 Annual Water Quantities Conveyed Thru Each Pumping and Power Recovery Plant of Project Transportation Facilities.....	192
B-7 Reconciliation of Capital Costs Allocated to Water Supply and Power Generation	200
B-8 Capital Costs of Requested Delivery Structures.....	201
B-9 Capital Costs of Requested Excess Peaking Capacity.....	202
B-10 Capital Costs of Each Aqueduct Reach to be Reimbursed Thru Capital Cost Component of Transportation Charge.....	204
B-11 Minimum OMP&R Costs of Each Aqueduct Reach to be Reimbursed Thru Minimum OMP&R Component of Transportation Charge.....	212
B-12 Variable OMP&R Costs to be Reimbursed Thru Variable OMP&R Component of Transportation Charge.....	220
B-13 Capital and Operating Costs of Project Conservation Facilities to be Reimbursed Thru Delta Water Charge.....	223
B-14 Capital Costs of Transportation Facilities Allocated to Each Contractor.....	224
B-15 Capital Cost Component of Transportation Charge for Each Contractor.....	228
B-16A Minimum OMP&R Component of Transportation Charge for Each Contractor.....	232
B-16B Minimum OMP&R Component of Transportation Charge for Each Contractor for Off-Aqueduct Power Facilities.....	236
B-17 Unit Variable OMP&R Component of Transportation Charge.....	240
B-18 Variable OMP&R Component of Transportation Charge For Each Contractor.....	244
B-19 Total Transportation Charge For Each Contractor.....	248
B-20A Calculation of Delta Water Rates.....	252
B-20B Delta Water Rates by Facility.....	253
B-21 Total Delta Water Charge For Each Contractor.....	254
B-22 Total Transportation and Delta Water Charge for Each Contractor.....	258
B-23 Equivalent Unit Charge for Water Supply for Each Contractor.....	262
B-24 Equivalent Unit Transportation Costs of Water Delivered From or Thru Each Aqueduct Reach.....	263
B-25 Annual Surplus Water Deliveries.....	264
B-26 Power Costs for Pumping Surplus Water.....	265
B-27 Power, Replacement, and Administrative Charge for Surplus Water Deliveries.....	266

APPENDIX B

DATA AND COMPUTATIONS USED IN DETERMINING WATER CHARGES FOR 1986

Each year, DWR furnishes statements of charges to the 30 long-term SWP water supply contractors. These statements are described in Article 29(e) of the "Standard Provisions for Water Supply Contract", which provides that:

"...All such statements shall be accompanied by the latest revised copies of the document amendatory to Article 22 and of Tables B, C, D, E, F, and G of this contract, together with such other data and computations used by the State in determining the amounts of the above charges as the State deems appropriate."

To comply with Article 29(e), DWR performs yearly a comprehensive review and redetermination of all water supply and financial aspects of the SWP for the entire Project repayment period. This annual redetermination is provided for in Water Contract Article 22(f), concerning the Delta Water Rate per acre-foot of future entitlement, and in Article 28, with regard to the annual Transportation Charges for the entire Project repayment period.

Appendix B documents the redetermination of water charges to be paid by contractors during calendar year 1986 and is based on established data, both known and projected, on the SWP as of June 30, 1985. The computational procedures and interrelationships between tabulations in this appendix are outlined in Figure B-1. All B-tables shown in Figure B-1 are included at the end of this text. Appendix B also documents payments by contractors under amended Article 21 of the Standard Provisions for surplus water deliveries from the SWP.

Contract amendments are in progress to implement changes in the configuration

and capacity of certain North Bay Aqueduct facilities. The determination of charges described in this appendix reflects the existing contracts and projected costs without the pending changes. Once the contract amendments are executed, the water charges for the North Bay Aqueduct contractors will be adjusted as necessary.

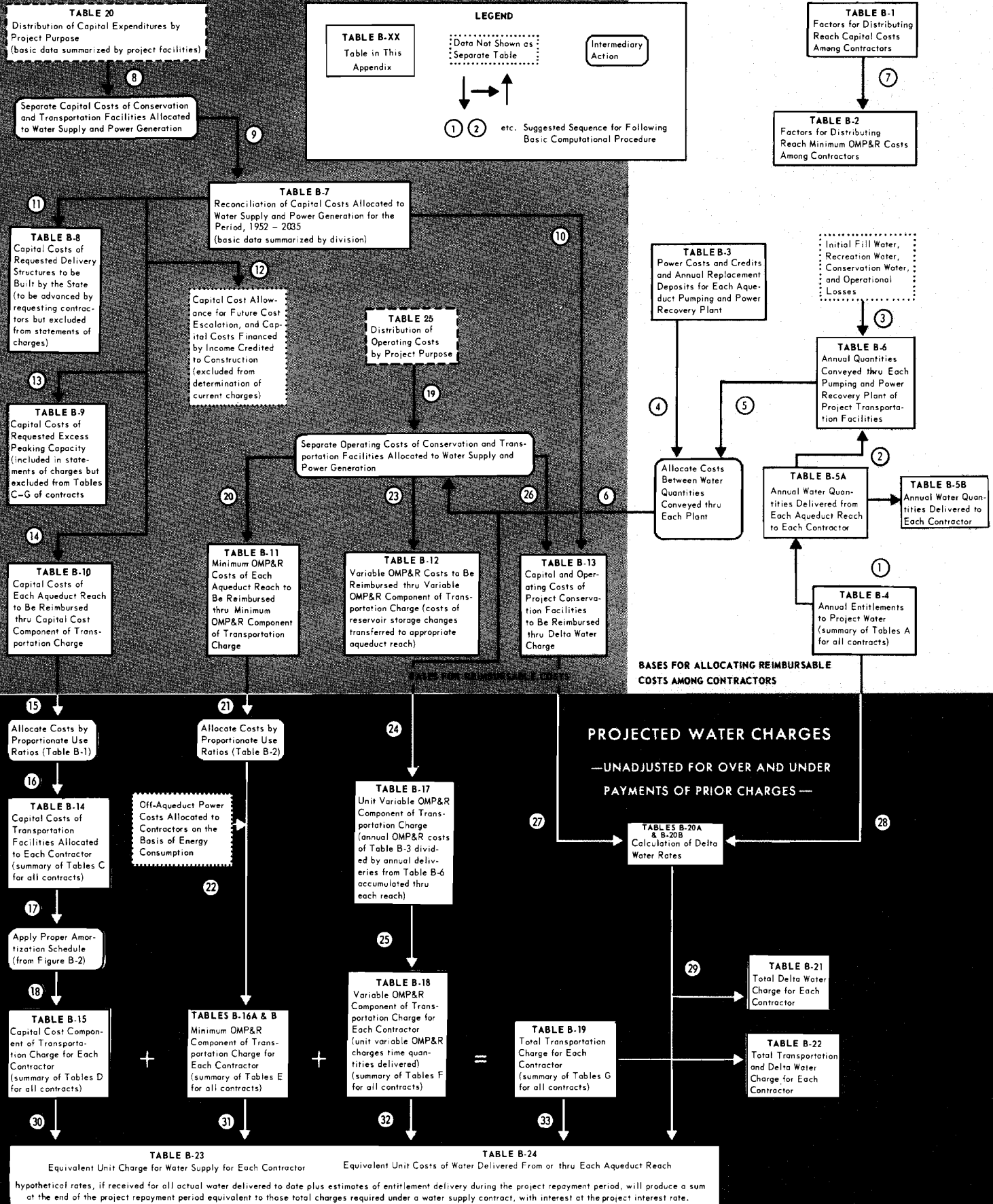
Types of Water Charges

Costs of SWP facilities that are necessary for either the conservation and development of water supply, or conveyance of such supply to SWP service areas, are included in charges to water contractors. The Standard Provisions classify these facilities as "Project conservation facilities" and "Project transportation facilities." Following is a list of the principal facilities in each classification:

Project Conservation Facilities

- o Frenchman Dam and Lake;
- o Grizzly Valley Dam and Lake Davis;
- o Antelope Dam and Lake;
- o Oroville Dam and Lake Oroville;
- o Oroville Power Facilities;
- o Delta Facilities;
- o Additional Conservation Facilities;
- o a portion of the California Aqueduct from the Delta to Dos Amigos Pumping Plant;
- o San Luis Dam, Reservoir, and Pumping-Generating Plant.

FIGURE B-1: RELATIONSHIPS OF DATA USED TO SUBSTANTIATE STATEMENTS OF CHARGES



Project Transportation Facilities

- o Grizzly Valley Pipeline;
- o North Bay Aqueduct;
- o South Bay Aqueduct (including Del Valle Dam and Lake Del Valle);
- o the remainder of the California Aqueduct from the Delta to Dos Amigos Pumping Plant and all facilities south, including dams and lakes in Southern California;
- o Off-Aqueduct Power Facilities (Reid Gardner Unit No.4, Bottle Rock Powerplant, South Geysers Powerplant).

The Standard Provisions provide for two basic annual charges for project water:

- o the Delta Water Charge, which will be paid by all contractors and which will return all reimbursable costs of the Project conservation facilities to the State;
- o the Transportation Charge, in addition to the Delta Water Charge, which will be paid by those contractors served by the Project transportation facilities and which will return all reimbursable costs of such facilities to the State.

The Delta Water Charge is a unit charge applied to each acre-foot of SWP water the contractors are entitled to receive under their contracts. The unit charge, if applied to each acre-foot of all such entitlements for the remainder of the Project repayment period, will repay all outstanding reimbursable costs of the Project conservation facilities, with appropriate interest, by the end of the period (2035).

The Transportation Charge is a charge for use of facilities to transport water to the vicinity of each contractor's turnout. Generally, the annual charge represents each contractor's proportionate share of the reimbursable

capital costs and operating costs of Project transportation facilities. Each contractor's allocated share of these reimbursable capital costs is amortized for repayment to the State and certain variations are allowed in the amortization methods. The contractors' shares of reimbursable operating costs are repaid essentially in the year such costs are incurred by the State.

Composition and Timing of Water Charges

As detailed in Figure B-2, The Delta Water Charge and the Transportation Charge consist of the following components:

- o Conservation and Transportation capital cost components, which will return to the State all reimbursable capital costs;
- o Conservation and Transportation minimum OMP&R components, which will return to the State all reimbursable operating costs that do not depend on quantities of water actually delivered to the contractors;
- o a Transportation variable OMP&R component, which will return to the State all reimbursable operating costs that depend on, and vary with, quantities of water actually delivered to the contractors.

The Transportation Charges do not include certain credits from contractor payments under supplemental agreements including the following:

- o payments for State construction of requested delivery structures that exceed actual construction costs of such structures;
- o payments for State construction of requested excess capacity in Project transportation facilities that exceed actual construction costs of such excess capacity.

**FIGURE B-2: COMPOSITION OF DELTA WATER
CHARGE AND TRANSPORTATION CHARGE**

DELTA WATER CHARGE	CAPITAL COST COMPONENT	<ol style="list-style-type: none"> 1. Planning, design, right of way, and construction costs of conservation facilities 2. O&M costs for newly constructed conservation facilities prior to initial operation 3. Activation costs for newly constructed conservation facilities 4. Power costs allocated to initial filling of San Luis Reservoir 5. Capitalized O&M costs (major repair work, etc.) for conservation facilities 6. Credits for a portion of Hyatt-Thermalito power generation
	MINIMUM OMP&R COMPONENT	<ol style="list-style-type: none"> 1. Direct O&M costs of conservation facilities <ol style="list-style-type: none"> a. Headquarters and field divisions (portion) b. Insurance and FERC costs (portion) 2. General O&M costs allocated to conservation facilities <ol style="list-style-type: none"> a. Contractor Accounting Office (portion) b. Financial and contract administration (portion) c. Water rights d. Power planning for SWP facilities (portion) 3. Replacement deposits for SWP control centers (portion) 4. Credits for a portion of Hyatt-Thermalito power generation 5. Costs and credits for San Luis Reservoir storage changes 6. Value of power used and generated by San Luis Pumping-Generating Plant
TRANSPORTATION CHARGE	CAPITAL COST COMPONENT	<ol style="list-style-type: none"> 1. Planning, design, right of way, and construction costs of transportation facilities 2. O&M costs for newly constructed transportation facilities prior to initial operation 3. Activation costs for newly constructed transportation facilities 4. Power costs allocated to initial filling of Southern California reservoirs 5. Capitalized O&M costs (major repair work, etc.) for transportation facilities
	MINIMUM OMP&R COMPONENT	<ol style="list-style-type: none"> 1. Direct O&M costs <ol style="list-style-type: none"> a. Headquarters and field divisions (portion) b. Insurance and FERC costs (portion) 2. General O&M costs allocated to transportation facilities <ol style="list-style-type: none"> a. Contractor Accounting Office (portion) b. Financial and contract administration (portion) c. Power planning for SWP facilities (portion) 3. Power costs and credits related to pumping water to refill Southern California reservoirs (storage changes) 4. Power costs for pumping water to replenish losses from transportation facilities 5. Other power costs <ol style="list-style-type: none"> a. Station service at transportation facility power and pumping plants b. Transmission service costs related to "backbone" transmission facilities 6. Replacement deposits for SWP control centers (portion) 7. Off-Aqueduct power facility costs - bond service, bond cover costs (25% of bond service), bond reserves, transmission costs to provide service to "backbone," fuel costs, taxes, and O&M - less power sales allocated to Off-Aqueduct power facilities
	VARIABLE OMP&R COMPONENT	<ol style="list-style-type: none"> 1. Power purchase costs <ol style="list-style-type: none"> a. Capacity b. Energy c. Pine Flat bond service, O&M, and transmission costs allocated to aqueduct pumping plants 2. Alamo, Devil Canyon, Warne, and Castaic power generation credited at the power plant reach and charged to aqueduct pumping plants 3. Hyatt-Thermalito and Thermalito Diversion Dam Powerplant generation charged to aqueduct pumping plants (credits for this generation are reflected in the Delta Water Rate) 4. Replacement deposits for equipment at pumping plants and power plants 5. Credits from sale of excess SWP system power

Article 28 of the Standard Provisions provides that Transportation Charges be redetermined each year. Transportation Charges for prior years through 1984 do not equal those amounts actually paid by contractors. All differences between actual payments and amounts computed in this redetermination are accumulated, with interest credits or debits, and through a "one-shot" adjustment are deducted from or added to the redetermined amounts of the Transportation Charge to be paid by respective contractors during 1986. An exception to this procedure is adjustment to the capital cost component associated with agricultural use by Kern County Water Agency, Devil's Den Water District, Dudley Ridge Water District, Empire West Side Irrigation District, Oak Flat Water District, and Tulare Lake Basin Water Storage District. Differences between actual payments and amounts computed in this redetermination are amortized for these water contractors and paid during the remaining years of their contract repayment period. All adjustment computations are shown in the attachments accompanying each contractor's Statement of Charges and are reflected in revised copies of Tables C through G of the contract, also furnished with the Statement of Charges.

The formula for computing the Delta Water Rate, Article 22(f) of the Standard Provisions, provides that all adjustments for prior overpayments or underpayments of the Delta Water Charge are accounted for in a redetermination of the Rate. Since the redetermined Rate applies to all future entitlements, such adjustments are amortized during the remainder of the Project repayment period. This report includes a redetermination of the Delta Water Rate for 1986.

These redeterminations exclude charges associated with water service other than the Delta Water Charge and the Transportation Charge. These excluded

charges (and the manner in which such excluded charges are treated herein) are:

- o Advances of funds pursuant to Article 24(d) of the Standard Provisions, for excess capacity constructed by the State at the request of contractors.
- o Advances of funds pursuant to Article 10(d) of the Standard Provisions, for delivery structures (turnouts) constructed by the State at the request of contractors. Partial information is included in this appendix concerning actual and projected capital costs of such delivery structures. Statements concerning these costs and data are furnished to the appropriate contractors at various times and are not part of the annual statements.
- o Payments for sale and service of surplus water to entities other than contractors, pursuant to Article 21 of the Standard Provisions. These payments are generally based on the unit rates shown in Table B-24. Net revenues resulting from "noncontractor" service are applied as described in Bulletin 132-71, page 24.
- o Payments under the Devil Canyon-Castaic Contract for costs of the Devil Canyon and Castaic facilities allocable to power generation. Charges under the Contract are billed separately from those under the Water Supply Contract. The treatment of such charges in relation to redetermined Transportation Charges is shown in special attachments to the bills of the six participating contractors.

The time and method of payment for corresponding components of the Delta Water Charge and the Transportation Charge are as follows:

- o The capital cost components of the Delta Water Charge and the Transportation Charge are paid in two semiannual installments, due January 1 and July 1 of each year, on the basis of statements furnished by the State about July 1 of the preceding year.
- o The minimum OMP&R components of the Delta Water Charge and the Transportation Charge are paid in 12 equal installments, due the first of each month, on the basis of statements furnished by the State about July 1 of the preceding year.
- o The variable OMP&R component of the Transportation Charge is paid in varying monthly amounts, due the 15th of the second month following actual water delivery. The charges are projected based on a unit charge per acre-foot established about July 1 of the preceding year. These unit charges may be revised several times during the year to reflect current power costs and revenues. These unit charges are applied to actual monthly delivery quantities as determined by the State on or before the 15th of the month following actual delivery.

Bases for Allocating Reimbursable Costs Among Contractors

This section discusses DWR's procedures (diagrammed in the upper right portion of Figure B-1) for allocating reimbursable costs of Project transportation facilities among contractors. These costs do not include annual costs of Off-Aqueduct power facilities, which are discussed in the "Project Water Charges" section.

Capital and Minimum OMP&R Costs

Figure B-5, following the text in this appendix, shows repayment reaches that are the basis for allocating reimbursable costs of Project transportation facilities among contractors.

Allocations of reimbursable capital costs and minimum OMP&R costs of each reach are based on the proportionate maximum use of that reach by respective contractors under planned conditions of full development.

The derivation of ratios that represent the proportionate maximum use of each aqueduct reach by the respective contractors was described in Bulletin 132-70. Such factors are still valid -- except for the reaches of the California Aqueduct from the Delta to the Coastal Branch, for reaches of the South Bay Aqueduct, and for the Coastal Branch.

Revised ratios for the first reach of the California Aqueduct and for the South Bay Aqueduct are described in Bulletin 132-72 and reflect certain contract amendments executed early in 1972 regarding South Bay Aqueduct use (Bulletin 132-73, pages 33-35).

Bulletin 132-83 presented revised ratios for reaches in the Coastal Branch and in the California Aqueduct from the Delta to the Coastal Branch. These revisions reflect a contract amendment with Santa Barbara County Flood Control and Water Conservation District that reduced maximum annual entitlement from 57,700 acre-feet to 45,486 acre-feet.

Ratios for allocating costs of the North Bay Aqueduct will be revised when pending contract amendments are executed. These amendments will provide for addition of capacity and conveyance of more water for the Solano County Flood Control and Water Conservation District.

Table B-1 presents the reach ratios currently applicable to reimbursable capital costs.

Table B-2 presents corresponding ratios for reimbursable minimum OMP&R costs. Requested excess capacity is omitted when deriving ratios in Table

B-1 (because the capital costs for the excess capacity are paid on an incremental-cost basis and not a proportionate-use basis) but is accounted for in Table B-2.

Variable OMP&R Costs

Contract Article 26(a) provides that the variable OMP&R component of the Transportation Charge shall return to the State those costs that depend upon and vary with the amount of SWP water delivered. (The minimum OMP&R component returns those operating costs that do not vary with deliveries.) The Article explains that all such costs for a reach for a given year shall be allocated among contractors in proportion to the actual annual use of that reach by the respective contractors.

Table B-3 summarizes total variable OMP&R costs for each SWP pumping and power plant. These variable costs comprise the following:

- o Costs of capacity and energy used, exclusive of associated power transmission and station service charges. (Transmission and station service costs are classified as minimum OMP&R costs.)
- o Credits for capacity and energy produced at aqueduct power recovery plants (treated as negative costs).
- o Annual payments to sinking fund reserves to finance periodic replacement of major plant machinery components having economic lives shorter than the Project repayment period. Sinking fund payments for 1962 through 1979 were based on a schedule determined in 1970. Sinking fund payments for 1980 through 1984 and amounts projected from 1985 through 2035 are based on a revised replacement schedule. This schedule was updated in 1982. DWR plans to update this schedule at five-year intervals. Current sinking fund payments are substantially greater than those projected in 1970.

Table B-3 excludes plant capacity and energy costs associated with surplus water service after May 1, 1973. Prior to that date, surplus water service was charged the same unit variable OMP&R component as entitlement water service. Beginning May 1, 1973, the rate structure for surplus water service was significantly changed. Since then, capacity and energy costs for pumping surplus water have been allocated directly to those water contractors receiving that water service.

Water Conveyance

Four Appendix B tables present the water conveyance quantities that form the basis of allocation of variable OMP&R costs.

Table B-4 presents the schedules of annual entitlements as set forth in Table A of each water supply contract.

Table B-5A shows actual and projected water quantities delivered from each aqueduct reach to each contractor. Projected deliveries for 1985 through 2035 are based on contractor requests for future water deliveries. The Table B-5A quantities also include nonproject water delivered to contractors and surplus water deliveries prior to May 1, 1973. (For a comparison of historic deliveries to annual entitlements, see Table 3 in Chapter II.)

Table B-5B presents a summary of actual and projected annual water quantities delivered or to be delivered to each contractor.

Table B-6 summarizes the annual water quantities conveyed, or to be conveyed, through each aqueduct pumping plant or power plant for each of the following functions:

- o Made available to contractors at down-aqueduct delivery structures ("Deliveries -- Water Supply").

- o Required to initially fill down-aqueduct reaches and reservoirs, or for repayment of preconsolidation water used during construction ("Initial Fill Water").
- o Delivered to down-aqueduct recreation developments or used for fish and wildlife mitigation or enhancement ("Deliveries -- Recreation").
- o Lost through evaporation and seepage from all down-aqueduct reaches ("Operational Losses").
- o Placed in down-aqueduct reservoir storage after initial filling of the reservoirs ("Reservoir Storage Changes"). With one exception, "Reservoir Storage Changes" also includes SWP water placed into Southern California ground water storage in 1978 through 1982 (as positive amounts), and water withdrawn from storage and delivered to contractors between 1979 and 1982 (as negative amounts). The exception is at Banks Delta Pumping Plant, where the ground water additions and withdrawals are included in "Conservation Water".

In addition, Table B-6 summarizes the following under the heading "Conservation Water" (Column 20):

- o Net annual water amounts stored and projected to be stored in San Luis Reservoir.
- o Water lost and projected to be lost through evaporation and seepage from San Luis Reservoir and from the water conservation portion of the California Aqueduct.

San Luis Reservoir is operated to conserve water for future delivery to downstream contractors. To account for costs associated with reservoir storage, those power and replacement costs of the Banks Delta Pumping Plant (a joint transportation-conservation facility) that are allocated to the convey-

ance of annual "conservation water" quantities, are transferred to the capital costs of San Luis Reservoir (during initial fill) or to the minimum OMP&R costs of San Luis Reservoir (subsequent to initial fill). In years of net storage withdrawal from San Luis Reservoir, a portion of the minimum OMP&R cost of the reservoir is transferred to the variable OMP&R cost of the Banks Delta Pumping Plant. This transfer is equal to the variable OMP&R cost per acre-foot of delivery through the Banks Delta Pumping Plant for that year, multiplied by the acre-feet of deliveries derived from San Luis Reservoir storage for that year.

Bases for Reimbursable Costs

This section describes the derivation of the costs that are allocated by the procedures described in the preceding section. The cost derivation process is diagrammed in the upper left quadrant of Figure B-1.

First, The capital and OMP&R costs of all SWP facilities are allocated among the various project purposes according to the allocation percentages in Figure B-3. These percentages are subject to future revision. The redeterminations in this appendix are concerned only with the costs that are allocated to water supply and power generation.

Capital Costs

Capital costs used in the redeterminations in this appendix reflect prices prevailing on December 31, 1984; future cost escalation will be reflected in subsequent bulletins.

Table B-7 presents a reconciliation of estimated total capital costs of each Project conservation facility and each Project transportation facility.

Table B-8 shows costs incurred and projected to be incurred by the State in connection with each contractor's turnouts. Costs incurred by the State

FIGURE B-3: COST ALLOCATION FACTORS

Project Facilities	Water Supply and Power Generation		All Other Purposes (Nonreimbursable)	
	Capital Costs	Minimum OMP&R Costs	Capital Costs	Minimum OMP&R Costs
(in percent)				
Project Conservation Facilities				
Frenchman Dam and Lake	21.5	0	78.5	100.0
Antelope Dam and Lake	0	0	100.0	100.0
Grizzly Valley Dam and Lake Davis	1.0	1.8	99.0	98.2
Oroville Division ^(a)	97.1	99.5	2.9	0.5
California Aqueduct, Delta to Dos Amigos Pumping Plant	96.6	96.7	3.4	3.3
Delta Facilities	86.0	86.0	14.0	14.0
Transportation Facilities				
Grizzly Valley Pipeline	100.0	100.0	0	0
North Bay Aqueduct	100.0	100.0	0	0
South Bay Aqueduct:				
Del Valle Dam and Lake Del Valle	25.2	22.0	74.8 ^(b)	78.0 ^(c)
Remainder of South Bay Aqueduct	100.0	100.0	0	0
California Aqueduct:				
Delta to Dos Amigos Pumping Plant	96.6	96.7	3.4	3.3
Dos Amigos Pumping Plant to terminus excluding Coastal Branch	94.3	96.9	5.7	3.1
Coastal Branch	100.0	100.0	0	0

- a) Percentages shown are applicable to the remaining costs of the Division after excluding costs allocated to flood control that are reimbursed by the Federal Government (22 percent of capital costs) and excluding specific power costs of Edward Hyatt and Thermalito Powerplants and Switchyards.
- b) Percentage shown consists of 48.0 percent recreation and 26.8 percent flood control.
- c) Percentage shown consists of 44.9 percent recreation and 33.1 percent flood control.

for both State- and contractor-constructed delivery structures are paid directly by the contractors for which the structures are built. (The State incurs design review and construction inspection costs in connection with contractor-constructed turnouts.)

Table B-9 lists costs and payments for excess capacity built into SWP transportation facilities under amendments to contracts with MWDSC, San Gabriel Valley Municipal Water District, and Antelope Valley-East Kern Water Agency as follows:

- o additional costs incurred by the State for requested excess capacity;
- o advances, by water contractors, of funds for such costs;
- o credits for advances in excess of costs, which were applied to the respective contractors' installments of the capital cost component of the Transportation Charge in 1981.

Under Amendment 2 of MWDSC's contract, 809 cfs of excess capacity originally was constructed in reaches of the West

Branch at MWDSC's request. Under Amendment 7, this capacity was reclassified as basic capacity of the SWP transportation facilities. MWDSC paid \$16.3 million as a prepayment of the capital cost component of the Transportation Charge in lieu of advancing of funds for the originally requested capacity.

Amendment 5 to MWDSC's contract requires that additional costs for modifications to the Santa Ana Valley Pipeline (required for enlargement of Lake Perris) are to be allocated to MWDSC and returned to the State through payments of the Transportation Charge. The additional costs to be repaid through MWDSC's capital cost component for the aqueduct reach from Devil Canyon Powerplant to Barton Road total about \$6.7 million as shown in Bulletin 132-72, page 98.

Table B-10 presents the actual and projected annual capital costs of each aqueduct reach that will eventually be returned to the State, with interest, through contractor payments of the capital cost component under the Transportation Charge and of debt service under the Devil Canyon-Castaic Contract.

Annual Operating Costs

Annual operating costs allocable to water supply and power generation are returned to the State through the minimum and variable OMP&R components of Delta Water and Transportation Charges and through a portion of the revenues from energy sales. All reimbursable operating costs of conservation facilities are included in the minimum OMP&R component of the Delta Water Charge.

Table B-11 lists the actual and projected costs to be reimbursed through payments of (1) the minimum OMP&R component under the Transportation Charge, and (2) allocated operating costs under the Devil Canyon-Castaic Contract. Table B-11 includes the following types

of operating costs, which are considered to be incurred in annual amounts that do not vary with the water quantities delivered to the contractors:

- o all direct labor charges for field operation and maintenance personnel, including associated indirect costs;
- o a distributed share of general operating costs that cannot be identified solely with one facility or aqueduct reach;
- o electric power transmission and station service costs allocable to aqueduct pumping and power recovery plants;
- o all costs for equipment, materials, and supplies and for replacement of electronic control systems;
- o portions of the power and replacement costs of all up-aqueduct pumping and power plants that are allocable to the annual conveyance of water (1) lost to evaporation and seepage from respective aqueduct reaches, or (2) placed into storage in respective reservoirs of the Project transportation facilities (after initial fill);
- o credits, which offset those costs in (2) above, for deliveries drawn from reservoir storage;
- o escalation of projected operating costs at 6 percent per year through 1987.

Table B-12 shows the portions of the variable OMP&R costs in Table B-3 that are allocable to the water supply delivery quantities shown in Table B-6 and reimbursed through payments of the variable OMP&R component of the Transportation Charge. The following adjustments are made to the Table B-3 costs to derive the Table B-12 costs:

- o A portion of the variable OMP&R costs of each plant is allocated to recreation. The allocation to recreation is in proportion to the quantity of water conveyed through each plant each year for delivery to on-shore recreation developments.
- o That portion of variable plant costs attributable to the initial fill of aqueduct reaches is allocated to the joint capital costs of respective down-aqueduct reaches and reservoirs.
- o That portion of costs attributable to evaporation and seepage is allocated to the joint minimum OMP&R costs of respective down-aqueduct reaches and reservoirs.
- o Adjustments are made for additions or withdrawals from storage in aqueduct reservoirs. In years when water is added to storage in aqueduct reservoirs, the cost of conveying this water into storage is charged to the minimum OMP&R costs of the corresponding reservoir. The unit cost is equal to the variable OMP&R unit rate for the year the water is conveyed into storage. In years when storage in aqueduct reservoirs is decreased for the purpose of making deliveries, a credit is applied to the minimum OMP&R costs of the reservoir from which the storage is released. This credit is equal to the number of acre-feet of storage reduction times the variable OMP&R unit rate for the year storage is released.

Table B-13 summarizes actual and projected capital and operating costs of the initial Project conservation facilities to be reimbursed through payments under (1) the Delta Water Charge, (2) Oroville power sales, and (3) San Luis power credits. Included in Table B-13 are credits applied to the reimbursable capital costs of the Project conservation facilities pursuant to negotiated settlements concerning the magnitude of incurred planning costs for the period 1952 through 1978.

Project Water Charges

This section summarizes the redetermination of past and projected components of the Transportation Charge for annual revision of Tables C through G of each water contract. This section also describes derivation of the unit Delta Water Rates. Equivalent unit charges for each acre-foot of entitlement water service are also summarized herein for each contractor and each aqueduct reach. All of these calculations are diagrammed in the lower half of Figure B-1.

Transportation Charges

The accumulation of allocated costs of each aqueduct reach to each contractor forms the basis for the annual components of the Transportation Charge.

Table B-14 summarizes each contractor's share of the capital costs of aqueduct reaches presented in Table B-10. These amounts are determined by applying proportionate-use ratios set forth in Table B-1 to the costs shown in Table B-10. The resulting allocated costs are set forth in Table C of the respective water supply contracts.

Prepayments of the capital cost component, required under MWDSC's Amendment 7, are included as negative capital costs in Table B-14 and in Table C of MWDSC's Statement of Charges for 1986. Empire West Side Irrigation District and Devil's Den Water District also prepaid capital costs (see Table B-14 footnotes).

Both Table B-14 and Table C of the six contracts for Project water service below Devil Canyon and Castaic Powerplants include the capital costs reimbursable under the Devil Canyon-Castaic Contract.

Table B-15 summarizes the capital cost components of the Transportation Charge for each contractor for each year of the Project repayment period, based on the amortization schedules

shown in Figure B-4. These estimated components, subsequently adjusted for prior overpayments or underpayments, are set forth in Table D of the respective water supply contracts. Credits for advance payment for excess capacity that exceeds actual costs of such capacity are applied to reduce the payment amounts set forth in Table D, but are not included in Table B-15. Both Table B-15 and Table D for the six contractors down-aqueduct from Devil Canyon and Castaic Powerplants include the debt service payments due under the Devil Canyon-Castaic Contract.

Table B-16A summarizes the minimum OMP&R components of the Transportation Charge for each year of the Project repayment period. These estimated components, subsequently adjusted for prior overpayments or underpayments, are set forth in Table E of the respective contracts. The total amounts shown in Table B-16A are determined by applying the proportionate-use ratios in Table B-2 to the reach costs presented in Table B-11.

Both Table B-16A and Table E for the six contractors down-aqueduct from Devil Canyon and Castaic Powerplants include the portion of operating costs payable under the Devil Canyon-Castaic Contract.

Under operating agreements with DWR, Kern County Water Agency is billed for any additional operating costs caused by early installation of units by Berrenda Mesa Water District in Las Perillas and Badger Hill Pumping Plants (see Bulletin 132-71, page 7). Under these agreements, the following minimum OMP&R costs of Reach 31A are assigned directly to the Agency, with the remaining reach costs allocated by application of the proportionate-use ratios:

Year	Direct Charge	Year	Direct Charge
1969	\$ 46,511	1981	\$ 29,904
1970	46,302	1982	75,972
1971	139,682	1983	86,523

1972	109,782	1984	88,856
1973	71,716	1985	140,433
1974	98,851	1986	151,104
1975	125,003	1987	173,467
1976	137,531	1988	184,400
1977	120,168	1989	184,531
1978	152,760	1990	184,664
1979	118,799	1991	184,868
1980	144,355	1992	184,946
		Total.....	\$2,981,128

Table B-16B projects the annual charges for Off-Aqueduct power facilities allocated to each water contractor. These charges are to repay all Off-Aqueduct power costs including bond service, deposits for reserves, operation and maintenance costs, fuel costs, taxes, and insurance. The General Bond Resolution, adopted October 1, 1979, requires that sufficient revenues be collected each year for all of these costs. In addition, an amount totaling 25 percent of the annual bond service is collected each year to ensure that sufficient funds are available to "cover" all annual costs. Any revenues collected and not needed at the end of the year are refunded to the contractors in the next year.

The following tabulation summarizes Off-Aqueduct power facility charges for 1983 and 1984. The net charges for these years are allocated among contractors as shown in Table B-16B.

Item	1983	1984
Charges		
Reid Gardner	\$31,658,370	\$73,747,652
Bottle Rock	0	3,225,420
South Geysers	0	558,139
Total	\$31,658,370	\$77,561,211
Credits		
Return of Excess "Cover" Charges ^a	\$ 3,720,654	\$ 2,976,523
Off-Aqueduct Power Sales	7,755,246	\$14,027,907
Total	\$11,475,900	\$17,004,430
Net Off-Aqueduct Power Facility Charges	\$20,182,470	\$60,556,781

a) Excess charges are returned after year ends.

**FIGURE B-4: CRITERIA FOR AMORTIZATION OF
CAPITAL COSTS OF TRANSPORTATION FACILITIES**

Contractor	Year of Initial Payment ^(a)
Alameda County Flood Control and Water Conservation District, Zone 7	1963 ^(b)
Alameda County Water District	1963
Antelope Valley-East Kern Water Agency	1963
Castaic Lake Water Agency	1964
City of Yuba City	(c)
Coachella Valley Water District	1964
County of Butte	(c)
County of Kings	1968
Crestline-Lake Arrowhead Water Agency	1964
Desert Water Agency	1963 ^(d)
Devil's Den Water District	1968 ^(e)
Dudley Ridge Water District	1968 ^(e)
Empire West Side Irrigation District	1968 ^(e)
Kern County Water Agency	
Agricultural Use	1968 ^(e)
Municipal and Industrial Use	1965
Littlerock Creek Irrigation District	1964
Mojave Water Agency	1964
Napa County Flood Control and Water Conservation District	1966
Oak Flat Water District	1968 ^(e)
Palmdale Water District	1964
Plumas County Flood Control and Water Conservation District	1970
San Bernardino Valley Municipal Water District	1963
San Gabriel Valley Municipal Water District	1963 ^(d)
San Geronio Pass Water Agency	1963 ^(d)
San Luis Obispo County Flood Control and Water Conservation District	1964 ^(f)
Santa Barbara County Flood Control and Water Conservation District	1964 ^(f)
Santa Clara Valley Water District	1963
Solano County Flood Control and Water Conservation District	1973
The Metropolitan Water District of Southern California	1963
Tulare Lake Basin Water Conservation District	1968 ^(e)
Ventura County Flood Control District	1964

- a) Allocated capital costs of transportation facilities are amortized in equal annual installments, unless otherwise noted.
- b) Principal payments on each annual capital cost prior to 1971 delayed until calendar year 1972, except payments for 1963.
- c) Payments on Delta Water Charge only.
- d) Deferred and added to 1964 payment with accrued interest.
- e) Under Article 45 of the contracts for supply of agricultural water, capital costs of transportation facilities allocated to agricultural water supply are amortized via an equivalent unit rate per acre-foot applied to the annual entitlements (Table B-4) through the Project repayment period.
- f) Exception: all principal and interest payments for costs of "Coastal Stub" were deferred until 1976.

The following tabulation shows projected charges for Off-Aqueduct power facilities and an amount equal to 25 percent of annual bond service for 1985 and each year thereafter.

YEAR	TOTAL ANNUAL COST	25% of BOND SERVICE
1985	\$123,174,503	\$ 9,588,059
1986	138,252,998	13,454,272
1987	141,840,735	13,449,081
1988	144,900,031	14,795,768
1989	150,703,686	14,800,414
1990	153,190,766	14,809,414
1991	151,539,698	14,809,473
1992	151,149,783	14,815,476
1993	149,474,948	14,810,780
1994	149,573,714	14,810,955
1995	148,935,444	14,806,443
1996	149,545,250	14,805,261
1997	148,918,394	14,803,033
1998	147,492,479	14,801,352
1999	142,153,890	14,800,445
2000	138,027,981	14,795,880
2001	132,672,428	14,791,763
2002	128,563,042	14,790,689
2003	123,207,365	14,786,735
2004	119,130,907	14,792,435
2005	113,813,755	14,796,378
2006	109,729,447	14,800,703
2007	104,442,359	14,810,856
2008	100,295,240	14,802,819
2009	94,920,343	14,795,613
2010	90,770,003	14,787,135
2011	85,421,467	14,785,410
2012	80,679,320	14,851,722
2013	43,399,884	5,780,442
2014	52,768,050	5,796,418
2015	26,166,642	2,780,482
2016	19,377,050	1,807,600
2017	10,033,009	0
2018	10,339,050	0

The annual changes for Off-Aqueduct power facilities are allocated among contractors in proportion to the electrical energy required to pump entitlement water for the year. The initial allocation for the Statement of Charges is based on estimates of energy to pump requested entitlement water deliveries. An interim adjustment in the allocation of power costs may be made in May of each year based on April revisions in

water delivery schedules for annual entitlement. A further adjustment is made the following year based on actual entitlement water deliveries.

The energy required to pump each contractor's entitlement water is calculated using the following kWh/acre-foot factors for the pumping plants upstream from the delivery turnout.

Pumping Plant	kWh per acre-foot ^(a)	
	At Plant	Cumulative From Delta
North Bay		
Interim ^(b)	515	515
Barker Slough	184	184
Cordelia	534	718
Banks Delta	296	296
South Bay	797	1,093
Del Valle	72	1,165
Dos Amigos	138	434
Las Perillas	77	511
Badger Hill	200	711
Buena Vista	242	676
Wheeler Ridge	295	971
Wind Gap	639	1,610
Edmonston	2,236	3,846
Pearblossom	703	4,549
Oso	280	4,126

a) Includes transmission losses

b) In service through 1987

Table B-17 presents a summary of actual and projected total variable OMP&R costs for each acre-foot of water conveyed through each aqueduct pumping plant and power plant for each year of the Project repayment period. These data are derived pursuant to Article 26(a) of the Standard Provisions, which specifies the following procedure for calculating the variable OMP&R component of the Transportation Charge:

- o An annual charge per acre-foot of projected water deliveries to all contractors served from or through each reach is determined so that the projected variable OMP&R costs to be incurred for each reach will be returned to the State.

- o The total annual variable OMP&R component for any contractor for a given reach is obtained by multiplying the unit charge associated with that reach by the quantity of water actually delivered to the contractor downstream of the reach.

The data summarized in Table B-17 have been derived by dividing the costs shown in Table B-3 by the quantities of water shown in Table B-6. However, certain costs included in Table B-3 for "extra peaking service," which would otherwise constitute variable OMP&R costs, are assigned directly to contractors requesting this type of service (see Bulletin 132-71, page 21, and Water Service Contractors Council Memo No. 593, July 10, 1970). These costs are excluded from the unit charges shown in Table B-17. Extra peaking charges for additional power capacity are as shown below:

Year	Agency ^(a)	Pumping Plant	
		Dos Amigos	Las Perillas and Badger Hill
1972	KCWA	\$9,553	\$24,700
	TLBWSD	10	-
1973	KCWA	-	6,016
1974	KCWA	-	7,140
1975	KCWA	494	6,397
1976	KCWA	-	1,981
1978	KCWA	41,832	3,772
	DRWD	2,086	-
	Kings	43	-
	AVEK	2,322	-
1979	KCWA	-	3,245

- a) KCWA = Kern County Water Agency
 TLBWSD = Tulare Lake Basin W.S.D.
 DRWD = Dudley Ridge Water District
 Kings = County of Kings
 AVEK = Antelope Valley-East Kern W.A.

Table B-18 shows the variable OMP&R components of the Transportation Charge for each contractor for each year of the Project repayment period. Table 18

is developed from the costs per acre-foot shown in Table B-17 and the delivery quantities for each contractor from each reach as shown in Table B-5A, plus any costs for "extra peaking service." These estimated components, subsequently adjusted for prior overpayments or underpayments, are set forth in Table F of the respective water supply contracts.

Table B-19 summarizes the annual Transportation Charges for each contractor (the sums of the corresponding amounts shown in Tables B-15, B-16A, B-16B, and B-18.) These estimated payments, subsequently adjusted for prior overpayments or underpayments, are set forth in Table G of the respective water supply contracts. Both Table B-19 and Table G for the six contractors down-aqueduct from Devil Canyon and Castaic Powerplants include debt service and operating cost payments due under the Devil Canyon-Castaic Contract.

Delta Water Charges

Table B-20A shows the calculation of the Delta Water Rate for the "initial" conservation facilities applicable in 1986, in accordance with the amended Articles 22(e) and 22(g) of 29 contracts. Under the amended articles, future construction and operating costs of each additional and supplemental conservation facility will be included in the calculation of the rate in years when the State first incurs major construction costs. However, no costs of future conservation facilities are projected in the calculation of 1986 water charges.

One contract has not yet been amended (Solano County Flood Control and Water Conservation District). The Delta Water Rate for this contractor is also shown in Table B-20A. Future Delta Water Charges to this contractor, projected in Table B-21, are based on rates determined under original provisions of the water supply contract.

Table B-20B shows the portion of the 1986 Delta Water Rate from Table B-20A that repays each Project conservation facility.

Table B-21 summarizes the annual Delta Water Charge for each contractor. Table B-21 is developed by application of the total rate per acre-foot, as shown in Table B-20A, to the entitlement water for each contractor as shown in Table B-4.

Total Water Charges

Table B-22 summarizes total annual charges to each contractor (the sum of the Transportation Charge in Table B-19 and the Delta Water Charge in Table B-21).

Equivalent Total Water Charges

Table B-23 presents the Transportation and Delta Water Charges in terms of the equivalent unit charge for each acre-foot of entitlement water now estimated to be delivered to the respective contractors. These equivalent charges would provide the same principal sum at the end of the Project repayment period as annual payments to be made under the Delta Water Charge and Transportation Charge, plus interest at the Project Interest Rate; they also include an amount under the Transportation minimum OMP&R component for Off-Aqueduct power facilities. The Table B-23 equivalent unit Delta Water Charges are greater than those in Table B-20A because current estimates of future entitlement water service are appreciably less than the amounts shown in Table A for most contractors.

Equivalent Water Costs by Reach

Table B-24 presents a summary of the equivalent unit transportation cost of

conveying entitlement water through respective aqueduct reaches of the Project transportation facilities. These unit costs provide the basis of charges assessed (1) for "extra service" (such as for delivery of entitlements down-aqueduct from a contractor's turnout) and, (2) together with the Delta Water Charge per acre-foot, for surplus water service to entities other than the 30 long-term water supply contractors. The cumulative unit conveyance costs shown for reaches in Table B-24 do not necessarily equal the equivalent unit Transportation Charges to contractors served from such reaches. This is because the unit charges of Table B-23 account for the rate of water demand buildup and cost allocation factors of the individual contractors, whereas the unit costs of Table B-24 meld the effect of the respective buildups and allocation criteria of all contractors whose entitlements are conveyed through a given reach.

Surplus Water Service

Surplus water has been delivered from 1968 through 1984, except for the drought year of 1977.

Table B-25 shows the quantities of surplus water delivered to long-term contractors during the period of May 1, 1973 through December 31, 1984.

Table B-26 shows the costs for power that have been incurred by the State at each pumping plant associated with surplus water deliveries shown in Table B-25.

Table B-27 shows the actual charges to each contractor for delivery of the surplus water quantities shown in Table B-25. The method of determining these charges is discussed in Bulletin 132-77, page 117.

FIGURE B-5: REPAYMENT REACHES AND DESCRIPTIONS
PROJECT TRANSPORTATION FACILITIES

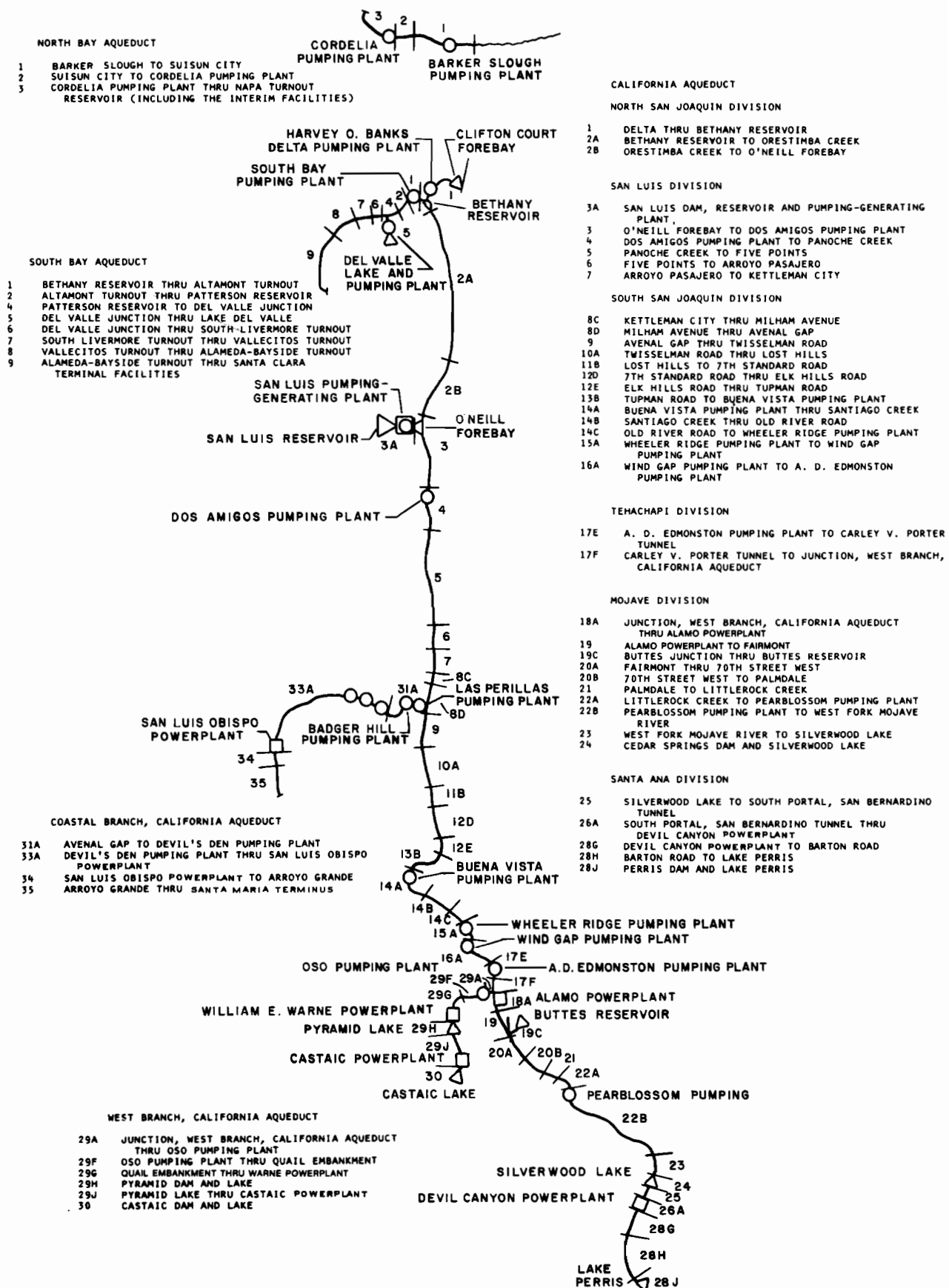


Table B-1 begins on next page.

TABLE B-1: FACTORS FOR DISTRIBUTING

Reach No.	Reach Description	NORTH BAY AREA		SOUTH BAY AREA				TOTAL
		Napa County FC&WCD	Solano County FC&WCD	Alameda County FC&WCD Zone 7	Alameda County Water District	Santa Clara Valley Water District	Future Contractor	
North Bay Aqueduct								
1	Barker Slough to Suisun City	.39808876	.60191124					1.00000000
2	Suisun City to Cordelia Pumping Plant	.39808861	.60191139					1.00000000
3	Cordelia Pumping Plant thru Napa Turnout Reservoir (Including the interim facilities)	1.00000000						1.00000000
South Bay Aqueduct								
1	Bethany Reservoir thru Altamont Turnout			.22599612	.20663022	.49237698	.07499668	1.00000000
2	Altamont Turnout thru Patterson Reservoir			.22599657	.20663060	.49237783	.07499500	1.00000000
4	Patterson Reservoir to Del Valle Junction			.19504794	.21450018	.51113249	.07931939	1.00000000
5	Del Valle Junction thru Lake Del Valle			.14436367	.12972254	.33715573	.38875806	1.00000000
6	Del Valle Junction thru South Livermore Turnout			.14599918	.21144710	.50574745	.13680627	1.00000000
7	South Livermore Turnout thru Vallecitos Turnout				.25176680	.60218448	.14604872	1.00000000
8	Vallecitos Turnout thru Alameda-Bayside Turnout				.06294980	.72065355	.21639665	1.00000000
9	Alameda-Bayside Turnout thru Santa Clara Terminal Facilities					1.00000000		1.00000000
California Aqueduct								
1	Delta Thru Bethany Reservoir			.00954802	.00872977	.02080260	.00342519	— — —

Reach No.	Reach Description	CENTRAL COASTAL AREA		SOUTHERN				
		San Luis Obispo County FC&WCD	Santa Barbara County FC&WCD	Antelope Valley-East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency
California Aqueduct								
1	Delta Thru Bethany Reservoir	.00533047	.00983404	.02939503	.00890866	.00528393	.00133628	.00871425
2A	Bethany Reservoir to Orestimba Creek	.00557252	.01028060	.03072975	.00931319	.00552151	.00139638	.00910607
2B	Orestimba Creek to O'Neill Forebay	.00557864	.01029191	.03076360	.00932344	.00552915	.00139831	.00911867
3	O'Neill Forebay to Dos Amigos Pumping Plant	.00557758	.01028995	.03075777	.00932168	.00552856	.00139816	.00911771
4	Dos Amigos Pumping Plant to Panoche Creek	.00557646	.01028790	.03075165	.00931982	.00552794	.00139801	.00911670
5	Panoche Creek to Five Points	.00557506	.01028534	.03074401	.00931751	.00552717	.00139781	.00911543
6	Five Points to Arroyo Pasajero	.00557297	.01028147	.03073244	.00931400	.00552602	.00139750	.00911351
7	Arroyo Pasajero to Kettleman City	.00557229	.01028022	.03072873	.00931287	.00552565	.00139740	.00911289
8C	Kettleman City thru Milham Avenue	.00557143	.01027864	.03072405	.00931145	.00552517	.00139729	.00911211
8D	Milham Avenue thru Avenal Gap	.00568653	.01049097	.03135878	.00950380	.00564073	.00142650	.00930269
9	Avenal Gap thru Twisselman Road			.03437577	.01041812	.00618845	.00156502	.01020599
10A	Twisselman Road thru Lost Hills			.03492681	.01058510	.00628966	.00159061	.01037292
11B	Lost Hills to 7th Standard Road			.03848657	.01166387	.00694140	.00175542	.01144773
12D	7th Standard Road thru Elk Hills Road			.04046660	.01226391	.00730484	.00184732	.01204709
12E	Elk Hills Road thru Tupman Road			.04052108	.01228043	.00731580	.00185010	.01206514
13B	Tupman Road to Buena Vista Pumping Plant			.04397523	.01332721	.00794772	.00200992	.01310729
14A	Buena Vista Pumping Plant thru Santiago Creek			.04618687	.01399742	.00835456	.00211281	.01377821
14B	Santiago Creek thru Old River Road			.04702647	.01425185	.00851020	.00215219	.01403490
14C	Old River Road to Wheeler Ridge Pumping Plant			.04846556	.01468794	.00877627	.00221947	.01447369
15A	Wheeler Ridge Pumping Plant to Wind Gap Pumping Plant			.04927653	.01493368	.00892667	.00225752	.01472172
16A	Wind Gap Pumping Plant to A.D. Edmonston Pumping Plant			.05113509	.01549688	.00927017	.00234438	.01528821
17E	A.D. Edmonston Pumping Plant to Carley V. Porter Tunnel			.05355379	.01622984	.00971819	.00245767	.01602709
17F	Carley V. Porter Tunnel to Junction, West Branch, Calif. Aqueduct			.05366827	.01626453	.00973908	.00246295	.01606154
18A	Junction, West Branch, Calif. Aqueduct thru Alamo Powerplant			.13238112		.02399390	.00606795	.03957043
19	Alamo Powerplant to Fairmont			.13237766		.02399451	.00606811	.03957141
19C	Buttes Junction thru Buttes Reservoir			1.00000000				
20A	Fairmont thru 70th Street West			.06847930		.02576425	.00651573	.04249001
20B	70th Street West to Palmdale			.02276024		.02702917	.00683555	.04457607
21	Palmdale to Littlerock Creek			.02318952		.02754717	.00696651	.04543034
22A	Littlerock Creek to Pearlblossom Pumping Plant			.01181870		.02794143	.00706621	.04608044
22B	Pearlblossom Pumping Plant to West Fork Mojave River					.02827552	.00715074	.04663153
23	West Fork Mojave River to Silverwood Lake					.00324449	.00818122	.00535117
24	Cedar Springs Dam and Silverwood Lake					.01024605	.01251569	.01690478
25	Silverwood Lake to South Portal, San Bernardino Tunnel							
26A	South Portal, San Bernardino Tunnel thru Devil Canyon Pwp.							
28G	Devil Canyon Powerplant to Barton Road							
28H	Barton Road to Lake Perris							
28J	Perris Dam and Lake Perris							
29A	Junction, West Branch, Calif. Aqueduct thru Oso Pumping Plant				.02736564			
29F	Oso Pumping Plant thru Quail Embankment				.02736563			
29G	Quail Embankment thru Warne Powerplant				.02736564			
29H	Pyramid Dam and Lake				.02646380			
29J	Pyramid Lake thru Castaic Powerplant				.02736563			
30	Castaic Dam and Lake				.02637131			
31A	Avenal Gap to Devil's Den Pumping Plant	.10560302	.19482503					
33A	Devil's Den Pumping Plant thru San Luis Obispo Powerplant	.35150790	.64849210					
34	San Luis Obispo Powerplant to Arroyo Grande	.24688802	.75311198					
35	Arroyo Grande thru Santa Maria Terminal	.18022524	.81977476					

REACH CAPITAL COSTS AMONG CONTRACTORS

Reach No.	SAN JOAQUIN VALLEY AREA								
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Future Contractor San Joaquin	Kern County Water Agency		County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District
					Municipal and Industrial	Agricultural			
California Aqueduct									
1	.00377824	.01707931	.00088687	.00254710	.02742073	.30633442	.00090702	.00167139	.03505306
2A	.00394038	.01781205	.00092491	.00266276	.02864588	.31948963	.00094755	.00174305	.03655686
2B	.00395099	.01786013	.00092740	.00266569	.02869070	.32034362	.00094904		.03665560
3	.00395208	.01786513	.00092766	.00266517	.02868917	.32043064	.00094899		.03666585
4	.00395323	.01787039	.00092794	.00266463	.02868756	.32052214	.00094893		.03667664
5	.00395466	.01787694	.00092828	.00266396	.02868556	.32063639	.00094886		.03669011
6	.00395684	.01788685	.00092879	.00266296	.02868253	.32080926	.00094875		.03671048
7	.00395753	.01789003	.00092896	.00266264	.02868156	.32086471	.00094872		.03671701
8C	.00395842	.01789405	.00092918	.00266223	.02868032	.32093468	.00094867		.03672526
8D	.00404591	.01828966		.00271722	.02928492	.32802221			.01821042
9					.03214521	.32838224			
10A					.03267760	.31755652			
11B					.03609912	.24768443			
12D					.03801001	.20879251			
12E					.03807068	.20769413			
13B					.01464596	.16664965			
14A					.00622935	.13374077			
14B					.00634719	.11790931			
14C					.00654829	.09078926			
15A					.00666217	.07549599			
16A					.00692172	.04047416			
17E					.00213551				
31A	.07364766			.05046239		.57546190			

CALIFORNIA AREA

Reach No.	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District	San Geronio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	TOTAL
1	.00049187	.01101303	.00369180	.02363192	.00650449	.00398446	.43940271	.00429334	1.00000000
2A	.00051421	.01151300	.00385943	.02469456	.00679800	.00416362	.45932579	.00448830	1.00000000
2B	.00051477	.01152575	.00386368	.02472869	.00680672	.00416938	.45985088	.00449324	1.00000000
3	.00051469	.01152359	.00386296	.02472605	.00680580	.00416893	.45976950	.00449238	1.00000000
4	.00051459	.01152131	.00386218	.02472327	.00680482	.00416846	.45968394	.00449149	1.00000000
5	.00051448	.01151846	.00386122	.02471980	.00680361	.00416788	.45957709	.00449037	1.00000000
6	.00051427	.01151416	.00385978	.02471455	.00680178	.00416698	.45941542	.00448869	1.00000000
7	.00051421	.01151278	.00385931	.02471286	.00680118	.00416671	.45936358	.00448816	1.00000000
8C	.00051414	.01151103	.00385874	.02471073	.00680044	.00416634	.45929816	.00448747	1.00000000
8D	.00052475	.01174889	.00393847	.02522753	.00694206	.00425349	.46880430	.00458017	1.00000000
9	.00057523	.01287942	.00431739	.02767698	.00761389	.00466647	.51396901	.00502081	1.00000000
10A	.00058444	.01308595	.00438660	.02812958	.00773752	.00474279	.52223261	.00510129	1.00000000
11B	.00064401	.01442004	.00483371	.03104405	.00853455	.00523416	.57558975	.00562119	1.00000000
12D	.00067713	.01516215	.00508241	.03266922	.00897859	.00550818	.60527969	.00591035	1.00000000
12E	.00067804	.01518261	.00508926	.03271816	.00899156	.00551643	.60610827	.00591831	1.00000000
13B	.00073586	.01647710	.00552311	.03554404	.00976456	.00599288	.65787670	.00642277	1.00000000
14A	.00077287	.01730602	.00580090	.03736329	.01026124	.00629961	.69105032	.00674576	1.00000000
14B	.00078692	.01762073	.00590636	.03805925	.01045073	.00641694	.70365858	.00686838	1.00000000
14C	.00081102	.01816015	.00608712	.03924904	.01077498	.00661755	.72526113	.00707853	1.00000000
15A	.00082461	.01846415	.00618901	.03992156	.01095807	.00673092	.73744044	.00719696	1.00000000
16A	.00085571	.01916080	.00642247	.04145755	.01137675	.00698987	.76533786	.00746838	1.00000000
17E	.00089617	.02006742	.00672629	.04346097	.01192239	.00732766	.80165539	.00782162	1.00000000
17F	.00089809	.02011032	.00674067	.04355439	.01194796	.00734341	.80337045	.00783834	1.00000000
18A	.00221525	.04960424	.01662681	.10730448	.02944860	.01809191	.57469531		1.00000000
19	.00221522	.04960300	.01662640	.10730707	.02944876	.01809229	.57469557		1.00000000
19C									1.00000000
20A	.00237800	.05324853	.01784830	.11522152	.03161799	.01942666	.61700971		1.00000000
20B	.00249470	.05586075	.01872390	.12087843	.03316986	.02038045	.64729088		1.00000000
21	.00254199	.05692052		.12319480	.03380324	.02077093	.65963498		1.00000000
22A		.05773081		.12495766	.03428605	.02106816	.66905054		1.00000000
22B		.05842135		.12645207	.03469614	.02132008	.67705257		1.00000000
23				.14467451	.03969010	.02439237	.77446614		1.00000000
24				.22243002	.04339444	.02843498	.66607404		1.00000000
25				.14947726	.03997502	.02520426	.78534346		1.00000000
26A				.14947726	.03997502	.02520426	.78534346		1.00000000
28G				.05126137			.94873863		1.00000000
28H							1.00000000		1.00000000
28J							1.00000000		1.00000000
29A							.95944607	.01318829	1.00000000
29F							.95944608	.01318829	1.00000000
29G							.95944609	.01318827	1.00000000
29H							.96446829	.00906791	1.00000000
29J							.95944608	.01318829	1.00000000
30							.96499830	.00863039	1.00000000
31A									1.00000000
33A									1.00000000
34									1.00000000
35									1.00000000

TABLE B-2: FACTORS FOR DISTRIBUTING REACH

Reach No.	Reach Description	NORTH BAY AREA		SOUTH BAY AREA			TOTAL	
		Napa County FC&WCD	Solano County FC&WCD	Alameda County FC&WCD Zone 7	Alameda County Water District	Santa Clara Valley Water District		Future Contractor
	North Bay Aqueduct							
1	Barker Slough to Suisun City	.39808876	.60191124					1.00000000
2	Suisun City to Cordelia Pumping Plant	.39808861	.60191139					1.00000000
3	Cordelia Pumping Plant thru Napa Turnout Reservoir (Including the interim facilities)	1.00000000						1.00000000
	South Bay Aqueduct							
1	Bethany Reservoir thru Altamont Turnout			.22599612	.20663022	.49237698	.07499668	1.00000000
2	Altamont Turnout thru Patterson Reservoir			.22599657	.20663060	.49237783	.07499500	1.00000000
4	Patterson Reservoir to Del Valle Junction			.19504794	.21450018	.51113249	.07931939	1.00000000
5	Del Valle Junction thru Lake Del Valle			.14436367	.12972254	.33715573	.38875806	1.00000000
6	Del Valle Junction thru South Livermore Turnout			.14599918	.21144710	.50574745	.13680627	1.00000000
7	South Livermore Turnout thru Vallecitos Turnout				.25176680	.60218448	.14604872	1.00000000
8	Vallecitos Turnout thru Alameda-Bayside Turnout				.06294980	.72065355	.21639665	1.00000000
9	Alameda-Bayside Turnout thru Santa Clara Terminal Facilities					1.00000000		1.00000000
	California Aqueduct							
1	Delta Thru Bethany Reservoir			.00954802	.00872977	.02080260	.00342519	— — —

Reach No.	Reach Description	CENTRAL COASTAL AREA					SOUTHERN	
		San Luis Obispo County FC&WCD	Santa Barbara County FC&WCD	Antelope Valley-East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency
California Aqueduct								
1	Delta Thru Bethany Reservoir	.00533047	.00983404	.02939503	.00890866	.00528393	.00133628	.00871425
2A	Bethany Reservoir to Orestimba Creek	.00557252	.01028060	.03072975	.00931319	.00552151	.00139638	.00910607
2B	Orestimba Creek to O'Neill Forebay	.00557864	.01029191	.03076360	.00932344	.00552915	.00139831	.00911867
3	O'Neill Forebay to Dos Amigos Pumping Plant	.00557758	.01028995	.03075777	.00932168	.00552856	.00139816	.00911771
4	Dos Amigos Pumping Plant to Panoche Creek	.00557646	.01028790	.03075165	.00931982	.00552794	.00139801	.00911670
5	Panoche Creek to Five Points	.00557506	.01028534	.03074401	.00931751	.00552717	.00139781	.00911543
6	Five Points to Arroyo Pasajero	.00557297	.01028147	.03073244	.00931400	.00552602	.00139750	.00911351
7	Arroyo Pasajero to Kettleman City	.00557229	.01028022	.03072873	.00931287	.00552565	.00139740	.00911289
8C	Kettleman City thru Milham Avenue	.00551634	.01017702	.03042012	.00921937	.00546665	.00138249	.00901561
8D	Milham Avenue thru Avenal Gap	.00562864	.01038416	.03103938	.00940703	.00557923	.00141095	.00920128
9	Avenal Gap thru Twisselman Road			.03398204	.01029883	.00611262	.00154585	.01008095
10A	Twisselman Road thru Lost Hills			.03451663	.01046082	.00621065	.00157063	.01024262
11B	Lost Hills to 7th Standard Road			.03796305	.01150525	.00684053	.00172992	.01128139
12D	7th Standard Road thru Elk Hills Road			.03987187	.01208371	.00719023	.00181834	.01185809
12E	Elk Hills Road thru Tupman Road			.03992308	.01209924	.00720053	.00182095	.01187505
13B	Tupman Road to Buena Vista Pumping Plant			.04324825	.01310695	.00780757	.00197447	.01287616
14A	Buena Vista Pumping Plant thru Santiago Creek			.04536499	.01374841	.00819606	.00207273	.01351685
14B	Santiago Creek thru Old River Road			.04616419	.01399059	.00834387	.00211013	.01376063
14C	Old River Road to Wheeler Ridge Pumping Plant			.04753264	.01440528	.00859629	.00217396	.01417689
15A	Wheeler Ridge Pumping Plant to Wind Gap Pumping Plant			.04830162	.01463830	.00873856	.00220995	.01441151
16A	Wind Gap Pumping Plant to A.D. Edmonston Pumping Plant			.05006206	.01517177	.00906311	.00229202	.01494676
17E	A.D. Edmonston Pumping Plant to Carley V. Porter Tunnel			.05234459	.01586347	.00948480	.00239865	.01564222
17F	Carley V. Porter Tunnel to Junction, West Branch, Calif. Aqueduct			.05245355	.01589650	.00950462	.00240367	.01567491
18A	Junction, West Branch, Calif. Aqueduct thru Alamo Powerplant			.13238112		.02399390	.00606795	.03957043
19	Alamo Powerplant to Fairmont			.13237766		.02399451	.00606811	.03957141
19C	Buttes Junction thru Buttes Reservoir			1.00000000				
20A	Fairmont thru 70th Street West			.06847930		.02576425	.00651573	.04249001
20B	70th Street West to Palmdale			.02276024		.02702917	.00683555	.04457607
21	Palmdale to Littlerock Creek			.02318952		.02754717	.00696651	.04543034
22A	Littlerock Creek to Pearlblossom Pumping Plant			.01181870		.02794143	.00706621	.04608044
22B	Pearlblossom Pumping Plant to West Fork Mojave River					.02827552	.00715074	.04663153
23	West Fork Mojave River to Silverwood Lake					.00324449	.00818122	.00535117
24	Cedar Springs Dam and Silverwood Lake					.01024605	.01251569	.01690478
25	Silverwood Lake to South Portal, San Bernardino Tunnel							
26A	South Portal, San Bernardino Tunnel thru Devil Canyon Pwp.							
28G	Devil Canyon Powerplant to Barton Road							
28H	Barton Road to Lake Perris							
28J	Perris Dam and Lake Perris							
29A	Junction, West Branch, Calif. Aqueduct thru Oso Pumping Plant			.00304299	.02728237			
29F	Oso Pumping Plant thru Quail Embankment			.00304379	.02728234			
29G	Quail Embankment thru Wame Powerplant				.02736564			
29H	Pyramid Dam and Lake				.02646380			
29J	Pyramid Lake thru Castaic Powerplant				.02736563			
30	Castaic Dam and Lake				.02637131			
31A	Avenal Gap to Devil's Den Pumping Plant	.10560302	.19482503					
33A	Devil's Den Pumping Plant thru San Luis Obispo Powerplant	.35150790	.64849210					
34	San Luis Obispo Powerplant to Arroyo Grande	.24688802	.75311198					
35	Arroyo Grande thru Santa Maria Terminal	.18022524	.81977476					

MINIMUM OMP&R COSTS AMONG CONTRACTORS

Reach No.	SAN JOAQUIN VALLEY AREA								
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Future Contractor San Joaquin	Kern County Water Agency		County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District
					Municipal and Industrial	Agricultural			
California Aqueduct									
1	.00377824	.01707931	.00088687	.00254710	.02742073	.30633442	.00090702	.00167139	.03505306
2A	.00394038	.01781205	.00092491	.00266276	.02864588	.31948963	.00094755	.00174305	.03655686
2B	.00395099	.01786013	.00092740	.00266566	.02869070	.32034362	.00094904		.03665560
3	.00395208	.01786513	.00092766	.00266517	.02868917	.32043064	.00094899		.03666585
4	.00395323	.01787039	.00092794	.00266463	.02868756	.32052214	.00094893		.03667664
5	.00395466	.01787694	.00092828	.00266396	.02868556	.32063639	.00094886		.03669011
6	.00395684	.01788685	.00092879	.00266296	.02868253	.32080926	.00094875		.03671048
7	.00395753	.01789003	.00092896	.00266264	.02868156	.32086471	.00094872		.03671701
8C	.00390372	.01764648	.00091632	.00263593	.02836374	.31651560	.00093819		.03621709
8D	.00398843	.01802948		.00268958	.02895220	.32337797			.01795137
9					.03173493	.32315570			
10A					.03225002	.31237848			
11B					.03555316	.24304304			
12D					.03738966	.20458362			
12E					.03744664	.20348854			
13B					.01437747	.16288986			
14A					.00610657	.13050491			
14B					.00621833	.11497394			
14C					.00640883	.08842321			
15A					.00651639	.07347673			
16A					.00676126	.03933050			
17E					.00208231				
31A	.07364766			.05046239		.57546190			

CALIFORNIA AREA									
Reach No.	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District	San Geronimo Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	TOTAL
1	.00049187	.01101303	.00369180	.02363192	.00650449	.00398446	.43940271	.00429334	1.00000000
2A	.00051421	.01151300	.00385943	.02469456	.00679800	.00416362	.45932579	.00448830	1.00000000
2B	.00051477	.01152575	.00386368	.02472869	.00680672	.00416938	.45985088	.00449324	1.00000000
3	.00051469	.01152359	.00386296	.02472605	.00680580	.00416893	.45976950	.00449238	1.00000000
4	.00051459	.01152131	.00386218	.02472327	.00680482	.00416846	.45968394	.00449149	1.00000000
5	.00051448	.01151846	.00386122	.02471980	.00680361	.00416788	.45957709	.00449037	1.00000000
6	.00051427	.01151416	.00385978	.02471455	.00680178	.00416698	.45941542	.00448869	1.00000000
7	.00051421	.01151278	.00385931	.02471286	.00680118	.00416671	.45936358	.00448816	1.00000000
8C	.00050905	.01139703	.00382056	.02444913	.00673013	.00412224	.46619410	.00444309	1.00000000
8D	.00051940	.01162908	.00389834	.02495260	.00686817	.00420714	.47575203	.00453354	1.00000000
9	.00056864	.01273174	.00426793	.02733801	.00752279	.00460932	.52108733	.00496332	1.00000000
10A	.00057757	.01293209	.00433507	.02777636	.00764260	.00468324	.52938182	.00504140	1.00000000
11B	.00063524	.01422367	.00476794	.03059312	.00841338	.00515813	.58274744	.00554474	1.00000000
12D	.00066717	.01493906	.00500769	.03215687	.00884093	.00542180	.61234745	.00582351	1.00000000
12E	.00066803	.01495830	.00501414	.03220286	.00885312	.00542956	.61318897	.00583099	1.00000000
13B	.00072369	.01620441	.00543178	.03491750	.00959624	.00588725	.66464178	.00631662	1.00000000
14A	.00075911	.01699773	.00569765	.03665478	.01007092	.00618017	.69750337	.00662575	1.00000000
14B	.00077249	.01729729	.00579803	.03731574	.01025102	.00629159	.70996969	.00674247	1.00000000
14C	.00079541	.01781020	.00596992	.03844447	.01055888	.00648190	.73127981	.00694231	1.00000000
15A	.00080829	.01809845	.00606653	.03908064	.01073222	.00658915	.74327705	.00705461	1.00000000
16A	.00083775	.01875829	.00628766	.04053196	.01112817	.00683383	.77068316	.00731170	1.00000000
17E	.00087753	.01961383	.00657438	.04241764	.01164221	.00715176	.80626315	.00764506	1.00000000
17F	.00087775	.01965466	.00658807	.04250631	.01166651	.00716671	.80794577	.00766097	1.00000000
18A	.00221525	.04960424	.01662681	.10730448	.02944860	.01809191	.57469531		1.00000000
19	.00221522	.04960300	.01662640	.10730707	.02944876	.01809229	.57469557		1.00000000
19C									1.00000000
20A	.00237800	.05324853	.01784830	.11522152	.03161799	.01942666	.61700971		1.00000000
20B	.00249470	.05586075	.01872390	.12087843	.03316986	.02038045	.64729088		1.00000000
21	.00254199	.05692052		.12319480	.03380324	.02077093	.65963498		1.00000000
22A		.05773081		.12495766	.03428605	.02106816	.66905054		1.00000000
22B		.05842135		.12645207	.03469614	.02132008	.67705257		1.00000000
23				.14467451	.03969010	.02439237	.77446614		1.00000000
24				.22243002	.04339444	.02843498	.66607404		1.00000000
25				.11825184	.03722720	.01993915	.82458181		1.00000000
26A				.14947726	.03997502	.02520426	.78534346		1.00000000
28G									
28H				.05126137			.94873863		1.00000000
28J							1.00000000		1.00000000
							1.00000000		1.00000000
29A							.95652648	.01314816	1.00000000
29F							.95652573	.01314814	1.00000000
29G							.95944609	.01318827	1.00000000
29H							.96446829	.00906791	1.00000000
29J							.95944608	.01318829	1.00000000
30							.96499830	.00863039	1.00000000
31A									1.00000000
33A									1.00000000
34									1.00000000
35									1.00000000

TABLE B-3: POWER COSTS AND CREDITS AND ANNUAL REPLACEMENT

(in

Calendar Year	NORTH BAY AQUEDUCT		SOUTH BAY AQUEDUCT	CALIFORNIA					
	Reach 1	Reach 3	Reach 1	Reach 1	Reach 4	Reach 14A	Reach 15 A	Reach 16A	Reach 17E
	Barker Slough Pumping Plant	Cordelia Pumping Plant (b)	South Bay and Del Valle Pumping Plants (c)	Harvey O. Banks Delta Pumping Plant	Dos Amigos Pumping Plant	Buena Vista Pumping Plant	Wheeler Ridge Pumping Plant	Wind Gap Pumping Plant	A.D. Edmonston Pumping Plant
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1962	0	0	38,130	0	0	0	0	0	0
1963	0	0	58,871	0	0	0	0	0	0
1964	0	0	75,239	0	0	0	0	0	0
1965	0	0	146,297	0	0	0	0	0	0
1966	0	0	198,643	0	0	0	0	0	0
1967	0	0	229,629	26,982	0	0	0	0	0
1968	0	7,128	342,761	1,324,777	239,505	0	0	0	0
1969	0	8,557	279,751	855,304	143,403	0	0	0	0
1970	0	13,666	448,383	368,508	217,820	2,940	0	0	0
1971	0	10,626	422,057	597,946	229,306	156,540	23,021	18,577	29,067
1972	0	14,430	623,564	1,110,833	575,291	348,668	187,825	385,935	1,263,087
1973	0	14,453	485,534	918,234	493,776	511,004	514,487	883,725	3,139,297
1974	0	17,508	510,873	997,269	560,461	556,968	595,585	1,048,196	3,700,573
1975	0	14,801	382,106	1,353,916	561,089	650,781	707,038	1,394,918	4,853,538
1976	0	20,867	589,007	916,728	596,426	701,061	687,677	1,414,902	4,917,776
1977	0	22,640	541,803	853,304	191,906	170,689	173,496	337,890	3,130,422
1978	0	21,670	568,381	3,871,011	723,989	1,009,556	968,744	1,782,668	6,281,786
1979	0	16,240	622,517	3,431,278	1,019,021	848,639	830,839	1,666,505	5,741,609
1980	0	19,936	523,445	2,560,346	1,381,894	1,151,819	1,143,077	2,222,833	7,059,703
1981	0	21,711	607,892	2,331,253	1,305,953	1,289,103	1,264,814	2,547,394	8,980,956
1982	0	12,150	989,274	3,575,212	1,870,031	1,952,829	1,900,777	3,920,107	14,180,844
1983	0	12,203	541,734	1,755,640	620,236	1,104,003	1,004,017	1,918,590	5,930,326
1984	0	3,001	299,407	1,761,809	958,286	778,653	745,536	1,360,557	4,193,563
1985	0	13,049	952,879	5,443,792	2,786,188	2,530,816	2,653,727	5,209,032	16,967,576
1986	0	12,673	1,176,811	7,252,845	3,439,526	3,166,741	3,360,798	6,636,304	21,720,305
1987	28,748	25,323	1,674,800	11,495,946	5,639,121	5,883,877	6,447,400	13,022,831	43,430,671
1988	41,254	28,967	1,760,746	13,415,381	6,194,236	6,540,781	7,159,945	14,547,993	48,614,701
1989	41,013	28,372	1,667,652	13,206,283	5,932,956	6,175,924	6,819,658	13,835,282	46,181,130
1990	50,286	38,503	1,896,688	13,748,857	6,518,370	6,733,775	7,364,490	14,912,968	49,701,769
1991	72,556	56,914	2,365,408	18,101,896	8,033,975	8,603,389	9,495,385	19,370,428	64,988,992
1992	83,281	67,664	2,459,439	17,156,171	8,203,085	8,502,618	9,376,201	19,118,741	64,220,114
1993	104,224	84,978	2,765,025	19,900,774	8,997,269	9,390,074	10,385,426	21,231,548	71,674,791
1994	116,887	96,582	2,878,430	19,676,086	9,274,780	9,749,507	10,822,820	22,187,135	75,060,031
1995	144,470	119,849	3,275,780	22,381,633	9,994,729	10,378,724	11,486,785	23,576,848	79,746,151
1996	160,966	133,662	3,465,150	24,586,328	10,775,306	11,402,405	12,670,969	26,032,397	88,231,469
1997	171,390	144,688	3,567,601	23,661,008	11,632,774	12,445,245	13,902,152	28,700,846	97,093,666
1998	182,293	155,995	3,632,972	26,004,006	11,809,511	12,408,381	13,798,683	28,613,995	96,359,402
1999	198,960	172,048	3,799,439	26,196,018	12,861,616	13,645,896	15,252,464	31,765,502	106,694,856
2000	229,194	190,945	4,004,883	28,921,012	13,730,456	14,663,262	16,428,049	34,313,255	114,882,743
2001	229,736	208,808	4,030,356	28,714,769	14,097,320	15,136,960	16,965,455	35,474,610	118,496,216
2002	249,485	235,473	4,210,393	30,750,952	14,794,862	15,949,467	17,889,397	37,398,900	124,646,912
2003	268,125	259,986	4,334,571	31,949,913	15,295,724	16,664,271	18,711,955	39,000,628	130,166,028
2004	284,079	286,567	4,468,995	32,976,636	15,895,435	17,519,058	19,701,052	40,955,069	136,804,419
2005	303,988	303,197	4,444,710	33,226,915	15,938,893	17,694,210	19,913,685	41,270,781	137,794,473
2006	289,599	301,226	4,358,719	32,647,226	15,886,891	17,792,931	20,054,385	41,464,902	138,311,516
2007	296,365	310,858	4,441,509	34,045,783	16,162,602	18,055,239	20,349,783	42,231,523	140,962,341
2008	303,730	321,348	4,535,170	34,639,853	16,732,452	18,856,685	21,293,651	44,223,516	147,738,548
2009	304,929	325,300	4,533,779	34,001,097	16,644,331	18,713,444	21,120,346	43,852,751	146,399,026
2010	313,761	334,519	4,606,560	34,590,955	16,933,325	19,082,615	21,546,309	44,752,417	149,458,657
2011	325,424	355,919	4,719,472	35,586,359	17,567,359	19,963,289	22,580,592	46,947,773	156,942,442
2012	344,234	382,623	4,892,134	41,420,790	18,249,126	20,835,366	23,586,672	49,073,477	164,220,492
2013	360,722	406,072	5,010,282	40,205,217	18,864,508	21,679,267	24,574,864	51,170,606	171,313,676
2014	363,860	415,960	4,961,070	39,535,767	18,639,247	21,379,096	24,225,599	50,430,442	168,735,626
2015	393,841	456,264	5,268,460	41,169,172	19,738,408	22,743,214	25,788,397	53,727,061	180,015,400
2016	407,496	476,614	5,353,748	42,570,726	20,351,581	23,634,618	26,844,544	55,976,262	187,682,153
2017	432,809	511,712	5,600,557	44,620,737	21,162,114	24,853,762	28,249,826	58,946,900	197,875,817
2018	448,278	535,965	5,714,551	45,728,832	21,424,277	25,371,229	28,843,631	60,200,296	202,178,998
2019	459,216	557,711	5,797,524	46,650,612	21,944,003	26,389,436	30,054,766	62,691,828	211,033,994
2020	463,698	564,838	5,730,454	45,929,931	21,313,243	25,580,295	29,092,604	60,550,269	203,886,948
2021	471,416	574,399	5,822,104	47,839,379	21,995,068	26,646,341	30,386,150	63,441,024	214,424,960
2022	469,517	572,611	5,798,651	47,205,756	21,441,525	26,302,201	30,009,605	62,499,743	211,807,248
2023	465,570	568,063	5,748,065	47,391,039	21,071,572	26,280,254	29,998,592	62,106,129	211,468,398
2024	464,232	566,711	5,730,631	46,548,387	20,766,101	26,317,298	30,048,818	61,837,163	211,730,074
2025	464,797	567,738	5,735,767	46,385,797	20,881,925	26,512,945	30,285,196	61,960,071	213,418,653
2026	466,483	569,798	5,756,573	47,538,227	20,989,698	26,665,663	30,464,422	62,085,545	214,677,919
2027	467,363	570,873	5,767,439	47,356,398	20,980,074	26,627,346	30,414,447	61,734,200	214,304,736
2028	464,326	567,163	5,729,955	47,227,594	20,863,769	26,399,941	30,261,840	61,410,714	213,200,098
2029	462,435	564,854	5,706,625	45,882,582	20,809,704	26,255,375	30,076,774	61,290,792	212,800,565
2030	464,006	566,772	5,726,004	46,574,939	20,706,850	26,242,875	30,038,588	61,481,175	213,216,986
2031	463,691	566,388	5,722,123	47,045,506	20,413,307	25,867,493	29,645,847	60,921,076	210,811,007
2032	465,798	568,962	5,748,125	47,161,896	20,519,440	26,148,822	29,988,179	61,986,151	214,224,945
2033	461,232	563,384	5,691,773	45,657,901	20,126,434	25,401,530	29,102,434	60,447,826	208,186,662
2034	467,538	571,086	5,765,591	47,582,841	20,597,171	25,938,688	29,739,630	62,138,467	213,776,122
2035	457,079	558,311	5,640,521	45,614,345	19,715,535	24,472,209	28,000,869	58,760,857	201,953,474

- a) Includes: the costs of electric capacity and energy used by pumping plants, exclusive of associated power transmission and station service charges; the value of electric capacity and energy produced by power recovery plants (treated as negative costs); the payments to sinking fund reserves that will finance periodic replacement of electro-mechanical equipment; and the plant capacity and energy costs associated with surplus water service prior to May 1, 1973.

DEPOSITS FOR EACH AQUEDUCT PUMPING AND POWER RECOVERY PLANT ^(a)

dollars)

AQUEDUCT								GRAND TOTAL	Calendar Year
Reach 18A Alamo Powerplant	Reach 22B Pear-blossom Pumping Plant	Reach 26A Devil Canyon Powerplant	Reach 29A Oso Pumping Plant	Reach 29G William E. Warne (Pyramid) Powerplant	Reach 29J Castaic Powerplant	Reach 31A Las Perillas and Badger Hill Pumping Plants	Reach 33A Devil's Den Sawtooth and Polonio PP's and San Luis Obispo Pwp.		
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	
0	0	0	0	0	0	0	0	38,130	1962
0	0	0	0	0	0	0	0	58,871	1963
0	0	0	0	0	0	0	0	75,239	1964
0	0	0	0	0	0	0	0	146,297	1965
0	0	0	0	0	0	0	0	198,643	1966
0	0	0	0	0	0	6,517	0	263,128	1967
0	0	0	0	0	0	120,278	0	2,034,449	1968
0	0	0	0	0	0	79,620	0	1,366,635	1969
0	0	0	0	0	0	137,449	0	1,188,766	1970
0	64,807	0	1,696	0	0	171,389	0	1,725,032	1971
0	103,584	-3,112	180,005	0	-385,696	240,651	0	4,645,065	1972
0	615,309	-931,697	274,450	0	-1,193,216	128,730	0	5,854,986	1973
0	595,646	-939,072	322,440	0	-1,823,397	129,345	0	6,272,395	1974
0	616,327	-1,101,445	457,487	0	-2,835,302	101,109	0	7,156,363	1975
0	914,440	-1,520,412	314,669	0	-2,512,021	151,211	0	7,192,331	1976
0	318,880	-1,216,060	53,119	0	-1,233,043	85,538	0	1,230,584	1977
0	1,801,373	-3,298,247	251,373	0	-2,194,618	197,217	0	11,984,903	1978
0	1,813,744	-3,335,069	157,934	0	-2,642,118	209,088	0	10,380,227	1979
0	1,968,907	-3,508,195	223,169	0	-2,679,915	182,996	0	12,250,015	1980
0	2,022,070	-2,417,354	396,626	0	-4,065,927	178,894	0	14,463,385	1981
0	3,167,794	-3,537,234	594,911	-973,609	-3,476,126	291,129	0	24,468,089	1982
0	1,213,348	-5,710,533	320,763	-1,348,000	-4,772,450	231,869	0	2,821,746	1983
0	620,208	-9,261,742	443,388	-2,016,000	5,043,147	108,947	0	5,038,760	1984
0	1,623,026	-7,193,575	1,800,713	-8,541,825	-14,988,650	263,859	0	9,520,607	1985
-4,198,168	2,875,166	-12,301,950	1,820,869	-7,314,625	-12,948,800	361,812	0	15,060,307	1986
-6,294,925	7,495,983	-21,255,800	2,697,527	-8,282,300	-14,506,150	493,297	0	47,996,349	1987
-5,208,461	8,919,799	-24,187,325	2,760,110	-8,210,200	-14,312,250	478,727	0	58,544,404	1988
-5,287,802	8,353,979	-24,810,700	2,699,946	-8,484,600	-14,826,900	498,366	0	52,030,559	1989
-4,983,483	9,169,299	-24,417,025	2,761,413	-8,108,525	-13,870,050	555,294	0	62,072,629	1990
-5,455,424	11,968,300	-25,404,450	3,558,711	-8,936,275	-15,366,850	661,501	0	92,114,456	1991
-5,574,630	12,475,213	-26,533,225	3,206,390	-8,106,950	-13,855,800	1,015,505	0	91,813,817	1992
-5,710,505	13,585,704	-26,953,650	3,680,988	-8,692,600	-14,838,250	1,095,943	0	106,701,739	1993
-6,016,613	13,923,903	-27,743,900	3,972,897	-9,307,475	-15,975,900	1,095,961	0	109,811,131	1994
-5,547,279	8,278,791	-14,230,100	7,038,130	-14,247,175	-25,449,850	1,211,935	0	118,159,421	1995
-5,176,035	7,953,951	-12,731,950	8,274,850	-15,214,450	-28,580,950	1,268,136	0	133,252,204	1996
-5,662,776	8,915,549	-14,989,400	9,020,777	-15,813,525	-30,535,750	1,291,664	0	143,545,909	1997
-5,462,209	8,675,839	-13,814,050	9,020,034	-16,029,025	-29,914,400	1,315,332	0	146,756,759	1998
-5,489,569	9,068,157	-13,581,700	10,254,994	-15,371,350	-32,235,100	1,375,603	0	164,607,834	1999
-5,584,143	9,679,951	-14,127,650	11,035,058	-15,851,325	-33,033,550	1,449,984	0	180,923,124	2000
-5,772,678	10,028,975	-14,974,700	11,366,357	-16,034,225	-33,731,100	1,459,207	0	185,696,066	2001
-5,707,227	10,304,472	-14,053,600	12,032,246	-16,108,775	-34,236,800	1,524,390	0	199,880,547	2002
-5,863,419	10,894,044	-14,752,575	12,480,195	-16,141,325	-34,534,150	1,569,349	0	210,303,320	2003
-5,731,982	10,917,754	-14,066,775	13,409,504	-16,389,775	-35,774,950	1,618,018	0	222,873,104	2004
-5,904,575	11,214,160	-14,290,025	13,515,124	-16,411,575	-35,956,650	1,609,225	0	224,656,536	2005
-5,533,098	11,270,780	-14,565,500	13,577,189	-16,507,050	-36,773,750	1,578,092	0	224,154,058	2006
-5,645,985	11,638,726	-15,560,350	13,681,743	-16,592,025	-36,525,075	1,608,067	0	229,461,104	2007
-5,985,209	12,616,052	-15,514,275	14,121,185	-16,606,975	-37,002,650	1,641,977	0	241,915,058	2008
-5,742,455	11,943,697	-15,496,825	14,207,987	-16,580,425	-37,229,250	1,641,474	0	238,639,206	2009
-5,901,648	12,441,543	-15,550,325	14,344,882	-16,734,000	-37,087,500	1,667,823	0	244,799,893	2010
-6,112,690	13,192,044	-16,386,225	14,966,158	-16,734,000	-37,820,750	1,708,704	0	257,801,870	2011
-6,183,691	13,801,105	-16,184,325	15,578,512	-16,637,700	-38,109,000	1,771,218	0	277,041,033	2012
-6,451,492	14,740,547	-17,029,975	16,032,240	-16,734,000	-38,465,925	1,813,993	0	287,490,602	2013
-6,370,668	14,287,506	-17,182,625	15,847,767	-16,734,000	-38,418,350	1,796,176	0	281,912,473	2014
-6,036,441	14,888,520	-16,637,425	16,941,963	-16,734,000	-38,900,625	1,907,468	0	304,729,677	2015
-6,419,481	16,183,203	-17,766,825	17,349,148	-16,734,000	-39,242,525	1,938,347	0	318,605,609	2016
-6,507,513	17,073,780	-17,283,900	18,182,704	-16,734,000	-39,495,950	2,027,705	0	339,517,060	2017
-6,479,625	17,226,094	-18,059,975	18,597,573	-16,734,000	-39,664,450	2,068,976	0	347,400,650	2018
-6,865,622	18,585,449	-18,937,225	19,128,294	-16,734,000	-40,231,575	2,099,017	0	362,623,428	2019
-6,496,694	17,090,044	-17,496,225	18,803,653	-16,734,000	-39,978,300	2,074,734	0	350,375,492	2020
-6,907,689	18,588,128	-18,700,350	19,459,128	-16,734,000	-40,733,025	2,107,917	0	368,280,950	2021
-6,868,915	18,295,429	-18,548,275	19,285,956	-16,734,000	-40,538,900	2,099,425	0	363,097,577	2022
-2,199,946	18,259,782	-18,314,075	19,279,224	-16,734,000	-40,822,225	2,081,111	0	366,647,553	2023
-2,187,751	18,019,379	-19,058,725	19,399,246	-16,734,000	-41,166,275	2,074,799	0	364,356,088	2024
-2,214,167	18,134,271	-17,971,350	19,538,301	-16,734,000	-41,409,600	2,076,658	0	367,633,004	2025
-2,230,221	18,395,533	-19,199,100	19,591,961	-16,734,000	-41,391,450	2,084,191	0	369,731,242	2026
-2,211,928	18,249,020	-18,502,675	19,597,154	-16,734,000	-41,337,050	2,088,125	0	369,371,522	2027
-2,213,186	18,103,306	-18,532,950	19,175,144	-16,734,000	-41,432,425	2,074,554	0	366,565,843	2028
-2,244,356	18,383,358	-18,987,425	18,663,713	-16,734,000	-41,255,150	2,066,107	0	363,741,955	2029
-2,217,578	18,213,276	-18,819,750	18,704,464	-16,734,000	-41,436,675	2,073,123	0	364,801,055	2030
-2,167,988	17,657,051	-18,350,350	18,571,255	-16,734,000	-41,405,650	2,071,718	0	361,098,474	2031
-2,243,631	18,399,058	-18,775,675	18,560,015	-16,734,000	-41,551,325	2,081,133	0	366,547,893	2032
-2,188,199	17,574,262	-18,698,325	18,045,369	-16,734,000	-41,179,575	2,060,730	0	354,519,438	2033
-2,275,419	18,579,055	-19,224,075	18,011,309	-16,734,000	-41,302,250	2,088,904	0	365,724,658	2034
-2,189,457	17,302,604	-18,586,975	16,738,531	-16,734,000	-40,085,025	2,042,174	0	343,661,052	2035

- b) Power costs for the period 1968 through 1986 are for an interim facility.
c) The costs of Del Valle Pumping Plant are combined with those of South Bay Pumping Plant to simplify the cost allocations.

TABLE B-4: ANNUAL ENTITLE-

(in acre-feet)

Sheet 1 of 4

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA ^(b)				CENTRAL COASTAL AREA		
	Napa County FC & WCD ^(c)	Solano County FC & WCD	Total	Alameda County FC & WCD Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1967	0	0	0	507	5,248	5,783	11,538	0	0	0
1968	0	0	0	6,900	15,000	88,000	109,900	0	0	0
1969	0	0	0	8,200	15,500	75,000	98,700	0	0	0
1970	0	0	0	10,000	16,200	88,000	114,200	0	0	0
1971	0	0	0	11,200	17,000	88,000	116,200	0	0	0
1972	0	0	0	12,400	17,900	88,000	118,300	0	0	0
1973	0	0	0	13,600	18,800	88,000	120,400	0	0	0
1974	0	0	0	14,800	19,600	88,000	122,400	0	0	0
1975	0	0	0	16,000	20,500	88,000	124,500	0	0	0
1976	0	0	0	17,200	21,300	88,000	126,500	0	0	0
1977	0	0	0	18,400	22,200	88,000	128,600	0	0	0
1978	0	0	0	19,600	23,100	88,000	130,700	0	0	0
1979	0	0	0	20,800	23,900	88,000	132,700	0	0	0
1980	0	500	500	22,000	24,800	88,000	134,800	1,000	946	1,946
1981	0	650	650	23,000	26,000	88,000	137,000	1,000	1,813	2,813
1982	0	800	800	24,000	27,200	88,000	139,200	2,000	3,626	5,626
1983	0	950	950	25,000	28,400	88,000	141,400	3,000	5,439	8,439
1984	0	1,100	1,100	26,000	29,600	88,000	143,600	4,500	8,198	12,698
1985	0	1,250	1,250	27,000	30,800	88,000	145,800	7,500	13,638	21,138
1986	5,045	2,300	7,345	28,000	32,100	88,000	148,100	10,000	18,210	28,210
1987	5,395	13,750	19,145	29,000	33,300	88,000	150,300	12,500	22,704	35,204
1988	5,745	15,660	21,405	30,000	34,500	88,000	152,500	15,500	28,222	43,722
1989	6,195	18,420	24,615	31,000	35,700	90,000	156,700	20,000	36,342	56,342
1990	6,745	21,250	27,995	32,000	36,900	92,000	160,900	25,000	45,486	70,486
1991	7,290	22,300	29,590	34,000	38,400	94,000	166,400	25,000	45,486	70,486
1992	7,840	24,170	32,010	36,000	39,900	96,000	171,900	25,000	45,486	70,486
1993	8,490	26,130	34,620	38,000	41,400	98,000	177,400	25,000	45,486	70,486
1994	9,135	28,080	37,215	40,000	42,000	100,000	182,000	25,000	45,486	70,486
1995	9,780	34,250	44,030	42,000	42,000	100,000	184,000	25,000	45,486	70,486
1996	10,425	37,800	48,225	44,000	42,000	100,000	186,000	25,000	45,486	70,486
1997	11,065	38,250	49,315	46,000	42,000	100,000	188,000	25,000	45,486	70,486
1998	11,710	38,710	50,420	46,000	42,000	100,000	188,000	25,000	45,486	70,486
1999	12,330	39,170	51,500	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2000	13,050	39,620	52,670	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2001	13,665	40,080	53,745	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2002	14,185	40,540	54,725	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2003	14,800	41,000	55,800	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2004	15,400	41,450	56,850	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2005	16,000	41,500	57,500	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2006	16,450	41,550	58,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2007	17,100	41,600	58,700	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2008	17,650	41,650	59,300	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2009	18,200	41,700	59,900	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2010	18,750	41,750	60,500	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2011	19,400	41,800	61,200	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2012	19,950	41,850	61,800	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2013	20,600	41,900	62,500	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2014	21,250	41,950	63,200	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2015	21,900	42,000	63,900	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2016	22,500	42,000	64,500	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2017	23,100	42,000	65,100	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2018	23,700	42,000	65,700	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2019	24,300	42,000	66,300	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2020	24,900	42,000	66,900	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2021	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2022	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2023	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2024	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2025	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2026	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2027	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2028	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2029	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2030	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2031	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2032	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2033	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2034	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2035	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
TOTAL	889,040	1,867,430	2,756,470	2,494,607	2,459,248	6,510,783	11,464,638	1,227,000	2,231,494	3,458,494

- a) From Tables A and Article 6(a) of water supply contracts as of June 30, 1985.
b) Entitlements for the South Bay area were supplied by nonproject water for the period June 1962 through November 1967. Actual delivery quantities of project water are shown for 1967.
c) District's Table A quantities exclude amounts during the period 1968 through 1985 that are assumed to be supplied by nonproject water.

MENTS TO PROJECT WATER^(a)

(in acre-feet)

Sheet 2 of 4

Calendar Year	SAN JOAQUIN VALLEY AREA									
	Devil's Den	Dudley Ridge	Empire	Kern County Water Agency			County	Oak Flat	Tulare	
	Water	Water	West Side				of	Water	Lake Basin	Total
	District	District	Irrigation District	M&I	Ag.	Total	Kings	District	Water Storage District	
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1967	0	0	0	0	0	0	0	0	0	0
1968	3,700	14,300	1,000	0	46,600	46,600	900	2,300	12,250	81,050
1969	5,000	14,325	3,000	0	95,700	95,700	1,200	2,500	46,350	168,075
1970	5,700	15,700	3,000	28,700	116,400	145,100	1,300	2,600	34,300	207,700
1971	6,700	17,900	3,000	35,700	154,600	190,300	1,300	2,800	36,500	258,500
1972	7,700	20,000	3,000	39,200	231,500	270,700	1,400	3,366	112,600	420,766
1973	8,700	22,000	3,000	43,500	267,000	310,500	1,500	3,100	43,552	392,352
1974	9,700	33,390	3,000	48,000	299,000	347,000	1,500	3,471	72,289	470,350
1975	10,700	40,555	3,000	52,700	358,120	410,820	1,600	3,576	86,258	556,509
1976	11,700	30,921	3,000	56,100	386,050	442,150	1,600	4,039	61,707	555,117
1977	12,700	30,400	3,000	60,600	423,000	483,600	1,700	3,700	59,000	594,100
1978	11,362	32,500	0	64,100	470,200	534,300	1,900	3,900	63,300	647,262
1979	12,700	38,544	3,000	67,600	516,300	583,900	2,000	4,000	71,241	715,385
1980	12,700	41,000	3,000	71,100	563,400	634,500	2,200	5,700	71,700	770,800
1981	12,700	41,000	3,000	74,800	616,600	691,400	2,300	4,300	76,000	830,700
1982	12,700	41,000	3,000	79,600	665,700	745,300	2,500	4,500	80,200	889,200
1983	12,700	42,900	3,000	83,500	721,600	805,100	2,800	4,600	9,548	880,648
1984	12,700	45,100	3,000	103,600	757,000	860,600	3,100	4,800	62,611	991,911
1985	12,700	47,200	3,000	108,900	806,100	915,000	3,400	4,900	45,549	1,031,749
1986	12,700	49,300	3,000	113,400	854,800	968,200	3,700	5,100	97,200	1,139,200
1987	12,700	51,400	3,000	119,100	904,400	1,023,500	4,000	5,200	101,400	1,201,200
1988	12,700	53,500	3,000	123,900	950,700	1,074,600	4,000	5,400	105,600	1,258,800
1989	12,700	55,600	3,000	128,200	984,100	1,112,300	4,000	5,600	109,900	1,303,100
1990	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
1991	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
1992	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
1993	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
1994	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
1995	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
1996	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
1997	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
1998	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
1999	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2000	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2001	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2002	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2003	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2004	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2005	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2006	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2007	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2008	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2009	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2010	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2011	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2012	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2013	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2014	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2015	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2016	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2017	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2018	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2019	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2020	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2021	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2022	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2023	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2024	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2025	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2026	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2027	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2028	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2029	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2030	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2031	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2032	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2033	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2034	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2035	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
TOTAL	817,562	3,432,735	199,000	7,693,900	58,053,670	65,747,570	233,900	353,652	6,910,055	77,694,474

TABLE B-4: ANNUAL ENTITLE-

(in acre-feet)

Sheet 3 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley-East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1967	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0
1972	20,000	1,236	5,200	526	8,000	170	8,400	1,620	1,677	122
1973	25,000	3,700	5,800	870	9,000	290	10,700	2,940	48,000	11,500
1974	30,000	5,700	6,400	1,160	10,000	400	13,100	4,260	50,000	12,300
1975	35,000	7,500	7,000	1,450	11,000	520	15,400	5,580	52,500	13,100
1976	44,000	9,500	7,600	1,740	12,000	640	17,800	6,900	55,000	14,000
1977	50,000	11,400	8,421	2,030	13,000	730	20,200	8,220	57,500	14,800
1978	57,000	13,400	9,242	2,320	14,000	920	22,000	9,340	60,000	15,700
1979	63,000	15,300	10,063	2,610	15,000	1,040	24,900	10,260	62,500	16,600
1980	69,200	17,700	10,884	2,900	17,000	1,150	27,200	11,180	65,500	17,400
1981	75,000	20,100	12,105	3,190	19,000	1,270	23,100	11,700	68,500	18,300
1982	81,300	22,100	13,326	3,480	21,000	1,380	22,843	12,320	71,500	19,100
1983	87,700	24,600	14,547	3,770	23,000	1,500	34,300	12,940	74,500	19,900
1984	95,000	26,900	15,768	4,060	25,000	1,610	36,700	13,560	78,000	20,700
1985	102,000	29,100	16,989	4,350	27,000	1,730	39,000	14,180	81,500	21,600
1986	109,000	31,300	18,210	4,640	29,000	1,840	41,400	14,800	85,000	22,500
1987	116,000	33,500	19,431	4,930	31,000	1,960	43,700	15,420	89,000	23,400
1988	123,000	35,700	20,652	5,220	33,000	2,070	46,000	16,040	93,000	24,300
1989	130,000	37,900	21,873	5,510	35,000	2,190	48,500	16,660	97,000	25,200
1990	137,000	40,100	23,094	5,800	37,000	2,300	50,800	17,280	101,000	26,100
1991	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
1992	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
1993	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
1994	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
1995	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
1996	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
1997	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
1998	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
1999	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2000	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2001	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2002	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2003	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2004	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2005	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2006	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2007	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2008	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2009	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2010	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2011	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2012	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2013	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2014	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2015	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2016	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2017	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2018	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2019	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2020	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2021	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2022	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2023	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2024	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2025	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2026	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2027	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2028	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2029	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2030	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2031	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2032	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2033	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2034	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2035	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
TOTAL	7,330,000	2,251,536	1,286,111	321,556	2,107,600	127,210	2,810,043	983,720	5,909,177	1,641,322

MENTS TO PROJECT WATER^(a)

(in acre-feet)

Sheet 4 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Geronio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	South Bay	
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
1967	0	0	0	0	0	0	0	0	0	11,538
1968	0	0	0	0	0	300	250	550	0	191,500
1969	0	0	0	0	0	350	270	620	0	267,395
1970	0	0	0	0	0	400	300	700	0	322,600
1971	0	0	0	0	0	450	440	890	0	375,590
1972	0	154,772	0	201,723	0	500	470	970	0	741,759
1973	0	354,600	0	472,400	0	600	500	1,100	0	986,252
1974	0	454,900	0	588,220	0	700	530	1,230	0	1,182,200
1975	0	555,200	0	704,250	0	1,050	560	1,610	0	1,386,869
1976	0	655,600	0	824,780	0	1,400	590	1,990	0	1,508,387
1977	0	755,900	0	942,201	0	1,800	620	2,420	0	1,667,321
1978	0	856,300	0	1,038,222	0	1,200	650	1,850	0	1,818,034
1979	0	956,600	0	1,177,873	0	1,450	680	2,130	0	2,028,088
1980	6,800	1,057,000	1,000	1,304,914	0	1,100	710	1,810	0	2,214,770
1981	7,800	1,157,300	2,000	1,419,365	0	1,200	740	1,940	0	2,392,468
1982	8,800	1,257,600	3,000	1,537,749	0	1,200	770	1,970	0	2,574,545
1983	9,800	1,358,000	4,000	1,668,557	0	1,200	800	2,000	0	2,701,994
1984	10,800	1,458,300	5,000	1,731,398	1,600	1,200	830	3,630	0	2,884,337
1985	11,800	1,558,700	6,000	1,852,149	1,700	1,200	860	3,760	0	3,055,846
1986	12,900	1,659,300	8,000	1,971,190	2,100	1,200	890	4,190	0	3,298,235
1987	14,000	1,759,800	10,000	2,091,241	2,500	1,200	920	4,620	0	3,501,710
1988	15,100	1,860,400	13,000	2,212,782	2,900	1,200	960	5,060	0	3,694,269
1989	16,200	1,961,000	16,000	2,411,933	3,300	1,200	1,000	5,500	0	3,958,190
1990	17,300	2,011,500	20,000	2,487,900	3,800	1,200	1,040	6,040	0	4,108,321
1991	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,080	38,180	0	4,157,156
1992	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,120	38,220	0	4,165,116
1993	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,160	38,260	0	4,173,266
1994	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,200	38,300	0	4,180,501
1995	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,250	38,350	0	4,189,366
1996	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,300	38,400	0	4,195,611
1997	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,350	38,450	0	4,198,751
1998	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,400	38,500	0	4,199,906
1999	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,450	38,550	0	4,201,036
2000	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,510	38,610	0	4,202,266
2001	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,570	38,670	0	4,203,401
2002	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,630	38,730	0	4,204,441
2003	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,690	38,790	0	4,205,576
2004	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,750	38,850	0	4,206,686
2005	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,810	38,910	0	4,207,396
2006	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,880	38,980	0	4,207,966
2007	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,950	39,050	0	4,208,736
2008	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,020	39,120	0	4,209,406
2009	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,090	39,190	0	4,210,076
2010	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,160	39,260	0	4,210,746
2011	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,240	39,340	0	4,211,526
2012	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,320	39,420	0	4,212,206
2013	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,410	39,510	0	4,212,996
2014	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,500	39,600	0	4,213,786
2015	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,600	39,700	0	4,214,586
2016	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,215,286
2017	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,215,886
2018	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,216,486
2019	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,086
2020	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,686
2021	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2022	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2023	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2024	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2025	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2026	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2027	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2028	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2029	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2030	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2031	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2032	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2033	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2034	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2035	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
TOTAL	909,800	112,360,272	988,000	139,026,347	449,900	1,260,800	112,820	1,823,520	0	236,223,943

TABLE B-5A: ANNUAL WATER QUANTITIES DELIVERED

(in acre-feet)

Sheet 1 of 7

Calendar Year	Grizzly Valley Pipeline PC FC&WCD	NORTH BAY AQUEDUCT					TOTAL NORTH BAY AQUEDUCT	SOUTH BAY AQUEDUCT (d)					
		Reach 1	Reach 2	Direct Delta Diversion SC FC&WCD ^(b)	Reach 3	Reach 1		Reach 2	Reach 4	Reach 5			
										ACWD	AC FC&WCD		
												ACWD	AC FC&WCD
(1)	(2)	(2A)	(2B)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)		
1962	0	0	0	0	0	0	8,412	141	353	0	0	0	0
1963	0	0	0	0	0	0	10,914	814	917	0	0	0	0
1964	0	0	0	0	0	0	19,238	248	1,425	0	0	0	0
1965	0	0	0	0	0	0	15,280	637	1,830	138	0	0	0
1966	0	0	0	0	0	0	0	2,475	2,537	499	0	0	0
1967	0	0	0	0	0	0	0	1,527	2,391	862	0	0	0
1968	0	0	0	0	1,214	1,214	0	1,608	3,799	721	0	5	160
1969	0	0	0	0	2,687	2,687	0	1,165	3,459	1,851	0	160	164
1970	70	0	0	0	3,618	3,618	0	1,345	4,558	3,182	0	0	0
1971	64	0	0	0	2,521	2,521	0	546	1,908	2,403	0	160	160
1972	505	0	0	0	3,647	3,647	0	1,066	4,605	2,041	1,489	2,777	2,777
1973	679	0	0	0	3,792	3,792	0	430	1,123	1,193	0	229	229
1974	648	0	0	0	4,870	4,870	0	177	0	975	0	162	162
1975	405	0	0	0	6,840	6,840	0	137	1,783	1,864	0	120	120
1976	382	0	0	0	7,122	7,122	0	265	7,204	3,384	0	817	817
1977	303	0	0	0	8,226	8,226	0	210	4,491	2,213	0	524	524
1978	278	0	0	0	6,034	6,034	0	422	2,426	3,754	0	2,034	2,034
1979	329	0	0	0	6,561	6,561	0	197	4,283	5,567	0	3,937	3,937
1980	295	0	0	0	6,707	6,707	0	77	3,883	6,686	1,508	0	0
1981	355	0	0	0	9,001	9,001	0	1,250	4,648	5,273	5,752	1,157	1,157
1982	305	0	0	0	1,213	1,213	0	473	3,043	4,406	0	630	630
1983	262	0	0	0	2,287	2,287	0	179	2,712	1,714	0	50	50
1984	272	0	0	0	2,923	2,923	0	165	4,219	2,219	0	55	55
1985	860	0	0	1,250	3,000	4,250	0	198	3,878	1,885	0	40	40
1986	890	0	0	1,400	2,397	3,797	0	198	4,020	2,036	0	80	80
1987	920	1,336	8,254	1,550	3,108	14,248	0	198	4,145	2,126	0	120	120
1988	960	2,700	10,860	2,100	3,345	19,005	0	198	4,282	2,126	0	160	160
1989	1,000	3,400	11,220	3,800	3,545	21,965	0	198	4,447	2,126	0	160	160
1990	1,040	4,050	11,600	5,600	4,295	25,545	0	198	4,633	2,126	0	160	160
1991	1,082	4,700	12,000	5,600	5,270	27,570	0	237	5,549	2,546	0	192	192
1992	1,124	6,250	12,320	5,600	6,250	30,420	0	276	6,465	2,967	0	223	223
1993	1,166	7,800	12,730	5,600	7,230	33,360	0	315	7,380	3,387	0	255	255
1994	1,208	9,350	13,130	5,600	8,200	36,280	0	355	8,296	3,807	0	287	287
1995	1,250	15,100	13,540	5,600	9,180	43,420	0	394	9,212	4,227	0	318	318
1996	1,302	18,250	13,950	5,600	9,770	47,570	0	412	9,651	4,428	0	333	333
1997	1,354	18,300	14,350	5,600	10,370	48,620	0	431	10,090	4,630	0	348	348
1998	1,406	18,350	14,760	5,600	10,960	49,670	0	431	10,090	4,630	0	348	348
1999	1,458	18,400	15,170	5,600	11,556	50,726	0	431	10,090	4,630	0	348	348
2000	1,510	18,450	15,570	5,600	12,150	51,770	0	431	10,090	4,630	0	348	348
2001	1,570	18,500	15,980	5,600	13,180	53,260	0	431	10,090	4,630	0	348	348
2002	1,630	18,550	16,390	5,600	14,210	54,750	0	431	10,090	4,630	0	348	348
2003	1,690	18,600	16,800	5,600	15,240	56,240	0	431	10,090	4,630	0	348	348
2004	1,750	18,650	17,200	5,600	16,270	57,720	0	431	10,090	4,630	0	348	348
2005	1,810	18,700	17,200	5,600	17,300	58,800	0	431	10,090	4,630	0	348	348
2006	1,880	18,750	17,200	5,600	17,520	59,070	0	431	10,090	4,630	0	348	348
2007	1,950	18,800	17,200	5,600	17,740	59,340	0	431	10,090	4,630	0	348	348
2008	2,020	18,850	17,200	5,600	17,960	59,610	0	431	10,090	4,630	0	348	348
2009	2,090	18,900	17,200	5,600	18,180	59,880	0	431	10,090	4,630	0	348	348
2010	2,160	18,950	17,200	5,600	18,400	60,150	0	431	10,090	4,630	0	348	348
2011	2,248	19,000	17,200	5,600	19,100	60,900	0	431	10,090	4,630	0	348	348
2012	2,336	19,050	17,200	5,600	19,800	61,650	0	431	10,090	4,630	0	348	348
2013	2,424	19,100	17,200	5,600	20,500	62,400	0	431	10,090	4,630	0	348	348
2014	2,512	19,150	17,200	5,600	21,200	63,150	0	431	10,090	4,630	0	348	348
2015	2,600	19,200	17,200	5,600	21,900	63,900	0	431	10,090	4,630	0	348	348
2016	2,700	19,200	17,200	5,600	22,500	64,500	0	431	10,090	4,630	0	348	348
2017	2,700	19,200	17,200	5,600	23,100	65,100	0	431	10,090	4,630	0	348	348
2018	2,700	19,200	17,200	5,600	23,700	65,700	0	431	10,090	4,630	0	348	348
2019	2,700	19,200	17,200	5,600	24,300	66,300	0	431	10,090	4,630	0	348	348
2020	2,700	19,200	17,200	5,600	24,900	66,900	0	431	10,090	4,630	0	348	348
2021	2,700	19,200	17,200	5,600	24,920	66,920	0	431	10,090	4,630	0	348	348
2022	2,700	19,200	17,200	5,600	24,940	66,940	0	431	10,090	4,630	0	348	348
2023	2,700	19,200	17,200	5,600	24,960	66,960	0	431	10,090	4,630	0	348	348
2024	2,700	19,200	17,200	5,600	24,980	66,980	0	431	10,090	4,630	0	348	348
2025	2,700	19,200	17,200	5,600	25,000	67,000	0	431	10,090	4,630	0	348	348
2026	2,700	19,200	17,200	5,600	25,000	67,000	0	431	10,090	4,630	0	348	348
2027	2,700	19,200	17,200	5,600	25,000	67,000	0	431	10,090	4,630	0	348	348
2028	2,700	19,200	17,200	5,600	25,000	67,000	0	431	10,090	4,630	0	348	348
2029	2,700	19,200	17,200	5,600	25,000	67,000	0	431	10,090	4,630	0	348	348
2030	2,700	19,200	17,200	5,600	25,000	67,000	0	431	10,090	4,630	0	348	348
2031	2,700	19,200	17,200	5,600	25,000	67,000	0	431	10,090	4,630	0	348	348
2032	2,700	19,200	17,200	5,600	25,000	67,000	0	431	10,090	4,630	0	348	348
2033	2,700	19,200	17,200	5,600	25,000	67,000	0	431	10,090	4,630	0	348	348
2034	2,700	19,200	17,200	5,600	25,000	67,000	0	431	10,090	4,630	0	348	348
2035	2,700	19,200	17,200	5,600	25,000	67,000	0	431	10,090	4,630	0	348	348

- a) Includes entitlement water, surplus water delivered prior to May 1, 1973, and nonproject water.
- b) Quantities projected to be delivered from the Delta through the District's facilities.

FROM EACH AQUEDUCT REACH TO EACH CONTRACTOR ^(a)

(in acre-feet)

Sheet 2 of 7

Calendar Year	SOUTH BAY AQUEDUCT ^(d) (continued)				TOTAL SOUTH BAY AQUEDUCT	NORTH SAN JOAQUIN DIVISION Reach 2A OFWD	CALIFORNIA AQUEDUCT				
	Reach 6 AC FC&WCD	Reach 7 ACWD	Reach 8 ACWD	Reach 9 SCVWD			SOUTH SAN JOAQUIN DIVISION				
							Reach 8 C			Reach 8 D	
							TLBWS	EWSID	CK	KCWA (Ag.)	DRWD
(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	
1962	0	0	0	0	8,906	0	0	0	0	0	0
1963	0	0	0	0	12,645	0	0	0	0	0	0
1964	0	0	0	0	20,911	0	0	0	0	0	0
1965	0	1,127	0	15,014	34,026	0	0	0	0	0	0
1966	0	14,864	0	34,538	54,913	0	0	0	0	0	0
1967	0	12,882	0	39,101	56,763	0	0	0	0	0	0
1968	0	24,817	0	70,105	101,055	3,084	25,100	1,978	900	0	26,360
1969	0	813	0	62,264	69,712	3,016	7,081	56	100	0	31,375
1970	0	0	0	80,311	89,560	5,911	0	3,942	0	0	40,407
1971	0	5,961	0	87,606	98,584	7,212	80,906	5,990	3,700	0	41,053
1972	0	26,182	0	100,266	138,426	8,166	144,843	5,795	1,400	0	42,443
1973	0	2,521	0	88,582	94,078	3,214	26,317	3,000	1,500	1,500	22,057
1974	0	0	4	88,000	89,318	3,471	32,603	3,000	1,500	0	33,390
1975	714	393	593	88,000	93,604	3,576	41,536	3,000	1,600	0	40,555
1976	5,461	13,774	7,526	88,000	126,431	4,112	26,595	3,000	1,600	0	41,421
1977	5,206	11,284	7,556	87,261	107,704	1,472	12,984	738	1,536	0	11,153
1978	2,348	854	5,009	95,727	112,574	3,906	3,934	454	2,070	0	51,747
1979	5,341	3,430	7,444	91,991	122,190	6,149	74,758	1,739	2,000	0	38,544
1980	6,144	2,824	6,702	88,000	115,824	5,700	35,140	894	2,200	0	41,000
1981	7,262	7,595	8,570	88,000	129,507	4,300	50,888	5,859	2,300	0	41,000
1982	4,571	1,776	4,540	87,261	106,700	3,838	4,405	361	1,536	0	41,000
1983	111	0	3,157	86,733	94,656	3,822	1,001	0	3,550	0	42,900
1984	126	0	3,338	88,000	98,122	5,700	3,677	0	3,100	0	45,100
1985	11,781	22,025	8,775	88,000	136,582	5,440	58,600	6,000	3,400	0	47,200
1986	12,180	23,325	8,775	88,000	138,614	5,100	57,500	3,000	3,700	0	49,300
1987	12,549	24,525	8,775	88,000	140,438	5,200	58,500	3,000	4,000	0	51,400
1988	12,957	25,725	8,775	88,000	142,223	5,400	60,500	3,000	4,000	0	53,500
1989	13,452	26,925	8,775	90,000	146,083	5,600	62,500	3,000	4,000	0	55,600
1990	14,006	28,125	8,775	92,000	150,023	5,700	63,500	3,000	4,000	0	57,700
1991	16,774	29,145	8,775	94,000	157,218	5,700	63,500	3,000	4,000	0	57,700
1992	19,543	30,165	8,775	96,000	164,414	5,700	63,500	3,000	4,000	0	57,700
1993	22,312	31,185	8,775	98,000	171,609	5,700	63,500	3,000	4,000	0	57,700
1994	25,080	32,205	8,775	100,000	178,805	5,700	63,500	3,000	4,000	0	57,700
1995	27,849	33,225	8,775	100,000	184,000	5,700	63,500	3,000	4,000	0	57,700
1996	29,175	33,225	8,775	100,000	186,000	5,700	63,500	3,000	4,000	0	57,700
1997	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
1998	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
1999	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2000	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2001	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2002	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2003	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2004	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2005	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2006	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2007	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2008	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2009	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2010	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2011	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2012	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2013	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2014	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2015	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2016	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2017	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2018	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2019	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2020	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2021	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2022	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2023	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2024	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2025	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2026	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2027	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2028	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2029	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2030	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2031	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2032	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2033	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2034	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2035	30,501	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700

c) For the period 1968 through 1986, deliveries are nonproject water pumped through an interim facility.

d) For the period June 1962 through November 1967, deliveries were supplied by nonproject water.

TABLE B-5A: ANNUAL WATER QUANTITIES DELIVERED

(in acre-feet)

Sheet 3 of 7

Calendar	CALIFORNIA AQUEDUCT (continued)										
	SOUTH SAN JOAQUIN DIVISION (continued)										
	Reach 8D (cont)		Reach 9		Reach 10A			Reach 11 B		Reach 12 E	
	CK	TLBWS	KCWA (Ag.)	TLBWS	KCWA (M&I)	KCWA (Ag.)	TLBWS	KCWA (M&I)	KCWA (Ag.)	KCWA (M&I)	KCWA (Ag.)
Year	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
1962	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	30,951	0	0	0	0	0	24,776	0	0
1969	0	0	24,489	0	0	0	2,842	0	64,682	0	0
1970	0	3,408	46,114	1,855	0	158	4,315	0	72,279	0	9,279
1971	0	41,579	58,356	0	0	9,973	0	0	63,773	0	28,056
1972	0	113,550	75,464	0	0	5,876	0	0	72,358	0	62,342
1973	0	24,147	54,583	0	0	22,948	0	0	67,544	0	13,082
1974	0	39,686	63,814	0	10,019	22,719	0	0	87,476	2,651	4,248
1975	0	44,722	50,021	0	2,791	72,121	0	0	85,675	0	10,787
1976	0	32,216	53,465	0	74	50,444	0	0	85,067	37,519	20,555
1977	0	5,097	24,668	0	201	34,451	0	3,981	29,603	20,280	1,737
1978	0	8,119	72,231	0	0	161,889	0	0	88,753	47,133	15,011
1979	0	80,363	74,524	0	285	153,245	0	484	108,379	50,740	61,567
1980	0	40,304	79,946	0	3,780	131,836	0	3,112	103,207	32,039	22,252
1981	0	32,550	76,508	0	341	133,500	0	494	104,395	59,917	58,470
1982	214	14,146	76,877	0	4,700	164,832	0	798	99,081	36,139	75,587
1983	0	5	86,790	0	0	146,493	0	2,069	94,117	0	10,950
1984	0	2,066	152,125	0	1,060	130,212	0	2,829	90,010	51,315	48,153
1985	0	59,900	81,461	0	10,500	201,831	0	11,807	112,962	80,580	62,400
1986	0	61,000	93,093	0	8,306	180,846	0	10,158	125,879	91,426	79,034
1987	0	60,000	105,416	0	10,500	178,835	0	12,329	136,389	92,741	89,249
1988	0	58,000	99,380	0	11,000	240,061	0	13,450	142,987	95,920	63,403
1989	0	56,000	96,580	0	9,500	227,671	0	13,450	141,519	101,810	108,785
1990	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
1991	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
1992	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
1993	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
1994	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
1995	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
1996	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
1997	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
1998	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
1999	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2000	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2001	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2002	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2003	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2004	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2005	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2006	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2007	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2008	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2009	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2010	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2011	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2012	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2013	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2014	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2015	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2016	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2017	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2018	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2019	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2020	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2021	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2022	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2023	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2024	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2025	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2026	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2027	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2028	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2029	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2030	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2031	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2032	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2033	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2034	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965
2035	0	55,000	100,505	0	9,500	234,601	0	13,450	139,174	108,250	111,965

FROM EACH AQUEDUCT REACH TO EACH CONTRACTOR ^(a)

(in acre-feet)

Sheet 4 of 7

Calendar Year	CALIFORNIA AQUEDUCT (continued)												TEHACHAPI DIVISION
	SOUTH SAN JOAQUIN DIVISION (continued)												
	Reach 13 B		Reach 14A		Reach 14B		Reach 14C		Reach 15A	Reach 16A		Reach 17E	
	KCWA (M&I)	KCWA (Ag.)	KCWA (M&I)	KCWA (Ag.)	KCWA (M&I)	KCWA (Ag.)	KCWA (M&I)	KCWA (Ag.)	KCWA (Ag.)	KCWA (M&I)	KCWA (Ag.)	KCWA (M&I)	
	(33)	(34)	(35)	(36)	(37)	(37A)	(38)	(38A)	(39)	(40)	(41)	(42)	
1962	0	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0	0	0
1970	0	4,891	0	0	0	0	3	0	0	0	0	0	0
1971	0	0	0	23,844	0	49,929	0	24,187	3,552	0	0	0	0
1972	0	17,388	0	26,621	0	77,034	0	35,016	6,064	0	4,768	0	0
1973	0	9,297	0	15,328	0	47,040	0	19,043	19,916	0	1,961	0	0
1974	8,038	4,246	0	7,794	0	32,356	0	12,601	18,000	3,000	1,564	0	0
1975	8,538	7,059	0	10,306	0	27,736	0	12,783	35,420	3,200	9,867	0	0
1976	5,626	8,855	0	268	0	35,296	0	9,005	39,551	3,500	11,667	0	0
1977	0	5,024	0	8,299	0	13,539	0	3,757	6,158	3,420	685	0	0
1978	1,773	7,601	0	34,029	0	72,351	0	24,542	31,148	7,989	1,655	0	0
1979	5,663	17,766	3,012	27,356	0	59,413	0	22,372	38,602	2,813	15,808	0	0
1980	0	22,515	4,312	16,876	0	40,513	0	19,953	37,817	2,700	16,145	0	0
1981	7,844	14,037	4,511	13,007	8	42,753	7	18,729	39,033	2,636	18,156	0	0
1982	0	25,553	5,373	22,602	184	57,739	0	26,479	47,782	1,289	17,209	0	0
1983	0	3,491	1,168	20,302	0	57,922	0	26,613	37,426	1,400	17,907	0	0
1984	0	46,125	91	35,415	0	79,189	0	34,998	49,848	1,360	24,224	0	0
1985	0	21,400	450	35,834	0	68,725	0	40,434	54,952	2,370	32,700	0	0
1986	0	27,125	710	32,900	0	70,435	0	37,600	58,750	2,800	34,800	0	0
1987	0	33,575	730	33,600	0	74,400	0	42,412	64,012	2,800	36,000	0	0
1988	0	40,653	730	34,300	0	75,950	0	53,173	61,250	2,800	37,200	0	0
1989	0	39,535	640	35,000	0	77,500	0	40,000	62,500	2,800	37,900	0	0
1990	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
1991	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
1992	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
1993	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
1994	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
1995	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
1996	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
1997	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
1998	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
1999	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2000	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2001	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2002	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2003	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2004	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2005	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2006	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2007	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2008	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2009	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2010	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2011	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2012	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2013	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2014	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2015	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2016	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2017	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2018	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2019	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2020	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2021	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2022	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2023	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2024	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2025	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2026	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2027	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2028	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2029	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2030	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2031	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2032	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2033	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2034	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0
2035	0	39,065	600	39,265	0	82,615	0	44,365	67,315	2,800	42,165	0	0

TABLE B-5A: ANNUAL WATER QUANTITIES DELIVERED

(in acre-feet)

Sheet 5 of 7

Calendar Year	CALIFORNIA AQUEDUCT C(continued)										
	MOJAVE DIVISION										
	Reach 18A	Reach 19	Reach 20A	Reach 20B		Reach 21	Reach 22 A	Reach 22 B			
	AVEKWA	AVEKWA	AVEKWA	PWD	AVEKWA	LCID	AVEKWA	MWD-SC ^(e)	CVWD ^(e)	DWA ^(e)	MWA
	(43)	(44)	(45)	(46)	(47)	(48)	(49)	(50)	(51)	(52)	(53)
1962	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	338	0	0	0	0	55
1973	0	0	0	0	0	290	0	-14,800	5,800	9,000	0
1974	0	1,223	0	0	0	400	0	-16,400	6,400	10,000	0
1975	0	7,622	420	0	0	520	0	-18,000	7,000	11,000	0
1976	3,808	23,063	471	0	416	589	0	-19,600	7,600	12,000	0
1977	1,231	8,927	773	0	271	111	0	0	0	0	22
1978	1,321	36,333	5,549	0	934	208	0	-25,384	10,084	15,300	0
1979	2,098	49,910	7,555	0	930	133	0	-25,063	10,063	15,000	4,000
1980	2,610	61,534	7,605	0	655	191	3	-27,884	10,884	17,000	4,000
1981	2,340	65,690	10,333	0	966	1,270	46	-31,105	12,105	19,000	4,000
1982	1,669	41,127	7,313	0	8	0	174	-34,326	13,326	21,000	10,500
1983	43	26,377	6,253	0	20	38	268	-37,547	14,547	23,000	0
1984	90	22,462	9,558	0	2	1	550	-40,768	15,768	25,000	0
1985	29	1,405	10,100	0	0	0	495	-43,989	16,989	27,000	0
1986	30	1,405	10,600	0	0	0	545	-47,210	18,210	29,000	0
1987	32	1,405	11,130	0	0	0	615	-50,931	19,431	31,500	0
1988	32	1,405	11,680	0	0	0	680	-54,652	20,652	34,000	0
1989	32	1,405	12,265	0	0	0	755	-58,373	21,873	36,500	0
1990	32	1,405	12,880	3,000	0	0	825	-61,200	23,100	38,100	0
1991	32	1,405	13,900	4,860	0	1,800	910	-61,200	23,100	38,100	50,800
1992	32	1,405	15,000	5,520	0	1,900	1,000	-61,200	23,100	38,100	50,800
1993	32	1,405	16,100	6,180	0	2,000	1,080	-61,200	23,100	38,100	50,800
1994	32	1,405	17,100	6,840	0	2,100	1,170	-61,200	23,100	38,100	50,800
1995	40	1,405	18,200	7,500	0	2,200	1,255	-61,200	23,100	38,100	50,800
1996	40	1,405	19,600	8,200	0	2,300	1,350	-61,200	23,100	38,100	50,800
1997	40	1,405	21,000	8,900	0	2,300	1,450	-61,200	23,100	38,100	50,800
1998	40	1,405	22,400	9,600	0	2,300	1,550	-61,200	23,100	38,100	50,800
1999	40	1,405	23,800	10,300	0	2,300	1,650	-61,200	23,100	38,100	50,800
2000	50	1,405	25,200	11,000	0	2,300	1,745	-61,200	23,100	38,100	50,800
2001	50	1,405	26,900	11,600	0	2,300	1,900	-61,200	23,100	38,100	50,800
2002	50	1,405	28,600	12,200	0	2,300	2,055	-61,200	23,100	38,100	50,800
2003	50	1,405	30,400	12,800	0	2,300	2,215	-61,200	23,100	38,100	50,800
2004	50	1,405	32,100	13,400	0	2,300	2,370	-61,200	23,100	38,100	50,800
2005	70	1,405	33,800	14,000	0	2,300	2,525	-61,200	23,100	38,100	50,800
2006	70	1,405	35,900	14,660	0	2,300	2,645	-61,200	23,100	38,100	50,800
2007	70	1,405	38,000	15,320	0	2,300	2,760	-61,200	23,100	38,100	50,800
2008	70	1,405	40,200	15,980	0	2,300	2,880	-61,200	23,100	38,100	50,800
2009	70	1,405	42,300	16,640	0	2,300	2,995	-61,200	23,100	38,100	50,800
2010	80	1,405	44,400	17,300	0	2,300	3,115	-61,200	23,100	38,100	50,800
2011	80	1,405	46,800	17,300	0	2,300	3,315	-61,200	23,100	38,100	50,800
2012	80	1,405	49,300	17,300	0	2,300	3,510	-61,200	23,100	38,100	50,800
2013	80	1,405	51,700	17,300	0	2,300	3,710	-61,200	23,100	38,100	50,800
2014	80	1,405	54,200	17,300	0	2,300	3,905	-61,200	23,100	38,100	50,800
2015	90	1,405	56,600	17,300	0	2,300	4,105	-61,200	23,100	38,100	50,800
2016	90	1,405	59,400	17,300	0	2,300	4,300	-61,200	23,100	38,100	50,800
2017	90	1,405	62,200	17,300	0	2,300	4,495	-61,200	23,100	38,100	50,800
2018	90	1,405	65,000	17,300	0	2,300	4,695	-61,200	23,100	38,100	50,800
2019	90	1,405	67,800	17,300	0	2,300	4,890	-61,200	23,100	38,100	50,800
2020	110	1,405	70,600	17,300	0	2,300	5,085	-61,200	23,100	38,100	50,800
2021	110	1,405	73,400	17,300	0	2,300	5,285	-61,200	23,100	38,100	50,800
2022	110	1,405	76,200	17,300	0	2,300	5,480	-61,200	23,100	38,100	50,800
2023	110	1,405	78,900	17,300	0	2,300	5,680	-61,200	23,100	38,100	50,800
2024	110	1,405	81,700	17,300	0	2,300	5,875	-61,200	23,100	38,100	50,800
2025	120	1,405	84,500	17,300	0	2,300	6,075	-61,200	23,100	38,100	50,800
2026	120	1,405	84,500	17,300	0	2,300	6,075	-61,200	23,100	38,100	50,800
2027	120	1,405	84,500	17,300	0	2,300	6,075	-61,200	23,100	38,100	50,800
2028	120	1,405	84,500	17,300	0	2,300	6,075	-61,200	23,100	38,100	50,800
2029	120	1,405	84,500	17,300	0	2,300	6,075	-61,200	23,100	38,100	50,800
2030	120	1,405	84,500	17,300	0	2,300	6,075	-61,200	23,100	38,100	50,800
2031	120	1,405	84,500	17,300	0	2,300	6,075	-61,200	23,100	38,100	50,800
2032	120	1,405	84,500	17,300	0	2,300	6,075	-61,200	23,100	38,100	50,800
2033	120	1,405	84,500	17,300	0	2,300	6,075	-61,200	23,100	38,100	50,800
2034	120	1,405	84,500	17,300	0	2,300	6,075	-61,200	23,100	38,100	50,800
2035	120	1,405	84,500	17,300	0	2,300	6,075	-61,200	23,100	38,100	50,800

e) In accordance with the Exchange Agreement between the noted agencies, MWDSC assumed responsibility for payment of variable OMP&R costs on the exchange water in reaches beyond Reach 22B, and Desert Water Agency and Coachella Valley Water District for such costs from the Delta through Reach 22B. The adjustment in deliveries shown in Column 50 provides for compliance with provisions for the repayment of costs under the Agreement.

FROM EACH AQUEDUCT REACH TO EACH CONTRACTOR ^(a)

(in acre-feet)

Sheet 6 of 7

Calendar Year	CALIFORNIA AQUEDUCT (continued)								
	MOJAVE DIVISION (continued)		SANTA ANA DIVISION						
	Reach 23	Reach 24	Reach 26A				Reach 28G	Reach 28H	Reach 28J
	MWA	CLAWA	MWD-SC	SBVMWD	SGVMWD	SGPWA	MWD-SC	MWD-SC	MWD-SC
	(54)	(55)	(56)	(57)	(58)	(59)	(60)	(61)	(62)
1962	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0
1972	0	464	0	1,275	0	0	0	0	0
1973	0	389	444	32,426	0	0	18,942	0	0
1974	14	627	84,981	16,605	612	0	0	0	0
1975	0	825	169,960	13,865	5,450	0	0	0	251
1976	0	1,002	215,312	12,273	6,071	0	0	55	2,000
1977	58	1,109	64,823	24,833	8,996	0	0	43	2,442
1978	0	1,209	297,708	4,055	7,771	0	0	48	64,054
1979	0	1,260	260,903	18	290	0	0	1,290	94,353
1980	0	1,239	300,345	0	1,085	0	0	3,013	91,532
1981	0	1,485	395,678	16,021	3,619	0	0	4,365	149,405
1982	0	1,238	214,566	8,409	12,599	0	0	3,961	155,629
1983	0	911	175,288	5,994	734	0	0	6,645	41,616
1984	0	1,128	122,406	5,461	7,656	0	0	40,902	74,513
1985	0	1,388	145,800	8,400	4,900	0	0	35,000	39,200
1986	0	1,482	247,500	9,000	8,500	0	0	36,400	88,100
1987	0	1,541	449,900	18,200	8,500	0	0	37,900	167,200
1988	0	1,778	530,200	18,200	8,500	0	0	39,400	220,400
1989	0	2,075	528,700	18,200	8,500	0	0	41,100	220,200
1990	0	2,440	509,500	21,000	8,500	8,000	0	42,500	230,000
1991	0	2,870	531,100	23,200	8,740	8,800	0	44,000	228,500
1992	0	2,990	552,700	25,400	8,980	9,600	0	45,500	227,000
1993	0	3,110	574,300	27,600	9,220	10,400	0	47,000	225,500
1994	0	3,230	595,900	29,800	9,460	11,200	0	48,500	224,000
1995	0	3,350	109,500	32,000	9,700	12,000	0	48,500	272,500
1996	0	3,470	108,440	34,400	9,980	13,060	0	0	272,500
1997	0	3,590	107,380	36,800	10,260	14,120	0	0	272,500
1998	0	3,710	106,320	39,200	10,540	15,180	0	0	272,500
1999	0	3,830	105,240	41,600	10,820	16,260	0	0	272,500
2000	0	3,950	104,200	44,000	11,100	17,300	0	0	272,500
2001	0	4,070	104,600	46,400	11,440	17,300	0	0	272,500
2002	0	4,190	105,000	48,800	11,780	17,300	0	0	272,500
2003	0	4,310	105,400	51,200	12,120	17,300	0	0	272,500
2004	0	4,430	105,800	53,600	12,460	17,300	0	0	272,500
2005	0	4,550	106,200	56,000	12,800	17,300	0	0	272,500
2006	0	4,670	113,600	58,400	13,160	17,300	0	0	272,500
2007	0	4,790	121,000	60,800	13,520	17,300	0	0	272,500
2008	0	4,910	128,400	63,200	13,880	17,300	0	0	272,500
2009	0	5,030	135,800	65,600	14,240	17,300	0	0	272,500
2010	0	5,150	143,200	68,000	14,600	17,300	0	0	272,500
2011	0	5,280	148,400	70,400	15,020	17,300	0	0	272,500
2012	0	5,410	153,600	72,800	15,440	17,300	0	0	272,500
2013	0	5,540	158,800	75,200	15,860	17,300	0	0	272,500
2014	0	5,670	164,000	77,600	16,280	17,300	0	0	272,500
2015	0	5,800	169,200	80,000	16,700	17,300	0	0	272,500
2016	0	5,800	173,000	84,520	17,200	17,300	0	0	272,500
2017	0	5,800	176,800	89,040	17,700	17,300	0	0	272,500
2018	0	5,800	180,600	93,560	18,200	17,300	0	0	272,500
2019	0	5,800	184,400	98,080	18,700	17,300	0	0	272,500
2020	0	5,800	188,200	102,600	19,200	17,300	0	0	272,500
2021	0	5,800	188,200	102,600	19,760	17,300	0	0	272,500
2022	0	5,800	188,200	102,600	20,320	17,300	0	0	272,500
2023	0	5,800	188,200	102,600	20,880	17,300	0	0	272,500
2024	0	5,800	188,200	102,600	21,440	17,300	0	0	272,500
2025	0	5,800	188,200	102,600	22,000	17,300	0	0	272,500
2026	0	5,800	188,200	102,600	22,620	17,300	0	0	272,500
2027	0	5,800	188,200	102,600	23,240	17,300	0	0	272,500
2028	0	5,800	188,200	102,600	23,860	17,300	0	0	272,500
2029	0	5,800	188,200	102,600	24,480	17,300	0	0	272,500
2030	0	5,800	188,200	102,600	25,100	17,300	0	0	272,500
2031	0	5,800	188,200	102,600	25,840	17,300	0	0	272,500
2032	0	5,800	188,200	102,600	26,580	17,300	0	0	272,500
2033	0	5,800	188,200	102,600	27,320	17,300	0	0	272,500
2034	0	5,800	188,200	102,600	28,060	17,300	0	0	272,500
2035	0	5,800	188,200	102,600	28,800	17,300	0	0	272,500

TABLE B-5A: ANNUAL WATER QUANTITIES DELIVERED FROM EACH AQUEDUCT REACH TO EACH CONTRACTOR^(a)

(in acre-feet)

Sheet 7 of 7

Calendar Year	CALIFORNIA AQUEDUCT (continued)											Total California Aqueduct
	WEST BRANCH, CALIFORNIA AQUEDUCT					COASTAL BRANCH, CALIFORNIA AQUEDUCT						
	Reach 29F	Reach 29H	Reach 30			Reach 31A		Reach 33A	Reach 34	Reach 35		
			AVEKWA	VCFCF	MWD-SC	VCFCF	CLWA	KCWA (Ag.)	DDWD	SLOC FC&WCD	SLOC FC&WCD	
(63)	(64)	(65)	(66)	(67)	(68)	(69)	(70)	(71)	(72)	(73)	(74)	
1962	0	0	0	0	0	0	0	0	0	0	0	
1963	0	0	0	0	0	0	0	0	0	0	0	
1964	0	0	0	0	0	0	0	0	0	0	0	
1965	0	0	0	0	0	0	0	0	0	0	0	
1966	0	0	0	0	0	0	0	0	0	0	0	
1967	0	0	0	0	0	0	0	0	0	0	0	
1968	0	0	0	0	0	71,657	7,382	0	0	0	192,188	
1969	0	0	0	0	0	52,094	9,970	0	0	0	195,705	
1970	0	0	0	0	0	71,910	11,739	0	0	0	276,211	
1971	0	0	0	0	0	98,481	12,490	0	0	0	553,081	
1972	53	0	71,938	0	0	107,850	13,905	0	0	0	895,006	
1973	20	0	155,297	0	0	69,227	9,418	0	0	0	638,930	
1974	36	0	209,136	0	0	68,474	9,700	0	0	0	783,984	
1975	26	0	374,280	0	0	74,516	10,700	0	0	0	1,129,728	
1976	24	0	420,684	0	0	78,358	11,700	0	0	0	1,245,662	
1977	0	0	122,447	0	0	35,504	5,075	0	0	0	465,442	
1978	0	0	171,139	0	0	81,242	11,362	0	0	0	1,339,268	
1979	0	0	145,591	0	7	104,017	19,138	0	0	0	1,537,075	
1980	0	0	164,721	0	1,210	97,497	13,882	0	0	0	1,413,363	
1981	0	0	277,503	0	5,761	97,054	12,700	0	0	0	1,779,479	
1982	0	0	351,362	0	9,516	83,076	12,700	0	0	0	1,641,571	
1983	0	0	157,519	0	9,476	87,859	12,659	0	0	0	1,089,626	
1984	0	0	263,735	0	11,477	113,646	12,741	0	0	0	1,492,925	
1985	0	0	360,000	0	13,000	96,594	12,700	0	0	0	1,750,757	
1986	0	0	453,000	0	14,500	114,338	12,700	0	0	0	2,054,537	
1987	0	0	510,000	0	19,000	110,512	12,700	0	0	0	2,466,878	
1988	0	0	510,000	750	25,000	102,343	12,700	0	0	0	2,663,065	
1989	0	0	510,000	1,500	25,000	117,110	12,700	0	0	0	2,704,967	
1990	0	250	510,000	2,250	25,000	117,765	12,700	0	0	0	2,754,542	
1991	0	500	514,000	3,000	25,000	117,765	12,700	0	0	0	2,839,517	
1992	0	750	518,000	3,750	25,000	117,765	12,700	10,000	5,000	10,000	45,486	
1993	0	1,000	522,000	4,500	25,000	117,765	12,700	10,000	5,000	10,000	45,486	
1994	0	1,250	526,000	6,000	25,000	117,765	12,700	10,000	5,000	10,000	45,486	
1995	0	1,500	1,038,000	7,500	25,000	117,765	12,700	10,000	5,000	10,000	45,486	
1996	0	2,000	1,084,600	9,750	25,000	117,765	12,700	10,000	5,000	10,000	45,486	
1997	0	2,500	1,131,200	12,000	25,000	117,765	12,700	10,000	5,000	10,000	45,486	
1998	0	3,250	1,177,800	15,000	25,000	117,765	12,700	10,000	5,000	10,000	45,486	
1999	0	4,000	1,224,400	15,000	25,000	117,765	12,700	10,000	5,000	10,000	45,486	
2000	0	5,000	1,271,000	15,000	25,000	117,765	12,700	10,000	5,000	10,000	45,486	
2001	0	5,000	1,295,000	15,000	26,700	117,765	12,700	10,000	5,000	10,000	45,486	
2002	0	5,000	1,319,000	15,000	28,400	117,765	12,700	10,000	5,000	10,000	45,486	
2003	0	5,000	1,343,000	15,000	30,100	117,765	12,700	10,000	5,000	10,000	45,486	
2004	0	5,000	1,367,000	15,000	31,800	117,765	12,700	10,000	5,000	10,000	45,486	
2005	0	5,000	1,391,000	15,000	33,500	117,765	12,700	10,000	5,000	10,000	45,486	
2006	0	5,000	1,403,400	15,000	33,500	117,765	12,700	10,000	5,000	10,000	45,486	
2007	0	5,000	1,415,800	15,000	33,500	117,765	12,700	10,000	5,000	10,000	45,486	
2008	0	5,000	1,428,200	15,000	33,500	117,765	12,700	10,000	5,000	10,000	45,486	
2009	0	5,000	1,440,600	15,000	33,500	117,765	12,700	10,000	5,000	10,000	45,486	
2010	0	5,000	1,453,000	15,000	33,500	117,765	12,700	10,000	5,000	10,000	45,486	
2011	0	5,000	1,462,800	15,000	35,100	117,765	12,700	10,000	5,000	10,000	45,486	
2012	0	5,000	1,472,600	15,000	36,700	117,765	12,700	10,000	5,000	10,000	45,486	
2013	0	5,000	1,482,400	15,000	38,300	117,765	12,700	10,000	5,000	10,000	45,486	
2014	0	5,000	1,492,200	15,000	39,900	117,765	12,700	10,000	5,000	10,000	45,486	
2015	0	5,000	1,502,000	15,000	41,500	117,765	12,700	10,000	5,000	10,000	45,486	
2016	0	5,000	1,513,200	15,000	41,500	117,765	12,700	10,000	5,000	10,000	45,486	
2017	0	5,000	1,524,400	15,000	41,500	117,765	12,700	10,000	5,000	10,000	45,486	
2018	0	5,000	1,535,600	15,000	41,500	117,765	12,700	10,000	5,000	10,000	45,486	
2019	0	5,000	1,546,800	15,000	41,500	117,765	12,700	10,000	5,000	10,000	45,486	
2020	0	5,000	1,558,000	15,000	41,500	117,765	12,700	10,000	5,000	10,000	45,486	
2021	0	5,000	1,568,800	15,000	41,500	117,765	12,700	10,000	5,000	10,000	45,486	
2022	0	5,000	1,579,600	15,000	41,500	117,765	12,700	10,000	5,000	10,000	45,486	
2023	0	5,000	1,590,400	15,000	41,500	117,765	12,700	10,000	5,000	10,000	45,486	
2024	0	5,000	1,601,200	15,000	41,500	117,765	12,700	10,000	5,000	10,000	45,486	
2025	0	5,000	1,612,000	15,000	41,500	117,765	12,700	10,000	5,000	10,000	45,486	
2026	0	5,000	1,612,000	15,000	41,500	117,765	12,700	10,000	5,000	10,000	45,486	
2027	0	5,000	1,612,000	15,000	41,500	117,765	12,700	10,000	5,000	10,000	45,486	
2028	0	5,000	1,612,000	15,000	41,500	117,765	12,700	10,000	5,000	10,000	45,486	
2029	0	5,000	1,612,000	15,000	41,500	117,765	12,700	10,000	5,000	10,000	45,486	
2030	0	5,000	1,612,000	15,000	41,500	117,765	12,700	10,000	5,000	10,000	45,486	
2031	0	5,000	1,612,000	15,000	41,500	117,765	12,700	10,000	5,000	10,000	45,486	
2032	0	5,000	1,612,000	15,000	41,500	117,765	12,700	10,000	5,000	10,000	45,486	
2033	0	5,000	1,612,000	15,000	41,500	117,765	12,700	10,000	5,000	10,000	45,486	
2034	0	5,000	1,612,000	15,000	41,500	117,765	12,700	10,000	5,000	10,000	45,486	
2035	0	5,000	1,612,000	15,000	41,500	117,765	12,700	10,000	5,000	10,000	45,486	

Table B-5B begins on next page.

TABLE B-5B: ANNUAL WATER QUANTITIES

(in acre-feet)

Sheet 1 of 4

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA ^(d)				CENTRAL COASTAL AREA		
	Napa County FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1960	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	494	8,412	0	8,906	0	0	0
1963	0	0	0	1,731	10,914	0	12,645	0	0	0
1964	0	0	0	1,673	19,238	0	20,911	0	0	0
1965	0	0	0	2,605	16,407	15,014	34,026	0	0	0
1966	0	0	0	5,511	14,864	34,538	54,913	0	0	0
1967	0	0	0	4,780	12,882	39,101	56,763	0	0	0
1968	1,214	0	1,214	6,133	24,817	70,105	101,055	0	0	0
1969	2,687	0	2,687	6,635	813	62,264	69,712	0	0	0
1970	3,618	0	3,618	9,249	0	80,311	89,560	0	0	0
1971	2,521	0	2,521	5,017	5,961	87,606	98,584	0	0	0
1972	3,647	0	3,647	10,489	27,671	100,266	138,426	0	0	0
1973	3,792	0	3,792	2,975	2,521	88,582	94,078	0	0	0
1974	4,870	0	4,870	1,314	4	88,000	89,318	0	0	0
1975	6,840	0	6,840	4,618	986	88,000	93,604	0	0	0
1976	7,122	0	7,122	17,131	21,300	88,000	126,431	0	0	0
1977	8,226	0	8,226	12,644	18,840	76,220	107,704	0	0	0
1978	6,034	0	6,034	10,984	5,863	95,727	112,574	0	0	0
1979	6,561	0	6,561	19,325	10,874	91,991	122,190	0	0	0
1980	6,707	0	6,707	16,790	11,034	88,000	115,824	0	0	0
1981	9,001	0	9,001	19,590	21,917	88,000	129,507	0	0	0
1982	1,213	0	1,213	13,123	6,316	87,261	106,700	0	0	0
1983	2,287	0	2,287	4,766	3,157	86,733	94,656	0	0	0
1984	2,923	0	2,923	6,784	3,338	88,000	98,122	0	0	0
1985	3,000	1,250	4,250	17,782	30,800	88,000	136,582	0	0	0
1986	2,397	1,400	3,797	18,514	32,100	88,000	138,614	0	0	0
1987	3,108	11,140	14,248	19,138	33,300	88,000	140,438	0	0	0
1988	3,345	15,660	19,005	19,723	34,500	88,000	142,223	0	0	0
1989	3,545	18,420	21,965	20,583	35,700	90,000	146,083	0	0	0
1990	4,295	21,250	25,545	21,123	36,900	92,000	150,023	0	0	0
1991	5,270	22,300	27,570	25,298	37,920	94,000	157,218	0	0	0
1992	6,250	24,170	30,420	29,474	38,940	96,000	164,414	25,000	45,486	70,486
1993	7,230	26,130	33,360	33,649	39,960	98,000	171,609	25,000	45,486	70,486
1994	8,200	28,080	36,280	37,825	40,980	100,000	178,805	25,000	45,486	70,486
1995	9,180	34,240	43,420	42,000	42,000	100,000	184,000	25,000	45,486	70,486
1996	9,770	37,800	47,570	44,000	42,000	100,000	186,000	25,000	45,486	70,486
1997	10,370	38,250	48,620	46,000	42,000	100,000	188,000	25,000	45,486	70,486
1998	10,960	38,710	49,670	46,000	42,000	100,000	188,000	25,000	45,486	70,486
1999	11,556	39,170	50,726	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2000	12,150	39,620	51,770	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2001	13,180	40,080	53,260	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2002	14,210	40,540	54,750	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2003	15,240	41,000	56,240	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2004	16,270	41,450	57,720	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2005	17,300	41,500	58,800	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2006	17,520	41,550	59,070	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2007	17,740	41,600	59,340	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2008	17,960	41,650	59,610	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2009	18,180	41,700	59,880	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2010	18,400	41,750	60,150	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2011	19,100	41,800	60,900	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2012	19,800	41,850	61,650	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2013	20,500	41,900	62,400	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2014	21,200	41,950	63,150	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2015	21,900	42,000	63,900	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2016	22,500	42,000	64,500	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2017	23,100	42,000	65,100	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2018	23,700	42,000	65,700	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2019	24,300	42,000	66,300	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2020	24,900	42,000	66,900	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2021	24,920	42,000	66,920	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2022	24,940	42,000	66,940	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2023	24,960	42,000	66,960	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2024	24,980	42,000	66,980	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2025	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2026	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2027	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2028	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2029	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2030	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2031	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2032	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2033	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2034	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2035	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
TOTAL	951,689	1,859,910	2,811,599	2,307,270	2,331,229	6,565,719	11,204,218	1,100,000	2,001,384	3,101,384

a) Includes entitlement water, surplus water delivered prior to May 1, 1973, and nonproject water.

b) For the period 1968 through 1986, deliveries are nonproject water pumped through an interim facility.

DELIVERED TO EACH CONTRACTOR^(a)

(in acre-feet)

Sheet 2 of 4

Calendar Year	SAN JOAQUIN VALLEY AREA								
	Devil's Den	Dudley Ridge	Empire	Kern County Water Agency			County	Oak Flat	Tulare
	Water	Water	West Side				of	Water	Lake Basin
	District	District	Irrigation District	M&I	Ag.	Total	Kings	District	Water Storage District
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
	(20)								
1960	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0
1968	7,382	26,360	1,978	0	127,384	127,384	900	3,084	25,100
1969	9,970	31,375	56	0	141,265	141,265	100	3,016	9,923
1970	11,739	40,407	3,942	0	204,634	204,634	0	5,911	9,578
1971	12,490	41,053	5,990	0	360,151	360,151	3,700	7,212	122,485
1972	13,905	42,443	5,795	0	490,781	490,781	1,400	8,166	258,393
1973	9,418	22,057	3,000	0	341,469	341,469	1,500	3,214	50,464
1974	9,700	33,390	3,000	23,708	323,292	347,000	1,500	3,471	72,289
1975	10,700	40,555	3,000	14,529	396,291	410,820	1,600	3,576	86,258
1976	11,700	41,421	3,000	46,719	392,531	439,250	1,600	4,112	58,811
1977	5,075	11,153	738	27,882	163,425	191,307	1,530	1,472	18,081
1978	11,362	51,747	454	76,895	590,452	667,347	2,070	3,906	12,053
1979	19,138	38,544	1,739	62,997	683,049	746,046	2,000	6,149	155,121
1980	13,882	41,000	894	45,943	588,557	634,500	2,200	5,700	75,444
1981	12,700	41,000	5,859	75,758	615,642	691,400	2,300	4,300	83,438
1982	12,700	41,000	361	48,483	696,817	745,300	1,750	3,838	18,551
1983	12,659	42,900	0	4,637	589,870	594,507	3,550	3,822	1,006
1984	12,741	45,100	0	56,655	803,945	860,600	3,100	5,700	5,743
1985	12,700	47,200	6,000	105,707	809,293	915,000	3,400	5,440	118,500
1986	12,700	49,300	3,000	113,400	854,800	968,200	3,700	5,100	118,500
1987	12,700	51,400	3,000	119,100	904,400	1,023,500	4,000	5,200	118,500
1988	12,700	53,500	3,000	123,900	950,700	1,074,600	4,000	5,400	107,900
1989	12,700	55,600	3,000	128,200	984,100	1,112,300	4,000	5,600	112,200
1990	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
1991	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
1992	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
1993	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
1994	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
1995	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
1996	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
1997	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
1998	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
1999	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2000	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2001	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2002	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2003	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2004	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2005	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2006	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2007	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2008	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2009	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2010	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2011	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2012	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2013	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2014	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2015	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2016	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2017	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2018	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2019	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2020	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2021	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2022	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2023	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2024	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2025	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2026	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2027	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2028	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2029	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2030	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2031	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2032	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2033	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2034	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2035	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
TOTAL	844,961	3,542,705	195,806	7,266,113	58,877,648	66,143,761	233,900	365,589	7,106,238
									78,432,960

c) Includes quantities projected to be delivered from the Delta through the District's facilities.

d) For the period June 1962 through November 1967, deliveries were supplied by nonproject water.

TABLE B-5B: ANNUAL WATER QUANTITIES

(in acre-feet)

Sheet 3 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley-East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1960	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0
1972	53	0	0	464	0	338	55	0	1,275	0
1973	20	0	5,800	389	9,000	290	0	0	32,426	0
1974	1,259	0	6,400	627	10,000	400	14	0	16,605	612
1975	8,068	0	7,000	825	11,000	520	0	0	13,865	5,450
1976	27,782	0	7,600	1,002	12,000	589	0	0	12,273	6,071
1977	11,202	0	0	1,109	0	111	80	0	24,833	8,996
1978	44,137	0	10,084	1,209	15,300	208	0	0	4,055	7,771
1979	60,493	7	10,063	1,260	15,000	133	4,000	0	18	290
1980	72,407	1,210	10,884	1,239	17,000	191	4,000	0	0	1,085
1981	79,375	5,761	12,105	1,485	19,000	1,270	4,000	0	16,021	3,619
1982	50,291	9,516	13,326	1,238	21,000	0	10,500	0	8,409	12,599
1983	32,961	9,476	14,547	911	23,000	38	0	0	5,994	734
1984	32,662	11,477	15,768	1,128	25,000	1	0	0	5,461 (e)	7,656
1985	31,829	13,000	16,989	1,388	27,000	0	0	3,000	8,400	4,900
1986	32,555	14,500	18,210	1,482	29,000	0	0	3,000	9,000	8,500
1987	33,337	19,000	19,431	1,541	31,500	0	0	3,000	18,200	8,500
1988	34,137	25,000	20,652	1,778	34,000	0	0	3,000	18,200	8,500
1989	34,992	25,000	21,873	2,075	36,500	0	0	3,000	18,200	8,500
1990	35,902	25,000	23,100	2,440	38,100	0	0	4,200	21,000	8,500
1991	37,347	25,000	23,100	2,870	38,100	1,800	50,800	4,860	23,200	8,740
1992	38,937	25,000	23,100	2,990	38,100	1,900	50,800	5,520	25,400	8,980
1993	40,517	25,000	23,100	3,110	38,100	2,000	50,800	6,180	27,600	9,220
1994	41,907	25,000	23,100	3,230	38,100	2,100	50,800	6,840	29,800	9,400
1995	43,500	25,000	23,100	3,350	38,100	2,200	50,800	7,500	32,000	9,700
1996	45,495	25,000	23,100	3,470	38,100	2,300	50,800	8,200	34,400	9,980
1997	47,495	25,000	23,100	3,590	38,100	2,300	50,800	8,900	36,800	10,260
1998	49,495	25,000	23,100	3,710	38,100	2,300	50,800	9,600	39,200	10,540
1999	51,495	25,000	23,100	3,830	38,100	2,300	50,800	10,300	41,600	10,820
2000	53,500	25,000	23,100	3,950	38,100	2,300	50,800	11,000	44,000	11,100
2001	55,955	26,700	23,100	4,070	38,100	2,300	50,800	11,600	46,400	11,440
2002	58,410	28,400	23,100	4,190	38,100	2,300	50,800	12,200	48,800	11,780
2003	61,070	30,100	23,100	4,310	38,100	2,300	50,800	12,800	51,200	12,120
2004	63,525	31,800	23,100	4,430	38,100	2,300	50,800	13,400	53,600	12,460
2005	66,000	33,500	23,100	4,550	38,100	2,300	50,800	14,000	56,000	12,800
2006	69,020	33,500	23,100	4,670	38,100	2,300	50,800	14,660	58,400	13,160
2007	71,935	33,500	23,100	4,790	38,100	2,300	50,800	15,320	60,800	13,520
2008	75,055	33,500	23,100	4,910	38,100	2,300	50,800	15,980	63,200	13,880
2009	77,970	33,500	23,100	5,030	38,100	2,300	50,800	16,640	65,600	14,240
2010	81,000	33,500	23,100	5,150	38,100	2,300	50,800	17,300	68,000	14,600
2011	84,500	35,100	23,100	5,280	38,100	2,300	50,800	17,300	70,400	15,020
2012	87,995	36,700	23,100	5,410	38,100	2,300	50,800	17,300	72,800	15,440
2013	91,495	38,300	23,100	5,540	38,100	2,300	50,800	17,300	75,200	15,860
2014	94,990	39,900	23,100	5,670	38,100	2,300	50,800	17,300	77,600	16,280
2015	98,500	41,500	23,100	5,800	38,100	2,300	50,800	17,300	80,000	16,700
2016	102,495	41,500	23,100	5,800	38,100	2,300	50,800	17,300	84,520	17,200
2017	106,490	41,500	23,100	5,800	38,100	2,300	50,800	17,300	89,040	17,700
2018	110,490	41,500	23,100	5,800	38,100	2,300	50,800	17,300	93,560	18,200
2019	114,485	41,500	23,100	5,800	38,100	2,300	50,800	17,300	98,080	18,700
2020	118,500	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	19,200
2021	122,500	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	19,760
2022	126,495	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	20,320
2023	130,395	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	20,880
2024	134,390	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	21,440
2025	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	22,000
2026	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	22,620
2027	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	23,240
2028	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	23,860
2029	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	24,480
2030	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	25,100
2031	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	25,840
2032	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	26,580
2033	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	27,320
2034	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,060
2035	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
TOTAL	4,799,210	1,748,447	1,273,332	247,490	2,087,900	106,089	2,308,649	674,500	3,523,035	861,683

e) During 1984, MWDSC furnished 95 acre-feet of Colorado River water to San Bernardino Valley Municipal Water District (SBVMWD). In exchange, SBVMWD supplied 95 acre-feet of SWP water to MWDSC in Reach 26A. These tables show the 95 AF of water as a delivery to MWDSC. Beginning with Bulletin 132-86, Appendix B, this water will be shown as a delivery to SBVMWD.

DELIVERED TO EACH CONTRACTOR^(a)

(in acre-feet)

Sheet 4 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Geronio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	South Bay	
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
1960	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	8,906
1963	0	0	0	0	0	0	0	0	0	12,645
1964	0	0	0	0	0	0	0	0	0	20,911
1965	0	0	0	0	0	0	0	0	0	34,026
1966	0	0	0	0	0	0	0	0	0	54,913
1967	0	0	0	0	0	0	0	0	0	56,763
1968	0	0	0	0	0	0	0	0	0	294,457
1969	0	0	0	0	0	0	0	0	0	268,104
1970	0	0	0	0	0	0	70	70	0	369,459
1971	0	0	0	0	0	192	64	256	0	654,442
1972	0	71,938	0	74,123	0	186	505	691	0	1,037,770
1973	0	159,883	0	207,808	0	53	679	732	0	737,532
1974	0	277,717	0	313,634	0	127	648	775	0	878,947
1975	0	526,491	0	573,219	0	253	405	658	0	1,230,830
1976	0	618,451	0	685,768	0	527	382	909	0	1,380,124
1977	0	189,755	0	236,086	0	706	303	1,009	0	582,381
1978	0	507,565	0	590,329	0	579	278	857	0	1,458,733
1979	0	477,074	0	568,338	0	302	329	631	0	1,666,457
1980	0	531,727	0	639,743	0	267	295	562	0	1,536,456
1981	0	795,846	0	938,482	0	221	355	576	0	1,918,563
1982	0	691,192	0	818,071	0	334	305	639	0	1,750,123
1983	0	343,521	0	431,182	0	325	262	587	0	1,187,156
1984	0	460,788 (f)	0	463,265	0	177	272	449	0	1,594,419
1985	0	536,011	0	639,973	1,200	1,200	860	3,260	0	1,894,849
1986	0	777,790	0	894,037	1,400	1,200	890	3,490	0	2,200,438
1987	0	1,114,069	0	1,248,578	1,500	1,200	920	3,620	0	2,625,184
1988	0	1,245,348	750	1,391,365	1,800	1,200	960	3,960	0	2,828,253
1989	0	1,241,627	1,500	1,393,267	2,000	1,200	1,000	4,200	0	2,877,215
1990	8,000	1,230,800	2,500	1,399,542	2,100	1,200	1,040	4,340	0	2,934,450
1991	8,800	1,256,400	3,500	1,484,517	2,200	27,500	1,082	30,782	0	3,055,087
1992	9,600	1,282,000	4,500	1,516,827	2,300	27,500	1,124	30,924	0	3,168,071
1993	10,400	1,307,600	5,500	1,549,127	2,400	27,500	1,166	31,066	0	3,210,648
1994	11,200	1,333,200	7,250	1,581,987	2,500	27,500	1,208	31,208	0	3,253,766
1995	12,000	1,358,800	9,000	1,615,050	2,600	27,500	1,250	31,350	0	3,299,306
1996	13,060	1,404,340	11,750	1,669,995	2,880	27,500	1,302	31,682	0	3,360,733
1997	14,120	1,449,880	14,500	1,724,845	3,160	27,500	1,354	32,014	0	3,418,965
1998	15,180	1,495,420	18,250	1,780,695	3,440	27,500	1,406	32,346	0	3,476,197
1999	16,260	1,540,940	19,000	1,833,545	3,720	27,500	1,458	32,678	0	3,530,435
2000	17,300	1,586,500	20,000	1,886,650	4,000	27,500	1,510	33,010	0	3,584,916
2001	17,300	1,610,900	20,000	1,918,665	5,120	27,500	1,570	34,190	0	3,619,601
2002	17,300	1,635,300	20,000	1,950,680	6,240	27,500	1,630	35,370	0	3,654,286
2003	17,300	1,659,700	20,000	1,982,900	7,360	27,500	1,690	36,550	0	3,689,176
2004	17,300	1,684,100	20,000	2,014,915	8,480	27,500	1,750	37,730	0	3,723,851
2005	17,300	1,708,500	20,000	2,046,950	9,600	27,500	1,810	38,910	0	3,758,146
2006	17,300	1,728,300	20,000	2,073,310	9,600	27,500	1,880	38,980	0	3,784,846
2007	17,300	1,748,100	20,000	2,099,565	9,600	27,500	1,950	39,050	0	3,811,441
2008	17,300	1,767,900	20,000	2,126,025	9,600	27,500	2,020	39,120	0	3,838,241
2009	17,300	1,787,700	20,000	2,152,280	9,600	27,500	2,090	39,190	0	3,864,836
2010	17,300	1,807,500	20,000	2,178,650	9,600	27,500	2,160	39,260	0	3,891,546
2011	17,300	1,822,500	20,000	2,201,700	9,600	27,500	2,240	39,340	0	3,915,434
2012	17,300	1,837,500	20,000	2,224,745	9,600	27,500	2,320	39,420	0	3,939,317
2013	17,300	1,852,500	20,000	2,247,795	9,600	27,500	2,410	39,510	0	3,963,205
2014	17,300	1,867,500	20,000	2,270,840	9,600	27,500	2,500	39,600	0	3,987,088
2015	17,300	1,882,500	20,000	2,293,900	9,600	27,500	2,600	39,700	0	4,010,986
2016	17,300	1,897,500	20,000	2,317,915	9,600	27,500	2,700	39,800	0	4,035,701
2017	17,300	1,912,500	20,000	2,341,930	9,600	27,500	2,700	39,800	0	4,060,316
2018	17,300	1,927,500	20,000	2,365,950	9,600	27,500	2,700	39,800	0	4,084,936
2019	17,300	1,942,500	20,000	2,389,965	9,600	27,500	2,700	39,800	0	4,109,551
2020	17,300	1,957,500	20,000	2,414,000	9,600	27,500	2,700	39,800	0	4,134,186
2021	17,300	1,968,300	20,000	2,429,360	9,600	27,500	2,700	39,800	0	4,149,566
2022	17,300	1,979,100	20,000	2,444,715	9,600	27,500	2,700	39,800	0	4,164,941
2023	17,300	1,989,900	20,000	2,459,975	9,600	27,500	2,700	39,800	0	4,180,221
2024	17,300	2,000,700	20,000	2,475,330	9,600	27,500	2,700	39,800	0	4,195,596
2025	17,300	2,011,500	20,000	2,490,700	9,600	27,500	2,700	39,800	0	4,210,986
2026	17,300	2,011,500	20,000	2,491,320	9,600	27,500	2,700	39,800	0	4,211,606
2027	17,300	2,011,500	20,000	2,491,940	9,600	27,500	2,700	39,800	0	4,212,226
2028	17,300	2,011,500	20,000	2,492,560	9,600	27,500	2,700	39,800	0	4,212,846
2029	17,300	2,011,500	20,000	2,493,180	9,600	27,500	2,700	39,800	0	4,213,466
2030	17,300	2,011,500	20,000	2,493,800	9,600	27,500	2,700	39,800	0	4,214,086
2031	17,300	2,011,500	20,000	2,494,420	9,600	27,500	2,700	39,800	0	4,214,706
2032	17,300	2,011,500	20,000	2,495,040	9,600	27,500	2,700	39,800	0	4,215,326
2033	17,300	2,011,500	20,000	2,495,660	9,600	27,500	2,700	39,800	0	4,215,946
2034	17,300	2,011,500	20,000	2,496,280	9,600	27,500	2,700	39,800	0	4,216,566
2035	17,300	2,011,500	20,000	2,496,900	9,600	27,500	2,700	39,800	0	4,217,186
TOTAL	741,420	91,915,173	818,000	111,104,928	364,000	1,248,949	108,352	1,721,301	0	208,376,390

f) MWDSC's deliveries for 1984 include 3,111 acre-feet of SWP water delivered under a water exchange agreement between DWR and the Los Angeles Department of Water and Power (LADWP). The water was wheeled to LADWP through MWDSC's facilities. This water was not a delivery of entitlement water to MWDSC. Adjustments will be made in future reports to reflect reduction of the MWDSC delivery by 3,111 acre-feet.

TABLE B-6: ANNUAL WATER QUANTITIES CONVEYED THRU EACH PUMPING

(in acre-feet)

Sheet 1 of 8

Calendar Year	NORTH BAY AQUEDUCT							SOUTH BAY AQUEDUCT					
	BARKER SLOUGH PUMPING PLANT			CORDELIA PUMPING PLANT				SOUTH BAY PUMPING PLANT					
	Opera- tional Losses	Water Supply Delivery	Total	Initial Fill Water	Opera- tional Losses	Water Supply Delivery (b)	Total	Initial Fill Water	Opera- tional Losses	Reservoir Storage Changes	Deliveries		Total
											Water Supply (c)	Recre- ation	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1962	0	0	0	0	0	0	0	9	272	0	8,906	0	9,187
1963	0	0	0	0	0	0	0	71	185	0	12,645	0	12,901
1964	0	0	0	0	0	0	0	171	152	0	20,911	0	21,234
1965	0	0	0	0	0	0	0	93	729	0	34,026	0	34,848
1966	0	0	0	0	0	0	0	0	1,746	0	54,913	0	56,659
1967	0	0	0	0	0	0	0	0	1,677	0	56,763	0	58,440
1968	0	0	0	24	-10	1,214	1,228	0	1,847	0	101,055	0	102,902
1969	0	0	0	0	2	2,687	2,689	3,449	2,668	0	69,712	0	75,829
1970	0	0	0	0	18	3,618	3,636	16,279	1,086	-5,355	89,560	0	101,570
1971	0	0	0	0	4	2,521	2,525	0	1,815	8,854	98,584	0	109,253
1972	0	0	0	0	-10	3,647	3,637	0	3,557	2,273	138,426	0	144,256
1973	0	0	0	0	1	3,792	3,793	0	-33	-1,510	94,078	0	92,535
1974	0	0	0	0	10	4,870	4,880	0	1,287	-10,056	89,318	0	80,549
1975	0	0	0	0	10	6,840	6,850	0	320	8,550	93,604	0	102,474
1976	0	0	0	0	4	7,122	7,126	0	2,431	1,391	126,431	141	130,394
1977	0	0	0	0	2	8,226	8,228	0	2,866	2,685	107,704	112	113,367
1978	0	0	0	0	-6	6,034	6,028	0	2,165	-11,249	112,574	126	103,616
1979	0	0	0	0	1	6,561	6,562	0	2,401	1,069	122,190	89	125,749
1980	0	0	0	0	-3	6,707	6,704	0	1,758	-6,563	115,824	123	111,142
1981	0	0	0	0	8	9,001	9,009	0	2,627	13,742	129,507	121	145,997
1982	0	0	0	0	-8	1,213	1,205	0	2,344	-23,928	106,700	129	85,245
1983	0	0	0	0	-12	2,287	2,275	0	2,151	-22,886	94,656	132	74,053
1984	0	0	0	0	-15	2,923	2,908	0	2,002	-9,815	98,122	158	90,467
1985	0	0	0	0	0	3,000	3,000	0	3,745	0	136,582	400	140,727
1986	0	0	0	0	0	2,397	2,397	0	3,745	0	138,614	400	142,759
1987	46	12,698	12,744	0	0	3,108	3,108	0	3,742	0	140,438	400	144,580
1988	46	16,905	16,951	0	0	3,345	3,345	0	3,732	0	142,223	400	146,355
1989	46	18,165	18,211	0	0	3,545	3,545	0	3,719	0	146,083	400	150,202
1990	46	19,945	19,991	0	0	4,295	4,295	0	3,699	0	150,023	400	154,122
1991	46	21,970	22,016	0	0	5,270	5,270	0	3,702	0	157,218	400	161,320
1992	46	24,820	24,866	0	0	6,250	6,250	0	3,639	0	164,414	400	168,453
1993	46	27,760	27,806	0	0	7,230	7,230	0	3,543	0	171,609	400	175,552
1994	46	30,680	30,726	0	0	8,200	8,200	0	3,448	0	178,805	400	182,653
1995	46	37,820	37,866	0	0	9,180	9,180	0	3,354	0	184,000	400	187,754
1996	46	41,970	42,016	0	0	9,770	9,770	0	3,316	0	186,000	400	189,716
1997	46	43,020	43,066	0	0	10,370	10,370	0	3,280	0	188,000	400	191,680
1998	46	44,070	44,116	0	0	10,960	10,960	0	3,280	0	188,000	400	191,680
1999	46	45,126	45,172	0	0	11,556	11,556	0	3,280	0	188,000	400	191,680
2000	46	46,170	46,216	0	0	12,150	12,150	0	3,280	0	188,000	400	191,680
2001	46	47,660	47,706	0	0	13,180	13,180	0	3,280	0	188,000	400	191,680
2002	46	49,150	49,196	0	0	14,210	14,210	0	3,280	0	188,000	400	191,680
2003	46	50,640	50,686	0	0	15,240	15,240	0	3,280	0	188,000	400	191,680
2004	46	52,120	52,166	0	0	16,270	16,270	0	3,280	0	188,000	400	191,680
2005	46	53,200	53,246	0	0	17,300	17,300	0	3,280	0	188,000	400	191,680
2006	46	53,470	53,516	0	0	17,520	17,520	0	3,280	0	188,000	400	191,680
2007	46	53,740	53,786	0	0	17,740	17,740	0	3,280	0	188,000	400	191,680
2008	46	54,010	54,056	0	0	17,960	17,960	0	3,280	0	188,000	400	191,680
2009	46	54,280	54,326	0	0	18,180	18,180	0	3,280	0	188,000	400	191,680
2010	46	54,550	54,596	0	0	18,400	18,400	0	3,280	0	188,000	400	191,680
2011	46	55,300	55,346	0	0	19,100	19,100	0	3,280	0	188,000	400	191,680
2012	46	56,050	56,096	0	0	19,800	19,800	0	3,280	0	188,000	400	191,680
2013	46	56,800	56,846	0	0	20,500	20,500	0	3,280	0	188,000	400	191,680
2014	46	57,550	57,596	0	0	21,200	21,200	0	3,280	0	188,000	400	191,680
2015	46	58,300	58,346	0	0	21,900	21,900	0	3,280	0	188,000	400	191,680
2016	46	58,900	58,946	0	0	22,500	22,500	0	3,280	0	188,000	400	191,680
2017	46	59,500	59,546	0	0	23,100	23,100	0	3,280	0	188,000	400	191,680
2018	46	60,100	60,146	0	0	23,700	23,700	0	3,280	0	188,000	400	191,680
2019	46	60,700	60,746	0	0	24,300	24,300	0	3,280	0	188,000	400	191,680
2020	46	61,300	61,346	0	0	24,900	24,900	0	3,280	0	188,000	400	191,680
2021	46	61,320	61,366	0	0	24,920	24,920	0	3,280	0	188,000	400	191,680
2022	46	61,340	61,386	0	0	24,940	24,940	0	3,280	0	188,000	400	191,680
2023	46	61,360	61,406	0	0	24,960	24,960	0	3,280	0	188,000	400	191,680
2024	46	61,380	61,426	0	0	24,980	24,980	0	3,280	0	188,000	400	191,680
2025	46	61,400	61,446	0	0	25,000	25,000	0	3,280	0	188,000	400	191,680
2026	46	61,400	61,446	0	0	25,000	25,000	0	3,280	0	188,000	400	191,680
2027	46	61,400	61,446	0	0	25,000	25,000	0	3,280	0	188,000	400	191,680
2028	46	61,400	61,446	0	0	25,000	25,000	0	3,280	0	188,000	400	191,680
2029	46	61,400	61,446	0	0	25,000	25,000	0	3,280	0	188,000	400	191,680
2030	46	61,400	61,446	0	0	25,000	25,000	0	3,280	0	188,000	400	191,680
2031	46	61,400	61,446	0	0	25,000	25,000	0	3,280	0	188,000	400	191,680
2032	46	61,400	61,446	0	0	25,000	25,000	0	3,280	0	188,000	400	191,680
2033	46	61,400	61,446	0	0	25,000	25,000	0	3,280	0	188,000	400	191,680
2034	46	61,400	61,446	0	0	25,000	25,000	0	3,280	0	188,000	400	191,680
2035	46	61,400	61,446	0	0	25,000	25,000	0	3,280	0	188,000	400	191,680

Notes: "Reservoir Storage Changes" include projected net annual storage accretions (positive values) and withdrawals (negative values) for all down-aqueduct reservoirs of the project transportation facilities. Those variable OMP&R costs (Table B-12) that are allocable to storage accretions are assigned to the minimum OMP&R costs of the respective reservoirs. "Water Supply Delivery" or "Deliveries, Water Supply", include certain hypothetical quantities to facilitate cost allocations for those years when deliveries are made from net annual storage withdrawals. The net annual amounts of storage withdrawals are hypothetically added to the actual amounts conveyed from the Delta to the reservoirs ... since deliveries made from storage withdrawals bear the same variable OMP&R costs per acre-foot as if the deliveries were actually conveyed that year, from the Delta. The hypothetical increases in the deliveries made from reservoir storage withdrawals are offset by equal credits to the minimum OMP&R costs of the respective reservoirs. Thus, the variable OMP&R components per acre-foot (Table B-17) may be applied to the total annual quantities delivered either from aqueduct reservoir storage or from the Delta. "Conservation Water" includes initial fill water, operational losses, and net annual storage changes associated with San Luis Reservoir (and the portion of the aqueduct that is allocated to conservation). The same allocation procedure outlined above for transportation facilities applies also to conservation facilities ... except that the hypothetical cost increases are added to the variable OMP&R cost to be reimbursed through the Transportation Charge, and deducted from the minimum OMP&R costs to be reimbursed through the Delta Water Charge.

AND POWER RECOVERY PLANT OF PROJECT TRANSPORTATION FACILITIES ^(a)

(in acre-feet)

Sheet 2 of 8

		CALIFORNIA AQUEDUCT														
Calendar Year	NORTH SAN JOAQUIN DIVISION										SAN LUIS DIVISION					
	HARVEY O. BANKS DELTA PUMPING PLANT										DOS AMIGOS PUMPING PLANT					
	Transportation Water							Deliveries								
	Initial Fill Water	Opera- tional Losses	Reservoir Storage Changes	Deliveries		Total	Conser- vation Water	Total	Initial Fill Water	Opera- tional Losses	Reservoir Storage Changes	Deliveries		Total		
			Water Supply	Recre- ation	Water Supply				Recre- ation				Water Supply		Recre- ation	
	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)		
1962	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1963	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1964	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1965	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1966	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1967	5,746	1,183	0	11,538	0	18,467	2,957	21,424	11,079	25,126	0	189,104	0	225,309		
1968	11,079	74,464	0	293,243	0	378,786	531,275	910,061	3,887	9,922	0	192,689	0	206,498		
1969	7,336	44,287	0	265,417	0	317,040	531,185	848,225	7,668	1,901	0	270,300	0	279,869		
1970	23,947	20,767	-5,355	365,771	0	405,130	-12,995	392,135	0	0	0	0	0	0		
1971	23,207	-10,754	8,854	651,665	8	672,980	7,708	680,688	23,207	-12,030	0	545,869	0	557,046		
1972	145,066	9,057	-4,285	1,033,432	6,489	1,189,759	48,300	1,238,059	145,066	-6,635	-6,558	886,840	6,481	1,025,194		
1973	214,941	-4,951	2,902	733,008	1,155	947,055	55,846	1,002,901	214,941	-6,778	1,329	635,716	1,147	846,355		
1974	247,894	-11,526	-32,510	873,302	2,118	1,079,278	54,683	1,133,961	247,894	-16,765	-15,295	780,513	2,108	998,455		
1975	110,149	-8,092	16,101	1,223,332	3,377	1,344,867	-102,625	1,242,242	110,149	-12,144	-693	1,126,152	3,358	1,226,822		
1976	67,834	5,443	-244,124	1,372,093	1,745	1,202,991	-442,348	760,643	67,834	-456	-152,171	1,241,550	1,581	1,158,338		
1977	0	39,897	-157,543	573,146	1,111	456,611	-13,507	443,104	0	26,359	-116,219	463,970	737	374,847		
1978	67,457	-36,898	35,129	1,451,842	1,177	1,518,707	752,075	2,270,782	67,457	1,905	79,308	1,335,362	680	1,484,712		
1979	17,397	60,958	-32,307	1,659,265	1,398	1,688,259	-112,053	1,594,658	17,397	33,884	-51,299	1,530,926	685	1,531,593		
1980	3,159	58,484	-275,538	1,529,187	2,131	1,317,423	186,601	1,504,024	3,159	34,391	-272,825	1,407,663	1,514	1,173,902		
1981	46,060	85,350	40,536	1,908,986	4,974	2,085,906	-931,878	1,154,028	46,060	36,962	23,359	1,775,179	4,348	1,885,908		
1982	5,979	45,662	90,901	1,748,828	4,646	1,896,016	-337,775	1,558,241	5,979	33,526	108,407	1,638,290	4,205	1,790,407		
1983	6,071	47,022	-310,477	1,184,282	7,853	934,751	835,771	1,770,522	6,071	63,583	-101,155	1,085,804	7,475	1,061,778		
1984	0	62,633	-124,798	1,591,047	4,387	1,533,269	13,601	1,546,870	0	63,337	-114,983	1,487,225	3,849	1,439,428		
1985	0	80,060	171,246	1,887,339	8,177	2,146,822	-153,998	1,992,824	0	63,253	171,246	1,745,317	6,580	1,986,396		
1986	0	79,452	-27,524	2,193,151	8,393	2,253,472	-23,838	2,229,634	0	62,645	-27,524	2,049,437	6,780	2,091,338		
1987	0	79,704	17,608	2,607,316	8,493	2,713,121	-142,436	2,570,685	0	62,900	17,608	2,461,678	6,880	2,549,066		
1988	0	79,623	-23,729	2,805,288	10,193	2,871,375	21,571	2,892,946	0	62,829	-23,729	2,657,665	8,580	2,705,345		
1989	0	79,770	8,391	2,851,050	13,293	2,952,504	120,371	3,072,875	0	62,989	8,391	2,699,367	11,680	2,782,427		
1990	0	79,179	-36,194	2,904,565	13,293	2,960,843	-61,870	2,898,973	0	62,418	-36,194	2,748,842	11,680	2,786,746		
1991	0	79,534	25,923	2,996,735	9,093	3,111,285	116,041	3,227,326	0	62,770	25,923	2,833,817	7,480	2,929,990		
1992	0	79,378	-20,660	3,106,727	9,093	3,174,538	-104,443	3,070,095	0	62,677	-20,660	2,936,313	7,480	2,986,110		
1993	0	79,362	-2,456	3,146,222	9,093	3,232,221	71,689	3,303,910	0	62,757	-2,456	2,968,913	7,480	3,036,694		
1994	0	79,329	36,323	3,186,278	9,093	3,311,023	-50,956	3,260,067	0	62,819	36,323	3,001,773	7,480	3,108,395		
1995	0	79,242	-59,525	3,224,536	9,093	3,253,346	105,897	3,359,243	0	62,826	-59,525	3,034,836	7,480	3,045,617		
1996	0	79,234	-23,143	3,281,481	9,093	3,346,665	-183,803	3,162,862	0	62,856	-23,143	3,089,781	7,480	3,136,974		
1997	0	79,586	56,512	3,338,331	9,093	3,483,522	-147,639	3,335,883	0	63,244	56,512	3,144,631	7,480	3,271,867		
1998	0	79,511	-46,589	3,394,181	9,093	3,436,196	166,642	3,602,838	0	63,169	-46,589	3,200,481	7,480	3,224,541		
1999	0	78,892	7,174	3,447,031	9,093	3,542,190	-66,867	3,475,323	0	62,550	7,174	3,253,331	7,480	3,330,535		
2000	0	78,898	-3,110	3,500,136	9,093	3,585,017	60,134	3,645,151	0	62,556	-3,110	3,306,436	7,480	3,373,362		
2001	0	79,596	11,951	3,532,151	9,093	3,632,791	-37,526	3,595,265	0	63,254	11,951	3,338,451	7,480	3,421,136		
2002	0	79,090	-3,879	3,564,166	9,093	3,648,470	40,541	3,689,011	0	62,748	-3,879	3,370,466	7,480	3,436,815		
2003	0	79,285	-7,731	3,596,386	9,093	3,677,033	50,660	3,727,693	0	62,943	-7,731	3,402,686	7,480	3,465,578		
2004	0	79,125	1,025	3,628,401	9,093	3,717,644	18,720	3,736,364	0	62,783	1,025	3,434,701	7,480	3,505,989		
2005	0	78,446	-3,989	3,660,436	9,093	3,743,986	40,694	3,784,680	0	62,104	-3,989	3,466,736	7,480	3,532,331		
2006	0	79,078	18,182	3,686,796	9,093	3,793,149	-3,370	3,789,779	0	62,736	18,182	3,493,096	7,480	3,581,494		
2007	0	78,993	-5,433	3,713,051	9,093	3,795,704	84,955	3,880,659	0	62,651	-5,433	3,519,351	7,480	3,584,049		
2008	0	79,166	26,676	3,739,511	9,093	3,854,446	14,773	3,869,219	0	62,824	26,676	3,545,811	7,480	3,642,791		
2009	0	79,035	-17,592	3,765,766	9,093	3,836,302	-37,297	3,799,005	0	62,693	-17,592	3,572,066	7,480	3,624,647		
2010	0	78,910	-32,324	3,792,136	9,093	3,847,815	-42,211	3,805,604	0	62,568	-32,324	3,598,436	7,480	3,636,160		
2011	0	78,774	968	3,815,186	9,093	3,904,021	-79,926	3,824,095	0	62,432	968	3,621,486	7,480	3,692,366		
2012	0	78,919	875	3,838,231	9,093	3,927,118	371,126	4,298,244	0	62,577	875	3,644,531	7,480	3,715,463		
2013	0	78,650	22,642	3,861,281	9,093	3,971,666	104,668	4,076,334	0	62,308	22,642	3,667,581	7,480	3,760,011		
2014	0	78,796	-12,655	3,884,326	9,093	3,959,560	87,591	4,047,151	0	62,454	-12,655	3,690,626	7,480	3,747,905		
2015	0	78,593	-21,733	3,907,386	9,093	3,973,339	1,359	3,974,698	0	62,251	-21,733	3,713,686	7,480	3,761,684		
2016	0	78,880	15,257	3,931,401	9,093	4,034,631	11,532	4,046,163	0	62,538	15,257	3,737,701	7,480	3,822,976		
2017	0	78,383	12,405	3,955,416	9,093	4,055,297	3,275	4,058,572	0	62,041	12,405	3,761,716	7,480	3,843,642		
2018	0	78,396	-7,482	3,979,436	9,093	4,059,443	26,284	4,085,727	0	62,054	-7,482	3,785,736	7,480	3,847,788		
2019	0	78,737	38,061	4,003,451	9,093	4,129,342	-10,131	4,119,211	0	62,395	38,061	3,809,751	7,480	3,917,687		
2020	0	78,400	-40,522	4,027,486	9,093	4,074,457	37,584	4,112,041	0	62,058	-40,522	3,833,786	7,480	3,862,802		
2021	0	78,423	26,334	4,042,846	9,093	4,156,696	59,986	4,216,682	0	62,081	26,334	3,849,146	7,480	3,945,041		
2022	0	78,531	-2,055	4,058,411	9,093	4,162,505	-37,382	4,125,123	0	62,190	-2,055	3,861,281	7,480	3,922,115		
2023	0	78,389	3,777	4,073,461	9,093	4,164,720	65,356	4,230,076	0	62,047	3,777	3,879,761	7,480	3,953,065		
2024	0	78,443	407	4,088,816	9,093	4,176,759	-9,475	4,167,284	0	62,101	407	3,895,116	7,480	3,965,104		
2025	0	78,816	3,090	4,104,186	9,093	4,195,185	-46,111	4,149,074	0	62,474	3,090	3,910,486	7,480	3,983,530		
2026	0	78,941	8,794	4,104,806	9,093	4,201,634	38,355	4,239,989	0	6						

TABLE B-6: ANNUAL WATER QUANTITIES CONVEYED THRU EACH PUMPING

(in acre-feet)

Sheet 3 of 8

		CALIFORNIA AQUEDUCT (Continued)										
		SOUTH SAN JOAQUIN DIVISION										
Calendar Year	BUENA VISTA PUMPING PLANT						WHEELER RIDGE PUMPING PLANT					
	Initial Fill Water	Opera- tional Losses	Reservoir Storage Changes	Deliveries		Total	Initial Fill Water	Opera- tional Losses	Reservoir Storage Changes	Deliveries		Total
				Water Supply	Recre- ation					Water Supply	Recre- ation	
	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)
1962	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0	0
1970	4,779	1,012	0	3	0	5,794	198	2	0	0	0	200
1971	7,853	8,399	0	101,512	0	117,764	7,533	-112	0	3,552	0	10,973
1972	100,274	20,044	-6,558	223,626	6,481	343,867	100,274	12,765	-6,558	84,955	6,481	197,917
1973	204,638	35,695	1,329	311,096	1,147	553,905	204,638	21,543	1,329	229,685	1,147	458,342
1974	237,554	19,672	-15,295	388,949	2,108	632,988	237,554	11,843	-15,295	336,198	2,108	572,408
1975	103,352	26,342	-693	672,531	3,358	804,890	103,352	19,763	-693	621,706	3,358	747,486
1976	61,122	29,428	-152,171	785,055	1,581	725,015	61,122	18,552	-152,171	740,486	1,581	669,570
1977	0	25,173	-116,219	271,944	560	181,458	0	16,415	-116,219	246,349	560	147,105
1978	65,027	17,751	121,904	762,043	674	967,399	65,027	28,820	121,904	631,121	674	847,546
1979	12,302	46,157	-51,299	737,714	502	745,376	12,302	50,663	-51,299	625,561	502	637,729
1980	0	49,025	-134,009	778,059	1,262	694,337	0	48,825	-134,009	696,405	1,262	612,483
1981	0	38,942	23,359	1,077,322	4,112	1,143,735	0	51,600	23,359	998,307	4,112	1,077,378
1982	0	29,424	108,407	997,285	4,045	1,139,161	0	44,876	108,407	884,908	4,045	1,042,236
1983	0	40,205	-101,155	593,920	7,291	540,261	0	43,961	-101,155	487,915	7,291	438,012
1984	0	37,813	-114,983	785,066	3,702	711,598	0	45,226	-114,983	635,373	3,702	569,318
1985	0	41,566	171,246	877,982	6,380	1,097,174	0	37,936	171,246	732,539	6,380	948,101
1986	0	40,958	-27,524	1,132,032	6,580	1,152,046	0	37,328	-27,524	990,387	6,580	1,006,771
1987	0	41,213	17,608	1,502,532	6,680	1,568,033	0	37,583	17,608	1,351,390	6,680	1,413,261
1988	0	41,142	-23,729	1,656,768	8,380	1,682,561	0	37,512	-23,729	1,492,615	8,380	1,514,778
1989	0	41,302	8,391	1,649,607	11,480	1,710,780	0	37,672	8,391	1,496,467	11,480	1,554,010
1990	0	40,731	-36,194	1,678,667	11,480	1,694,684	0	37,101	-36,194	1,511,822	11,480	1,524,209
1991	0	41,083	25,923	1,763,642	7,280	1,837,928	0	37,453	25,923	1,596,797	7,280	1,667,453
1992	0	40,440	-20,660	1,795,952	7,280	1,823,012	0	36,810	-20,660	1,629,107	7,280	1,652,537
1993	0	40,520	-2,456	1,828,252	7,280	1,873,596	0	36,890	-2,456	1,661,407	7,280	1,703,121
1994	0	40,582	36,323	1,861,112	7,280	1,945,297	0	36,952	36,323	1,694,267	7,280	1,774,822
1995	0	40,589	-59,525	1,894,175	7,280	1,882,519	0	36,959	-59,525	1,727,330	7,280	1,712,044
1996	0	40,619	-23,143	1,949,120	7,280	1,973,876	0	36,989	-23,143	1,782,275	7,280	1,803,401
1997	0	41,007	56,512	2,003,970	7,280	2,108,769	0	37,377	56,512	1,837,125	7,280	1,938,294
1998	0	40,932	-46,589	2,059,820	7,280	2,061,443	0	37,302	-46,589	1,892,975	7,280	1,890,968
1999	0	40,313	7,174	2,112,670	7,280	2,167,437	0	36,683	7,174	1,945,825	7,280	1,996,962
2000	0	40,319	-3,110	2,165,775	7,280	2,210,264	0	36,689	-3,110	1,998,930	7,280	2,039,789
2001	0	41,017	11,951	2,197,790	7,280	2,258,038	0	37,387	11,951	2,030,945	7,280	2,087,563
2002	0	40,511	-3,879	2,229,805	7,280	2,273,717	0	36,881	-3,879	2,062,960	7,280	2,103,242
2003	0	40,706	-7,731	2,262,025	7,280	2,302,280	0	37,076	-7,731	2,095,180	7,280	2,131,805
2004	0	40,846	1,025	2,294,040	7,280	2,342,891	0	36,916	1,025	2,127,195	7,280	2,172,416
2005	0	39,867	-3,989	2,326,075	7,280	2,369,233	0	36,237	-3,989	2,159,230	7,280	2,198,758
2006	0	40,499	18,182	2,352,435	7,280	2,418,396	0	36,869	18,182	2,185,590	7,280	2,247,921
2007	0	40,414	-5,433	2,378,690	7,280	2,420,951	0	36,784	-5,433	2,211,845	7,280	2,250,476
2008	0	40,587	26,676	2,405,150	7,280	2,479,693	0	36,957	26,676	2,238,305	7,280	2,309,218
2009	0	40,456	-17,592	2,431,405	7,280	2,461,549	0	36,826	-17,592	2,264,560	7,280	2,291,074
2010	0	40,331	-32,324	2,457,775	7,280	2,473,062	0	36,701	-32,324	2,290,930	7,280	2,302,587
2011	0	40,195	968	2,480,825	7,280	2,529,268	0	36,565	968	2,313,980	7,280	2,358,793
2012	0	40,340	875	2,503,870	7,280	2,552,365	0	36,710	875	2,337,025	7,280	2,381,890
2013	0	40,071	22,642	2,526,920	7,280	2,596,913	0	36,441	22,642	2,360,075	7,280	2,426,438
2014	0	40,217	-12,655	2,549,965	7,280	2,584,807	0	36,587	-12,655	2,383,120	7,280	2,414,332
2015	0	40,014	-21,733	2,573,025	7,280	2,598,586	0	36,384	-21,733	2,406,180	7,280	2,428,111
2016	0	40,301	15,257	2,597,040	7,280	2,659,878	0	36,671	15,257	2,430,195	7,280	2,489,403
2017	0	39,804	12,405	2,621,055	7,280	2,680,544	0	36,174	12,405	2,454,210	7,280	2,510,069
2018	0	39,817	-7,482	2,645,075	7,280	2,684,690	0	36,187	-7,482	2,478,230	7,280	2,514,215
2019	0	40,158	38,061	2,669,090	7,280	2,754,589	0	36,528	38,061	2,502,245	7,280	2,584,114
2020	0	39,821	-40,522	2,693,125	7,280	2,699,704	0	36,191	-40,522	2,526,280	7,280	2,529,229
2021	0	39,844	26,334	2,708,485	7,280	2,781,943	0	36,214	26,334	2,541,640	7,280	2,611,468
2022	0	39,953	-2,056	2,723,840	7,280	2,769,017	0	36,323	-2,056	2,556,995	7,280	2,598,542
2023	0	39,810	3,777	2,739,100	7,280	2,789,967	0	36,180	3,777	2,572,255	7,280	2,619,492
2024	0	39,864	4,407	2,754,455	7,280	2,802,006	0	36,234	4,407	2,587,610	7,280	2,631,531
2025	0	40,237	3,090	2,769,825	7,280	2,820,432	0	36,607	3,090	2,602,980	7,280	2,649,957
2026	0	40,362	8,794	2,770,445	7,280	2,826,881	0	36,732	8,794	2,603,600	7,280	2,656,406
2027	0	40,147	-750	2,771,065	7,280	2,817,742	0	36,517	-750	2,604,220	7,280	2,647,267
2028	0	40,561	1,426	2,771,685	7,280	2,820,952	0	36,931	1,426	2,604,840	7,280	2,650,477
2029	0	40,558	6,268	2,772,305	7,280	2,826,411	0	36,928	6,268	2,605,460	7,280	2,655,936
2030	0	40,638	4,848	2,772,925	7,280	2,825,691	0	37,008	4,848	2,606,080	7,280	2,655,216
2031	0	40,277	-17,369	2,773,665	7,280	2,803,853	0	36,647	-17,369	2,606,820	7,280	2,633,378
2032	0	40,571	16,473	2,774,405	7,280	2,838,729	0	36,941	16,473	2,607,560	7,280	2,668,254
2033	0	40,233	-21,669	2,775,145	7,280	2,800,989	0	36,603	-21,669	2,608,300	7,280	2,630,514
2034	0	40,414	15,365	2,775,885	7,280	2,838,944	0	36,784	15,365	2,609,040	7,280	2,668,469
2035	0	40,480	-68,895	2,776,625	7,280	2,755,490	0	36,850	-68,895	2,609,780	7,280	2,585,015

AND POWER RECOVERY PLANT OF PROJECT TRANSPORTATION FACILITIES^(a)

(in acre-feet)

Sheet 4 of 8

Calendar Year	CALIFORNIA AQUEDUCT (continued)											
	SOUTH SAN JOAQUIN DIVISION (continued)						TEHACHAPI DIVISION					
	WIND GAP PUMPING PLANT						A. D. EDMONSTON PUMPING PLANT					
	Initial Fill Water	Opera- tional Losses	Reservoir Storage Changes	Deliveries		Total	Initial Fill Water	Opera- tional Losses	Reservoir Storage Changes	Deliveries		Total
				Water Supply	Recre- ation					Water Supply	Recre- ation	
	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)	(49)	(50)	(51)
1962	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0	0
1971	7,366	-159	0	0	0	7,207	5,446	8	0	0	0	5,454
1972	100,274	13,160	-6,558	78,891	6,481	192,248	100,274	16,067	-6,558	74,123	6,481	190,387
1973	204,638	32,414	1,329	209,769	1,147	449,297	204,638	34,051	1,329	207,808	1,147	448,973
1974	237,554	17,655	-15,295	318,198	2,108	560,220	237,554	18,181	-15,295	313,634	2,108	556,182
1975	103,352	25,326	-693	586,286	3,358	717,629	103,352	20,183	-693	573,219	3,358	699,419
1976	61,122	21,468	-152,171	700,935	1,581	632,935	61,122	21,096	-152,171	685,768	1,581	617,396
1977	0	15,698	-116,219	240,191	560	140,230	0	18,424	-116,219	236,086	560	138,851
1978	65,027	26,705	121,904	599,973	674	814,283	65,027	20,887	121,904	590,329	674	798,821
1979	12,302	50,580	-51,299	586,959	502	599,044	12,302	46,332	-51,299	568,338	502	576,175
1980	0	58,085	-134,009	658,588	1,262	583,926	0	52,967	-134,009	639,743	1,262	559,963
1981	0	48,844	23,359	959,274	4,112	1,035,589	0	40,602	23,359	938,482	4,112	1,006,555
1982	0	34,009	108,407	837,126	4,045	983,587	0	37,731	108,407	818,628	4,045	968,811
1983	0	34,698	-101,155	450,489	7,291	391,323	0	40,690	-101,155	431,182	7,291	378,008
1984	0	32,355	-114,983	585,525	3,702	506,599	0	41,213	-114,983	559,941	3,702	489,873
1985	0	37,686	171,246	677,587	6,380	892,899	0	36,136	171,246	642,517	6,380	856,279
1986	0	37,078	-27,524	931,637	6,580	947,771	0	35,528	-27,524	894,037	6,580	908,621
1987	0	37,333	17,608	1,287,378	6,680	1,348,999	0	35,783	17,608	1,248,578	6,680	1,308,649
1988	0	37,262	-23,729	1,431,365	8,380	1,453,278	0	35,712	-23,729	1,391,365	8,380	1,411,728
1989	0	37,422	8,391	1,433,967	11,480	1,491,260	0	35,872	8,391	1,393,267	11,480	1,449,010
1990	0	36,851	-36,194	1,444,507	11,480	1,456,644	0	35,301	-36,194	1,399,542	11,480	1,410,129
1991	0	37,203	25,923	1,529,482	7,280	1,599,888	0	35,653	25,923	1,484,517	7,280	1,553,373
1992	0	36,560	-20,660	1,561,792	7,280	1,584,972	0	35,010	-20,660	1,516,827	7,280	1,538,457
1993	0	36,640	-2,456	1,594,092	7,280	1,635,556	0	35,090	-2,456	1,549,127	7,280	1,589,041
1994	0	36,702	36,323	1,626,952	7,280	1,707,257	0	35,152	36,323	1,581,987	7,280	1,660,742
1995	0	36,709	-59,525	1,660,015	7,280	1,644,479	0	35,159	-59,525	1,615,050	7,280	1,597,964
1996	0	36,739	-23,143	1,714,960	7,280	1,735,836	0	35,189	-23,143	1,669,995	7,280	1,689,321
1997	0	37,127	56,512	1,769,810	7,280	1,870,729	0	35,577	56,512	1,724,845	7,280	1,824,214
1998	0	37,052	-46,589	1,825,660	7,280	1,823,403	0	35,502	-46,589	1,780,695	7,280	1,776,888
1999	0	36,433	7,174	1,878,510	7,280	1,929,397	0	34,883	7,174	1,833,545	7,280	1,882,882
2000	0	36,439	-3,110	1,931,615	7,280	1,972,224	0	34,889	-3,110	1,886,650	7,280	1,925,709
2001	0	37,137	11,951	1,963,630	7,280	2,019,998	0	35,587	11,951	1,918,665	7,280	1,973,483
2002	0	36,631	-3,879	1,995,645	7,280	2,035,677	0	35,081	-3,879	1,950,680	7,280	1,989,162
2003	0	36,826	-7,731	2,027,865	7,280	2,064,240	0	35,276	-7,731	1,982,900	7,280	2,017,725
2004	0	36,666	1,025	2,059,880	7,280	2,104,851	0	35,116	1,025	2,014,915	7,280	2,058,336
2005	0	35,987	-3,989	2,091,915	7,280	2,131,193	0	34,437	-3,989	2,046,950	7,280	2,084,678
2006	0	36,619	18,182	2,118,275	7,280	2,180,356	0	35,069	18,182	2,073,310	7,280	2,133,841
2007	0	36,534	-5,433	2,144,530	7,280	2,182,911	0	34,984	-5,433	2,099,565	7,280	2,136,396
2008	0	36,707	26,676	2,170,990	7,280	2,241,653	0	35,157	26,676	2,126,025	7,280	2,195,138
2009	0	36,576	-17,592	2,197,245	7,280	2,223,509	0	35,026	-17,592	2,152,280	7,280	2,176,994
2010	0	36,451	-32,324	2,223,615	7,280	2,235,022	0	34,901	-32,324	2,178,650	7,280	2,188,507
2011	0	36,315	968	2,246,665	7,280	2,291,228	0	34,765	968	2,201,700	7,280	2,244,713
2012	0	36,460	875	2,269,710	7,280	2,314,325	0	34,910	875	2,224,745	7,280	2,267,810
2013	0	36,191	-22,642	2,292,760	7,280	2,358,873	0	34,641	-22,642	2,247,795	7,280	2,312,358
2014	0	36,337	-12,655	2,315,805	7,280	2,346,767	0	34,787	-12,655	2,270,840	7,280	2,300,252
2015	0	36,134	-21,733	2,338,865	7,280	2,360,546	0	34,584	-21,733	2,293,900	7,280	2,314,031
2016	0	36,421	15,257	2,362,880	7,280	2,421,838	0	34,871	15,257	2,317,915	7,280	2,375,323
2017	0	35,924	12,405	2,386,895	7,280	2,442,504	0	34,374	12,405	2,341,930	7,280	2,395,989
2018	0	35,937	-7,482	2,410,915	7,280	2,446,650	0	34,387	-7,482	2,365,950	7,280	2,400,135
2019	0	36,278	38,061	2,434,930	7,280	2,516,549	0	34,728	38,061	2,389,965	7,280	2,470,034
2020	0	35,941	-40,522	2,458,965	7,280	2,461,664	0	34,391	-40,522	2,414,000	7,280	2,415,149
2021	0	35,964	26,334	2,474,325	7,280	2,543,903	0	34,414	26,334	2,429,360	7,280	2,497,388
2022	0	36,073	-2,056	2,489,680	7,280	2,530,977	0	34,523	-2,056	2,444,715	7,280	2,484,462
2023	0	35,930	3,777	2,504,940	7,280	2,551,927	0	34,380	3,777	2,459,975	7,280	2,505,412
2024	0	35,984	407	2,520,295	7,280	2,563,966	0	34,434	407	2,475,330	7,280	2,517,451
2025	0	36,357	3,090	2,535,665	7,280	2,582,392	0	34,807	3,090	2,490,700	7,280	2,535,877
2026	0	36,482	8,794	2,536,285	7,280	2,588,841	0	34,932	8,794	2,491,320	7,280	2,542,326
2027	0	36,267	-750	2,536,905	7,280	2,579,702	0	34,717	-750	2,491,940	7,280	2,533,187
2028	0	36,681	1,426	2,537,525	7,280	2,582,912	0	35,131	1,426	2,492,560	7,280	2,536,397
2029	0	36,678	6,268	2,538,145	7,280	2,588,371	0	35,128	6,268	2,493,180	7,280	2,541,856
2030	0	36,758	4,848	2,538,765	7,280	2,587,651	0	35,208	4,848	2,493,800	7,280	2,541,136
2031	0	36,397	-17,369	2,539,505	7,280	2,565,813	0	34,847	-17,369	2,494,540	7,280	2,519,298
2032	0	36,691	16,473	2,540,245	7,280	2,600,689	0	35,141	16,473	2,495,280	7,280	2,554,174
2033	0	36,353	-21,669	2,540,985	7,280	2,562,949	0	34,803	-21,669	2,496,020	7,280	2,516,434
2034	0	36,534	15,365	2,541,725	7,280	2,600,904	0	34,984	15,365	2,496,760	7,280	2,554,389
2035	0	36,600	-68,895	2,542,465	7,280	2,517,450	0	35,050	-68,895	2,497,500	7,280	2,470,935

TABLE B-6: ANNUAL WATER QUANTITIES CONVEYED THRU EACH PUMPING

(in acre-feet)

Sheet 5 of 8

CALIFORNIA AQUEDUCT (Continued)												
MOJAVE DIVISION												
Calendar Year	ALAMO POWERPLANT						PEARBLOSSOM PUMPING PLANT					
	Initial Fill Water	Opera- tional Losses	Reservoir Storage Changes	Deliveries		Total	Initial Fill Water	Opera- tional Losses	Reservoir Storage Changes	Deliveries		Total
				Water Supply	Recre- ation					Water Supply	Recre- ation	
	(52)	(53)	(54)	(55)	(56)	(57)	(58)	(59)	(60)	(61)	(62)	(63)
1962	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	21	0	0	0	0	21
1972	0	0	0	0	0	0	35,243	5,282	-153	1,794	0	42,166
1973	0	0	0	0	0	0	80,177	21,522	-2,700	52,201	72	151,272
1974	0	0	0	0	0	0	76,694	10,847	-11,149	102,839	44	179,275
1975	0	0	0	0	0	0	10,000	2,364	-8,397	190,351	70	194,388
1976	0	0	0	0	0	0	4,168	7,040	-16,055	236,713	152	232,018
1977	0	0	0	0	0	0	0	11,398	-17,534	102,326	580	92,770
1978	0	0	0	0	0	0	19,922	5,696	69,130	374,845	498	470,091
1979	0	0	0	0	0	0	12,302	6,836	-32,518	362,114	502	349,236
1980	0	0	0	0	0	0	0	16,200	6,159	401,214	781	424,354
1981	0	0	0	0	0	0	0	4,992	-36,278	574,573	933	544,220
1982	0	0	0	0	0	0	0	4,891	48,383	407,459	1,919	462,652
1983	0	0	0	0	0	0	0	11,745	-26,847	231,188	1,180	217,266
1984	0	0	0	0	0	0	0	18,526	-24,236	252,066	1,494	296,322
1985	0	0	0	0	0	0	0	15,944	7,962	234,688	1,430	260,024
1986	0	20,761	-25,865	426,537	1,630	423,063	0	15,411	-25,865	390,982	1,430	381,958
1987	0	20,999	17,259	719,578	1,630	759,466	0	15,649	17,259	683,241	1,430	717,579
1988	0	20,989	-12,601	855,615	3,130	867,133	0	15,639	-12,601	818,478	1,430	822,946
1989	0	20,957	-3,095	856,767	5,630	880,259	0	15,607	-3,095	818,775	1,430	832,717
1990	0	20,670	-12,552	862,042	5,630	875,790	0	15,320	-12,552	821,940	1,430	826,138
1991	0	20,750	-5,233	942,017	1,430	958,964	0	15,400	-5,233	898,010	1,430	909,607
1992	0	20,999	10,657	969,327	1,430	1,001,774	0	15,010	10,657	922,970	1,430	950,067
1993	0	20,355	-5,663	996,627	1,430	1,012,749	0	15,005	-5,663	947,930	1,430	958,702
1994	0	20,324	-6,728	1,023,737	1,430	1,038,763	0	14,974	-6,728	972,890	1,430	982,566
1995	0	20,898	22,486	543,050	1,430	587,864	0	15,548	22,486	489,850	1,430	529,314
1996	0	20,532	-22,793	548,645	1,430	547,814	0	15,182	-22,793	492,650	1,430	486,469
1997	0	20,662	23,262	554,145	1,430	599,699	0	15,512	23,262	495,450	1,430	535,654
1998	0	20,879	-3,157	559,645	1,430	578,797	0	15,529	-3,157	498,250	1,430	512,052
1999	0	20,580	-5,445	565,145	1,430	581,710	0	15,230	-5,445	501,050	1,430	512,265
2000	0	20,582	-1,158	570,650	1,430	591,504	0	15,232	-1,158	503,850	1,430	519,354
2001	0	20,939	10,643	576,965	1,430	609,977	0	15,589	10,643	507,110	1,430	534,772
2002	0	20,770	-2,323	583,280	1,430	603,157	0	15,420	-2,323	510,370	1,430	524,897
2003	0	20,722	7,473	589,800	1,430	619,425	0	15,372	7,473	513,630	1,430	537,905
2004	0	20,790	-12,591	596,115	1,430	605,744	0	15,440	-12,591	516,890	1,430	521,169
2005	0	20,243	-376	602,450	1,430	623,747	0	14,893	-376	520,150	1,430	536,097
2006	0	20,613	-162	616,410	1,430	638,291	0	15,263	-162	530,430	1,430	546,961
2007	0	20,637	-1,182	630,265	1,430	651,150	0	15,287	-1,182	540,710	1,430	556,245
2008	0	20,728	23,438	644,325	1,430	689,921	0	15,378	23,438	550,990	1,430	591,236
2009	0	20,485	-17,980	658,180	1,430	662,115	0	15,135	-17,980	561,270	1,430	559,855
2010	0	20,545	-13,892	672,150	1,430	680,233	0	15,195	-13,892	571,550	1,430	574,283
2011	0	20,380	-1,342	683,800	1,430	704,268	0	15,030	-1,342	579,700	1,430	594,818
2012	0	20,616	-3,670	695,445	1,430	713,821	0	15,266	-3,670	587,850	1,430	600,876
2013	0	20,256	14,773	707,095	1,430	743,554	0	14,906	14,773	596,000	1,430	627,109
2014	0	20,434	-6,989	718,740	1,430	733,615	0	15,084	-6,989	604,150	1,430	613,675
2015	0	20,184	-25,386	730,400	1,430	726,628	0	14,834	-25,386	612,300	1,430	603,178
2016	0	20,339	7,983	743,215	1,430	772,967	0	14,989	7,983	621,120	1,430	645,522
2017	0	19,855	5,932	756,030	1,430	783,247	0	14,505	5,932	629,940	1,430	651,807
2018	0	19,846	-9,859	768,850	1,430	780,267	0	14,496	-9,859	638,760	1,430	644,827
2019	0	20,086	22,299	781,665	1,430	825,480	0	14,736	22,299	647,580	1,430	686,045
2020	0	19,790	-34,279	794,500	1,430	781,441	0	14,440	-34,279	656,400	1,430	637,991
2021	0	19,723	10,558	799,060	1,430	830,771	0	14,373	10,558	656,960	1,430	683,321
2022	0	19,837	1,765	803,615	1,430	826,647	0	14,487	1,765	657,520	1,430	675,202
2023	0	19,682	5,831	808,075	1,430	835,018	0	14,332	5,831	658,080	1,430	679,673
2024	0	19,670	-1,684	812,630	1,430	832,046	0	14,320	-1,684	658,640	1,430	672,706
2025	0	20,005	1,123	817,200	1,430	839,758	0	14,655	1,123	659,200	1,430	676,408
2026	0	20,064	7,780	817,820	1,430	847,094	0	14,714	7,780	659,820	1,430	683,744
2027	0	19,907	619	818,440	1,430	840,396	0	14,557	619	660,440	1,430	677,046
2028	0	20,290	-1,510	819,060	1,430	839,270	0	14,940	-1,510	661,060	1,430	675,920
2029	0	20,270	11,096	819,680	1,430	852,476	0	14,920	11,096	661,680	1,430	689,126
2030	0	20,411	1,699	820,300	1,430	843,840	0	15,061	1,699	662,300	1,430	680,490
2031	0	20,039	-19,041	821,040	1,430	823,468	0	14,689	-19,041	663,040	1,430	660,118
2032	0	20,273	8,300	821,780	1,430	851,783	0	14,923	8,300	663,780	1,430	688,433
2033	0	19,988	-13,164	822,520	1,430	830,774	0	14,638	-13,164	664,520	1,430	667,424
2034	0	20,185	18,181	823,260	1,430	863,056	0	14,835	18,181	665,260	1,430	699,706
2035	0	20,401	-12,739	824,000	1,430	833,092	0	15,051	-12,739	666,000	1,430	669,742

AND POWER RECOVERY PLANT OF PROJECT TRANSPORTATION FACILITIES^(a)

(in acre-feet)

Sheet 6 of 8

Calendar Year	CALIFORNIA AQUEDUCT (Continued)											
	SANTA ANA DIVISION						WEST BRANCH, CALIFORNIA AQUEDUCT					
	DEVIL CANYON POWERPLANT						OSO PUMPING PLANT					
	Initial Fill Water	Opera- tional Losses	Reservoir Storage Changes	Deliveries		Total	Initial Fill Water	Opera- tional Losses	Reservoir Storage Changes	Deliveries		Total
				Water Supply	Recrea- tion					Water Supply	Recrea- tion	
(64)	(65)	(66)	(67)	(68)	(69)	(70)	(71)	(72)	(73)	(74)	(75)	
1962	0	0	0	0	0	0	0	0	0	0	0	
1963	0	0	0	0	0	0	0	0	0	0	0	
1964	0	0	0	0	0	0	0	0	0	0	0	
1965	0	0	0	0	0	0	0	0	0	0	0	
1966	0	0	0	0	0	0	0	0	0	0	0	
1967	0	0	0	0	0	0	0	0	0	0	0	
1968	0	0	0	0	0	0	0	0	0	0	0	
1969	0	0	0	0	0	0	0	0	0	0	0	
1970	0	0	0	0	0	0	0	0	0	0	0	
1971	0	0	0	0	0	0	2,444	133	0	0	2,577	
1972	37	0	0	1,275	0	1,312	63,883	6,557	-6,405	71,991	6,481	
1973	40,848	14,745	0	51,812	0	107,405	124,461	16,995	4,029	155,317	1,075	
1974	74,666	8,367	-4,925	102,198	0	180,306	160,860	12,702	-4,146	209,172	2,064	
1975	10,000	1,995	-6,719	189,526	0	194,802	93,352	23,008	7,704	374,306	3,288	
1976	4,168	5,180	-9,182	235,711	23	235,900	56,954	15,845	-136,116	420,708	1,429	
1977	0	8,082	-5,235	101,137	469	104,453	0	4,407	-98,685	122,447	-20	
1978	14,820	3,754	21,686	373,636	481	414,377	45,105	9,061	52,774	171,139	176	
1979	12,302	5,620	-27,107	356,854	485	348,154	0	25,355	-18,781	145,598	0	
1980	0	9,468	12,714	395,975	742	418,899	0	24,576	-140,168	165,931	481	
1981	0	8,401	-23,448	569,088	897	554,848	0	15,254	59,637	283,264	3,179	
1982	0	5,012	48,521	395,721	1,798	451,052	0	24,292	60,024	350,878	2,126	
1983	0	8,597	5,188	230,277	1,078	245,140	0	23,601	-74,308	166,995	6,111	
1984	0	12,904	-844	250,998	1,414	264,412	0	11,630	-139,219	275,212	2,208	
1985	0	8,546	-14,698	233,380	1,258	228,398	0	14,792	163,284	373,000	4,950	
1986	0	8,211	-2,077	389,500	1,250	396,884	0	14,717	-1,659	467,500	4,950	
1987	0	8,471	13,986	681,700	1,250	705,407	0	14,734	349	529,000	5,050	
1988	0	8,300	-21,767	816,700	1,250	804,483	0	14,673	-11,128	535,750	5,250	
1989	0	8,312	1,556	816,700	1,250	827,818	0	14,865	11,486	536,500	5,850	
1990	0	8,139	-15,938	819,500	1,250	812,951	0	14,581	-23,642	537,500	5,850	
1991	0	8,291	-5,192	844,340	1,250	848,689	0	14,853	31,156	542,500	5,850	
1992	0	7,924	11,002	869,180	1,250	889,356	0	14,600	-31,317	547,500	5,850	
1993	0	7,773	-4,188	894,020	1,250	898,855	0	14,685	3,207	552,500	5,850	
1994	0	7,749	-44	918,860	1,250	927,815	0	14,778	43,051	558,250	5,850	
1995	0	8,336	17,174	435,700	1,250	462,460	0	14,211	-82,011	1,072,000	5,850	
1996	0	7,939	-35,990	438,380	1,250	411,579	0	14,607	-350	1,121,350	5,850	
1997	0	8,350	36,886	441,060	1,250	487,546	0	14,665	33,250	1,170,700	5,850	
1998	0	8,304	-4,344	443,740	1,250	448,950	0	14,573	-43,432	1,221,050	5,850	
1999	0	8,154	-12,595	446,420	1,250	443,229	0	14,253	12,619	1,268,400	5,850	
2000	0	8,026	479	449,100	1,250	458,855	0	14,257	-1,952	1,316,000	5,850	
2001	0	8,312	24,222	452,240	1,250	486,024	0	14,598	1,308	1,341,700	5,850	
2002	0	8,236	-8,066	455,380	1,250	456,800	0	14,261	-1,556	1,367,400	5,850	
2003	0	8,211	14,063	458,520	1,250	482,044	0	14,504	-15,204	1,393,100	5,850	
2004	0	8,206	-12,734	461,660	1,250	458,382	0	14,276	13,616	1,418,800	5,850	
2005	0	7,797	-6,872	464,800	1,250	466,975	0	14,144	-3,613	1,444,500	5,850	
2006	0	8,077	-9,573	474,960	1,250	474,714	0	14,406	18,344	1,456,900	5,850	
2007	0	8,132	13,348	485,120	1,250	507,850	0	14,297	-4,251	1,469,300	5,850	
2008	0	8,183	2,431	495,280	1,250	507,144	0	14,379	3,238	1,481,700	5,850	
2009	0	7,909	-9,304	505,440	1,250	505,295	0	14,491	388	1,494,100	5,850	
2010	0	7,991	-16,675	515,600	1,250	508,166	0	14,306	-18,432	1,506,500	5,850	
2011	0	7,850	3,772	523,620	1,250	536,492	0	14,335	2,310	1,517,900	5,850	
2012	0	8,044	-10,435	531,640	1,250	530,499	0	14,244	4,545	1,529,300	5,850	
2013	0	7,794	9,112	539,660	1,250	557,816	0	14,335	7,869	1,540,700	5,850	
2014	0	7,817	5,798	547,680	1,250	562,545	0	14,303	-5,666	1,552,100	5,850	
2015	0	7,725	-19,312	555,700	1,250	545,363	0	14,350	3,653	1,563,500	5,850	
2016	0	7,756	10,027	564,520	1,250	583,553	0	14,482	7,274	1,574,700	5,850	
2017	0	7,351	-13,388	573,340	1,250	568,553	0	14,469	6,473	1,585,900	5,850	
2018	0	7,328	3,052	582,160	1,250	593,790	0	14,491	2,377	1,597,100	5,850	
2019	0	7,579	24,218	590,980	1,250	624,027	0	14,592	15,762	1,608,300	5,850	
2020	0	7,277	-33,246	599,800	1,250	575,081	0	14,551	-6,243	1,619,500	5,850	
2021	0	7,203	7,938	600,360	1,250	616,751	0	14,641	15,776	1,630,300	5,850	
2022	0	7,336	948	600,920	1,250	610,454	0	14,636	-3,821	1,641,100	5,850	
2023	0	7,217	-6,711	601,480	1,250	603,236	0	14,648	-2,054	1,651,900	5,850	
2024	0	7,185	17,692	602,040	1,250	628,167	0	14,714	2,091	1,662,700	5,850	
2025	0	7,537	-19,573	602,600	1,250	591,814	0	14,752	1,967	1,673,500	5,850	
2026	0	7,482	18,819	603,220	1,250	630,771	0	14,818	1,014	1,673,500	5,850	
2027	0	7,443	-3,897	603,840	1,250	608,636	0	14,760	-1,369	1,673,500	5,850	
2028	0	7,828	-3,007	604,460	1,250	610,531	0	14,791	2,936	1,673,500	5,850	
2029	0	7,728	10,353	605,080	1,250	624,411	0	14,808	-4,828	1,673,500	5,850	
2030	0	7,828	2,062	605,700	1,250	616,840	0	14,747	3,149	1,673,500	5,850	
2031	0	7,463	-12,934	606,440	1,250	602,219	0	14,758	1,672	1,673,500	5,850	
2032	0	7,732	1,849	607,180	1,250	618,011	0	14,818	8,173	1,673,500	5,850	
2033	0	7,406	-2,194	607,920	1,250	614,382	0	14,765	-8,505	1,673,500	5,850	
2034	0	7,616	15,889	608,660	1,250	633,415	0	14,749	-2,816	1,673,500	5,850	
2035	0	7,903	-6,922	609,400	1,250	611,631	0	14,599	-56,156	1,673,500	5,850	

TABLE B-6: ANNUAL WATER QUANTITIES CONVEYED THRU EACH PUMPING

(in acre-feet)

Sheet 7 of 8

	CALIFORNIA AQUEDUCT (Continued)											
	WEST BRANCH, CALIFORNIA AQUEDUCT (Continued)											
Calendar Year	WILLIAM E. WARNE POWERPLANT						CASTAIC POWERPLANT					
	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Deliveries		Total	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Deliveries		Total
				Water Supply	Recreation					Water Supply	Recreation	
	(76)	(77)	(78)	(79)	(80)	(81)	(82)	(83)	(84)	(85)	(86)	(87)
1962	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	57,364	1,788	-6,162	71,938	6,481	131,409
1973	0	0	0	0	0	0	37,198	6,430	4,542	155,297	1,075	204,542
1974	0	0	0	0	0	0	82,364	1,772	-950	209,136	541	292,863
1975	0	0	0	0	0	0	90,460	5,002	-1,534	374,280	1,563	469,771
1976	0	0	0	0	0	0	55,990	-7,695	-132,036	420,684	1,429	338,372
1977	0	0	0	0	0	0	0	-1,485	-102,532	122,447	-20	18,410
1978	0	0	0	0	0	0	45,105	-2,264	129,523	171,139	176	343,679
1979	0	0	0	0	0	0	0	-2,339	-20,400	145,598	0	122,859
1980	0	0	0	0	0	0	0	991	-118,026	165,931	481	49,377
1981	0	0	0	0	0	0	0	-44,416	47,244	283,264	2,704	288,796
1982	0	24,420	60,024	360,878	2,126	447,448	0	-60,135	59,069	360,878	1,187	360,999
1983	0	20,780	-74,308	166,995	6,111	119,578	0	-33,418	-46,904	166,995	2,618	89,291
1984	0	13,572	-139,219	275,212	2,208	151,773	0	-29,618	-139,545	275,212	2,201	108,250
1985	0	12,882	163,284	373,000	4,950	554,116	0	6,827	163,284	373,000	2,330	545,441
1986	0	12,807	-1,659	467,500	4,950	483,598	0	6,575	-8,991	467,500	2,330	467,414
1987	0	12,824	349	529,000	5,050	547,223	0	6,597	349	529,000	2,430	538,376
1988	0	12,763	-11,128	535,750	5,250	542,635	0	6,536	-11,128	535,750	2,630	533,788
1989	0	12,955	11,486	536,500	5,850	566,791	0	6,728	11,486	536,500	2,800	557,514
1990	0	12,671	-23,642	537,500	5,850	532,379	0	6,444	-23,642	537,250	2,800	522,852
1991	0	12,943	31,156	542,500	5,850	592,449	0	6,716	31,156	542,000	2,800	582,672
1992	0	12,690	-31,317	547,500	5,850	534,723	0	6,463	-31,317	546,750	2,800	524,696
1993	0	12,775	3,207	552,500	5,850	574,332	0	6,548	3,207	551,500	2,800	564,055
1994	0	12,868	43,051	558,250	5,850	620,019	0	6,641	43,051	557,000	2,800	609,492
1995	0	12,301	-82,011	1,072,000	5,850	1,008,140	0	6,074	-82,011	1,070,500	2,800	997,363
1996	0	12,697	-350	1,121,350	5,850	1,139,547	0	6,470	-350	1,119,350	2,800	1,128,270
1997	0	12,755	33,250	1,170,700	5,850	1,222,555	0	6,528	33,250	1,168,200	2,800	1,210,778
1998	0	12,663	-43,432	1,221,050	5,850	1,196,131	0	6,436	-43,432	1,217,800	2,800	1,183,604
1999	0	12,343	12,619	1,268,400	5,850	1,299,212	0	6,116	12,619	1,264,400	2,800	1,285,935
2000	0	12,347	-1,952	1,316,000	5,850	1,332,245	0	6,120	-1,952	1,311,000	2,800	1,317,968
2001	0	12,688	1,308	1,341,700	5,850	1,361,546	0	6,461	1,308	1,336,700	2,800	1,347,269
2002	0	12,351	-1,556	1,367,400	5,850	1,384,045	0	6,124	-1,556	1,362,400	2,800	1,369,768
2003	0	12,594	-15,204	1,393,100	5,850	1,396,340	0	6,367	-15,204	1,388,100	2,800	1,382,063
2004	0	12,366	13,616	1,418,800	5,850	1,450,632	0	6,139	13,616	1,413,800	2,800	1,436,355
2005	0	12,234	-3,613	1,444,500	5,850	1,458,971	0	6,007	-3,613	1,439,500	2,800	1,444,694
2006	0	12,496	18,344	1,456,900	5,850	1,493,590	0	6,269	18,344	1,451,900	2,800	1,479,313
2007	0	12,387	-4,251	1,469,300	5,850	1,483,286	0	6,160	-4,251	1,464,300	2,800	1,469,009
2008	0	12,469	3,238	1,481,700	5,850	1,503,257	0	6,242	3,238	1,476,700	2,800	1,488,980
2009	0	12,581	388	1,494,100	5,850	1,512,919	0	6,354	388	1,489,100	2,800	1,498,642
2010	0	12,396	-18,432	1,506,500	5,850	1,506,314	0	6,169	-18,432	1,501,500	2,800	1,492,037
2011	0	12,425	2,310	1,517,900	5,850	1,538,485	0	6,198	2,310	1,512,900	2,800	1,524,208
2012	0	12,334	4,545	1,529,300	5,850	1,552,029	0	6,107	4,545	1,524,300	2,800	1,537,752
2013	0	12,425	7,869	1,540,700	5,850	1,566,844	0	6,198	7,869	1,535,700	2,800	1,552,567
2014	0	12,393	-5,666	1,552,100	5,850	1,564,677	0	6,166	-5,666	1,547,100	2,800	1,550,400
2015	0	12,440	3,653	1,563,500	5,850	1,585,443	0	6,213	3,653	1,558,500	2,800	1,571,166
2016	0	12,572	7,274	1,574,700	5,850	1,600,396	0	6,345	7,274	1,569,700	2,800	1,586,119
2017	0	12,559	6,473	1,585,900	5,850	1,610,782	0	6,332	6,473	1,580,900	2,800	1,596,505
2018	0	12,581	2,377	1,597,100	5,850	1,617,908	0	6,354	2,377	1,592,100	2,800	1,603,631
2019	0	12,682	15,762	1,608,300	5,850	1,642,594	0	6,455	15,762	1,603,300	2,800	1,628,317
2020	0	12,641	-6,243	1,619,500	5,850	1,631,748	0	6,414	-6,243	1,614,500	2,800	1,617,471
2021	0	12,731	15,776	1,630,300	5,850	1,664,657	0	6,504	15,776	1,625,300	2,800	1,650,380
2022	0	12,726	-3,821	1,641,100	5,850	1,655,855	0	6,499	-3,821	1,636,100	2,800	1,641,578
2023	0	12,738	-2,054	1,651,900	5,850	1,668,434	0	6,511	-2,054	1,646,900	2,800	1,654,157
2024	0	12,804	2,091	1,662,700	5,850	1,683,445	0	6,577	2,091	1,657,700	2,800	1,669,168
2025	0	12,842	1,967	1,673,500	5,850	1,694,159	0	6,615	1,967	1,668,500	2,800	1,679,882
2026	0	12,908	1,014	1,673,500	5,850	1,693,272	0	6,681	1,014	1,668,500	2,800	1,678,995
2027	0	12,850	-1,369	1,673,500	5,850	1,690,831	0	6,623	-1,369	1,668,500	2,800	1,676,554
2028	0	12,881	2,936	1,673,500	5,850	1,695,167	0	6,654	2,936	1,668,500	2,800	1,680,890
2029	0	12,898	-4,828	1,673,500	5,850	1,687,420	0	6,671	-4,828	1,668,500	2,800	1,673,143
2030	0	12,837	3,149	1,673,500	5,850	1,695,336	0	6,610	3,149	1,668,500	2,800	1,681,059
2031	0	12,848	1,672	1,673,500	5,850	1,693,870	0	6,621	1,672	1,668,500	2,800	1,679,593
2032	0	12,908	8,173	1,673,500	5,850	1,700,431	0	6,681	8,173	1,668,500	2,800	1,686,154
2033	0	12,855	-8,505	1,673,500	5,850	1,683,700	0	6,628	-8,505	1,668,500	2,800	1,669,423
2034	0	12,839	-2,816	1,673,500	5,850	1,689,373	0	6,612	-2,816	1,668,500	2,800	1,675,096
2035	0	12,689	-56,156	1,673,500	5,850	1,635,883	0	6,462	-56,156	1,668,500	2,800	1,621,606

AND POWER RECOVERY PLANT OF PROJECT TRANSPORTATION FACILITIES^(a)

(in acre-feet)

Sheet 8 of 8

CALIFORNIA AQUEDUCT (Continued)							
Calendar Year	COASTAL BRANCH, CALIFORNIA AQUEDUCT						
	LAS PERILLAS AND BADGER HILL PUMPING PLANTS				DEVIL'S DEN, SAWTOOTH AND POLONIO PUMPING PLANTS AND SAN LUIS OBISPO POWERPLANT		
	Initial Fill Water	Opera- tional Losses	Water Supply Delivery	Total	Opera- tional Losses	Water Supply Delivery	Total
	(88)	(89)	(90)	(91)	(92)	(93)	(94)
1962	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0
1968	210	873	79,039	80,122	0	0	0
1969	0	1,042	62,064	63,106	0	0	0
1970	0	638	83,649	84,287	0	0	0
1971	0	3,455	110,971	114,426	0	0	0
1972	0	1,745	121,755	123,500	0	0	0
1973	0	5,479	78,645	84,124	0	0	0
1974	0	7,344	78,174	85,518	0	0	0
1975	0	5,819	85,216	91,035	0	0	0
1976	0	6,562	90,058	96,620	0	0	0
1977	0	5,777	40,579	46,356	0	0	0
1978	0	9,085	92,604	101,689	0	0	0
1979	0	10,896	123,155	134,051	0	0	0
1980	0	9,449	111,379	120,828	0	0	0
1981	0	13,232	109,754	122,986	0	0	0
1982	0	7,984	95,776	103,760	0	0	0
1983	0	5,710	100,518	106,228	0	0	0
1984	0	5,740	126,387	132,127	0	0	0
1985	0	590	109,294	109,884	0	0	0
1986	0	590	127,038	127,628	0	0	0
1987	0	590	123,212	123,802	0	0	0
1988	0	590	115,043	115,633	0	0	0
1989	0	590	129,810	130,400	0	0	0
1990	0	590	130,465	131,055	0	0	0
1991	0	590	130,465	131,055	550	70,486	71,036
1992	0	1,140	200,951	202,091	550	70,486	71,036
1993	0	1,140	200,951	202,091	550	70,486	71,036
1994	0	1,140	200,951	202,091	550	70,486	71,036
1995	0	1,140	200,951	202,091	550	70,486	71,036
1996	0	1,140	200,951	202,091	550	70,486	71,036
1997	0	1,140	200,951	202,091	550	70,486	71,036
1998	0	1,140	200,951	202,091	550	70,486	71,036
1999	0	1,140	200,951	202,091	550	70,486	71,036
2000	0	1,140	200,951	202,091	550	70,486	71,036
2001	0	1,140	200,951	202,091	550	70,486	71,036
2002	0	1,140	200,951	202,091	550	70,486	71,036
2003	0	1,140	200,951	202,091	550	70,486	71,036
2004	0	1,140	200,951	202,091	550	70,486	71,036
2005	0	1,140	200,951	202,091	550	70,486	71,036
2006	0	1,140	200,951	202,091	550	70,486	71,036
2007	0	1,140	200,951	202,091	550	70,486	71,036
2008	0	1,140	200,951	202,091	550	70,486	71,036
2009	0	1,140	200,951	202,091	550	70,486	71,036
2010	0	1,140	200,951	202,091	550	70,486	71,036
2011	0	1,140	200,951	202,091	550	70,486	71,036
2012	0	1,140	200,951	202,091	550	70,486	71,036
2013	0	1,140	200,951	202,091	550	70,486	71,036
2014	0	1,140	200,951	202,091	550	70,486	71,036
2015	0	1,140	200,951	202,091	550	70,486	71,036
2016	0	1,140	200,951	202,091	550	70,486	71,036
2017	0	1,140	200,951	202,091	550	70,486	71,036
2018	0	1,140	200,951	202,091	550	70,486	71,036
2019	0	1,140	200,951	202,091	550	70,486	71,036
2020	0	1,140	200,951	202,091	550	70,486	71,036
2021	0	1,140	200,951	202,091	550	70,486	71,036
2022	0	1,140	200,951	202,091	550	70,486	71,036
2023	0	1,140	200,951	202,091	550	70,486	71,036
2024	0	1,140	200,951	202,091	550	70,486	71,036
2025	0	1,140	200,951	202,091	550	70,486	71,036
2026	0	1,140	200,951	202,091	550	70,486	71,036
2027	0	1,140	200,951	202,091	550	70,486	71,036
2028	0	1,140	200,951	202,091	550	70,486	71,036
2029	0	1,140	200,951	202,091	550	70,486	71,036
2030	0	1,140	200,951	202,091	550	70,486	71,036
2031	0	1,140	200,951	202,091	550	70,486	71,036
2032	0	1,140	200,951	202,091	550	70,486	71,036
2033	0	1,140	200,951	202,091	550	70,486	71,036
2034	0	1,140	200,951	202,091	550	70,486	71,036
2035	0	1,140	200,951	202,091	550	70,486	71,036

**TABLE B-7: RECONCILIATION OF CAPITAL COSTS ALLOCATED TO
WATER SUPPLY AND POWER GENERATION**

(in thousands of dollars)

	Project Costs Allocated to Water Supply and Power Generation							Capital Cost Allocated to Other Purposes	Total State Water Project Capital Cost
	Misc. Income Credited to Construction (a)	Allowance for Future Price Escalation (b)	Costs of Construction of Delivery Structures (c)	Additional Costs of Requested Excess Capacity and Future Enlargement (d)	Capital Cost Component of Delta Water Charge (e)	Capital Cost Component of Transportation Water Charge (f)	Water Supply and Power Total (g)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
CONSERVATION FACILITIES:									
Upper Feather Division									
Frenchman Dam and Lake	173	0	0	0	588	0	761	2,831	3,592
Grizzly Valley Dam and Lake Davis	28	0	0	0	24	0	52	5,823	5,875
Antelope Dam and Lake	0	0	0	0	0	0	0	5,271	5,271
Abbey Bridge Dam and Reservoir	0	0	0	0	0	0	0	518	518
Dixie Refuge Dam and Reservoir	0	0	0	0	0	0	0	235	235
TOTAL, Upper Feather Division	201	0	0	0	612	0	813	14,678	15,491
Oroville Division									
Multipurpose Facilities	3,328	233	149	0	206,481	0	210,191	89,090	299,281
Specific Power Facilities	0	114	0	0	255,887	0	256,001	0	256,001
TOTAL, Oroville Division	3,328	347	149	0	462,368	0	466,192	89,090	555,282
California Aqueduct									
North San Joaquin Division	195	1,424	0	0	65,848	0	67,467	2,527	69,994
San Luis Division	395	52	0	0	95,605	0	96,052	4,015	100,067
TOTAL, California Aqueduct	590	1,476	0	0	161,453	0	163,519	6,542	170,061
Delta Facilities	2,719	3,112	0	0	108,033	0	113,864	17,105	130,969
Planning and Preoperations	3	34,074	0	0	79,891	0	113,968	0	113,968
TOTAL CONSERVATION FACILITIES	6,841	39,009	149	0	812,357	0	858,356	127,415	985,771
TRANSPORTATION FACILITIES									
Upper Feather Division									
Grizzly Valley Pipeline	0	0	0	0	0	341	341	0	341
North Bay Aqueduct	44	1,568	449	0	0	80,396	82,457	0	82,457
South Bay Aqueduct	1,609	24	383	0	0	49,934	51,950	21,400	73,350
California Aqueduct									
North San Joaquin Division	434	3,169	15	0	0	146,768	150,386	5,624	156,010
San Luis Division	84	6	0	0	0	97,141	97,231	6,200	103,431
South San Joaquin Division	292	41	3,271	2,093	0	260,804	266,501	15,845	282,346
Tehachapi Division	24	21	4	5,230	0	289,681	294,960	17,435	312,395
Mojave Division	558	1,301	440	0	0	281,693	283,992	18,367	302,359
Santa Ana Division	340	15	2,812	5,331	0	163,672	172,170	20,821	192,991
West Branch	35,205	768	2,729	37	0	445,939	484,678	32,793	517,471
Coastal Branch	10	28	95	0	0	17,117	17,250	103	17,353
TOTAL California Aqueduct	36,947	5,349	9,366	12,691	0	1,702,815	1,767,168	117,188	1,884,356
TOTAL, TRANSPORTATION FACILITIES	38,600	6,941	10,198	12,691	0	1,833,486	1,901,916	138,588	2,040,504
SAN JOAQUIN DRAINAGE FACILITIES	0	0	0	0	0	0	0	32,687	32,687
OFF-AQUEDUCT POWER GENERATION FACILITIES	16	1,206	0	0	0	438,477	439,699	0	439,699
UNASSIGNED AND DAVIS-GRUNSKY	0	0	0	0	0	40,060	40,060^(g)	150,074^(g)	90,134
SUBTOTAL	45,457	47,156	10,347	12,691	812,357	2,312,023	3,240,031	448,764	3,688,795
LESS:									
1996-2035 COSTS	0	-29,081	0	0	0	-18,303	-47,384	0	-47,384
TOTAL	45,457	18,075	10,347	12,691	812,357	2,293,720	3,192,647	448,764	3,641,411^(h)

a) Miscellaneous project receipts that are applied for accounting purposes to reduce the capital costs of the particular facilities.

b) These allowances are included for planning the future financial program, but not for determining current water charges. The costs shown in this appendix are based on prices prevailing on December 31, 1984.

c) See Table B-8.

d) See Table B-9.

e) See Table B-13. A portion of these costs will be offset by power generation sales and credits.

f) See Table B-10.

g) Represents (1) increased North Bay Aqueduct costs to provide capacity for the City of Vallejo and excess capacity to meet possible peak summer demands,

(2) added costs of improvements on the East Branch of the California Aqueduct, and (3) costs of preliminary design for enlargement of the East Branch.

h) See Table 20, Chapter VII.

TABLE B-8: CAPITAL COSTS OF REQUESTED DELIVERY STRUCTURES

Project Service Area and Water Supply Contractor	Calendar Year Capital Costs (dollars) ^(a)						
	1952 - 1984	1985	1986	1987	1988	1989	Total
FEATHER RIVER AREA							
County of Butte	104,924	0	0	0	0	0	104,924
Thermalito Irrigation District ^(b)	43,939	0	0	0	0	0	43,939
Total	148,863	0	0	0	0	0	148,863
NORTH BAY AREA							
Napa County Flood Control and Water Conservation District	10,068	0	0	0	0	0	10,068
Solano County Flood Control and Water Conservation District	0	0	53,000	386,000	0	0	439,000
Total	10,068	0	53,000	386,000	0	0	449,068
SOUTH BAY AREA							
Alameda County Flood Control and Water Conservation District, Zone 7	224,360	0	0	0	0	0	224,360
Alameda County Water District	143,789	0	0	0	0	0	143,789
Santa Clara Valley Water District	13,865	1,000	0	0	0	0	14,865
Total	382,014	1,000	0	0	0	0	383,014
SAN JOAQUIN VALLEY AREA							
Devil's Den Water District	77,557	0	0	0	0	0	77,557
Dudley Ridge Water District	287,502	4,000	0	0	0	0	291,502
Empire West Side Irrigation District	6,358	0	0	0	0	0	6,358
Green Valley Water District ^(c)	5,292	0	0	0	0	0	5,292
Kern County Water Agency	2,707,315	2,000	0	0	0	0	2,709,315
Oak Flat Water District	13,690	0	0	0	0	0	13,690
Tracy Golf and Country Club ^(c)	1,028	0	0	0	0	0	1,028
Tulare Lake Basin Water Storage District	277,483	0	0	0	0	0	277,483
Total	3,376,225	6,000	0	0	0	0	3,382,225
SOUTHERN CALIFORNIA AREA							
Antelope Valley-East Kern Water Agency	329,344	6,000	0	0	0	0	335,344
Castaic Lake Water Agency	346,978	0	0	0	0	0	346,978
Coachella Valley Water District	14,206	0	0	0	0	0	14,206
Crestline-Lake Arrowhead Water Agency	12,097	0	0	0	0	0	12,097
Desert Water Agency	23,438	0	0	0	0	0	23,438
Little Rock Creek Irrigation District	23,732	0	0	0	0	0	23,732
Mojave Water Agency	65,378	0	0	0	0	0	65,378
Palmdale Water District	24,232	0	2,000	0	0	0	26,232
San Bernardino Valley Municipal Water District	597,553	0	0	0	0	0	597,553
San Gabriel Valley Municipal Water District	131,052	0	0	0	0	0	131,052
San Geronimo Pass Water Agency	66,530	0	0	0	0	0	66,530
The Metropolitan Water District of Southern California	4,261,525	0	0	0	0	0	4,261,525
Ventura County Flood Control District	79,699	0	0	0	0	0	79,699
Total	5,975,764	6,000	2,000	0	0	0	5,983,764
TOTAL ALL AREAS	9,892,934	13,000	55,000	386,000	0	0	10,346,934

a) Approximate only, not to be construed as invoice amounts.

b) Not a SWP water supply contractor. A delivery structure was constructed on the Thermalito Power Canal at the District's expense as part of a water exchange agreement.

c) Not a SWP water supply contractor, but has contracted for surplus water.

TABLE B-9: CAPITAL COSTS OF

(in dollars unless otherwise indicated)

Calendar Year	Total Advance Payments and Credits for Excess Capacity	Total Incremental Costs for Excess Capacity	Overpayment (+) or Underpayment (-) ^(a)	Annual Surplus Money Investment Fund Interest Rate ^(b)		Net Over or Underpayment With Interest ^(c)
				Jan-Jun	Jul-Dec	
	(1)	(2)	(3)	(4)	(5)	(6)
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA						
1965	0	158,000	-158,000	3.968%	4.184%	-163,412
1966	8,056,000	435,800	7,620,200	4.540%	5.057%	7,701,103
1967	9,094,963	1,878,270	7,216,693	4.815%	4.744%	15,524,533
1968	1,523,252	2,887,351	-1,364,099	5.330%	5.540%	14,959,187
1969	8,310,651	3,059,310	5,251,341	5.946%	6.389%	21,369,973
1970	3,426,736	2,397,102	1,029,634	7.071%	7.125%	23,986,083
1971	1,086,045	1,146,648	-60,603	5.154%	5.580%	25,238,017
1972	-4,244,807	487,394	-4,732,201	4.477%	4.977%	21,532,965
1973	-15,913,829	25,041	-15,938,870	6.023%	8.717%	6,014,116
1974	0	37,775	-37,775	9.222%	10.351%	6,576,393
1975	0	2,085	-2,085	7.089%	6.791%	7,038,515
1976	0	0	0	6.048%	6.021%	7,469,662
1977	0	0	0	5.788%	6.182%	7,923,403
1978	0	0	0	7.171%	8.096%	8,539,736
1979	0	0	0	8.979%	9.671%	9,354,605
1980	0	0	0	11.500%	11.500%	10,461,314
Totals	11,339,011	12,514,776	-1,175,765	-	-	10,461,314
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT						
1967	0	25,730	-25,730	4.815%	4.744%	-26,611
1968	184,422	44,053	140,369	5.330%	5.540%	117,587
1969	49,052	38,075	10,977	5.946%	6.389%	136,751
1970	44,911	17,959	26,952	7.071%	7.125%	175,186
1971	61,588	5,900	55,688	5.154%	5.580%	242,927
1972	-20,263	6,835	-27,098	4.477%	4.977%	226,230
1973	-180,465	0	-180,465	6.023%	8.717%	49,198
1974	0	0	0	9.222%	10.351%	54,130
1975	0	0	0	7.089%	6.791%	57,952
1976	0	0	0	6.048%	6.021%	61,501
1977	0	0	0	5.788%	6.182%	65,237
1978	0	0	0	7.171%	8.096%	70,312
1979	0	0	0	8.979%	9.671%	77,021
1980	0	0	0	11.500%	11.500%	86,133
Totals	139,245	138,552	693	-	-	86,133
ANTELOPE VALLEY-EAST KERN WATER AGENCY						
1968	85,495	1,645	83,850	5.330%	5.540%	86,962
1969	52,625	6,326	46,299	5.946%	6.389%	140,964
1970	101,648	15,076	86,572	7.071%	7.125%	243,222
1971	34,062	11,748	22,314	5.154%	5.580%	279,673
1972	-12,794	2,018	-14,812	4.477%	4.977%	277,552
1973	-205,354	308	-205,662	6.023%	8.717%	77,288
1974	0	96	-96	9.222%	10.351%	84,933
1975	0	0	0	7.089%	6.791%	90,929
1976	0	190	-190	6.048%	6.021%	96,300
1977	0	0	0	5.788%	6.182%	102,150
1978	0	0	0	7.171%	8.096%	110,096
1979	0	0	0	8.979%	9.671%	120,601
1980	0	0	0	11.500%	11.500%	134,869
Totals	55,682	37,407	18,275	-	-	134,869

- a) Overpayment or underpayment for each calendar year - column (1) minus column (2).
 b) Interest rates shown are annual rates. Interest is credited daily at applicable rates on funds deposited in the State's Surplus Money Investment Fund.
 c) Amounts shown are end-of-year balances. Interest on overpayments is credited at applicable Surplus Money Investment Fund Interest Rates shown in columns (4) and (5). Interest on underpayments is charged at the 1980 Project Interest Rate of 4.584 percent.

REQUESTED EXCESS PEAKING CAPACITY

(in dollars)

Reach Number	Item	ANNUAL REQUIRED ADVANCE OF FUNDS														Reach Totals
		Incremental Costs and Advance Payments by Calendar Year														
		1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1981		
		(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	
		THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA														
8C	Incremental Costs		1,000	1,000											2,000	
8D	Incremental Costs		43,500	43,500											87,000	
9	Incremental Costs	13,500	27,000	27,000	13,500										81,000	
10A	Incremental Costs	14,800	29,700	29,700	14,800										89,000	
11B	Incremental Costs	10,100	18,300	18,300	9,200										55,900	
12D	Incremental Costs	1,800		19,300	25,800	12,900									59,800	
12E	Incremental Costs	1,800		12,400	18,800	10,800									43,800	
13B	Incremental Costs			12,600	37,800	31,600									82,000	
14A	Incremental Costs	2,500	500	11,100	80,216	107,504	124,069	37,519	6,413	381	87				370,289	
14B	Incremental Costs	1,200	1,800		19,100	19,100	12,800								54,000	
14C	Incremental Costs	1,800	900		13,500	13,500	9,000								38,700	
15A	Incremental Costs	700		14,000	66,947	133,357	128,099	54,821	5,327	946	2,076				406,273	
16A	Incremental Costs	700		18,900	137,894	182,000	211,608	133,927	26,203	5,767	6,156				723,155	
17E	Incremental Costs		51,500	444,600	537,247	860,024	998,985	699,281	193,286	17,947	29,456	2,085			3,834,411	
17F	Incremental Costs	109,100	261,600	261,600	261,600	261,600	239,500								1,395,000	
25	Incremental Costs			964,270	1,650,947	1,426,925	673,041	221,100	256,165						5,192,448	
28J	Incremental Costs		304,612	13,706	296,668	65,966	230,169	1,209,586	2,017,134	235,900	4,900				4,378,641	
Totals Unadjusted for past payments	Incremental Costs	158,000	740,412	1,891,976	3,184,019	3,125,276	2,627,271	2,356,234	2,504,528	260,941	42,675	2,085			16,893,417	
Current Adjustments	1. 8C thru 25 Advance Payments Applied to Incremental Costs Amendment 2 (d) 2. 8C thru 25 Interest Credits-Amendment 2 (e) 28J 3. Advance Payments Applied to Incremental Costs Amendment 5 (f) 28J 4. Interest Credits-Amendment 5 (g) 5. Net Required Advance of Funds	0	8,056,000	9,094,963	1,523,252	8,310,651	3,426,736	1,086,045	-4,244,807	-14,381,396				-356,668	12,514,776	
										-1,532,433				-10,104,646 (h)	-11,637,079	
		0	1,240,000	1,483,180	2,469,325	-927,035	1,729,160	3,215,258	2,967,475	1,690,000	-9,488,722				4,378,641	
										-2,721,803					-2,721,803	
		0	9,296,000	10,578,143	3,992,577	7,383,616	5,155,896	4,301,303	-1,277,332	-14,223,829	-12,210,525			-10,461,314	2,534,535	
		SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT														
25	Incremental Costs			25,730	44,053	38,075	17,959	5,900	6,835						138,552	
Totals Unadjusted for past payments	Incremental Costs			25,730	44,053	38,075	17,959	5,900	6,835						138,552	
Current Adjustments	1. 25 Advance Payments Applied to Incremental Costs (d) 2. Interest Credit 3. Net Required Advance of Funds			0	184,422	49,052	44,911	61,588	-20,263	-174,133				-7,025	138,552	
										-6,332				-79,108	-85,440	
				0	184,422	49,052	44,911	61,588	-20,263	-180,465				-86,133 (h)	53,112	
		ANTELOPE VALLEY-EAST KERN WATER AGENCY														
29A	Incremental Costs				1,645	6,326	13,376	10,048	2,018	308	96		190		34,007	
29F	Incremental Costs						1,700	1,700							3,400	
Totals Unadjusted for past payments	Incremental Costs				1,645	6,326	15,076	11,748	2,018	308	96		190		37,407	
Current Adjustments	1. 29A and 29F Advance Payments Applied to Incremental Costs (d) 2. Interest Credit 3. Net Required Advance of Funds				85,495	52,625	101,648	34,062	-12,794	-189,120	0	0		-34,509	37,407	
										-16,234				-100,360	-116,594	
					85,495	52,625	101,648	34,062	-12,794	-205,354	0	0		-134,869 (h)	-79,187	

- d) Actual payments are shown for 1965 through 1976 with 1981 adjusted to reflect overpayments and underpayments without interest for prior years.
- e) Interest for overpayments and underpayments under provisions of Amendment 2 of the contract.
- f) Actual payments are shown for 1965 through 1973 with 1974 adjusted to reflect overpayments and underpayments without interest for prior years.
- g) Interest for overpayments and underpayments under provisions of Amendment 5 of the contract.
- h) Amounts in excess of incremental costs, under the provisions of the contract, reduce the Transportation Charge capital cost component of the Agency's Statement of Charges for January 1981.

TABLE B-10: CAPITAL COSTS OF EACH AQUEDUCT REACH TO BE REIMBURSED

(in dollars)

Sheet 1 of 8

Calendar Year	UPPER FEATHER DIVISION	NORTH BAY AQUEDUCT				SOUTH BAY AQUEDUCT			
		Reach 1	Reach 2	Reach 3	Total	Reach 1	Reach 2	Reach 4	Reach 5
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1952	0	0	0	0	0	97	34	30	57
1953	0	0	0	0	0	477	166	144	297
1954	0	0	0	0	0	1,466	508	437	959
1955	0	0	0	0	0	1,944	674	560	1,266
1956	0	0	0	0	0	18,789	6,515	5,090	12,545
1957	0	13,290	3,391	9,953	26,634	45,090	15,639	12,285	33,218
1958	2	19,202	5,011	25,798	50,011	195,985	80,961	7,714	21,930
1959	14	7,517	2,118	17,633	27,288	496,140	148,516	24,945	17,118
1960	28	8,797	4,292	4,838	17,927	1,130,378	67,351	71,779	68,028
1961	10	1,551	10,318	2,526	14,395	3,273,247	180,596	307,885	74,398
1962	32	217	-1,751	414	-1,120	1,548,884	203,535	695,446	35,102
1963	51	2,510	-1,063	983	2,430	480,716	69,182	2,284,291	206,587
1964	7,791	39,879	12,046	21,934	73,859	2,549,118	15,903	181,900	264,410
1965	3,139	72,793	17,900	170,361	261,054	807,505	153,454	85,425	447,830
1966	-48	59,615	12,972	438,949	511,536	898,074	149,529	142,096	1,690,200
1967	47	47,257	11,597	1,551,023	1,609,877	607,614	50,423	293,304	3,496,284
1968	51,573	70,586	19,560	831,158	921,304	965,119	19,543	89,300	2,931,101
1969	234,232	63,650	23,628	46,428	133,706	455,173	9,618	3,860	896,727
1970	16,227	59,090	42,733	9,415	111,238	52,481	3,380	10,517	154,358
1971	27,204	20,819	31,516	8,480	60,815	24,505	4,645	5,035	20,395
1972	9	15,538	12,952	10,058	38,548	26,918	825	2,945	26,090
1973	25	18,488	29,018	39,878	87,384	24,468	4,010	6,016	12,708
1974	45	67,352	29,978	134,332	231,662	17,108	1,192	1,765	65,587
1975	21	62,855	73,112	45,091	181,058	57,619	561	1,165	7,291
1976	51	51,986	75,611	13,181	140,778	104,248	2,846	8,915	12,700
1977	28	48,893	65,662	23,255	137,810	176,181	3,625	3,225	16,132
1978	38	56,618	57,158	27,003	140,779	237,250	4,494	3,668	12,903
1979	23	311,937	91,367	65,804	469,108	115,031	17,151	8,515	30,805
1980	26	388,233	105,508	123,163	616,904	399,123	17,708	8,249	31,079
1981	34	377,403	127,650	23,818	528,871	-168,296	3,589	6,520	17,300
1982	11	835,124	319,429	125,176	1,279,729	-31,306	17,110	4,427	40,109
1983	19	1,023,050	1,035,321	518,851	2,577,222	422,897	73,078	29,489	70,687
1984	25	1,800,860	2,220,985	1,062,422	5,084,267	488,868	34,899	9,961	91,887
1985	0	8,325,812	12,740,124	3,562,700	24,628,636	34,900	39,700	13,300	33,706
1986	0	20,700,234	6,342,491	2,013,200	29,055,925	92,600	30,100	23,500	21,493
1987	0	8,037,100	1,494,000	1,007,100	10,538,200	4,000	6,000	5,000	3,528
1988	0	803,000	0	0	803,000	0	0	0	0
1989	0	35,000	0	0	35,000	0	0	0	0
1990	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0
TOTAL	340,657	25,014,634		80,395,835		1,437,060		10,866,815	
		43,446,256		11,934,945		15,554,411		4,358,703	

THRU CAPITAL COST COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

Sheet 2 of 8

Calendar Year	SOUTH BAY AQUEDUCT (continued)					CALIFORNIA AQUEDUCT			
						NORTH SAN JOAQUIN DIVISION			
	Reach 6	Reach 7	Reach 8	Reach 9	Total	Reach 1	Reach 2A	Reach 2B	Subtotal
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1952	8	66	72	132	496	4,012	3,279	1,499	8,790
1953	38	327	336	640	2,425	10,559	8,589	3,964	23,112
1954	123	1,005	1,003	1,954	7,455	13,796	11,163	5,179	30,138
1955	160	1,293	1,149	2,454	9,500	7,370	5,952	2,760	16,082
1956	1,559	11,959	11,043	28,372	95,872	9,880	5,020	2,398	17,298
1957	3,659	28,675	27,385	563,114	729,065	11,953	5,456	2,612	20,021
1958	2,243	17,872	17,385	560,904	904,994	18,585	17,191	7,994	43,770
1959	357	3,200	3,568	149,874	843,718	123,170	100,306	45,510	268,986
1960	1,102	2,944	4,498	359,749	1,705,829	191,408	102,136	48,968	342,512
1961	4,726	18,325	22,765	-1,367	3,880,575	153,765	195,947	42,843	392,555
1962	17,295	160,939	178,242	209,042	3,048,485	612,258	491,225	168,218	1,271,701
1963	265,414	1,250,386	939,832	129,902	5,626,310	1,993,284	1,525,734	684,095	4,203,113
1964	100,603	1,716,371	2,327,770	2,947,522	10,103,597	4,674,280	2,369,858	700,074	7,744,212
1965	42,345	368,476	637,266	1,921,844	4,464,145	5,877,189	6,873,699	2,975,719	15,726,607
1966	17,663	34,915	140,350	777,887	3,850,714	8,553,362	14,112,820	5,677,099	28,343,281
1967	-41,567	137,856	147,183	379,764	5,070,861	9,678,607	10,672,113	6,646,739	26,997,459
1968	84,553	2,130	68,057	253,152	4,412,955	6,392,664	891,681	1,303,186	8,587,531
1969	4,279	11,572	162,300	32,000	1,575,529	3,542,767	792,259	443,924	4,778,950
1970	2,487	6,820	20,086	-15,718	234,411	2,236,607	149,692	115,578	2,501,877
1971	4,350	6,923	17,750	39,084	122,687	98,138	215,512	69,410	383,060
1972	1,084	203	4,800	32,199	95,064	159,608	43,721	7,744	211,073
1973	288	989	7,449	9,693	65,621	105,581	25,496	22,418	153,495
1974	527	6,020	30,628	11,433	134,260	177,700	16,627	45,707	240,034
1975	126	679	1,086	3,464	71,991	239,144	14,680	169,676	423,500
1976	701	3,529	8,362	26,186	167,487	641,807	45,533	65,943	753,283
1977	270	1,310	8,651	24,938	234,332	272,226	20,283	22,568	315,077
1978	231	1,204	1,631	17,123	278,504	442,322	36,221	9,714	488,257
1979	1,367	1,721	2,134	7,322	184,046	975,174	59,695	26,106	1,060,975
1980	1,321	1,718	2,182	7,102	468,482	3,597,284	96,760	38,789	3,732,833
1981	308	1,461	1,397	5,070	-132,651	-114,265	1,487,444	202,275	1,575,454
1982	670	1,286	1,352	3,701	37,349	1,505,222	38,356	28,501	1,572,079
1983	355	4,114	6,124	19,078	625,822	853,583	69,467	258,657	1,181,707
1984	161	1,643	2,376	7,040	636,835	1,600,760	30,880	33,359	1,664,999
1985	0	2,300	4,500	12,400	140,806	906,028	45,590	237,688	1,189,306
1986	1,000	6,100	8,100	23,300	206,193	1,366,007	84,318	53,723	1,504,048
1987	0	2,000	3,000	7,000	30,528	4,721,769	3,999	1,333	4,727,101
1988	0	0	0	0	0	7,823,846	667	667	7,825,180
1989	0	0	0	0	0	9,835,465	667	667	9,836,799
1990	0	0	0	0	0	6,591,414	667	667	6,592,748
1991	0	0	0	0	0	17,997	667	667	19,331
1992	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0
TOTAL	519,806		4,821,812		49,934,292		40,671,370		146,768,334
		3,818,331		8,557,354		85,922,326		20,174,638	

TABLE B-10: CAPITAL COSTS OF EACH AQUEDUCT REACH TO BE REIMBURSED

(in dollars)

Sheet 3 of 8

Calendar Year	CALIFORNIA AQUEDUCT (continued)								
	SAN LUIS DIVISION						SOUTH SAN JOAQUIN DIVISION		
	Reach 3	Reach 4	Reach 5	Reach 6	Reach 7	Subtotal	Reach 8C	Reach 8D	Reach 9
	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
1952	2,492	3,549	3,987	1,010	1,390	12,428	13	727	1,109
1953	6,999	10,144	10,986	2,834	3,869	34,832	45	2,671	4,185
1954	8,704	12,545	13,693	3,520	4,766	43,228	50	2,719	4,026
1955	4,273	6,055	6,813	1,728	2,325	21,194	19	888	1,100
1956	3,295	5,600	5,857	1,445	3,556	19,753	98	3,850	4,376
1957	3,543	6,115	6,357	1,565	3,998	21,578	234	10,604	13,209
1958	11,927	19,393	22,037	5,509	7,512	66,378	375	19,033	25,073
1959	21,979	37,358	39,689	9,813	19,679	128,518	436	20,578	25,697
1960	207,025	45,419	41,044	12,074	37,633	343,195	1,673	44,565	25,290
1961	184,443	292,639	170,559	38,338	70,068	756,047	3,949	75,726	30,852
1962	495,836	549,984	252,698	22,397	26,967	1,347,882	6,131	159,481	62,375
1963	2,772,189	2,034,351	2,498,712	66,353	30,647	7,402,252	5,861	161,252	81,343
1964	4,348,311	4,932,301	1,053,227	161,422	251,461	10,746,722	4,014	90,622	117,907
1965	3,860,997	5,688,252	2,869,931	1,072,111	667,768	14,159,059	15,049	491,042	564,036
1966	2,312,372	8,527,843	5,765,798	4,230,221	7,708,334	28,544,568	201,274	5,197,322	2,539,278
1967	44,527	2,062,305	6,942,522	222,885	6,675,398	15,858,583	212,285	4,982,844	3,363,650
1968	119,884	395,689	973,956	179,917	461,031	2,130,477	64,234	611,192	940,074
1969	6,065	126,946	98,492	107,486	160,668	487,527	58,960	116,146	85,130
1970	32,387	-20,243	105,385	-827,457	1,215,966	506,038	23,011	106,810	84,116
1971	99,945	230,624	305,227	26,995	341,010	1,003,801	8,813	33,099	23,088
1972	15,990	90,852	17,053	14,621	281,343	419,859	10,818	13,349	16,603
1973	6,753	103,707	41,549	13,810	41,427	207,246	5,145	11,089	13,249
1974	6,618	117,165	55,978	16,199	71,796	267,756	5,434	24,433	16,567
1975	18,921	107,275	23,671	8,797	152,574	311,238	5,424	15,960	12,966
1976	17,485	79,382	13,041	5,138	41,687	156,733	19,931	76,280	62,164
1977	35,707	77,853	9,412	4,028	9,655	136,655	21,096	70,005	97,952
1978	8,539	78,585	7,006	3,536	6,994	104,660	7,584	40,453	17,395
1979	-35,394	306,075	19,463	9,485	-242,253	57,376	10,474	6,181	6,227
1980	66,622	1,656,025	191,307	75,209	185,384	2,174,547	2,158	17,492	17,706
1981	29,113	-994,163	-40,312	-14,168	850,288	-169,242	1,145	9,667	9,527
1982	95,240	-508,396	14,987	7,560	3,490,841	3,100,232	1,678	4,914	4,208
1983	87,546	109,626	21,284	10,231	1,832,537	2,061,224	7,473	8,703	8,215
1984	33,635	106,152	27,301	13,995	3,065,476	3,246,559	25,807	7,242	3,958
1985	75,172	182,942	504,222	223,774	300,251	1,286,361	27,724	5,375	4,338
1986	2,045	16,880	49,790	21,972	31,685	122,372	3,866	7,167	6,884
1987	705	1,886	943	943	943	5,420	943	8,487	8,487
1988	705	943	943	943	943	4,477	943	3,772	3,772
1989	705	943	943	943	943	4,477	943	943	943
1990	705	943	943	943	943	4,477	943	943	943
1991	705	943	943	943	943	4,477	943	943	943
1992	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0
TOTAL	14,913,526	26,502,487	22,147,437	5,759,068	27,818,446	97,140,964	766,996	12,464,569	8,308,961

THRU CAPITAL COST COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

Sheet 4 of 8

Calendar Year	CALIFORNIA AQUEDUCT (continued)								
	SOUTH SAN JOAQUIN DIVISION (continued)								
	Reach 10A	Reach 11B	Reach 12D	Reach 12E	Reach 13B	Reach 14A	Reach 14B	Reach 14C	Reach 15A
	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)
1952	695	1,279	1,980	995	1,663	794	212	212	1,911
1953	2,569	4,790	7,480	3,745	6,236	2,599	733	741	7,016
1954	2,821	4,855	7,565	3,792	6,319	2,880	810	817	7,073
1955	1,097	1,557	2,404	1,211	2,025	1,183	325	327	2,253
1956	4,428	6,223	9,233	4,737	8,054	7,026	1,638	1,584	9,939
1957	13,269	18,772	29,082	14,615	24,411	15,651	3,834	3,864	26,871
1958	25,086	48,191	78,564	39,087	61,715	33,726	12,330	11,813	49,499
1959	25,787	67,246	107,781	53,836	86,478	64,824	22,102	21,828	70,838
1960	47,492	66,317	77,936	39,867	63,517	84,363	23,260	22,305	73,305
1961	68,505	46,073	88,274	51,457	28,015	242,753	91,290	65,565	150,205
1962	57,705	56,056	69,189	44,851	49,179	208,180	61,489	47,608	133,653
1963	52,585	91,914	173,985	86,405	67,733	425,626	104,436	77,970	102,072
1964	124,014	333,621	291,013	174,469	86,271	1,093,795	684,005	485,033	571,173
1965	622,257	1,053,029	1,524,848	1,044,851	196,487	3,385,205	1,655,024	1,436,258	476,830
1966	2,800,056	3,709,779	673,429	466,228	418,141	4,916,319	974,862	724,354	1,829,852
1967	3,652,342	4,636,627	1,881,333	1,244,265	1,238,428	2,788,299	525,653	400,183	1,721,304
1968	1,025,969	1,323,302	4,726,074	3,145,775	8,343,706	10,210,266	1,330,361	1,405,117	7,522,015
1969	145,111	229,185	706,272	529,080	3,704,065	15,112,041	1,223,457	1,134,395	9,523,012
1970	74,366	85,151	70,725	72,798	320,797	11,031,255	987,213	738,955	8,836,897
1971	15,595	45,006	43,988	42,624	339,078	2,925,191	193,255	36,514	3,275,227
1972	19,736	32,657	43,939	24,748	81,937	1,388,348	101,784	20,165	1,003,380
1973	14,283	16,448	9,980	16,320	25,090	680,834	19,584	13,469	798,805
1974	22,111	14,951	19,555	32,240	29,582	524,504	30,735	16,333	778,696
1975	15,865	13,479	10,793	13,678	25,827	269,197	25,164	21,048	370,265
1976	76,202	54,217	37,464	59,842	105,332	507,538	59,753	42,776	434,581
1977	75,628	52,919	22,826	54,444	81,293	302,128	49,972	30,152	235,702
1978	48,754	16,469	-2,816	27,331	43,126	205,261	-653	1,500	145,512
1979	241	6,906	13,401	14,229	25,411	313,965	9,846	7,856	251,091
1980	18,165	18,813	15,608	27,498	34,190	1,831,436	29,169	23,023	1,763,683
1981	10,290	15,324	28,246	21,872	25,503	-1,192,057	28,974	34,604	-1,181,573
1982	4,998	4,410	4,831	5,067	13,728	-622,637	6,432	28,244	-628,788
1983	10,299	8,116	12,345	10,464	32,651	621,582	14,068	20,599	118,362
1984	4,893	27,731	93,844	50,340	20,509	629,033	78,242	65,308	59,861
1985	5,847	2,829	3,772	4,243	9,996	2,312,613	4,149	2,829	2,620,786
1986	7,072	3,961	6,790	4,998	5,941	10,279	4,998	3,961	5,658
1987	8,487	5,658	7,544	5,658	7,544	8,487	5,658	4,715	2,829
1988	3,772	2,829	3,772	2,829	3,772	3,772	2,829	2,829	1,886
1989	943	943	943	943	943	943	943	943	943
1990	943	943	943	943	943	943	943	943	943
1991	943	943	943	943	943	943	943	943	943
1992	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0
TOTAL	9,111,221	12,129,519	10,905,878	7,443,318	15,626,579	60,349,088	8,369,822	6,957,683	41,174,510

TABLE B-10: CAPITAL COSTS OF EACH AQUEDUCT REACH TO BE REIMBURSED

(in dollars)

Sheet 5 of 8

Calendar Year	CALIFORNIA AQUEDUCT (continued)								
	SOUTH SAN JOAQUIN DIVISION (continued)		TEHACHAPI DIVISION			MOJAVE DIVISION			
	Reach 16A	Subtotal	Reach 17E	Reach 17F	Subtotal	Reach 18A	Reach 19	Reach 19C	Reach 20A
	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)
1952	4,440	16,030	9,703	4,072	13,775	4,090	1,520	0	2,561
1953	16,513	59,323	31,337	13,284	44,621	12,610	4,685	0	7,246
1954	16,601	60,328	46,243	20,010	66,253	16,642	6,184	0	9,506
1955	5,223	19,612	25,880	11,362	37,242	5,612	2,086	0	2,529
1956	21,754	82,940	47,487	17,609	65,096	6,038	2,244	0	2,440
1957	62,657	237,073	119,673	49,130	168,803	22,348	8,304	0	9,035
1958	133,083	537,575	164,056	72,091	236,147	37,917	14,166	123	15,391
1959	205,748	773,179	151,389	57,883	209,272	38,620	23,450	1,102	23,605
1960	204,788	774,678	203,222	45,323	248,545	21,356	26,093	5,318	40,523
1961	206,305	1,148,969	387,819	85,558	473,377	35,664	32,281	2,262	34,918
1962	171,396	1,127,293	353,119	82,610	435,729	68,508	266,284	1,841	10,323
1963	481,941	1,913,123	1,191,633	124,757	1,316,390	37,379	435,881	4,137	39,706
1964	1,778,952	5,834,889	1,866,000	775,005	2,641,005	95,693	706,369	8,564	43,342
1965	1,268,176	13,733,092	2,574,824	2,284,869	4,859,693	121,060	716,092	9,156	108,519
1966	2,896,274	27,347,168	5,537,412	9,323,517	14,860,929	366,116	1,644,699	13,373	159,282
1967	3,442,021	30,089,234	26,239,390	12,398,708	38,638,098	1,312,022	903,880	24,103	645,078
1968	7,578,498	48,226,583	33,363,479	7,416,464	40,779,943	136,804	7,109,653	71,388	1,889,601
1969	13,136,056	45,702,910	40,368,425	6,883,206	47,251,631	213,805	2,465,641	7,423	5,939,151
1970	13,890,751	36,322,845	35,446,706	6,786,231	42,232,937	2,211,077	1,210,665	6,217	3,652,478
1971	7,903,937	14,885,415	20,141,395	6,835,303	26,976,698	1,496,843	284,738	6,994	1,074,759
1972	3,025,555	5,783,019	10,002,935	34,791	10,037,726	129,417	409,903	3,620	471,963
1973	1,472,313	3,096,609	3,090,140	36,207	3,126,347	23,931	75,638	2,539	88,416
1974	1,031,843	2,546,984	4,798,348	152,494	4,950,842	28,399	205,581	2,703	138,673
1975	489,545	1,289,211	2,144,178	411,404	2,555,582	44,774	70,652	5,066	68,157
1976	618,075	2,154,155	1,124,510	174,629	1,299,139	121,043	84,593	6,786	59,967
1977	581,091	1,675,208	660,750	31,512	692,262	261,400	133,767	7,521	117,878
1978	252,222	802,138	752,973	27,956	780,929	553,014	57,150	5,872	51,615
1979	570,804	1,236,632	2,288,392	61,381	2,349,773	743,615	339,536	10,831	37,085
1980	3,991,560	7,790,501	18,884,203	6,046	18,890,249	1,330,429	1,073,430	3,604	308,188
1981	-2,698,757	-4,887,235	-4,935,633	6,903	-4,928,730	1,353,813	845,669	4,498	48,603
1982	-1,500,912	-2,673,827	12,390,392	5,317	12,395,709	8,468,321	741,321	3,920	30,521
1983	183,880	1,056,757	8,971,726	6,583	8,978,309	13,173,340	60,578	2,732	35,307
1984	122,424	1,189,192	3,178,046	30,365	3,208,411	9,042,492	21,735	3,285	13,990
1985	5,603,306	10,607,807	3,751,537	15,748	3,767,285	6,970,373	37,814	0	101,844
1986	12,919	84,494	10,750	1,132	11,882	941,208	503,090	0	1,065,496
1987	8,487	82,984	943	943	1,886	2,829	395,117	0	10,373
1988	3,772	40,549	943	943	1,886	2,829	10,373	0	8,487
1989	943	12,259	943	943	1,886	943	2,829	0	2,829
1990	943	12,259	943	943	1,886	10,373	2,829	0	2,829
1991	943	12,259	943	943	1,886	62,238	2,829	0	2,829
1992	0	0	0	0	0	9,430	0	0	0
1993	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0
TOTAL	67,196,070	260,804,214	235,387,154	54,294,175	289,681,329	49,534,415	20,939,349	224,978	16,375,043

THRU CAPITAL COST COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

Sheet 6 of 8

Calendar Year	CALIFORNIA AQUEDUCT (continued)								
	MOJAVE DIVISION (continued)							SANTA ANA DIVISION	
	Reach 20B	Reach 21	Reach 22A	Reach 22B ^(a)	Reach 23	Reach 24	Subtotal	Reach 25	Reach 26A
	(46)	(47)	(48)	(49)	(50)	(51)	(52)	(53)	(54)
1952	892	5,788	35	2,013	2,074	2,413	21,386	3,334	5,599
1953	3,402	17,846	71	5,752	6,886	7,438	65,936	10,275	17,264
1954	4,548	23,558	369	8,560	7,849	9,820	87,036	13,566	22,790
1955	2,213	7,947	178	2,754	2,725	3,313	29,357	4,575	7,687
1956	2,655	8,542	216	2,905	2,961	3,561	31,562	4,917	8,264
1957	9,826	31,616	800	10,757	10,962	13,177	116,825	18,205	30,586
1958	16,752	53,569	1,397	18,717	18,578	22,627	199,237	31,001	52,019
1959	18,604	56,724	1,844	25,421	20,372	45,646	255,388	39,325	58,137
1960	37,179	43,893	11,029	136,751	17,152	109,816	449,110	65,655	93,700
1961	37,102	21,532	14,517	215,859	9,546	373,473	777,154	26,979	56,734
1962	10,730	8,197	4,186	164,168	4,336	279,421	817,994	9,964	36,235
1963	40,865	26,670	17,081	237,695	7,228	358,503	1,205,145	31,013	112,271
1964	71,116	33,912	22,793	262,996	6,863	244,003	1,495,651	69,669	202,642
1965	343,506	91,095	65,689	827,655	11,836	621,566	2,916,174	279,237	206,356
1966	1,311,628	160,388	178,538	1,746,245	31,078	1,018,628	6,629,975	415,066	364,004
1967	1,718,942	498,257	367,961	3,146,128	62,135	2,331,106	11,009,612	3,184,296	638,539
1968	2,291,691	1,141,929	1,145,768	4,588,850	102,207	2,600,293	21,078,184	8,264,126	1,268,194
1969	5,626,284	2,358,737	1,515,147	7,750,478	260,659	11,131,406	37,268,731	6,807,783	1,768,456
1970	5,304,372	3,232,911	2,081,810	23,451,612	1,240,798	16,885,193	59,277,133	2,169,051	7,229,429
1971	1,091,123	825,070	432,464	16,772,680	1,922,115	5,385,721	29,292,507	1,135,248	9,811,736
1972	635,507	484,772	324,865	3,788,894	48,049	788,479	7,085,469	1,095,740	5,528,987
1973	83,840	63,774	36,179	1,623,274	24,333	4,225,877	6,247,801	136,994	1,810,729
1974	118,639	103,545	54,198	5,699,605	130,567	766,562	7,248,472	68,180	1,922,999
1975	169,294	167,240	19,453	4,793,580	19,467	373,783	5,731,466	166,653	3,787,797
1976	102,909	44,896	24,732	3,103,931	84,188	204,705	3,837,750	475,176	1,494,752
1977	120,160	71,389	49,445	1,654,593	60,112	232,230	2,708,495	76,255	776,086
1978	68,838	32,855	18,183	565,338	36,484	210,198	1,599,547	57,463	131,076
1979	36,225	18,948	10,675	576,019	10,634	103,615	1,887,183	29,960	80,482
1980	284,545	133,526	121,171	2,358,540	134,230	559,963	6,307,626	31,462	181,638
1981	32,194	13,211	6,458	865,174	523,906	203,929	2,167,107	5,861	68,934
1982	74,087	10,928	12,990	508,844	1,930,170	73,079	11,854,181	8,887	139,927
1983	54,706	22,908	8,505	432,836	4,996,513	18,210	18,805,635	4,169	510,719
1984	32,163	9,104	4,392	522,654	2,661,753	21,907	12,333,475	3,463	221,693
1985	134,377	321,752	4,621	2,718,952	1,276,728	213,307	11,779,768	3,395	269,792
1986	22,160	998,543	3,961	1,808,863	348,344	98,166	5,789,831	3,206	35,928
1987	10,373	6,601	4,715	1,582,354	2,829	37,720	2,052,911	1,886	1,886
1988	7,544	4,715	3,772	705,364	1,886	18,860	763,830	943	943
1989	1,886	1,886	943	318,734	943	6,601	337,594	943	943
1990	1,886	1,886	943	6,601	943	6,601	34,891	943	943
1991	1,886	1,886	943	6,601	943	6,601	86,756	943	943
1992	0	0	0	0	0	0	9,430	0	0
1993	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0
TOTAL	19,936,649	11,162,546	6,573,037	91,288,399	16,041,382	49,617,517	281,699,315	24,755,807	38,957,839

a) Includes the following costs allocated to MWDSC and repaid under Article 24(c) of its contract: 1984, \$995,000; 1985, \$2,230,000; 1986, \$4,514,000; 1987, \$2,044,000; 1988, \$720,000; 1989, \$331,000.

TABLE B-10: CAPITAL COSTS OF EACH AQUEDUCT REACH TO BE REIMBURSED

(in dollars)

Sheet 7 of 8

Calendar Year	CALIFORNIA AQUEDUCT (continued)									
	SANTA ANA DIVISION (continued)					WEST BRANCH				
	Reach 28G ^(b)	Reach 28H	Reach 28J	Subtotal		Reach 29A	Reach 29 F	Reach 29G	Reach 29H	Reach 29J
	(55)	(56)	(57)	(58)		(59)	(60)	(61)	(62)	(63)
1952	4,785	4,055	3,020	20,793		2,924	136	175	459	553
1953	15,580	11,511	9,476	64,106		9,093	344	237	1,754	1,683
1954	18,015	18,100	12,160	84,631		7,389	1,201	2,229	2,350	4,162
1955	6,052	6,081	4,151	28,546		1,019	585	1,086	1,147	2,029
1956	6,496	6,525	4,480	30,682		490	698	1,297	1,366	2,420
1957	24,044	24,156	16,585	113,576		1,809	2,583	4,792	5,057	8,952
1958	40,844	41,033	28,470	193,367		3,256	4,516	8,714	8,878	15,847
1959	45,746	45,946	44,331	233,485		7,953	9,150	19,414	18,243	35,583
1960	59,102	58,548	118,969	395,974		21,753	14,990	34,447	29,764	69,752
1961	32,226	34,382	674,787	825,108		22,442	12,775	21,559	20,086	39,761
1962	21,383	20,530	47,484	135,596		40,237	28,729	86,938	58,215	108,962
1963	43,884	41,698	1,506,440	1,735,306		91,959	69,162	163,347	110,015	211,592
1964	89,710	45,762	98,569	506,352		150,670	66,420	207,977	143,340	291,404
1965	96,956	76,899	146,095	805,543		361,811	77,914	403,115	127,430	589,638
1966	170,878	308,756	589,107	1,847,811		489,512	203,497	1,233,640	348,918	3,231,797
1967	233,968	283,126	987,832	5,327,761		1,589,715	882,096	1,117,243	891,607	31,088,491
1968	871,337	266,295	780,587	11,450,539		3,899,363	300,921	396,190	1,104,832	36,157,768
1969	1,117,873	1,444,654	756,442	11,895,208		6,592,580	336,480	693,348	1,184,454	9,655,871
1970	1,843,621	1,013,468	2,829,523	15,085,092		7,986,733	6,089,401	2,624,747	3,002,968	8,463,475
1971	16,095,702	6,401,303	12,111,623	45,555,612		4,247,037	3,768,699	1,120,231	8,244,651	5,844,024
1972	1,537,880	11,960,791	21,542,747	41,666,145		1,871,831	426,932	985,512	18,787,722	-23,015,734
1973	209,664	247,769	3,673,344	6,078,500		775,824	168,064	399,856	9,408,706	1,821,206
1974	162,178	101,638	1,980,991	4,235,986		560,657	168,878	169,717	3,901,261	-3,454,239
1975	157,365	124,399	1,626,274	5,862,488		353,670	421,176	925,693	664,113	609,891
1976	178,287	118,748	1,497,465	3,764,428		396,829	650,417	1,274,484	706,244	650,209
1977	127,106	89,036	323,091	1,391,574		420,683	3,018,637	2,152,961	196,012	1,135,148
1978	147,112	153,867	347,482	837,000		1,337,521	2,219,135	6,694,615	57,817	149,932
1979	29,723	19,225	225,947	385,337		966,393	2,168,382	19,813,742	597,858	331,313
1980	137,833	154,821	1,077,900	1,583,654		1,541,006	4,108,143	24,537,814	550,337	204,751
1981	28,804	22,647	61,323	187,569		-851,836	2,699,888	19,806,537	94,897	28,877
1982	13,697	57,386	37,860	257,757		-435,988	348,325	17,928,711	188,981	40,158
1983	14,734	88,070	-259,976	357,716		93,336	181,696	7,348,273	251,199	19,921
1984	12,858	11,026	44,523	293,563		61,058	66,013	3,419,260	335,826	15,021
1985	14,145	14,334	29,044	330,710		105,144	192,372	3,749,274	53,845	5,319
1986	11,033	10,844	6,412	67,423		9,713	181,150	1,004,201	11,693	3,847
1987	4,715	6,601	2,829	17,917		943	943	3,396,686	943	943
1988	943	943	943	4,715		943	943	2,382,018	943	943
1989	943	943	943	4,715		943	943	943	943	943
1990	943	943	943	4,715		943	5,658	5,658	943	943
1991	943	943	943	4,715		943	31,119	31,119	943	943
1992	0	0	0	0		0	4,715	4,715	0	0
1993	0	0	0	0		0	0	0	0	0
1994	0	0	0	0		0	0	0	0	0
1995	0	0	0	0		0	0	0	0	0
1996	0	0	0	0		0	0	0	0	0
1997	0	0	0	0		0	0	0	0	0
1998	0	0	0	0		0	0	0	0	0
1999	0	0	0	0		0	0	0	0	0
2000	0	0	0	0		0	0	0	0	0
TOTAL	23,629,108	52,991,159				32,738,301	124,172,515		74,374,099	
		23,337,802		163,671,715			28,933,826		51,116,760	

b) Includes excess capacity costs in the following years allocated to MWDSC and repaid under Article 24(c) of its contract: 1970, \$362,000; 1971, \$6,198,000; 1972, \$139,000.

THRU CAPITAL COST COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

Sheet 8 of 8

Calendar Year	CALIFORNIA AQUEDUCT (continued)							TOTAL	GRAND TOTAL
	WEST BRANCH (continued)		COASTAL BRANCH						
	Reach 30	Subtotal	Reach 31A	Reach 33A	Reach 34	Reach 35	Subtotal		
	(64)	(65)	(66)	(67)	(68)	(69)	(70)	(71)	(72)
1952	1,408	5,655	0	0	0	0	0	98,857	99,353
1953	4,346	17,457	0	0	0	0	0	309,387	311,812
1954	5,743	23,074	0	0	0	0	0	394,688	402,143
1955	1,943	7,809	0	0	0	0	0	159,842	169,342
1956	2,077	8,348	0	0	0	0	0	255,679	351,551
1957	7,684	30,877	0	0	0	0	0	708,753	1,464,452
1958	13,931	55,142	0	0	0	0	0	1,331,616	2,286,623
1959	44,384	134,727	28,046	49,114	7,441	8,236	92,837	2,096,392	2,967,412
1960	84,703	255,409	34,404	70,450	8,507	14,265	127,626	2,937,049	4,660,833
1961	123,330	239,953	13,801	17,868	1,501	3,931	37,101	4,650,264	8,545,244
1962	348,366	671,447	10,121	7,798	524	1,689	20,132	5,827,774	8,875,171
1963	521,491	1,167,566	20,470	14,299	880	2,943	38,592	18,981,487	24,610,278
1964	1,372,464	2,232,275	315,418	26,963	1,687	5,639	349,707	31,550,813	41,736,060
1965	3,383,950	4,943,858	747,023	36,178	2,118	7,060	792,379	57,936,405	62,664,743
1966	9,364,753	14,872,117	2,258,915	35,864	1,736	5,764	2,302,279	124,748,128	129,110,330
1967	17,618,827	53,187,979	6,310,419	38,331	1,891	6,213	6,356,854	187,465,580	194,146,365
1968	15,736,691	57,595,765	2,707,580	30,784	1,324	4,369	2,744,057	192,593,079	197,978,911
1969	16,228,175	34,690,908	423,797	26,549	907	2,905	454,158	182,530,023	184,473,490
1970	22,330,328	50,497,652	269,194	24,368	851	2,787	297,200	206,720,774	207,082,650
1971	16,890,503	40,115,145	164,446	32,230	1,315	3,804	201,795	158,414,033	158,624,739
1972	3,818,001	2,874,264	131,332	17,601	522	1,660	151,115	68,228,670	68,362,291
1973	13,426,222	25,999,878	182,493	16,154	542	1,758	200,947	45,110,823	45,263,853
1974	2,988,318	4,334,592	190,866	18,799	463	1,405	211,533	24,036,199	24,402,166
1975	1,808,235	4,782,778	64,582	36,012	2,255	6,656	109,505	21,065,768	21,318,838
1976	1,253,067	4,931,250	198,266	68,907	5,088	14,988	287,249	17,183,987	17,492,303
1977	345,023	7,268,464	918,515	81,593	1,834	5,387	1,007,329	15,195,064	15,567,234
1978	763,445	11,222,465	37,342	12,826	1,302	3,852	123,660	15,958,656	16,377,977
1979	282,145	24,159,833	39,511	117,224	1,505	4,433	162,673	31,299,782	31,952,959
1980	2,055,206	32,997,257	199,363	399,019	1,029	3,038	602,449	74,079,116	75,164,528
1981	275,520	22,053,883	11,710	-259,547	1,254	3,703	-242,880	15,755,926	16,152,180
1982	338,464	18,408,651	-10,651	-150,781	442	1,306	-159,684	44,755,098	46,072,187
1983	496,447	8,390,872	79,040	12,826	654	1,928	94,448	40,926,668	44,129,731
1984	968,181	4,865,359	21,193	12,111	925	2,730	36,959	26,838,517	32,559,644
1985	82,418	4,188,372	11,700	61,828	1,000	1,000	75,528	33,225,137	57,994,579
1986	611,064	1,821,668	111,500	63,125	1,000	1,000	176,625	9,578,343	38,840,461
1987	983,549	4,384,007	108,500	66,863	1,000	1,000	177,363	11,449,589	22,018,317
1988	19,803	2,405,593	1,000	68,802	1,000	1,000	71,802	11,118,032	11,921,032
1989	943	5,658	1,000	68,802	1,000	1,000	71,802	10,275,190	10,310,190
1990	943	15,088	1,000	68,802	1,000	1,000	71,802	6,737,866	6,737,866
1991	943	66,010	1,000	68,802	1,000	1,000	71,802	267,236	267,236
1992	0	9,430	0	0	0	0	0	18,860	18,860
1993	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0
TOTAL	134,603,034	445,938,535	15,602,896	1,328,902	55,497	129,449	17,116,744	1,702,815,150	1,833,485,934

TABLE B-11: MINIMUM OMP&R COSTS OF EACH AQUEDUCT REACH TO BE

(in dollars)

Sheet 1 of 8

Calendar Year	UPPER FEATHER DIVISION	NORTH BAY AQUEDUCT				SOUTH BAY AQUEDUCT			
		Reach 1	Reach 2	Reach 3	Total	Reach 1	Reach 2	Reach 4	Reach 5
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1952	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	37,396	5,522	0	0
1963	0	0	0	0	0	147,719	20,639	0	0
1964	0	0	0	0	0	149,750	15,574	19,405	0
1965	0	0	0	0	0	259,939	45,718	46,485	0
1966	0	0	0	0	0	270,890	23,799	63,921	0
1967	0	0	0	0	0	438,050	32,798	108,127	0
1968	0	0	0	130	130	410,919	44,277	66,973	706
1969	0	0	0	80,875	80,875	487,377	48,339	75,644	706
1970	0	0	0	94,872	94,872	381,734	44,852	64,833	71,376
1971	54	0	0	45,579	45,579	357,850	25,666	50,344	38,735
1972	40	0	0	37,895	37,895	347,941	30,606	56,800	100,106
1973	1	0	0	32,993	32,993	386,897	36,172	58,288	28,810
1974	143	0	0	46,498	46,498	456,381	57,081	83,120	61,623
1975	1,069	0	0	37,707	37,707	624,989	46,111	81,361	36,682
1976	139	0	0	60,926	60,926	614,365	47,862	123,838	91,096
1977	892	0	0	79,893	79,893	511,097	48,926	104,280	102,085
1978	39	0	0	59,524	59,524	690,510	125,224	176,855	50,914
1979	3,235	0	0	74,926	74,926	650,968	76,849	212,826	91,384
1980	416	0	0	83,445	83,445	1,211,790	213,737	243,960	113,003
1981	3,847	0	0	102,243	102,243	883,446	130,121	167,105	204,198
1982	10,956	0	0	195,304	195,304	1,161,291	141,825	249,766	105,750
1983	-422	0	0	146,780	146,780	1,502,194	91,181	351,337	204,165
1984	643	0	0	143,014	143,014	1,772,273	102,672	338,073	134,915
1985	2,599	0	0	246,793	246,793	2,286,563	152,478	363,399	245,473
1986	2,595	0	0	194,453	194,453	2,436,751	192,409	371,174	275,958
1987	2,595	246,158	153,946	185,535	585,639	2,617,544	230,224	441,756	339,375
1988	2,601	211,752	148,617	184,906	545,275	2,571,612	237,405	455,813	350,216
1989	2,604	201,867	148,720	184,712	534,499	2,572,640	237,510	455,960	349,403
1990	2,605	200,189	148,835	185,218	534,242	2,575,133	237,763	456,516	350,874
1991	2,607	200,578	149,019	185,997	535,594	2,577,945	238,187	457,468	353,784
1992	2,608	200,642	149,086	186,044	535,772	2,578,905	238,285	457,650	353,582
1993	2,608	200,829	149,094	186,426	536,349	2,579,720	238,366	457,878	354,353
1994	2,608	200,830	149,096	186,426	536,352	2,579,720	238,367	457,881	353,912
1995	2,608	201,079	149,096	186,974	537,149	2,580,859	238,482	458,206	355,108
1996	2,608	201,200	149,096	187,239	537,535	2,581,411	238,538	458,362	355,692
1997	2,608	201,254	149,100	187,350	537,704	2,581,641	238,563	458,429	355,822
1998	2,608	201,308	149,103	187,462	537,873	2,581,873	238,586	458,493	356,146
1999	2,608	201,445	149,109	187,746	538,300	2,582,464	238,586	458,660	356,971
2000	2,608	201,612	149,117	188,097	538,826	2,583,193	238,719	458,866	357,992
2001	2,611	201,851	149,313	188,338	539,502	2,586,258	239,033	459,471	358,550
2002	2,611	201,997	149,318	188,646	539,961	2,586,897	239,098	459,651	359,446
2003	2,611	202,098	149,323	188,858	540,279	2,673,740	246,183	475,314	366,925
2004	2,611	213,491	150,649	192,162	556,302	2,678,808	246,604	476,274	367,956
2005	2,611	213,474	150,650	192,120	556,244	2,678,722	246,595	476,249	367,834
2006	2,611	213,404	150,648	191,973	556,025	2,678,417	246,565	476,164	367,408
2007	2,611	213,471	150,650	192,115	556,236	2,678,711	246,595	476,246	367,818
2008	2,611	213,546	150,652	192,275	556,473	2,679,042	246,628	476,339	368,283
2009	2,611	213,545	150,652	192,272	556,469	2,679,038	246,627	476,338	368,277
2010	2,611	213,605	150,655	192,397	556,657	2,679,296	246,653	476,412	368,637
2011	2,613	213,836	150,783	192,716	557,335	2,681,625	246,888	476,900	369,474
2012	2,613	213,977	150,789	193,011	557,777	2,682,237	246,950	477,072	370,330
2013	2,613	214,073	150,794	193,213	558,080	2,682,658	246,992	477,190	370,916
2014	2,613	214,035	150,793	193,129	557,957	2,682,482	246,974	477,141	370,673
2015	2,613	214,284	150,803	193,654	558,741	2,683,572	247,084	477,448	372,196
2016	2,613	214,354	150,806	193,800	558,960	2,683,875	247,115	477,533	372,619
2017	2,613	214,554	150,814	194,222	559,590	2,684,752	247,203	477,780	373,842
2018	2,613	214,648	150,818	194,417	559,883	2,685,156	247,243	477,891	374,394
2019	2,613	214,715	150,820	194,559	560,094	2,685,448	247,270	477,970	374,788
2020	2,613	214,663	150,820	194,444	559,927	2,685,210	247,245	477,899	374,437
2021	2,613	214,736	150,823	194,601	560,160	2,551,878	236,388	453,952	364,269
2022	2,613	197,643	148,822	190,100	536,565	2,551,794	236,380	453,929	364,154
2023	2,613	197,602	148,821	190,013	536,436	2,551,615	236,361	453,878	363,903
2024	2,613	196,108	148,647	189,407	534,162	2,544,623	235,791	452,616	363,264
2025	2,613	196,112	148,647	189,416	534,175	2,544,641	235,793	452,620	363,291
2026	2,613	196,128	148,648	189,452	534,228	2,544,714	235,801	452,641	363,387
2027	2,613	196,138	148,648	189,470	534,256	2,544,753	235,803	452,649	363,437
2028	2,613	196,108	148,647	189,406	534,161	2,544,619	235,789	452,608	363,227
2029	2,613	196,088	148,646	189,366	534,100	2,544,535	235,779	452,579	363,088
2030	2,613	196,103	148,647	189,399	534,149	2,544,602	235,784	452,594	363,161
2031	2,613	196,100	148,647	189,393	534,140	2,544,586	235,781	452,585	363,119
2032	2,613	196,122	148,648	189,437	534,207	2,544,678	235,788	452,606	363,225
2033	2,613	196,076	148,646	189,341	534,063	2,544,477	235,768	452,550	362,945
2034	2,613	196,139	148,648	189,474	534,261	2,544,753	235,796	452,628	363,333
2035	2,613	196,034	148,645	189,253	533,932	2,544,295	235,749	452,499	362,690

REIMBURSED THRU MINIMUM OMP&R COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

Sheet 2 of 8

Calendar Year	SOUTH BAY AQUEDUCT (continued)					CALIFORNIA AQUEDUCT			
						NORTH SAN JOAQUIN DIVISION			
	Reach 6	Reach 7	Reach 8	Reach 9	Total	Reach 1	Reach 2A	Reach 2B	Subtotal
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1952	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	42,918	0	0	0	0
1963	0	0	0	0	168,358	0	0	0	0
1964	0	0	0	0	184,729	0	0	0	0
1965	2,634	6,490	4,704	12,904	378,874	0	0	0	0
1966	4,707	10,328	9,233	25,519	408,397	0	0	0	0
1967	2,712	7,659	10,812	34,347	634,505	0	0	0	0
1968	3,109	7,960	10,166	40,372	584,482	1,001,998	228,359	103,116	1,333,473
1969	3,944	5,975	8,795	38,566	669,346	933,116	301,596	188,194	1,422,906
1970	2,464	-1,991	6,870	28,210	598,348	971,602	306,198	151,539	1,429,339
1971	3,116	9,394	9,895	31,068	526,068	1,103,021	254,786	113,694	1,471,501
1972	5,125	10,247	12,054	44,699	607,578	1,107,855	230,906	110,109	1,448,870
1973	4,178	7,500	4,890	43,816	570,551	1,150,864	221,445	100,221	1,472,530
1974	7,812	7,564	5,523	48,054	727,158	1,272,034	231,383	117,156	1,620,573
1975	18,120	14,683	18,325	68,377	908,648	1,434,736	455,110	201,075	2,090,921
1976	10,873	5,557	19,920	49,921	963,432	1,519,828	217,348	453,400	2,190,576
1977	-240	2,228	8,391	89,579	866,346	1,918,273	292,380	196,564	2,407,217
1978	1,404	16,766	-5,313	104,078	1,157,630	2,015,184	303,404	187,184	2,505,772
1979	1,269	29,294	7,351	106,835	1,176,776	1,846,698	223,988	142,760	2,213,446
1980	3,639	24,514	17,512	111,792	1,939,947	2,507,988	466,935	246,529	3,221,452
1981	4,038	20,109	17,586	98,143	1,524,746	2,657,689	426,770	151,369	3,235,828
1982	2,236	22,870	21,919	202,590	1,908,247	3,185,629	587,389	240,494	4,013,512
1983	4,263	48,384	69,838	204,829	2,476,191	3,399,051	744,787	257,460	4,401,298
1984	4,064	40,656	32,141	372,158	2,796,952	4,475,075	699,997	264,947	5,440,019
1985	21,575	31,373	40,513	204,999	3,346,373	6,042,861	838,186	360,717	7,241,764
1986	20,246	37,975	50,381	167,983	3,552,877	6,740,793	864,176	425,056	8,030,025
1987	24,262	44,543	58,942	199,190	3,955,836	7,200,312	1,062,881	517,427	8,780,620
1988	25,049	45,922	60,663	205,304	3,951,984	7,190,907	1,097,403	534,241	8,822,551
1989	25,066	45,956	60,706	205,450	3,952,691	7,189,534	1,096,393	534,075	8,820,002
1990	25,084	45,988	60,750	205,597	3,957,705	7,171,214	1,099,496	535,168	8,805,878
1991	25,111	46,039	60,817	205,823	3,965,174	7,130,151	1,105,229	537,140	8,772,520
1992	25,123	46,059	60,842	205,911	3,966,357	7,131,346	1,105,546	537,298	8,774,190
1993	25,122	46,060	60,842	205,915	3,968,256	7,135,545	1,107,839	538,003	8,781,387
1994	25,122	46,060	60,842	205,915	3,967,819	7,135,548	1,107,903	538,022	8,781,473
1995	25,122	46,060	60,842	205,915	3,970,594	7,141,510	1,111,187	539,026	8,791,723
1996	25,122	46,060	60,842	205,915	3,971,942	7,144,398	1,112,766	539,508	8,796,672
1997	25,122	46,060	60,842	205,915	3,972,394	7,145,609	1,113,440	539,716	8,798,765
1998	25,122	46,060	60,842	205,915	3,973,037	7,146,825	1,114,095	539,915	8,800,835
1999	25,122	46,060	60,842	205,915	3,974,679	7,149,922	1,115,770	540,428	8,806,120
2000	25,122	46,060	60,842	205,915	3,976,709	7,153,744	1,117,847	541,063	8,812,654
2001	25,155	46,119	60,919	206,177	3,981,682	7,161,273	1,119,502	541,824	8,822,599
2002	25,155	46,119	60,919	206,177	3,983,462	7,273,387	1,121,329	542,383	8,937,099
2003	26,921	48,033	63,709	213,193	4,114,018	7,275,697	1,122,561	542,760	8,941,018
2004	27,015	48,135	63,857	213,566	4,122,215	7,390,827	1,150,071	556,973	9,097,871
2005	27,015	48,135	63,857	213,566	4,121,973	7,390,375	1,149,828	556,899	9,097,102
2006	27,015	48,135	63,857	213,566	4,121,127	7,388,776	1,148,965	556,635	9,094,376
2007	27,015	48,135	63,857	213,566	4,121,943	7,390,316	1,149,796	556,888	9,097,000
2008	27,015	48,135	63,857	213,566	4,122,865	7,392,059	1,150,737	557,176	9,099,972
2009	27,015	48,135	63,857	213,566	4,122,853	7,392,033	1,150,722	557,172	9,099,927
2010	27,015	48,135	63,857	213,566	4,123,571	7,393,387	1,151,452	557,395	9,102,234
2011	27,035	48,172	63,908	213,736	4,127,738	7,400,047	1,153,478	558,179	9,111,704
2012	27,035	48,172	63,908	213,736	4,129,400	7,403,260	1,155,211	558,709	9,117,180
2013	27,035	48,172	63,908	213,736	4,130,607	7,405,458	1,156,397	559,071	9,120,926
2014	27,035	48,172	63,908	213,736	4,130,121	7,404,543	1,155,903	558,921	9,119,367
2015	27,035	48,172	63,908	213,736	4,133,151	7,410,261	1,158,989	559,864	9,129,114
2016	27,035	48,172	63,908	213,736	4,133,993	7,411,848	1,159,845	560,125	9,131,818
2017	27,035	48,172	63,908	213,736	4,136,428	7,416,439	1,162,323	560,882	9,139,644
2018	27,035	48,172	63,908	213,736	4,137,535	7,418,555	1,163,359	561,200	9,143,114
2019	27,035	48,172	63,908	213,736	4,138,327	7,420,092	1,164,055	561,412	9,145,559
2020	27,035	48,172	63,908	213,736	4,137,642	7,260,222	1,163,240	561,164	8,984,626
2021	24,304	45,212	59,593	202,883	3,938,479	7,261,927	1,164,160	561,445	8,987,532
2022	24,304	45,212	59,593	202,883	3,938,249	7,095,210	1,124,726	544,628	8,764,564
2023	24,304	45,212	59,593	202,883	3,937,749	7,094,269	1,124,217	544,473	8,762,959
2024	24,163	45,059	59,370	202,321	3,927,207	7,075,390	1,120,238	538,833	8,734,461
2025	24,163	45,059	59,370	202,321	3,927,258	7,075,485	1,120,289	538,849	8,734,623
2026	24,163	45,059	59,370	202,321	3,927,456	7,075,872	1,120,457	538,900	8,735,229
2027	24,163	45,059	59,370	202,321	3,927,555	7,076,070	1,120,524	538,921	8,735,515
2028	24,163	45,059	59,370	202,321	3,927,156	7,075,364	1,119,967	538,751	8,734,082
2029	24,163	45,059	59,370	202,321	3,926,894	7,074,924	1,119,549	538,623	8,733,096
2030	24,163	45,059	59,370	202,321	3,927,054	7,075,276	1,119,562	538,627	8,733,465
2031	24,163	45,059	59,370	202,321	3,926,984	7,075,194	1,119,343	538,559	8,733,096
2032	24,163	45,059	59,370	202,321	3,927,210	7,075,670	1,119,424	538,585	8,733,679
2033	24,163	45,059	59,370	202,321	3,926,653	7,074,621	1,118,860	538,412	8,731,893
2034	24,163	45,059	59,370	202,321	3,927,423	7,076,070	1,119,640	538,651	8,734,361
2035	24,163	45,059	59,370	202,321	3,926,146	7,073,669	1,118,345	538,254	8,730,268

TABLE B-11: MINIMUM OMP&R COSTS OF EACH AQUEDUCT REACH TO BE

(in dollars)

Sheet 3 of 8

Calendar Year	CALIFORNIA AQUEDUCT (continued)								
	SAN LUIS DIVISION						SOUTH SAN JOAQUIN DIVISION		
	Reach 3	Reach 4	Reach 5	Reach 6	Reach 7	Subtotal	Reach 8C	Reach 8D	Reach 9
	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
1952	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0
1968	120,038	428,308	130,105	44,591	104,033	827,075	22,013	134,760	86,103
1969	90,033	460,907	184,467	35,696	235,322	1,006,425	26,207	156,981	128,273
1970	89,547	484,300	226,002	66,070	192,582	1,058,501			
1971	99,917	541,574	175,592	64,193	158,170	1,039,446	32,312	190,753	118,372
1972	116,708	647,979	174,519	73,670	154,783	1,167,659	35,031	187,242	130,396
1973	116,791	611,705	158,145	58,344	153,955	1,098,940	51,150	225,747	127,530
1974	120,309	671,455	150,835	63,905	150,230	1,156,734	34,752	199,127	131,298
1975	133,593	839,285	178,974	81,478	157,586	1,390,916	78,523	250,377	159,006
1976	54,938	883,970	220,832	90,305	174,835	1,424,880	39,348	133,933	123,424
1977	73,331	1,114,598	270,734	98,132	196,311	1,753,106	38,086	121,348	178,078
1978	46,101	974,695	203,929	107,236	203,526	1,535,487	45,559	179,214	130,334
1979	224,650	844,468	145,802	100,467	181,958	1,497,345	69,989	151,649	130,718
1980	245,593	1,206,813	234,212	132,265	288,832	2,107,715	59,890	282,255	191,642
1981	267,385	1,061,500	200,205	93,239	1,615,989	3,238,318	80,119	198,045	143,998
1982	278,348	1,221,518	210,978	115,238	1,434,449	3,260,531	59,467	271,729	236,078
1983	189,446	1,041,461	303,893	119,619	2,163,781	3,818,200	48,118	357,714	209,621
1984	203,351	2,090,481	292,289	136,956	2,119,331	4,842,408	42,536	395,033	261,520
1985	335,104	2,149,415	298,551	430,155	1,170,452	4,383,677	130,942	500,148	361,701
1986	395,729	2,361,921	376,588	132,409	1,062,947	4,329,594	148,517	161,894	431,791
1987	382,083	2,487,417	430,784	123,446	1,144,324	4,568,054	165,499	288,317	491,537
1988	396,471	2,496,089	445,513	127,655	1,170,584	4,636,312	172,567	728,409	510,278
1989	395,403	2,491,085	444,184	127,211	1,171,336	4,629,219	172,667	727,782	509,561
1990	398,571	2,502,142	447,093	128,124	1,173,605	4,649,535	172,814	729,577	511,118
1991	404,373	2,517,118	452,513	129,832	1,177,347	4,681,183	173,049	732,867	514,011
1992	404,643	2,517,738	452,683	129,846	1,178,045	4,682,955	173,068	733,087	514,138
1993	407,069	2,526,713	455,137	130,627	1,179,051	4,698,597	173,901	738,991	518,447
1994	407,137	2,526,795	455,260	130,666	1,179,101	4,698,959	173,901	739,055	518,508
1995	410,619	2,539,662	458,736	131,776	1,180,500	4,721,293	173,938	740,885	520,220
1996	412,291	2,545,912	460,446	132,321	1,181,189	4,732,159	173,955	741,784	521,062
1997	413,007	2,548,677	461,382	132,622	1,181,567	4,737,255	173,965	742,275	521,522
1998	413,699	2,551,408	462,253	132,898	1,181,918	4,742,176	173,973	742,734	521,952
1999	415,477	2,558,190	464,205	133,523	1,182,703	4,754,098	173,994	743,761	522,913
2000	417,677	2,566,471	466,477	134,248	1,183,619	4,768,492	174,017	744,957	524,032
2001	419,412	2,571,229	467,812	134,638	1,186,419	4,779,510	174,235	746,061	524,852
2002	421,350	2,578,493	469,814	135,278	1,187,228	4,792,163	174,256	747,116	525,838
2003	422,656	2,583,444	471,108	135,691	1,187,748	4,800,647	174,270	747,796	526,476
2004	434,125	2,633,305	484,607	139,986	1,195,928	4,887,951	174,687	749,964	528,348
2005	433,867	2,632,336	484,352	139,905	1,195,825	4,886,285	174,684	749,830	528,221
2006	432,954	2,628,900	483,444	139,616	1,195,460	4,880,374	176,915	762,174	536,394
2007	433,834	2,632,207	484,317	139,894	1,195,812	4,886,064	176,923	762,634	536,825
2008	434,830	2,635,950	485,307	140,210	1,196,210	4,892,507	176,934	763,154	537,312
2009	434,815	2,635,896	485,292	140,206	1,196,205	4,892,414	176,934	763,147	537,304
2010	435,590	2,638,804	486,060	140,450	1,196,514	4,897,418	176,942	763,550	537,683
2011	437,598	2,645,372	487,781	140,982	1,198,477	4,910,210	177,431	766,702	539,977
2012	439,436	2,652,273	489,602	141,563	1,199,209	4,922,083	177,450	767,661	540,874
2013	440,693	2,656,993	490,849	141,960	1,199,712	4,930,207	177,465	768,317	541,489
2014	440,170	2,655,026	490,330	141,796	1,199,503	4,926,825	177,459	768,043	541,234
2015	443,440	2,667,311	493,574	142,831	1,200,809	4,947,965	177,491	769,749	542,830
2016	444,348	2,670,720	494,474	143,118	1,201,172	4,953,832	177,501	770,223	543,275
2017	446,972	2,680,489	496,935	143,905	1,202,164	4,970,465	177,526	771,519	544,487
2018	448,072	2,688,897	497,914	144,216	1,202,557	4,977,656	177,537	772,033	544,968
2019	448,811	2,688,047	498,540	144,416	1,202,810	4,982,624	177,543	772,362	545,275
2020	447,946	2,685,240	497,640	144,129	1,202,447	4,977,402	177,534	771,889	544,834
2021	448,921	2,688,842	498,517	144,409	1,202,801	4,983,490	177,543	772,350	545,265
2022	434,228	2,624,584	480,361	138,700	1,191,390	4,869,263	177,536	772,019	544,956
2023	433,690	2,622,369	479,537	138,436	1,191,058	4,865,090	177,527	771,585	544,549
2024	431,481	2,611,762	476,776	137,498	1,189,540	4,847,057	172,498	743,878	525,530
2025	431,537	2,611,969	476,832	137,517	1,189,563	4,847,418	172,498	743,906	525,556
2026	431,713	2,612,780	477,023	137,577	1,189,639	4,848,732	172,499	744,006	525,651
2027	431,788	2,613,194	477,107	137,604	1,189,673	4,849,366	172,501	744,051	525,691
2028	431,194	2,611,611	476,580	137,435	1,189,462	4,846,282	172,496	743,774	525,433
2029	430,752	2,610,593	476,204	137,316	1,189,310	4,844,175	171,036	735,222	519,632
2030	430,766	2,611,175	476,121	137,289	1,189,276	4,844,627	171,035	735,178	519,591
2031	430,534	2,610,829	475,792	137,184	1,189,144	4,843,483	171,031	735,005	519,430
2032	430,619	2,611,681	475,782	137,180	1,189,140	4,844,402	171,031	734,999	519,424
2033	430,020	2,609,427	475,186	136,991	1,188,900	4,840,524	171,024	734,686	519,130
2034	430,848	2,612,538	476,008	137,253	1,189,231	4,845,878	171,033	735,119	519,535
2035	429,475	2,607,377	474,645	136,818	1,188,682	4,836,997	171,019	734,402	518,864

REIMBURSED THRU MINIMUM OMP&R COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

Sheet 4 of 8

Calendar Year	CALIFORNIA AQUEDUCT (continued)								
	SOUTH SAN JOAQUIN DIVISION (continued)								
	Reach 10A	Reach 11B	Reach 12D	Reach 12E	Reach 13B	Reach 14A	Reach 14B	Reach 14C	Reach 15A
	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)
1952	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0
1969	83,706	59,077	0	0	0	0	0	0	0
1970	118,046	85,758	94,171	123,374	152,424	0	0	0	0
1971	129,811	80,282	95,075	91,389	167,142	691,791	151,979	111,623	529,723
1972	117,625	84,287	98,647	115,592	146,096	877,535	124,831	101,479	609,058
1973	117,706	92,257	74,238	114,843	221,385	961,855	120,106	99,429	692,748
1974	141,658	98,103	74,914	193,523	141,540	898,272	143,866	115,649	853,098
1975	207,908	124,105	61,799	117,194	108,154	1,156,757	180,614	119,889	988,045
1976	139,134	69,715	33,655	147,908	134,063	1,124,068	177,086	114,133	1,037,815
1977	194,086	108,644	91,547	175,039	137,975	1,397,180	203,837	119,467	1,339,378
1978	169,076	106,954	72,984	170,873	151,485	1,352,589	139,944	132,466	1,367,712
1979	176,157	86,538	57,278	174,847	150,896	1,492,136	202,603	261,554	1,217,105
1980	292,332	125,563	127,344	174,508	171,296	2,106,272	195,972	247,138	1,539,741
1981	199,740	76,824	33,222	113,164	171,328	1,744,414	166,663	163,233	1,797,841
1982	267,766	159,808	145,149	225,990	226,480	1,806,753	192,669	14,294	1,965,308
1983	287,701	129,423	117,186	192,632	204,544	3,435,441	184,824	159,407	3,562,125
1984	329,603	139,067	95,773	196,693	217,856	3,047,357	264,408	173,033	3,005,650
1985	405,390	257,355	227,467	371,721	434,320	3,505,330	315,647	246,614	3,472,185
1986	481,781	305,818	266,789	449,112	545,466	3,980,411	458,673	353,663	3,928,592
1987	546,284	345,659	301,691	511,449	630,747	4,331,307	512,400	397,812	4,247,383
1988	566,447	358,597	313,688	530,323	655,645	4,400,785	435,595	344,074	4,309,531
1989	565,694	358,196	312,874	530,023	655,151	4,399,562	434,871	343,533	4,309,737
1990	567,375	359,155	314,246	531,139	656,663	4,406,470	436,380	344,658	4,314,643
1991	570,492	360,923	316,831	533,164	659,428	4,412,343	439,199	346,748	4,315,705
1992	570,638	361,000	316,882	533,314	659,626	4,413,529	439,286	346,810	4,316,894
1993	574,978	363,816	320,280	536,599	665,207	4,436,086	443,002	349,800	4,332,477
1994	575,043	363,853	320,339	536,636	665,261	4,436,134	443,042	349,829	4,332,486
1995	576,881	364,866	321,979	537,693	666,757	4,442,405	444,741	351,072	4,336,114
1996	577,784	365,363	322,785	538,213	667,492	4,445,480	445,597	351,699	4,337,885
1997	578,279	365,637	323,227	538,499	667,896	4,446,878	446,043	352,026	4,338,645
1998	578,739	365,890	323,638	538,764	668,270	4,448,241	446,460	352,330	4,339,402
1999	579,772	366,460	324,559	539,358	669,112	4,451,579	447,409	353,024	4,341,306
2000	580,973	367,121	325,632	540,049	670,090	4,455,641	448,532	353,847	4,343,647
2001	581,862	367,669	326,200	540,825	671,078	4,460,486	449,270	354,421	4,348,017
2002	582,921	368,252	327,146	541,436	671,940	4,464,073	450,278	355,156	4,350,076
2003	583,605	368,630	327,756	541,829	672,497	4,466,523	450,954	355,652	4,351,495
2004	585,740	369,902	328,941	543,573	674,142	4,466,974	453,081	357,122	4,350,068
2005	585,605	369,828	328,820	543,495	674,033	4,466,543	452,989	357,054	4,349,808
2006	593,583	375,402	334,628	550,272	686,219	4,665,423	459,577	362,633	4,535,101
2007	594,044	375,658	335,040	550,537	686,596	4,666,991	459,973	362,923	4,536,020
2008	594,567	375,945	335,506	550,839	687,022	4,668,813	460,462	363,280	4,537,080
2009	594,559	375,940	335,499	550,835	687,015	4,668,786	460,454	363,275	4,537,066
2010	594,965	376,165	335,862	551,068	687,345	4,670,201	460,833	363,553	4,537,887
2011	597,320	377,676	337,618	552,927	690,290	4,682,801	462,828	365,147	4,547,275
2012	598,283	378,206	338,476	553,480	691,075	4,686,161	463,729	365,806	4,549,229
2013	598,941	378,570	339,064	553,859	691,611	4,688,459	464,345	366,256	4,550,566
2014	598,667	378,420	338,821	553,702	691,388	4,687,502	464,088	366,068	4,550,009
2015	600,383	379,363	340,350	554,689	692,785	4,693,481	465,689	367,242	4,553,485
2016	600,858	379,627	340,776	554,963	693,172	4,695,140	466,134	367,565	4,554,449
2017	602,159	380,343	341,938	555,713	694,233	4,699,889	467,375	368,474	4,557,233
2018	602,676	380,629	342,399	556,010	694,654	4,702,020	467,900	368,857	4,558,507
2019	603,007	380,810	342,694	556,200	694,923	4,703,537	468,252	369,116	4,559,429
2020	602,531	380,550	342,269	555,926	694,535	4,702,157	467,843	368,816	4,558,658
2021	602,996	380,805	342,684	556,193	694,914	4,703,847	468,242	369,108	4,559,669
2022	602,662	380,621	342,388	556,002	694,643	4,702,822	467,947	368,894	4,559,000
2023	602,226	380,381	341,998	555,751	694,288	4,701,726	467,592	368,632	4,558,409
2024	583,189	367,421	328,682	539,704	667,699	4,358,313	451,477	355,477	4,244,524
2025	583,220	367,436	328,709	539,721	667,722	4,358,414	451,504	355,498	4,244,583
2026	583,319	367,491	328,799	539,780	667,805	4,358,808	451,602	355,571	4,244,817
2027	583,365	367,516	328,839	539,804	667,841	4,359,008	451,650	355,604	4,244,938
2028	583,085	367,365	328,589	539,644	667,613	4,358,180	451,373	355,403	4,244,499
2029	577,378	363,450	324,350	534,936	659,260	4,324,719	446,608	351,421	4,220,590
2030	577,332	363,426	324,310	534,911	659,222	4,324,938	446,578	351,401	4,220,771
2031	577,159	363,331	324,156	534,811	659,083	4,324,671	446,401	351,270	4,220,684
2032	577,153	363,327	324,150	534,806	659,078	4,324,986	446,380	351,256	4,220,931
2033	576,839	363,154	323,869	534,626	658,820	4,323,810	446,021	350,993	4,220,263
2034	577,274	363,394	324,257	534,877	659,175	4,325,246	446,363	351,243	4,221,114
2035	576,553	362,996	323,615	534,462	658,587	4,322,656	445,626	350,704	4,219,624

TABLE B-11: MINIMUM OMP&R COSTS OF EACH AQUEDUCT REACH TO BE

(in dollars)

Sheet 5 of 8

Calendar Year	CALIFORNIA AQUEDUCT (continued)								
	SOUTH SAN JOAQUIN DIVISION (continued)		TEHACHAPI DIVISION			MOJAVE DIVISION			
	Reach 16A	Subtotal	Reach 17E	Reach 17F	Subtotal	Reach 18A	Reach 19	Reach 19C	Reach 20A
	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)
1952	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0
1969	0	385,659	0	0	0	0	0	0	0
1970	0	885,234	0	0	0	0	0	0	0
1971	10,291	2,400,543	3,471	0	3,471	0	0	0	0
1972	1,106,884	3,734,703	1,424,782	28,127	1,452,909	36,699	135,675	0	130,711
1973	1,243,941	4,142,935	1,777,260	49,949	1,827,209	36,207	146,739	0	161,838
1974	1,343,972	4,369,772	2,298,091	16,259	2,314,350	30,525	90,404	0	115,571
1975	1,537,862	5,090,233	2,403,430	35,193	2,438,623	40,588	122,584	0	137,684
1976	1,727,465	5,001,747	2,776,325	126,653	2,902,978	118,610	201,215	0	182,927
1977	1,961,479	6,066,144	3,846,877	83,936	3,930,813	93,565	226,906	0	180,884
1978	2,146,830	6,166,020	3,744,073	42,637	3,786,710	91,815	200,759	0	215,673
1979	1,801,256	5,972,726	3,545,268	45,997	3,591,265	99,670	307,386	0	261,205
1980	2,362,474	7,876,427	4,929,747	56,773	4,986,520	120,131	460,825	0	302,766
1981	2,752,266	7,640,857	5,512,573	64,353	5,576,926	314,004	491,843	0	317,040
1982	3,003,070	8,574,561	6,430,717	56,672	6,487,389	451,252	477,766	0	287,290
1983	6,575,198	15,463,934	8,273,641	91,221	8,364,862	515,211	425,198	0	367,692
1984	4,915,398	13,083,927	19,578,606	71,711	19,650,317	543,093	512,241	0	373,777
1985	5,698,735	15,927,555	19,183,082	80,571	19,263,653	658,956	652,839	0	442,891
1986	6,773,161	19,285,668	20,217,372	108,430	20,325,802	765,874	621,920	0	459,894
1987	7,258,823	21,028,908	17,344,945	140,781	17,485,726	776,791	693,261	0	511,675
1988	6,885,366	20,211,305	16,411,705	145,371	16,557,076	779,487	721,466	0	531,326
1989	6,883,369	20,203,020	16,411,190	147,134	16,558,324	779,875	722,410	0	533,922
1990	6,893,310	20,237,548	16,424,220	147,518	16,571,738	783,069	733,463	0	541,073
1991	6,895,662	20,270,422	16,392,591	148,225	16,540,816	789,320	753,764	0	554,191
1992	6,897,273	20,275,545	16,395,393	148,223	16,543,616	788,227	753,762	0	554,165
1993	6,926,339	20,379,923	16,402,802	148,504	16,551,306	789,726	763,535	0	560,444
1994	6,926,411	20,380,498	16,402,804	148,512	16,551,316	789,727	763,507	0	560,428
1995	6,935,683	20,413,234	16,413,367	148,903	16,562,270	792,275	771,215	0	565,378
1996	6,940,260	20,429,359	16,418,485	149,097	16,567,582	793,690	778,165	0	569,844
1997	6,942,412	20,437,304	16,420,628	149,188	16,569,816	794,303	781,405	0	571,925
1998	6,944,508	20,444,901	16,422,784	149,277	16,572,061	794,914	784,586	0	573,969
1999	6,949,554	20,462,801	16,428,273	149,485	16,577,758	796,436	792,123	0	578,811
2000	6,955,689	20,484,227	16,435,047	149,746	16,584,793	798,306	801,283	0	584,696
2001	6,962,462	20,507,438	16,445,465	149,964	16,595,429	799,541	803,426	0	586,158
2002	6,967,872	20,526,360	16,451,403	150,190	16,601,593	801,183	811,499	0	591,343
2003	6,971,543	20,539,026	16,455,497	150,347	16,605,844	802,314	817,058	0	594,915
2004	7,127,737	21,010,279	16,479,189	151,418	16,630,607	803,871	825,008	0	599,008
2005	7,127,147	21,008,057	16,478,387	151,392	16,629,779	803,657	824,055	0	599,298
2006	7,187,605	21,225,926	16,794,920	151,292	16,946,212	802,958	821,768	0	597,830
2007	7,189,865	21,234,029	16,797,651	154,622	16,952,273	806,350	839,890	0	612,893
2008	7,192,551	21,243,465	16,800,739	154,734	16,955,473	807,188	843,855	0	615,440
2009	7,192,509	21,243,323	16,800,693	154,730	16,955,423	807,175	843,740	0	615,366
2010	7,194,600	21,250,654	16,803,093	154,818	16,957,911	807,832	846,864	0	617,371
2011	7,211,124	21,309,116	16,813,015	155,072	16,968,087	809,489	852,234	0	620,880
2012	7,216,087	21,326,517	16,818,707	155,278	16,973,985	811,050	859,715	0	625,685
2013	7,219,484	21,338,426	16,822,604	155,417	16,978,021	812,112	864,726	0	628,905
2014	7,218,069	21,333,470	16,820,981	155,358	16,976,339	811,667	862,557	0	627,512
2015	7,226,903	21,364,440	16,831,117	155,729	16,986,846	814,476	876,459	0	636,444
2016	7,229,354	21,373,037	16,833,929	155,831	16,989,760	815,245	880,123	0	638,795
2017	7,236,392	21,397,281	16,842,068	156,128	16,998,196	817,470	890,707	0	645,598
2018	7,239,581	21,407,771	16,845,827	156,261	17,002,088	818,496	895,533	0	648,698
2019	7,241,810	21,414,958	16,848,563	156,356	17,004,919	819,233	898,915	0	650,868
2020	7,239,751	21,407,293	16,846,351	156,268	17,002,619	818,616	895,791	0	648,862
2021	7,242,169	21,415,785	16,849,373	156,369	17,005,742	819,426	899,414	0	651,191
2022	7,010,635	20,720,125	16,848,600	156,321	17,004,921	819,169	897,645	0	650,055
2023	7,008,842	20,713,506	16,846,932	156,243	17,003,175	819,229	904,711	0	654,596
2024	6,864,043	20,202,435	16,187,066	154,840	16,341,906	818,545	900,465	0	652,037
2025	6,863,973	20,202,740	16,187,235	147,704	16,334,939	812,727	867,892	0	623,573
2026	6,864,413	20,204,561	16,187,921	147,723	16,335,644	812,903	868,580	0	624,016
2027	6,864,570	20,205,378	16,188,280	147,731	16,336,011	812,993	868,872	0	624,201
2028	6,863,389	20,200,843	16,187,044	147,683	16,334,727	812,649	867,128	0	623,079
2029	6,821,609	20,050,211	16,186,274	147,648	16,333,922	812,426	865,926	0	622,309
2030	6,821,928	20,050,621	16,186,914	147,660	16,334,574	812,577	866,336	0	622,573
2031	6,821,546	20,048,578	16,186,786	147,638	16,334,424	812,507	865,550	0	622,070
2032	6,821,971	20,049,492	16,187,643	147,652	16,335,295	812,702	865,981	0	622,345
2033	6,820,143	20,043,378	16,185,785	147,559	16,333,344	812,151	862,742	0	620,265
2034	6,822,174	20,050,804	16,188,351	147,639	16,335,990	812,822	865,571	0	622,081
2035	6,818,259	20,037,367	16,184,095	147,472	16,331,567	811,634	859,620	0	618,259

REIMBURSED THRU MINIMUM OMP&R COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

Sheet 6 of 8

Calendar Year	CALIFORNIA AQUEDUCT (continued)									
	MOJAVE DIVISION (continued)							SANTA ANA DIVISION		
	Reach 20B	Reach 21	Reach 22A	Reach 22B	Reach 23	Reach 24	Subtotal	Reach 25	Reach 26A	
	(46)	(47)	(48)	(49)	(50)	(51)	(52)	(53)	(54)	
1952	0	0	0	0	0	0	0	0	0	
1953	0	0	0	0	0	0	0	0	0	
1954	0	0	0	0	0	0	0	0	0	
1955	0	0	0	0	0	0	0	0	0	
1956	0	0	0	0	0	0	0	0	0	
1957	0	0	0	0	0	0	0	0	0	
1958	0	0	0	0	0	0	0	0	0	
1959	0	0	0	0	0	0	0	0	0	
1960	0	0	0	0	0	0	0	0	0	
1961	0	0	0	0	0	0	0	0	0	
1962	0	0	0	0	0	0	0	0	0	
1963	0	0	0	0	0	0	0	0	0	
1964	0	0	0	0	0	0	0	0	0	
1965	0	0	0	0	0	0	0	0	0	
1966	0	0	0	0	0	0	0	0	0	
1967	0	0	0	0	0	0	0	0	0	
1968	0	0	0	0	0	0	0	0	0	
1969	0	0	0	0	0	0	0	0	0	
1970	0	0	0	0	0	0	0	0	0	
1971	0	0	0	0	0	0	0	0	0	
1972	120,271	75,768	80,436	1,036,831	51,520	362,153	2,030,064	26	578	
1973	148,631	60,641	66,539	1,283,816	65,475	353,262	2,323,148	20,541	679,328	
1974	88,200	65,007	77,667	1,477,946	96,340	334,302	2,375,962	24,380	799,400	
1975	118,898	135,462	77,825	1,630,554	111,141	419,450	2,794,186	29,337	885,021	
1976	151,555	106,314	131,007	1,598,085	107,787	304,638	2,902,138	51,356	1,103,156	
1977	112,589	98,757	86,279	1,882,217	71,228	48,359	2,800,784	62,584	1,412,923	
1978	120,584	109,271	71,763	2,288,650	72,179	637,401	3,808,095	67,186	1,263,078	
1979	194,104	203,078	121,586	2,105,402	76,960	202,566	3,571,957	84,462	1,235,956	
1980	247,510	165,203	122,726	2,834,774	149,299	693,314	5,096,548	75,093	1,564,774	
1981	283,806	176,255	115,935	3,002,528	134,895	104,373	4,940,679	35,662	1,576,480	
1982	342,142	192,923	130,308	3,349,284	299,712	604,839	6,135,516	26,852	1,840,081	
1983	335,942	221,394	142,720	4,156,152	303,304	541,127	7,008,740	19,202	2,193,594	
1984	311,268	230,679	134,299	4,410,214	262,087	670,549	7,448,207	14,705	1,648,527	
1985	429,970	282,657	200,321	5,049,970	317,594	1,401,954	9,437,152	35,098	2,258,562	
1986	511,948	330,876	238,696	5,346,107	377,706	-444,075	8,208,946	35,013	2,467,924	
1987	562,819	362,777	261,890	5,560,918	430,249	697,060	9,857,440	37,914	2,636,518	
1988	584,169	376,276	272,762	5,629,095	450,457	1,118,203	10,463,241	39,074	2,632,872	
1989	585,993	376,872	273,497	5,727,133	455,190	265,228	9,720,120	40,289	2,696,076	
1990	593,183	380,972	276,696	5,757,558	454,766	772,390	10,293,170	40,318	2,699,913	
1991	606,362	388,473	282,557	5,807,936	413,581	592,884	10,189,068	40,363	2,706,608	
1992	606,410	388,474	282,578	5,809,049	380,354	566,949	10,129,968	40,327	2,707,612	
1993	612,689	392,024	285,363	5,834,437	380,360	505,411	10,123,989	40,327	2,709,482	
1994	612,673	392,013	285,357	5,834,387	380,360	67,166	9,685,618	40,327	2,709,482	
1995	617,623	394,812	287,551	5,858,465	380,360	1,125,765	10,793,444	40,327	2,712,133	
1996	622,089	397,337	289,531	5,876,359	380,360	1,913,724	11,621,099	40,327	2,713,417	
1997	624,170	398,510	290,454	5,884,475	380,360	-644,269	9,081,333	40,327	2,713,955	
1998	626,214	399,668	291,362	5,892,505	380,360	799,900	10,543,478	40,327	2,714,496	
1999	631,056	402,404	293,507	5,911,846	380,360	1,425,620	11,212,163	40,327	2,715,873	
2000	636,941	405,730	296,117	5,935,446	380,360	542,966	10,381,845	40,327	2,717,574	
2001	638,474	406,659	296,816	5,944,550	380,846	-764,286	9,092,184	40,376	2,721,200	
2002	643,659	409,593	299,115	5,965,506	380,846	1,407,455	11,310,199	40,376	2,722,690	
2003	647,231	411,609	300,698	5,980,000	380,846	-32,447	9,902,224	40,376	2,723,718	
2004	652,050	414,504	303,281	6,006,324	381,685	797,901	10,784,534	40,663	2,731,965	
2005	651,438	414,159	303,010	6,004,055	381,685	1,558,927	11,540,284	40,663	2,731,764	
2006	649,970	413,327	302,358	5,997,444	381,685	1,907,218	11,874,558	40,663	2,731,052	
2007	663,636	420,213	308,313	6,205,946	385,666	-998,534	9,244,373	42,714	2,778,004	
2008	666,183	421,653	309,442	6,216,257	385,666	3,456,971	13,722,655	42,714	2,778,779	
2009	666,109	421,611	309,409	6,215,997	385,666	-279,837	9,985,236	42,714	2,778,768	
2010	668,114	422,745	310,297	6,224,118	385,666	1,174,269	11,457,276	42,714	2,779,370	
2011	671,669	424,789	311,884	6,240,469	385,982	155,892	10,473,288	42,746	2,782,515	
2012	676,474	427,508	314,016	6,259,890	385,982	1,772,362	12,132,682	42,746	2,783,944	
2013	679,694	429,325	315,445	6,272,959	385,982	1,637,931	12,027,079	42,746	2,784,922	
2014	678,301	428,538	314,824	6,267,357	385,982	-901,125	9,475,613	42,746	2,784,514	
2015	687,233	433,585	318,787	6,303,054	385,982	-18,280	10,437,740	42,746	2,787,057	
2016	689,584	434,918	319,833	6,312,567	385,982	597,345	11,074,392	42,746	2,787,764	
2017	696,387	438,760	322,846	6,340,100	385,982	3,943,081	14,480,931	42,746	2,789,806	
2018	699,487	440,513	324,224	6,352,696	385,982	-1,132,288	9,433,341	42,746	2,790,749	
2019	701,657	441,741	325,186	6,361,602	385,982	626,702	11,211,886	42,746	2,791,436	
2020	699,651	440,606	324,294	6,353,647	385,982	765,841	11,333,290	42,746	2,790,881	
2021	701,980	441,922	325,328	6,363,270	385,982	1,366,913	11,955,426	42,746	2,791,640	
2022	700,844	441,278	324,823	6,359,176	385,982	1,065,997	11,644,969	42,746	2,791,445	
2023	705,385	443,847	326,839	6,371,439	385,982	3,012,561	13,624,589	42,746	2,791,026	
2024	703,091	442,292	325,148	6,352,432	384,716	-2,245,265	8,333,461	42,314	2,780,114	
2025	677,708	429,796	314,123	5,912,195	375,945	4,284,014	14,297,973	37,795	2,678,221	
2026	678,151	430,045	314,322	5,914,118	375,945	-915,413	9,102,667	37,795	2,678,393	
2027	678,336	430,150	314,405	5,914,993	375,945	1,630,266	11,650,161	37,795	2,678,483	
2028	677,214	429,516	313,906	5,910,547	375,945	1,125,923	11,135,907	37,795	2,678,173	
2029	676,444	429,082	313,563	5,907,552	375,945	1,012,019	11,015,266	37,795	2,677,979	
2030	676,708	429,230	313,680	5,908,900	375,945	839,395	10,845,344	37,795	2,678,140	
2031	676,205	428,945	313,457	5,907,272	375,945	-99,291	9,902,660	37,795	2,678,108	
2032	676,480	429,101	313,581	5,908,370	375,945	1,943,589	11,948,094	37,795	2,678,323	
2033	674,400	427,924	312,657	5,900,029	375,945	-876,532	9,109,581	37,795	2,677,857	
2034	676,216	428,950	313,463	5,907,272	375,945	1,267,125	11,269,445	37,795	2,678,501	
2035	672,394	426,793	311,767	5,891,634	375,945	-55,766	9,912,280	37,795	2,677,433	

TABLE B-11: MINIMUM OMP&R COSTS OF EACH AQUEDUCT REACH TO BE

(in dollars)

Sheet 7 of 8

Calendar Year	CALIFORNIA AQUEDUCT (continued)									
	SANTA ANA DIVISION (continued)					WEST BRANCH				
	Reach 28G ^(a)	Reach 28H	Reach 28J	Subtotal		Reach 29A	Reach 29 F	Reach 29G	Reach 29H	Reach 29J
	(55)	(56)	(57)	(58)		(59)	(60)	(61)	(62)	(63)
1952	0	0	0	0		0	0	0	0	0
1953	0	0	0	0		0	0	0	0	0
1954	0	0	0	0		0	0	0	0	0
1955	0	0	0	0		0	0	0	0	0
1956	0	0	0	0		0	0	0	0	0
1957	0	0	0	0		0	0	0	0	0
1958	0	0	0	0		0	0	0	0	0
1959	0	0	0	0		0	0	0	0	0
1960	0	0	0	0		0	0	0	0	0
1961	0	0	0	0		0	0	0	0	0
1962	0	0	0	0		0	0	0	0	0
1963	0	0	0	0		0	0	0	0	0
1964	0	0	0	0		0	0	0	0	0
1965	0	0	0	0		0	0	0	0	0
1966	0	0	0	0		0	0	0	0	0
1967	0	0	0	0		0	0	0	0	0
1968	0	0	0	0		0	0	0	0	0
1969	0	0	0	0		0	0	0	0	0
1970	0	0	0	0		0	0	0	0	0
1971	0	0	0	0		0	0	0	0	0
1972	109	30	0	743		719,255	159,249	199,145	234,196	88,198
1973	136,352	79	0	836,300		779,949	339,363	122,664	264,850	119,743
1974	155,262	34,693	854,637	1,868,372		883,312	158,366	112,458	350,160	4,525
1975	110,729	69,082	723,814	1,817,983		1,049,990	176,676	194,724	801,457	75,870
1976	138,575	100,400	635,853	2,029,340		1,220,439	215,588	202,591	624,614	98,268
1977	127,543	92,647	825,880	2,521,577		1,268,925	116,939	218,129	684,679	184
1978	166,919	68,363	835,082	2,400,628		1,238,171	342,479	267,308	415,641	17,764
1979	142,586	92,812	265,525	1,821,341		1,367,415	285,575	284,188	972,584	29,850
1980	162,444	132,426	1,172,301	3,107,038		1,792,368	233,279	460,171	903,076	292,014
1981	160,053	196,879	332,152	2,301,226		1,783,657	125,036	615,131	2,138,968	8,794
1982	205,350	316,932	1,960,632	4,349,847		1,929,281	189,753	702,180	951,292	289,240
1983	229,365	278,259	688,084	3,408,504		2,186,523	183,005	804,609	913,273	1,759,409
1984	221,935	271,746	1,063,503	3,220,416		3,202,876	111,958	1,851,732	1,440,407	723,651
1985	282,883	163,537	1,035,759	3,775,839		3,780,069	298,665	1,632,815	1,695,061	770,191
1986	346,936	178,387	1,140,022	4,168,282		3,898,376	409,067	1,991,801	2,506,259	659,827
1987	374,350	194,706	1,857,348	5,100,366		3,860,272	475,024	1,935,459	2,745,213	455,336
1988	386,341	200,780	793,117	4,052,184		3,787,971	418,487	1,876,947	2,839,808	386,388
1989	391,672	202,324	1,545,090	4,875,451		3,819,971	422,474	1,861,298	2,823,270	398,055
1990	391,952	202,470	984,968	4,319,621		3,823,902	433,843	1,866,377	2,860,529	398,765
1991	392,384	202,695	1,414,811	4,756,861		3,826,339	456,053	1,875,957	2,936,328	400,030
1992	392,498	202,731	2,185,353	5,528,521		3,827,433	455,150	1,875,853	2,935,704	400,133
1993	392,501	202,734	1,461,608	4,806,652		3,829,495	465,619	1,879,088	2,972,262	400,538
1994	392,501	202,734	1,688,599	5,033,643		3,829,510	465,862	1,879,113	2,973,822	400,538
1995	392,501	202,734	2,793,245	6,140,940		3,832,422	481,065	1,884,185	3,030,595	401,116
1996	392,501	202,734	— 540,176	2,808,803		3,833,844	488,605	1,886,684	3,060,810	401,395
1997	392,501	202,734	4,277,948	7,627,465		3,834,457	492,079	1,887,755	3,075,056	401,512
1998	392,501	202,734	1,536,427	4,886,485		3,835,074	495,570	1,888,755	3,084,127	401,629
1999	392,501	202,734	937,117	4,288,552		3,836,607	503,807	1,891,504	3,121,391	401,930
2000	392,501	202,734	1,941,630	5,294,766		3,838,484	513,762	1,894,713	3,154,740	402,299
2001	392,999	202,993	3,883,500	7,241,068		3,842,416	515,651	1,897,327	3,163,886	402,866
2002	392,999	202,993	1,280,745	4,639,803		3,844,065	524,415	1,900,157	3,194,419	403,189
2003	392,999	202,993	3,264,521	6,624,607		3,845,204	530,470	1,902,112	3,215,428	403,413
2004	393,966	203,662	847,040	4,217,296		3,994,584	538,490	1,905,596	3,244,528	404,251
2005	393,966	203,662	1,357,151	4,727,206		3,994,376	537,568	1,905,233	3,241,693	404,208
2006	393,966	203,662	1,134,106	4,503,449		3,993,596	533,554	1,903,911	3,229,252	404,053
2007	402,695	206,079	3,308,772	6,738,264		4,048,414	558,057	1,913,807	3,256,030	424,396
2008	402,695	206,079	2,318,634	5,748,901		4,049,257	562,374	1,915,275	3,271,493	424,564
2009	402,695	206,079	1,161,284	4,591,540		4,049,243	562,246	1,915,257	3,271,590	424,562
2010	402,695	206,079	441,238	3,872,096		4,049,903	565,639	1,916,375	3,282,204	424,692
2011	403,018	206,247	2,477,838	5,912,364		4,053,306	571,157	1,919,575	3,303,588	425,233
2012	403,018	206,247	1,041,651	4,477,606		4,054,869	579,232	1,922,275	3,331,908	425,544
2013	403,018	206,247	3,154,855	6,591,788		4,055,935	584,668	1,924,116	3,350,567	425,757
2014	403,018	206,247	2,773,464	6,209,989		4,055,487	582,305	1,923,344	3,342,467	425,668
2015	403,018	206,247	— 66,483	3,372,585		4,058,270	596,679	1,928,143	3,392,044	426,221
2016	403,018	206,247	3,432,610	6,872,385		4,059,041	600,649	1,929,480	3,406,089	426,375
2017	403,018	206,247	528,886	3,970,703		4,061,273	612,141	1,933,327	3,445,461	426,819
2018	403,018	206,247	2,649,605	6,092,365		4,062,302	617,377	1,935,098	3,463,482	427,025
2019	403,018	206,247	5,515,059	8,958,506		4,063,045	621,080	1,936,395	3,476,968	427,174
2020	403,018	206,247	— 2,093,817	1,349,075		4,062,424	617,704	1,935,335	3,465,112	427,054
2021	403,018	206,247	3,311,573	6,755,224		4,063,238	621,663	1,936,760	3,479,738	427,218
2022	403,018	206,247	2,389,482	5,832,938		3,832,620	619,789	1,936,352	3,473,072	427,176
2023	403,018	206,247	1,365,230	4,808,267		3,832,129	616,819	1,935,544	3,463,461	427,085
2024	401,559	205,238	4,646,196	8,075,421		3,818,144	613,293	1,933,209	3,451,493	426,156
2025	382,329	199,914	— 388,421	2,909,838		3,699,021	567,297	1,914,266	3,418,188	381,674
2026	382,329	199,914	4,793,764	8,092,195		3,699,197	568,053	1,914,578	3,420,719	381,711
2027	382,329	199,914	1,715,834	5,014,355		3,699,287	568,376	1,914,737	3,421,742	381,730
2028	382,329	199,914	1,883,362	5,181,573		3,698,922	566,135	1,914,131	3,414,289	381,664
2029	382,329	199,914	3,651,268	6,949,285		3,698,678	564,474	1,913,732	3,408,386	381,621
2030	382,329	199,914	2,558,885	5,957,063		3,698,822	564,832	1,914,015	3,409,875	381,656
2031	382,329	199,914	505,195	3,803,341		3,698,747	563,924	1,913,918	3,406,749	381,649
2032	382,329	199,914	2,316,461	5,814,822		3,698,933	564,275	1,914,282	3,408,169	381,697
2033	382,329	199,914	1,920,493	5,218,388		3,698,372	560,654	1,913,349	3,395,310	381,595
2034	382,329	199,914	4,369,909	7,668,448		3,699,027	563,418	1,914,519	3,404,885	381,734
2035	382,329	199,914	1,362,024	4,659,495		3,697,814	556,637	1,912,444	3,379,955	381,503

REIMBURSED THRU MINIMUM OMP&R COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

Sheet 8 of 8

Calendar Year	CALIFORNIA AQUEDUCT (continued)							GRAND TOTAL	
	WEST BRANCH (continued)		COASTAL BRANCH						TOTAL
	Reach 30	Subtotal	Reach 31A	Reach 33A	Reach 34	Reach 35	Subtotal		
	(64)	(65)	(66)	(67)	(68)	(69)	(70)	(71)	(72)
1952	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	42,918
1963	0	0	0	0	0	0	0	0	168,358
1964	0	0	0	0	0	0	0	0	184,729
1965	0	0	0	0	0	0	0	0	378,874
1966	0	0	0	0	0	0	0	0	408,397
1967	0	0	0	0	0	0	0	0	634,505
1968	0	0	0	0	0	0	0	2,160,548	2,745,160
1969	0	0	509,728	0	0	0	509,728	3,324,718	4,074,939
1970	0	0	609,988	0	0	0	609,988	3,983,062	4,676,282
1971	0	0	699,052	0	0	0	699,052	5,614,013	6,185,714
1972	420,789	1,820,832	697,576	0	0	0	697,576	12,353,356	12,998,869
1973	621,431	2,248,000	641,626	0	0	0	641,626	14,590,688	15,194,233
1974	723,949	2,223,720	669,279	0	0	0	669,279	16,598,762	17,372,561
1975	841,991	3,140,708	806,429	0	0	0	806,429	19,569,999	20,517,423
1976	-650,944	1,710,556	840,928	0	0	0	840,928	19,003,143	20,027,640
1977	634,581	2,923,437	872,189	0	0	0	872,189	23,275,267	24,222,398
1978	3,088,954	5,370,317	945,036	0	0	0	945,036	26,518,065	27,735,258
1979	958,068	3,897,680	871,768	0	0	0	871,768	23,437,528	24,692,465
1980	132,185	3,813,093	1,080,210	0	0	0	1,080,210	31,289,003	33,312,811
1981	1,077,071	5,748,657	1,031,222	0	0	0	1,031,222	33,713,713	35,344,549
1982	981,235	5,042,981	1,041,029	0	0	0	1,041,029	38,905,366	41,019,873
1983	3,058,161	8,904,980	1,272,260	0	0	0	1,272,260	52,642,778	55,265,327
1984	542,541	7,873,165	1,317,877	0	0	0	1,317,877	62,876,336	65,816,945
1985	129,903	8,306,704	1,799,826	0	0	0	1,799,826	70,136,170	73,731,935
1986	397,627	9,862,957	1,943,890	0	0	0	1,943,890	76,155,164	79,905,089
1987	507,819	9,979,123	2,261,522	0	0	0	2,261,522	79,062,229	83,606,299
1988	238,877	9,548,478	2,346,168	0	0	0	2,346,168	76,637,315	81,137,175
1989	724,914	10,049,742	2,346,105	0	0	0	2,346,105	77,201,983	81,691,777
1990	-65,732	9,317,684	2,349,836	0	0	0	2,349,836	76,545,010	81,039,562
1991	1,778,881	11,273,588	2,355,703	0	0	0	2,355,703	78,840,161	83,343,536
1992	-547,525	8,946,748	2,356,540	262,727	1,604	3,341	2,624,212	77,505,755	82,010,492
1993	788,199	10,335,201	2,358,634	264,572	1,730	3,603	2,628,539	78,305,594	82,812,807
1994	2,513,877	12,062,722	2,358,653	264,579	1,733	3,611	2,628,576	79,822,805	84,329,584
1995	-3,630,286	5,999,097	2,361,630	267,237	1,914	3,985	2,634,766	76,056,767	80,567,118
1996	723,081	10,394,419	2,363,076	268,525	2,001	4,168	2,637,770	77,987,863	82,499,948
1997	2,759,379	12,450,238	2,363,715	269,074	2,045	4,260	2,639,094	82,341,270	86,853,976
1998	-1,905,610	7,799,545	2,364,347	269,623	2,086	4,347	2,640,403	76,429,884	80,943,402
1999	1,639,015	11,394,254	2,365,916	271,013	2,185	4,551	2,643,665	80,139,411	84,654,998
2000	674,857	10,478,855	2,367,830	272,717	2,301	4,796	2,647,644	79,453,276	83,971,419
2001	946,295	10,768,441	2,370,911	272,935	2,318	4,832	2,650,996	80,457,665	84,981,460
2002	731,845	10,598,090	2,372,592	274,430	2,422	5,046	2,654,490	80,059,797	84,585,831
2003	-359,314	9,537,313	2,373,737	275,458	2,491	5,187	2,656,873	79,607,552	84,264,460
2004	2,080,800	12,168,249	2,382,941	276,571	2,564	5,340	2,667,416	81,464,203	86,145,331
2005	578,082	10,661,160	2,382,715	276,368	2,551	5,314	2,666,948	81,216,821	85,897,649
2006	2,440,589	12,504,955	2,421,114	275,657	2,503	5,215	2,704,489	83,734,339	88,414,102
2007	572,430	10,773,134	2,421,879	276,343	2,549	5,309	2,706,080	81,631,217	86,312,007
2008	1,246,889	11,469,852	2,422,743	277,117	2,600	5,418	2,707,878	85,840,703	90,522,652
2009	1,004,872	11,227,770	2,422,730	277,106	2,600	5,416	2,707,852	80,703,485	85,385,418
2010	-697,543	9,541,270	2,423,403	277,709	2,640	5,500	2,709,252	79,788,111	84,470,950
2011	1,202,962	11,475,821	2,426,278	278,644	2,703	5,628	2,713,253	82,873,843	87,561,529
2012	1,452,563	11,766,391	2,427,873	280,076	2,797	5,827	2,716,573	83,433,017	88,122,847
2013	1,830,037	12,171,080	2,428,965	281,053	2,863	5,964	2,718,845	85,876,372	90,567,672
2014	458,543	10,787,814	2,428,510	280,644	2,836	5,906	2,717,896	81,547,313	86,238,004
2015	1,472,358	11,873,715	2,431,350	283,190	3,006	6,260	2,723,806	80,836,211	85,530,716
2016	1,908,341	12,329,975	2,432,140	283,895	3,053	6,359	2,725,447	85,450,646	90,146,212
2017	1,900,855	12,379,876	2,434,397	285,933	3,184	6,633	2,730,147	86,067,243	90,765,874
2018	1,451,773	11,957,057	2,435,414	286,868	3,240	6,749	2,732,271	82,745,663	87,445,694
2019	3,112,229	13,636,891	2,436,143	287,542	3,277	6,828	2,733,790	89,089,133	93,790,167
2020	429,161	10,936,790	2,435,492	286,977	3,234	6,738	2,732,441	78,723,536	83,423,718
2021	3,130,412	13,659,029	2,436,325	287,731	3,282	6,837	2,734,175	87,496,403	91,997,655
2022	732,889	11,021,898	2,436,047	287,519	3,257	6,785	2,733,608	82,592,286	87,069,713
2023	941,338	11,216,376	2,435,535	287,087	3,229	6,708	2,732,550	83,726,512	88,203,310
2024	1,436,601	11,678,896	2,345,972	286,928	3,200	6,668	2,642,768	80,856,405	85,320,387
2025	1,346,733	11,327,179	2,346,021	286,970	3,204	6,674	2,642,869	81,297,579	85,761,625
2026	1,244,400	11,228,658	2,346,209	287,140	3,214	6,696	2,643,259	81,190,945	85,655,242
2027	953,930	10,939,802	2,346,305	287,230	3,219	6,707	2,643,461	80,374,049	84,838,473
2028	1,460,543	11,435,684	2,345,938	286,914	3,194	6,655	2,642,701	80,511,799	84,975,729
2029	542,264	10,509,155	2,345,701	286,714	3,178	6,620	2,642,213	81,077,323	85,540,930
2030	1,473,516	11,442,716	2,345,835	286,860	3,179	6,622	2,642,496	80,750,906	85,214,722
2031	1,296,890	11,261,877	2,345,756	286,814	3,168	6,599	2,642,337	77,569,796	82,033,533
2032	2,068,550	12,035,906	2,345,951	287,018	3,173	6,610	2,642,752	82,404,442	86,868,472
2033	109,791	10,059,071	2,345,430	286,550	3,142	6,545	2,641,667	76,977,846	81,441,175
2034	769,254	10,732,837	2,346,150	287,192	3,185	6,635	2,643,162	82,280,925	86,745,222
2035	-5,272,159	4,656,194	2,344,954	286,125	3,114	6,486	2,640,679	71,804,847	76,267,538

a) Includes certain costs to be assigned directly to Kern County Water Agency. Refer to Appendix B text discussion of Table B-16A under "Project Water Charges".

TABLE B-12: VARIABLE OMP&R COSTS TO BE REIMBURSED

(in dollars)

Sheet 1 of 3

	NORTH BAY AQUEDUCT			SOUTH BAY AQUEDUCT	CALIFORNIA AQUEDUCT			
Calendar Year	Reach 1 Barker Slough Pumping Plant	Reach 3 Cordelia Pumping Plant(a)	Total	Reach 1 South Bay and Del Valle Pumping Plants(b)	Reach 1 Harvey O. Banks Delta Pumping Plant	Reach 4 Dos Amigos Pumping Plant(c)	Reach 14A Buena Vista Pumping Plant	Reach 15A Wheeler Ridge Pumping Plant
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1962	0	0	0	36,970	0	0	0	0
1963	0	0	0	57,711	0	0	0	0
1964	0	0	0	74,134	0	0	0	0
1965	0	0	0	142,609	0	0	0	0
1966	0	0	0	192,605	0	0	0	0
1967	0	0	0	223,117	13,881	0	0	0
1968	0	6,989	6,989	336,630	452,630	202,947	0	0
1969	0	8,551	8,551	257,579	293,741	135,425	0	0
1970	0	13,598	13,598	396,358	346,215	211,197	1	0
1971	0	10,609	10,609	381,662	574,015	225,188	138,001	17,664
1972	0	14,434	14,434	598,702	927,369	498,482	234,626	89,516
1973	0	14,449	14,449	493,490	685,014	379,305	303,105	275,021
1974	0	17,473	17,473	565,575	769,839	438,997	344,632	350,558
1975	0	14,779	14,779	349,758	1,330,133	514,241	542,726	585,744
1976	0	20,856	20,856	571,361	1,456,742	562,537	609,257	600,780
1977	0	22,635	22,635	512,996	801,033	205,643	165,314	172,120
1978	0	21,692	21,692	586,355	2,215,828	574,693	658,309	578,337
1979	0	16,237	16,237	605,136	3,431,968	973,702	760,080	724,534
1980	0	19,945	19,945	523,369	2,151,543	1,267,278	984,418	956,705
1981	0	21,692	21,692	539,232	3,902,618	1,248,079	1,187,772	1,147,490
1982	0	12,385	12,385	1,083,833	2,946,090	1,723,616	1,730,781	1,640,282
1983	0	12,219	12,219	575,534	1,039,725	555,679	931,248	806,807
1984	0	3,001	3,001	299,045	1,580,482	852,706	615,319	552,358
1985	0	13,049	13,049	924,813	5,115,489	2,427,426	1,991,309	2,009,230
1986	0	12,673	12,673	1,142,643	7,020,784	3,313,287	3,015,915	3,189,749
1987	28,644	25,323	53,967	1,626,819	11,659,757	5,445,799	5,638,091	6,165,140
1988	41,142	28,967	70,109	1,711,316	12,856,344	6,009,749	6,312,638	6,899,701
1989	40,909	28,371	69,281	1,621,920	12,232,959	5,745,930	5,938,299	6,546,725
1990	50,170	38,503	88,673	1,846,244	13,587,663	6,337,130	6,512,863	7,113,402
1991	72,404	56,914	129,318	2,305,261	16,779,173	7,755,922	8,231,158	9,063,232
1992	83,127	67,664	150,791	2,400,469	17,183,944	7,980,135	8,228,736	9,063,620
1993	104,052	84,978	189,030	2,702,921	18,916,846	8,779,665	9,134,437	10,096,526
1994	116,712	96,582	213,294	2,817,789	19,190,126	8,936,568	9,293,867	10,290,571
1995	144,294	119,849	264,143	3,210,283	20,937,706	9,690,215	9,990,842	11,039,101
1996	160,790	133,662	294,452	3,397,277	22,599,299	10,488,376	11,049,474	12,267,205
1997	171,207	144,688	315,895	3,499,108	23,581,738	11,131,962	11,746,352	13,078,815
1998	182,103	155,995	338,098	3,563,224	24,153,164	11,546,420	12,111,035	13,464,700
1999	196,757	172,048	368,805	3,720,495	25,887,822	12,514,837	13,221,704	14,765,689
2000	219,975	190,945	410,920	3,927,995	27,741,973	13,443,441	14,344,304	16,070,073
2001	229,514	208,808	438,322	3,952,978	28,102,235	13,700,650	14,642,055	16,394,970
2002	249,252	235,473	484,725	4,129,559	29,630,058	14,467,820	15,573,942	17,464,932
2003	267,882	259,986	527,868	4,251,353	30,637,690	14,922,814	16,215,150	18,199,182
2004	283,828	286,567	570,395	4,383,196	31,911,380	15,514,497	17,058,555	19,175,474
2005	293,734	303,197	596,931	4,359,378	32,044,088	15,595,598	17,293,587	19,460,728
2006	289,350	301,226	590,576	4,275,037	31,677,608	15,452,308	17,237,203	19,412,908
2007	296,112	310,858	606,970	4,356,238	32,410,555	15,786,145	17,599,993	19,830,639
2008	303,472	321,348	624,820	4,448,101	33,478,619	16,286,993	18,289,827	20,639,751
2009	304,671	325,307	630,000	4,446,797	33,542,687	16,320,316	18,347,579	20,710,176
2010	313,497	334,519	648,016	4,518,120	34,149,433	16,594,157	18,693,765	21,108,718
2011	325,154	355,919	681,073	4,628,864	35,455,864	17,205,799	19,540,568	22,102,644
2012	343,952	382,623	726,575	4,798,212	36,887,234	17,849,478	20,354,310	23,039,064
2013	360,430	406,072	766,502	4,914,094	38,084,132	18,400,774	21,094,959	23,902,742
2014	363,569	415,960	779,529	4,865,824	37,764,900	18,262,613	20,938,290	23,727,256
2015	393,530	456,264	849,794	5,167,313	40,209,024	19,353,346	22,297,317	25,285,854
2016	407,178	476,614	883,792	5,250,963	41,341,779	19,886,738	23,058,102	26,184,032
2017	432,475	511,712	944,187	5,493,034	43,339,430	20,637,339	24,178,053	27,470,479
2018	447,935	535,965	983,900	5,604,839	44,394,684	21,006,888	24,874,842	28,282,686
2019	458,868	557,711	1,016,579	5,686,220	45,317,882	21,328,677	25,551,955	29,080,262
2020	463,350	564,838	1,028,188	5,620,437	44,532,869	20,929,563	25,134,002	28,592,576
2021	471,063	574,399	1,045,462	5,710,327	45,867,161	21,460,418	25,942,736	29,573,655
2022	469,165	572,611	1,041,776	5,687,324	45,815,793	21,051,996	25,836,781	29,485,667
2023	465,221	568,063	1,033,284	5,637,710	45,538,229	20,634,108	25,718,547	29,357,253
2024	463,884	566,711	1,030,595	5,620,610	45,455,474	20,298,083	25,688,699	29,326,044
2025	464,449	567,738	1,032,187	5,625,648	45,665,136	20,396,420	25,853,232	29,524,625
2026	466,134	569,798	1,035,932	5,646,054	45,898,804	20,516,707	26,029,179	29,732,229
2027	467,013	570,873	1,037,886	5,656,711	46,023,770	20,588,071	26,136,490	29,859,379
2028	463,978	567,163	1,031,141	5,619,948	45,618,606	20,472,521	25,910,733	29,706,447
2029	462,089	564,854	1,026,943	5,597,065	45,279,195	20,385,265	25,707,920	29,450,492
2030	463,659	566,772	1,030,431	5,616,072	45,345,283	20,314,567	25,749,453	29,478,603
2031	463,344	566,388	1,029,732	5,612,266	44,975,693	20,044,525	25,413,322	29,132,506
2032	465,449	568,962	1,034,411	5,637,769	45,257,197	20,074,571	25,556,305	29,306,047
2033	460,887	563,384	1,024,271	5,592,498	44,585,144	19,771,285	24,970,645	28,616,938
2034	467,188	571,086	1,038,274	5,658,823	45,411,256	20,142,659	25,336,806	29,045,921
2035	456,737	558,311	1,015,048	5,532,230	43,689,344	19,362,354	24,048,040	27,522,853

- Costs for the period 1968 through 1986 are for an interim facility.
- The relatively minor costs of Del Valle Pumping Plant have been combined with those of South Bay Pumping Plant to simplify the allocation procedures.
- Includes extra peaking costs assigned directly to Kern County Water Agency and to Tulare Lake Basin Water Storage District. Refer to Appendix B text discussion of Table B-17 under "Project Water Charges".

THRU VARIABLE OMP&R COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

Sheet 2 of 3

Calendar Year	CALIFORNIA AQUEDUCT (Continued)							
	Reach 16A	Reach 17E	Reach 18A	Reach 22B	Reach 24	Reach 26A	Reach 28J	Reach 29A
	Wind Gap Pumping Plant	A.D. Edmonston Pumping Plant	Alamo Powerplant	Pear-blossom Pumping Plant	Silver-wood Lake (d)	Devil Canyon Powerplant	Lake Perris (d)	Oso Pumping Plant
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1962	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0
1972	165,589	494,616	0	23,387	4,216	-3,024	0	93,212
1973	434,834	1,524,487	0	219,421	47,861	-436,768	0	158,063
1974	589,117	2,058,680	0	315,705	98,179	-496,517	52,549	189,479
1975	1,130,256	3,940,915	0	577,509	25,950	-1,033,054	65,938	349,000
1976	1,222,413	4,235,934	0	869,201	122,336	-1,459,978	104,257	245,397
1977	349,754	1,152,422	0	296,678	260,257	-1,115,096	49,907	18,075
1978	1,034,893	3,636,670	0	1,551,015	0	-3,038,194	0	69,043
1979	1,438,690	4,965,846	0	1,712,620	122,803	-3,159,826	355,442	118,995
1980	1,819,562	5,800,689	0	1,857,739	0	-3,318,152	0	49,772
1981	2,298,285	8,112,110	0	1,999,440	260,850	-2,377,087	374,575	342,530
1982	3,370,169	12,038,542	0	2,796,575	4,410	-3,096,275	0	514,280
1983	1,541,236	4,656,767	0	1,106,014	958,612	-5,355,232	0	185,835
1984	977,589	2,977,721	0	561,654	379,247	-8,668,691	-15,571	217,867
1985	3,867,190	12,440,532	0	1,373,140	0	-6,885,042	141,620	1,207,976
1986	6,279,271	20,538,457	-3,975,976	2,748,397	939,518	-12,008,694	17,651	1,719,611
1987	12,427,959	41,437,071	-5,964,308	7,137,281	0	-20,541,444	0	2,598,628
1988	13,999,339	46,780,693	-5,008,534	8,635,441	0	-23,900,198	756,501	2,659,128
1989	13,260,591	44,256,324	-5,118,744	8,167,451	277,209	-24,477,480	0	2,547,069
1990	14,383,494	47,933,570	-4,814,562	8,945,809	0	-24,135,026	585,637	2,655,818
1991	18,454,639	61,889,305	-5,329,245	11,746,857	3,284	-25,118,852	260,670	3,248,206
1992	18,457,209	61,995,536	-5,392,151	12,114,876	27,615	-25,931,290	0	3,084,201
1993	20,619,781	69,619,009	-5,587,668	13,352,805	127,904	-26,683,081	237,578	3,529,326
1994	21,056,074	71,196,483	-5,890,611	13,691,443	579,507	-27,474,808	2,500	3,566,114
1995	22,623,798	76,506,078	-5,124,399	7,661,550	0	-13,406,683	0	6,898,343
1996	25,174,327	85,324,091	-4,843,835	7,466,563	0	-12,447,694	2,389,564	8,126,549
1997	26,943,520	91,079,621	-5,103,976	8,019,624	1,355,462	-13,560,207	0	8,624,683
1998	27,899,683	93,974,994	-5,240,473	8,368,386	0	-13,520,077	307,793	8,866,269
1999	30,720,337	103,185,435	-5,214,388	8,646,670	0	-13,293,537	958,295	9,997,090
2000	33,544,287	112,338,475	-5,371,815	9,360,469	184,892	-13,827,304	0	10,868,750
2001	34,246,221	114,389,372	-5,331,752	9,255,552	1,545,749	-13,933,794	0	11,184,990
2002	36,486,670	121,632,569	-5,442,823	9,860,940	0	-13,761,760	714,644	11,857,651
2003	37,901,615	126,513,464	-5,520,611	10,268,944	811,835	-14,032,642	0	12,298,523
2004	39,832,277	133,072,156	-5,520,367	10,561,356	0	-13,776,590	1,230,421	13,098,006
2005	40,307,115	134,607,658	-5,637,919	10,736,829	0	-14,013,175	660,612	13,330,153
2006	40,102,222	133,767,508	-5,260,436	10,732,876	0	-14,279,323	903,878	13,226,751
2007	41,125,643	137,292,986	-5,338,909	11,009,654	1,850,597	-14,863,910	0	13,496,147
2008	42,829,470	143,087,062	-5,589,654	11,757,265	0	-15,151,338	0	13,901,022
2009	42,980,158	143,527,930	-5,552,389	11,590,307	1,127,829	-15,215,929	924,121	14,013,564
2010	43,821,055	146,387,952	-5,686,849	12,021,079	0	-15,267,542	1,692,903	14,153,176
2011	45,929,881	153,577,571	-5,890,651	12,743,333	692,614	-15,993,072	0	14,747,602
2012	47,906,184	160,346,359	-5,934,107	13,262,245	0	-15,900,786	1,148,161	15,331,502
2013	49,736,428	166,530,452	-6,135,154	14,009,312	0	-16,475,677	0	15,745,536
2014	49,368,547	165,224,476	-6,130,453	13,768,041	1,822,016	-16,728,581	0	15,643,897
2015	52,655,795	176,474,496	-5,856,883	14,487,069	922,686	-16,363,624	2,344,483	16,687,377
2016	54,566,315	182,984,653	-6,155,416	15,520,204	315,604	-17,187,347	0	17,050,241
2017	57,281,740	192,305,620	-6,170,151	16,150,292	0	-17,022,431	1,756,944	17,880,632
2018	59,003,351	198,211,795	-6,277,596	16,719,111	2,129,469	-17,706,252	0	18,336,742
2019	60,610,744	204,029,129	-6,485,247	17,491,417	320,972	-17,934,354	0	18,707,182
2020	59,487,150	200,369,081	-6,320,276	16,664,930	170,606	-17,236,800	4,479,297	18,568,835
2021	61,705,856	208,194,992	-6,644,018	17,871,040	0	-18,203,363	0	19,035,668
2022	61,385,602	208,092,955	-6,677,534	17,816,313	0	-18,258,591	0	19,047,628
2023	60,749,295	206,893,497	-2,111,282	17,499,379	0	-18,057,019	939,664	19,042,635
2024	60,316,610	206,557,872	-2,085,752	17,123,588	3,286,129	-18,266,027	0	19,138,477
2025	60,369,316	207,969,314	-2,103,081	17,148,184	0	-17,704,519	2,724,760	19,278,312
2026	60,560,410	209,438,744	-2,124,086	17,454,884	1,877,387	-18,360,516	0	19,341,373
2027	60,584,017	210,369,789	-2,143,883	17,696,384	0	-18,238,406	545,132	19,358,549
2028	60,260,109	209,262,566	-2,151,962	17,624,771	0	-18,257,383	417,232	18,908,749
2029	59,987,152	208,321,287	-2,158,012	17,651,199	0	-18,399,597	0	18,435,483
2030	60,311,045	209,214,745	-2,154,762	17,716,706	61,215	-18,479,870	0	18,442,772
2031	59,844,337	207,145,974	-2,111,465	17,225,895	1,026,989	-18,084,854	1,780,942	18,327,256
2032	60,545,499	209,285,359	-2,164,602	17,740,183	0	-18,446,621	0	18,245,573
2033	59,418,730	204,705,101	-2,131,785	17,151,168	1,822,443	-18,434,885	297,714	17,824,675
2034	60,657,338	208,717,497	-2,170,498	17,664,422	0	-18,472,764	0	17,791,940
2035	57,736,635	198,493,775	-2,132,083	16,876,821	953,016	-18,308,823	923,696	16,529,539

- d) These values represent a proportionate allocation of the total variable OMP&R costs of pumping and power recovery plants (Table B-3) associated with net annual withdrawals from reservoir storage for the Project transportation facilities. The allocation is determined annually by applying the following ratio, calculated from the data shown in Table B-6: "Reservoir Storage Changes" (withdrawals, as a positive value) conveyed through each plant, in acre-feet, divided by "Total" annual quantity conveyed through each plant, in acre-feet. The costs so determined are accumulated for all upstream plants for each year, for each respective reservoir.

**TABLE B-12: VARIABLE OMP&R COSTS TO BE REIMBURSED
THRU VARIABLE OMP&R COMPONENT OF TRANSPORTATION CHARGE**

(in dollars)

Sheet 3 of 3

	CALIFORNIA AQUEDUCT (Continued)							
Calendar Year	Reach 29G William E. Warne Powerplant	Reach 29H Pyramid Lake (d)	Reach 29J Castaic Powerplant	Reach 30 Castaic Lake (d)	Reach 31A LasPerillas and Badger Hill Pumping Plants (e)	Reach 33A Devil's Den Sawtooth and Polonio PP's and San Luis Obispo Pwp.	Total	GRAND TOTAL
	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
1962	0	0	0	0	0	0	0	36,970
1963	0	0	0	0	0	0	0	57,711
1964	0	0	0	0	0	0	0	74,134
1965	0	0	0	0	0	0	0	142,609
1966	0	0	0	0	0	0	0	192,605
1967	0	0	0	0	0	0	13,881	236,998
1968	0	0	0	0	118,676	0	774,253	1,117,913
1969	0	0	0	0	78,350	0	507,516	773,646
1970	0	0	0	0	136,429	0	693,842	1,103,798
1971	0	0	0	0	166,296	0	1,121,164	1,513,435
1972	0	3,578	-193,058	72,639	237,638	0	2,648,786	3,261,922
1973	0	7,344	-1,057,564	0	120,913	0	2,661,036	3,168,975
1974	0	42,364	-1,540,853	5,561	118,582	0	3,336,872	3,919,920
1975	0	0	-2,445,397	10,225	94,848	0	5,689,034	6,053,571
1976	0	60,068	-1,940,099	1,056,464	141,260	0	7,886,569	8,478,786
1977	0	0	-531,222	-831,024	63,079	0	1,056,940	1,592,571
1978	0	1,061,221	-1,375,720	0	179,925	0	7,146,020	7,754,067
1979	0	0	-2,292,587	2,812	192,126	0	9,347,205	9,968,578
1980	0	506,277	-972,041	303,796	168,458	0	11,576,044	12,119,358
1981	0	0	-4,018,743	0	159,647	0	14,637,566	15,198,490
1982	-783,175	0	-3,454,406	0	268,727	0	19,699,616	20,795,834
1983	-821,366	479,942	-6,032,884	-1,534,808	219,446	0	-1,262,979	-675,226
1984	-1,802,064	0	-905,726	-644,425	109,026	0	-3,212,508	-2,910,462
1985	-5,749,881	0	-10,646,066	0	262,442	0	7,555,365	8,493,227
1986	-6,935,143	0	-12,724,206	47,608	360,139	0	13,546,368	14,701,684
1987	-8,006,493	0	-14,269,913	0	490,946	0	44,218,514	45,899,300
1988	-7,937,659	0	-14,081,263	275,149	476,284	0	54,733,313	56,514,458
1989	-8,031,158	0	-14,297,356	0	496,111	0	47,543,930	49,235,131
1990	-7,826,436	0	-13,637,135	617,348	552,794	0	58,812,369	60,747,286
1991	-8,182,864	0	-14,342,794	0	658,523	0	85,117,214	87,551,793
1992	-7,825,865	0	-13,622,375	1,192,961	1,009,777	0	87,566,929	90,118,189
1993	-8,362,169	0	-14,522,076	0	1,089,761	0	100,348,644	103,240,595
1994	-8,380,224	0	-14,654,557	0	1,089,779	0	102,492,832	105,523,915
1995	-13,990,663	0	-25,229,049	4,458,356	1,205,098	0	113,260,293	116,734,719
1996	-14,966,823	0	-28,351,332	20,843	1,260,982	0	125,557,589	129,249,318
1997	-15,142,789	0	-29,482,824	0	1,284,378	0	133,556,359	137,371,362
1998	-15,780,938	0	-29,685,605	2,756,826	1,307,912	0	140,530,089	144,431,411
1999	-15,006,804	0	-31,705,221	0	1,367,843	0	156,045,862	160,143,162
2000	-15,634,813	0	-32,814,000	147,390	1,441,805	0	171,837,927	176,176,842
2001	-15,800,509	0	-33,471,148	0	1,450,976	0	176,375,567	180,766,867
2002	-15,896,935	0	-34,017,573	127,083	1,515,791	0	190,213,009	194,827,293
2003	-15,928,118	0	-34,308,985	1,295,510	1,560,496	0	200,834,867	205,614,088
2004	-16,030,125	0	-35,222,398	0	1,608,891	0	212,513,533	217,467,124
2005	-16,208,153	0	-35,741,033	320,837	1,600,147	0	214,357,072	219,313,381
2006	-16,101,554	0	-36,103,179	0	1,569,190	0	212,337,960	217,203,573
2007	-16,388,026	0	-36,305,849	376,936	1,598,996	0	219,481,597	224,444,805
2008	-16,368,828	0	-36,702,284	0	1,632,715	0	228,090,620	233,163,541
2009	-16,374,184	0	-36,995,917	0	1,632,214	0	230,578,473	235,655,181
2010	-16,531,301	0	-36,868,060	1,715,488	1,658,415	0	237,642,389	242,808,525
2011	-16,510,098	0	-37,544,482	0	1,699,065	0	247,756,638	253,066,575
2012	-16,394,046	0	-37,780,724	0	1,761,227	0	261,876,101	267,400,888
2013	-16,454,781	0	-38,054,362	0	1,803,760	0	272,188,121	277,866,714
2014	-16,538,894	0	-38,199,544	583,083	1,786,044	0	271,291,691	276,937,044
2015	-16,502,397	0	-38,591,722	0	1,896,708	0	295,299,529	301,316,636
2016	-16,465,318	0	-38,842,329	0	1,927,413	0	304,184,671	310,319,426
2017	-16,475,508	0	-39,115,591	0	2,016,267	0	324,233,115	330,670,336
2018	-16,518,784	0	-39,383,428	0	2,057,305	0	335,130,813	341,719,552
2019	-16,384,629	0	-39,622,419	0	2,087,176	0	344,098,747	350,801,546
2020	-16,544,370	0	-39,753,880	771,514	2,063,030	0	341,908,127	348,556,752
2021	-16,388,625	0	-40,122,877	0	2,096,026	0	350,388,669	357,144,458
2022	-16,546,272	0	-40,312,560	477,376	2,087,582	0	349,302,736	356,031,836
2023	-16,547,567	0	-40,595,722	253,327	2,069,371	0	351,383,715	358,054,709
2024	-16,527,788	0	-40,887,444	0	2,063,095	0	351,487,060	358,138,265
2025	-16,529,942	0	-41,132,977	0	2,064,944	0	353,523,724	360,181,559
2026	-16,538,601	0	-41,136,362	0	2,072,434	0	354,762,586	361,444,572
2027	-16,548,928	0	-41,107,991	168,846	2,076,346	0	355,367,565	362,062,162
2028	-16,520,112	0	-41,131,317	0	2,062,851	0	352,183,811	358,834,900
2029	-16,548,078	0	-41,024,918	584,615	2,054,452	0	349,726,455	356,350,463
2030	-16,518,465	0	-41,131,459	0	2,061,428	0	350,411,261	357,057,764
2031	-16,532,762	0	-41,136,030	0	2,060,031	0	349,112,359	355,754,357
2032	-16,468,971	0	-41,122,382	0	2,069,393	0	349,877,551	356,549,731
2033	-16,548,094	0	-40,950,305	1,011,083	2,049,105	0	344,158,962	350,765,731
2034	-16,548,877	0	-41,073,455	339,327	2,077,120	0	348,918,692	355,615,789
2035	-16,544,358	0	-39,859,402	6,528,521	2,030,654	0	337,850,582	344,397,860

e) Includes extra peaking costs assigned directly to Kern County Water Agency. Refer to Appendix B test discussion of Table B-16A under "Project Water Charges".

TABLE B-13: CAPITAL AND OPERATING COSTS OF PROJECT CONSERVATION FACILITIES TO BE REIMBURSED THRU DELTA WATER CHARGE
(in dollars)

Calendar Year	Initial Project Conservation Facilities (Portions of Upper Feather Lakes, Oroville-Thermalito Facilities and California Aqueduct)					Planning and Pre-Operating Costs (a & f)	Total
	Capital Costs (a)	Capital Cost Credits (b)	Operating Costs (c)	Application of Oroville Power Revenues to			
				Capital Costs ^(d)	Operating ^(e) Costs		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1952	171,322	0	0	0	0	0	171,322
1953	312,190	0	0	0	0	0	312,190
1954	308,624	0	0	0	0	0	308,624
1955	194,645	0	0	0	0	0	194,645
1956	1,357,077	0	0	0	0	0	1,357,077
1957	6,210,709	0	0	0	0	0	6,210,709
1958	9,510,916	0	0	0	0	0	9,510,916
1959	11,390,586	0	0	0	0	0	11,390,586
1960	14,456,356	-4,850,000	0	0	0	0	9,606,356
1961	18,682,616	-431,527	0	0	0	0	18,251,089
1962	9,012,960	-479,280	0	0	0	0	8,533,680
1963	72,965,728	-478,743	-14,000	0	0	0	72,476,985
1964	62,490,522	-751,330	-14,000	0	0	107,780	61,832,972
1965	70,913,845	-763,541	-14,000	0	0	551,850	70,686,154
1966	125,205,400	-748,649	-14,000	0	0	1,081,023	125,523,774
1967	94,297,143	-812,145	-13,446	0	0	1,189,212	94,660,764
1968	39,888,213	-431,574	1,293,465	-951,000	0	793,399	40,592,503
1969	5,280,238	-259,015	2,870,059	-11,007,000	0	601,867	-2,513,851
1970	4,130,524	-203,733	4,797,921	-14,650,000	-1,500,000	516,659	-6,908,629
1971	3,877,007	-193,631	6,005,767	-14,650,000	-1,500,000	408,754	-6,052,103
1972	4,569,025	-196,361	5,357,688	-14,650,000	-1,500,000	287,374	-6,132,274
1973	3,985,415	-136,997	6,062,679	-14,650,000	-1,500,000	203,384	-6,033,519
1974	6,659,999	-137,503	6,852,839	-17,950,000	-1,500,000	201,907	-5,872,758
1975	8,084,449	-234,567	7,601,709	-14,650,000	-1,500,000	146,188	-552,221
1976	5,870,538	-204,944	6,936,285	-14,650,000	-1,500,000	205,234	-3,342,887
1977	21,282,929	-150,214	10,394,892	-14,650,000	-1,500,000	860,353	16,237,960
1978	7,617,067	-64,566	13,683,926	-14,650,000	-1,500,000	2,227,479	7,313,906
1979	9,011,359	0	9,448,476	-14,650,000	-1,500,000	2,151,325	10,461,160
1980	10,352,862	0	12,689,289	-14,650,000	-1,500,000	3,669,698	10,561,849
1981	11,092,333	0	10,249,813	-14,650,000	-1,500,000	4,542,900	9,735,046
1982	16,885,590	0	14,867,418	-14,650,000	-1,500,000	4,374,361	19,977,369
1983	12,931,413	0	22,294,929	-34,705,000	-8,735,000	3,727,727	-4,485,931
1984	10,401,315	0	23,353,252	-14,650,000	-10,348,000	3,732,640	12,489,207
1985	7,990,412	0	26,696,359	-14,650,000	-8,198,000	4,116,449	15,955,220
1986	12,251,439	0	30,996,391	-14,650,000	-9,107,000	4,200,561	23,691,391
1987	14,286,714	0	32,447,512	-14,650,000	-8,548,000	4,396,578	27,932,804
1988	8,015,057	0	31,650,334	-14,916,000	-8,452,000	3,874,432	20,171,823
1989	5,956,616	0	31,532,525	-16,126,000	-8,370,000	2,816,241	15,779,382
1990	4,502,585	0	29,130,005	-16,126,000	-8,363,000	2,287,417	11,431,007
1991	62,370	0	32,107,936	-16,126,000	-8,367,000	1,381,939	9,059,245
1992	0	0	30,229,342	-16,126,000	-8,382,000	1,382,644	7,103,986
1993	0	0	32,455,308	-16,126,000	-8,382,000	1,382,663	9,329,971
1994	0	0	31,409,103	-16,126,000	-8,414,000	1,382,663	8,251,766
1995	0	0	33,501,337	-16,126,000	-8,455,000	1,382,663	10,303,000
1996	0	0	35,259,507	-16,126,000	-8,505,000	1,382,663	12,011,170
1997	0	0	30,924,793	-16,126,000	-8,561,000	1,382,663	7,620,456
1998	0	0	35,603,117	-16,126,000	-8,561,000	1,382,663	12,298,780
1999	0	0	32,835,341	-16,126,000	-8,639,000	1,382,663	9,453,004
2000	0	0	35,412,584	-16,126,000	-8,720,000	1,382,663	11,949,247
2001	0	0	33,031,137	-16,126,000	-8,931,000	1,279,220	9,253,357
2002	0	0	35,357,175	-16,126,000	-9,067,000	1,279,220	11,443,395
2003	0	0	36,475,895	-16,126,000	-9,672,000	1,279,220	11,937,055
2004	0	0	36,384,530	-16,126,000	-9,656,000	1,279,220	11,881,750
2005	0	0	36,526,263	-16,126,000	-9,542,000	1,279,220	12,137,483
2006	0	0	35,561,388	-16,126,000	-9,429,000	1,279,220	11,285,608
2007	0	0	36,734,074	-16,126,000	-9,431,000	1,279,220	12,456,294
2008	0	0	36,183,422	-16,126,000	-9,528,000	1,279,220	11,808,642
2009	0	0	35,405,647	-16,126,000	-9,567,000	1,279,220	10,991,867
2010	0	0	34,938,933	-16,126,000	-9,473,000	1,279,220	10,619,153
2011	0	0	34,085,692	-16,126,000	-9,382,000	0	8,577,692
2012	0	0	40,651,392	-16,126,000	-9,285,000	0	15,240,392
2013	0	0	36,782,747	-16,126,000	-9,285,000	0	11,371,747
2014	0	0	36,190,589	-16,126,000	-9,285,000	0	10,779,589
2015	0	0	36,659,537	-16,126,000	-9,285,000	0	11,248,537
2016	0	0	36,636,226	-16,126,000	-9,285,000	0	11,225,226
2017	0	0	37,269,698	-16,126,000	-9,285,000	0	11,858,698
2018	0	0	37,447,258	-16,126,000	-9,285,000	0	12,036,258
2019	0	0	37,541,796	-16,126,000	-9,182,000	0	12,233,796
2020	0	0	37,966,969	-16,126,000	-9,075,000	0	12,765,969
2021	0	0	37,325,338	-16,126,000	-8,058,000	0	13,141,338
2022	0	0	36,683,195	-16,126,000	-7,758,000	0	12,799,195
2023	0	0	36,798,551	-16,126,000	-7,573,000	0	13,099,551
2024	0	0	35,389,177	-16,126,000	-7,510,000	0	11,753,177
2025	0	0	34,080,450	-16,126,000	-7,510,000	0	10,444,450
2026	0	0	36,427,970	-16,126,000	-7,510,000	0	12,791,970
2027	0	0	35,675,767	-16,126,000	-7,162,000	0	12,387,767
2028	0	0	35,491,036	-16,126,000	-6,815,000	0	12,550,036
2029	0	0	32,581,274	-16,126,000	-6,467,000	0	9,988,274
2030	0	0	34,474,119	-16,126,000	-6,379,000	0	11,969,119
2031	0	0	35,206,140	-16,126,000	-6,181,000	0	12,899,140
2032	0	0	34,019,323	-16,126,000	-5,983,000	0	11,910,323
2033	0	0	32,284,933	-16,126,000	-5,874,000	0	10,284,933
2034	0	0	34,159,488	-16,126,000	-5,766,000	0	12,267,488
2035	0	0	33,300,116	-16,126,000	-5,766,000	0	11,408,116
TOTAL	732,466,108	-11,528,320	1,928,609,640	-1,071,851,000	-463,849,000	79,890,879	1,193,738,307

- a) Reimbursed through the capital cost component of the Delta Water Charge.
b) Negotiated settlements as to the magnitude of SWP planning costs from 1952 through 1978.
c) Reimbursed through the minimum OMP&R component of the Delta Water Charge. Credits for San Luis power generation are reflected in these net costs.
d) Revenues credited through the capital cost component of the Delta Water Charge.
e) Revenue credits through the operating component of the Delta Water Charge.
f) Under amendments of Articles 22(e) and 22(g), planning and pre-operating costs of Additional Project Conservation Facilities incurred through the previous year (1983) are reflected in the Delta Water Charge.

TABLE B-14: CAPITAL COSTS OF TRANSPORTATION

(in dollars)

Sheet 1 of 4

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA				CENTRAL COASTAL AREA		
	Napa County FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD, Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1952	0	0	0	83	99	409	591	121	224	345
1953	0	0	0	324	406	1,808	2,538	336	619	955
1954	0	0	0	819	1,088	5,150	7,057	422	779	1,201
1955	0	0	0	976	1,321	6,297	8,594	211	388	599
1956	0	0	0	8,844	12,069	63,816	84,729	227	419	646
1957	16,594	10,040	26,634	21,563	29,313	649,598	700,474	290	535	825
1958	35,437	14,574	50,011	67,764	67,955	733,415	869,134	721	1,330	2,051
1959	21,488	5,800	27,288	154,254	142,959	493,049	790,262	25,853	53,921	79,774
1960	10,049	7,878	17,927	296,492	274,637	1,018,662	1,589,791	37,106	77,941	115,047
1961	7,250	7,145	14,395	853,505	797,749	1,914,710	3,565,964	15,637	31,208	46,845
1962	-197	-923	-1,120	545,123	576,571	1,686,044	2,807,738	19,640	37,213	56,853
1963	1,559	871	2,430	657,427	1,077,895	3,243,842	4,979,164	73,105	136,569	209,674
1964	42,604	31,255	73,859	712,653	1,244,064	7,251,805	9,208,522	146,715	273,922	420,637
1965	206,465	54,589	261,054	360,783	468,128	3,414,466	4,243,377	261,459	486,434	747,893
1966	467,845	43,691	511,536	592,720	562,232	2,245,228	3,400,180	598,330	1,107,174	1,705,504
1967	1,574,452	35,425	1,609,877	797,000	772,107	2,401,877	3,970,984	947,517	1,751,645	2,699,162
1968	867,044	54,260	921,304	736,474	681,350	1,997,934	3,415,758	359,891	666,475	1,026,366
1969	81,172	52,534	133,706	269,700	258,156	764,957	1,292,813	84,315	157,239	241,554
1970	49,950	61,288	111,238	58,678	56,854	135,572	251,104	54,663	102,458	157,121
1971	29,314	31,501	60,815	12,086	14,386	84,090	110,562	37,649	71,704	109,353
1972	21,400	17,148	38,548	12,291	11,723	63,612	87,626	24,098	45,422	69,520
1973	58,790	28,594	87,384	10,494	10,525	39,380	60,399	27,479	51,710	79,189
1974	173,078	58,584	231,662	15,721	17,774	73,122	106,617	30,087	56,332	86,419
1975	99,218	81,840	181,058	16,730	15,572	41,395	73,697	25,396	50,761	76,157
1976	63,976	76,802	140,778	34,005	32,853	109,615	176,473	54,578	109,509	164,087
1977	68,858	68,952	137,810	46,231	43,246	133,381	222,858	130,070	243,133	373,203
1978	72,296	68,483	140,779	61,469	56,729	153,593	271,791	36,958	70,448	107,406
1979	226,355	242,753	469,108	45,492	42,504	110,696	198,692	52,640	99,723	152,363
1980	319,716	297,188	616,904	134,838	124,183	305,143	564,164	194,280	360,213	554,493
1981	224,874	303,997	528,871	-34,500	-30,867	-67,197	-132,564	-81,098	-147,438	-228,536
1982	584,790	694,939	1,279,729	17,915	16,910	45,897	80,722	-28,074	-51,024	-79,098
1983	1,338,265	1,238,957	2,577,222	136,247	126,927	327,017	590,191	31,320	58,921	90,241
1984	2,663,473	2,420,794	5,084,267	148,885	136,855	337,085	622,825	34,383	65,038	99,421
1985	11,948,810	12,679,826	24,628,636	32,970	31,410	90,772	155,152	37,161	69,343	106,504
1986	12,778,603	16,277,322	29,055,925	48,605	47,365	141,404	237,374	43,187	80,459	123,646
1987	4,801,323	5,736,877	10,538,200	48,828	45,511	117,258	211,597	60,669	112,716	173,385
1988	319,665	483,335	803,000	74,702	68,300	162,756	305,758	66,480	123,437	189,917
1989	13,933	21,067	35,000	93,909	85,861	204,603	384,373	77,187	143,189	220,376
1990	0	0	0	62,935	57,542	137,119	257,596	59,894	111,287	171,181
1991	0	0	0	172	157	374	703	24,855	46,644	71,499
1992	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0
TOTAL	39,188,449	41,207,386	80,395,835	7,155,207	7,980,419	30,639,754	45,775,380	3,565,758	6,658,020	10,223,778

FACILITIES ALLOCATED TO EACH CONTRACTOR

(in dollars)

Sheet 2 of 4

Calendar Year	SAN JOAQUIN VALLEY AREA										
	Devil's Den Water District (a)	Dudley Ridge Water District	Empire West Side Irrigation District (b)	Future Contractor San Joaquin Valley	Kern County Water Agency			County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
					Municipal and Industrial	Municipal and Industrial (c)	Agricultural				
	(11)	(12)	(13)	(14)	(15)	(15A)	(16)	(17)	(18)	(19)	(20)
1952	87	389	19	59	938	120	9,137	19	13	784	11,565
1953	238	1,076	53	161	2,892	344	27,416	56	33	2,158	34,427
1954	298	1,350	67	200	3,379	416	32,404	70	42	2,719	40,945
1955	150	676	36	100	1,499	198	14,730	36	22	1,371	18,818
1956	160	727	33	107	2,709	272	24,300	34	26	1,417	29,785
1957	205	932	38	139	6,067	496	50,055	38	30	1,707	59,707
1958	511	2,308	100	345	14,412	1,155	119,338	103	61	4,368	142,701
1959	3,700	7,387	363	2,517	26,276	2,599	254,305	372	381	14,758	312,658
1960	5,396	12,942	629	3,666	34,105	4,158	352,574	644	498	25,699	440,311
1961	5,850	21,851	1,063	3,957	51,474	6,503	539,300	1,087	599	43,381	675,065
1962	11,657	49,324	2,410	7,867	95,002	13,840	1,017,765	2,466	1,879	98,151	1,300,361
1963	47,693	208,777	10,688	32,174	364,163	55,723	3,935,959	10,933	5,991	425,371	5,097,472
1964	95,861	328,316	16,963	64,894	600,500	88,923	6,639,524	17,352	11,944	672,079	8,536,356
1965	174,091	538,267	27,484	118,001	1,099,973	152,986	12,008,694	28,118	21,804	1,095,233	15,264,651
1966	411,444	1,107,866	52,591	279,183	2,220,602	339,414	24,873,716	53,793	38,895	2,173,302	31,550,806
1967	653,361	852,622	39,542	445,568	2,015,228	287,218	23,647,648	40,446	34,779	1,653,590	29,670,002
1968	243,377	198,757	9,740	166,270	1,107,258	70,150	11,570,326	9,962	12,239	396,114	13,784,193
1969	52,105	94,447	4,794	35,474	618,548	27,226	6,435,031	4,902	7,302	191,593	7,471,422
1970	31,849	54,350	2,720	21,686	416,140	15,528	4,158,051	2,784	3,999	109,482	4,816,589
1971	17,745	25,466	1,290	12,095	191,239	7,116	1,626,959	1,321	540	51,624	1,935,395
1972	12,235	11,591	589	8,354	83,179	3,412	725,530	601	343	23,528	869,362
1973	14,913	6,637	336	10,202	40,105	1,979	459,546	341	220	13,450	547,749
1974	16,154	9,478	469	11,044	45,558	2,767	484,755	478	326	18,982	590,011
1975	7,706	13,329	678	5,245	36,537	3,710	383,230	692	426	27,051	478,604
1976	18,475	17,505	837	12,616	53,182	5,624	654,900	856	1,152	34,450	799,597
1977	69,751	9,512	428	47,768	36,329	3,715	884,754	437	490	18,172	1,071,356
1978	-8,877	11,119	-31,049	3,543	27,772	3,351	303,824	551	802	22,040	333,076
1979	7,224	19,506	1,007	4,906	45,788	5,163	467,188	1,030	1,734	39,915	593,461
1980	37,487	103,080	-6,793	25,433	260,912	27,195	2,512,449	5,457	6,181	211,220	3,182,621
1981	6,469	25,344	-13,865	4,377	105	6,809	128,101	1,339	2,402	51,829	212,910
1982	17,464	82,490	4,278	11,745	141,564	21,596	1,272,036	4,371	2,583	169,208	1,727,335
1983	18,562	57,599	-35,021	12,568	119,963	15,174	1,184,600	3,048	1,548	118,046	1,496,087
1984	20,842	87,157	4,520	14,051	159,752	22,951	1,704,417	4,617	2,729	178,741	2,199,777
1985	10,623	44,125	2,287	7,167	150,410	11,583	1,528,595	2,337	1,593	90,460	1,849,180
1986	14,445	28,180	1,456	9,828	46,646	7,451	574,362	1,490	2,430	57,698	743,986
1987	25,912	81,010	4,200	17,558	131,624	21,257	1,507,830	4,295	7,899	166,097	1,967,682
1988	29,678	133,817	6,947	20,009	215,592	34,967	2,372,257	7,104	13,078	274,568	3,108,017
1989	37,268	168,122	8,731	25,126	270,131	43,876	2,973,940	8,929	16,440	345,029	3,897,592
1990	25,011	112,716	5,854	16,863	181,176	29,420	1,994,632	5,987	11,018	231,315	2,613,992
1991	175	446	24	120	928	129	10,259	24	31	897	13,033
1992	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0
TOTAL	2,137,295	4,530,613	126,536	1,462,986	10,919,657	1,346,514	119,464,437	228,520	214,502	9,057,597	149,488,657

- Costs from Table B-10 allocated to Devil's Den are reduced herein by \$14,088 in 1978 in accordance with a letter of agreement with the District.
- Costs from Table B-10 allocated to Empire are reduced by \$31,588 in 1978, \$12,129 in 1980, \$15,173 in 1981 and \$38,004 in 1983 in accordance with letters of agreement with the District.
- Costs related to maximum annual entitlement of 15,000 acre-feet under Amendment No. 18 of the water supply contract with Kern County Water Agency.

TABLE B-14: CAPITAL COSTS OF TRANSPORTATION

(in dollars)

Sheet 3 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1952	3,163	786	851	252	1,406	72	1,697	419	6,086	1,550
1953	10,047	2,522	2,674	801	4,406	222	5,329	1,330	19,079	4,859
1954	12,772	3,183	3,468	1,034	5,721	286	6,922	1,695	24,631	6,296
1955	5,423	1,422	1,380	399	2,270	115	2,757	717	9,239	2,379
1956	9,806	2,733	2,202	616	3,631	193	4,463	1,272	13,162	3,445
1957	26,389	7,121	6,358	1,822	10,488	542	12,802	3,462	40,719	10,556
1958	49,361	13,504	11,610	3,298	19,147	994	23,418	6,434	72,837	18,930
1959	70,442	21,126	15,907	4,625	26,227	1,350	31,831	9,054	98,754	25,564
1960	84,754	27,606	22,105	6,806	36,457	1,550	43,336	10,797	147,332	37,513
1961	126,875	40,281	34,676	12,547	57,185	2,256	63,834	16,480	236,434	57,782
1962	198,861	63,895	43,774	13,875	72,194	3,351	84,823	24,980	253,680	64,395
1963	580,866	185,778	116,929	33,184	192,841	9,842	235,199	73,346	610,869	160,783
1964	1,096,289	355,355	209,810	55,533	346,024	18,471	430,329	138,008	1,027,622	276,545
1965	1,911,872	669,374	386,223	103,929	636,955	32,882	788,408	245,063	1,916,155	513,707
1966	3,968,188	1,501,127	814,083	216,216	1,342,588	69,454	1,667,540	518,255	3,949,958	1,064,169
1967	4,990,835	2,823,458	1,080,012	296,716	1,781,155	88,543	2,187,593	655,042	5,833,249	1,553,415
1968	5,944,187	2,981,439	1,354,311	369,053	2,233,522	107,682	2,745,395	786,414	7,998,770	2,127,321
1969	5,844,553	2,409,562	1,694,216	540,851	2,794,153	121,673	3,264,693	868,198	10,915,868	2,774,503
1970	5,051,804	2,606,250	2,054,203	696,207	3,387,877	106,696	3,879,429	739,143	13,811,071	3,461,296
1971	2,587,829	1,747,033	1,073,393	339,055	1,770,260	48,511	2,091,088	348,354	8,145,412	1,989,414
1972	977,313	312,618	332,460	92,254	548,296	19,199	670,003	134,851	2,694,274	698,820
1973	355,900	789,769	158,851	82,290	262,003	6,329	238,654	46,292	1,761,777	403,916
1974	453,284	234,678	259,509	74,195	427,981	8,174	519,141	59,375	1,618,881	426,335
1975	254,377	195,585	193,804	52,864	319,618	4,969	392,464	34,115	1,534,426	408,124
1976	238,303	192,620	136,888	37,269	225,759	4,259	278,095	31,098	962,898	256,073
1977	200,164	236,962	91,508	25,889	150,918	3,764	183,867	26,911	592,003	155,691
1978	189,098	335,505	54,941	16,253	90,612	3,345	108,917	24,461	323,297	82,755
1979	377,210	726,721	85,802	22,804	141,503	6,291	175,157	46,860	421,435	113,305
1980	1,926,277	1,376,961	438,139	117,348	722,578	33,417	893,097	248,278	2,114,720	568,330
1981	-163,971	462,517	-49,457	-6,627	-81,558	-2,663	-109,828	-20,248	-104,298	-32,659
1982	1,899,559	706,999	367,626	107,902	606,283	31,937	745,605	239,492	1,931,171	528,340
1983	2,387,719	419,458	463,342	154,134	764,132	40,115	924,080	300,660	2,803,420	768,251
1984	1,580,032	245,482	282,339	91,210	465,630	26,487	565,800	198,642	1,647,326	451,339
1985	1,729,932	357,449	353,454	100,904	582,913	29,214	717,824	219,507	1,804,300	491,095
1986	170,766	65,097	31,173	11,423	51,413	2,726	60,187	21,473	208,513	55,323
1987	143,011	162,228	25,124	6,747	41,442	2,439	51,558	18,195	120,217	32,346
1988	234,600	136,104	42,456	10,935	70,017	3,958	88,058	29,644	193,779	52,979
1989	290,691	88,015	52,128	13,253	85,971	4,876	108,500	36,561	234,756	64,479
1990	196,580	59,373	35,747	9,110	58,954	3,301	74,344	24,740	161,491	44,310
1991	10,220	2,206	2,257	641	3,725	183	4,523	1,335	11,713	3,081
1992	1,248	258	226	57	373	21	468	157	1,012	278
1993	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0
TOTAL	46,026,629	22,570,160	12,286,502	3,717,674	20,263,070	847,026	24,261,400	6,170,862	76,168,038	19,726,933

FACILITIES ALLOCATED TO EACH CONTRACTOR

(in dollars)

Sheet 4 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Geronio Pass Water Agency	The Metropolitan Water District of Southern California(d)	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	South Bay	
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
1952	963	69,159	373	86,777	0	0	0	0	75	99,353
1953	3,014	218,082	1,191	273,556	0	0	0	0	336	311,812
1954	3,907	280,542	1,499	351,956	0	0	0	0	984	402,143
1955	1,475	111,865	672	140,113	0	0	0	0	1,218	169,342
1956	2,128	179,874	1,303	224,828	0	0	0	0	11,563	351,551
1957	6,540	517,533	3,381	647,713	0	0	0	0	29,099	1,464,452
1958	11,720	948,401	6,420	1,186,074	0	0	2	2	36,650	2,286,623
1959	15,842	1,368,069	9,934	1,698,725	0	0	14	14	58,691	2,967,412
1960	23,334	1,919,115	12,849	2,373,554	0	0	28	28	124,175	4,660,833
1961	36,199	3,218,434	18,835	3,921,818	0	0	10	10	321,147	8,545,244
1962	40,053	3,551,496	29,158	4,444,535	0	0	32	32	266,772	8,875,171
1963	99,364	11,203,614	87,001	13,589,616	0	0	51	51	731,871	24,610,278
1964	170,271	18,105,750	165,131	22,395,138	0	0	7,791	7,791	1,093,757	41,736,060
1965	316,598	33,844,561	308,320	41,674,047	0	0	3,139	3,139	470,582	62,664,743
1966	655,265	74,677,454	683,955	91,128,252	0	0	-48	-48	814,100	129,110,330
1967	960,354	131,149,092	1,285,557	154,685,021	0	0	47	47	1,511,272	194,146,365
1968	1,317,528	148,176,589	1,368,586	177,510,797	0	0	51,573	51,573	1,268,920	197,978,911
1969	1,729,871	140,617,639	1,090,679	174,666,459	0	0	234,232	234,232	433,304	184,473,490
1970	2,162,695	162,541,445	1,153,880	201,651,996	0	0	16,227	16,227	78,375	207,082,650
1971	1,238,982	134,243,113	742,669	156,365,113	0	0	27,204	27,204	16,297	158,624,739
1972	435,035	43,873,624	65,840	50,854,587	0	0	9	9	14,222	51,933,874
1973	256,915	39,825,526	291,175	44,479,397	0	0	25	25	9,710	45,263,853
1974	264,599	18,919,535	86,528	23,352,215	0	0	45	45	35,197	24,402,166
1975	253,968	16,772,093	84,435	20,500,842	0	0	21	21	8,459	21,318,838
1976	158,951	13,585,697	85,113	16,193,023	0	0	51	51	18,294	17,492,303
1977	96,611	11,862,579	112,068	13,738,935	0	0	28	28	23,044	15,567,234
1978	51,332	14,014,819	158,363	15,453,698	0	0	38	38	25,513	16,332,301
1979	69,859	27,978,690	346,871	30,512,508	0	0	23	23	26,804	31,952,959
1980	350,277	60,734,364	653,183	70,176,969	0	0	26	26	57,222	75,152,399
1981	-19,684	15,668,286	221,426	15,761,236	0	0	34	34	-4,944	16,137,007
1982	324,823	35,214,496	338,647	43,042,880	0	0	11	11	20,608	46,072,187
1983	472,374	29,569,168	199,200	39,266,053	0	0	19	19	71,914	44,091,727
1984	277,435	18,526,436	113,120	24,471,278	0	0	25	25	82,051	32,559,644
1985	302,155	24,370,465	171,730	31,230,942	0	0	0	0	24,165	57,994,579
1986	34,171	7,911,545	28,838	8,652,648	0	0	0	0	26,882	38,840,461
1987	19,888	8,410,464	74,161	9,107,820	0	0	0	0	19,633	22,018,317
1988	32,497	6,527,011	65,504	7,487,542	0	0	0	0	26,798	11,921,032
1989	39,513	4,678,013	42,405	5,739,161	0	0	0	0	33,688	10,310,190
1990	27,161	2,948,806	28,603	3,672,520	0	0	0	0	22,577	6,737,866
1991	1,908	139,096	1,051	181,939	0	0	0	0	62	267,236
1992	171	14,467	124	18,860	0	0	0	0	0	18,860
1993	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0
TOTAL	12,246,062	1,268,487,007	10,139,778	1,522,911,141	0	0	340,657	340,657	7,811,087	1,816,946,535

d) Costs from Table B-10, allocated to MWDSC, are reduced herein by \$16,428,417 in 1972 under provisions of Contract Amendment No. 7.

TABLE B-15: CAPITAL COST COMPONENT OF

(in dollars)

Sheet 1 of 4

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA				CENTRAL COASTAL AREA		
	Napa County FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD, Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1963	0	0	0	107,118	104,595	373,529	585,242	0	0	0
1964	0	0	0	126,693	160,513	541,810	829,016	9,089	17,998	27,087
1965	0	0	0	159,991	225,051	918,011	1,303,053	14,973	29,020	43,993
1966	19,468	0	19,468	176,848	249,337	1,095,144	1,521,329	24,444	46,705	71,149
1967	43,738	0	43,738	204,843	278,503	1,211,619	1,694,665	43,108	81,311	124,419
1968	125,416	0	125,416	241,782	318,558	1,336,222	1,894,562	57,692	108,402	166,094
1969	170,396	0	170,396	276,193	353,904	1,439,868	2,069,965	61,529	115,612	177,141
1970	174,607	0	174,607	288,795	367,297	1,479,552	2,135,644	63,581	119,485	183,066
1971	177,198	0	177,198	291,536	370,246	1,486,585	2,148,367	64,942	122,080	187,022
1972	178,719	0	178,719	337,469	370,993	1,490,947	2,199,409	65,994	124,138	190,132
1973	179,829	28,522	208,351	338,106	371,601	1,494,247	2,203,954	66,525	125,167	191,692
1974	182,879	30,005	212,884	338,651	372,147	1,496,290	2,207,088	66,951	126,005	192,956
1975	191,858	33,045	224,903	339,466	373,069	1,500,084	2,212,619	67,466	126,998	194,464
1976	197,005	37,290	234,295	340,334	373,877	1,502,231	2,216,442	177,584	330,356	507,940
1977	200,324	41,275	241,599	342,098	375,581	1,507,918	2,225,597	180,415	336,037	516,452
1978	203,896	44,852	248,748	344,497	377,824	1,514,837	2,237,158	187,163	348,650	535,813
1979	207,646	48,404	256,050	347,686	380,767	1,522,805	2,251,258	189,080	352,305	541,385
1980	219,389	60,998	280,387	350,046	382,972	1,528,548	2,261,566	191,811	357,478	549,289
1981	235,975	76,415	312,390	357,041	389,414	1,544,377	2,290,832	201,890	376,165	578,055
1982	247,641	92,185	339,826	355,251	387,813	1,540,891	2,283,955	197,683	368,516	566,199
1983	277,978	128,237	406,215	356,180	388,690	1,543,272	2,288,142	196,226	365,849	562,095
1984	347,403	192,510	539,913	363,248	395,275	1,560,237	2,318,760	197,851	368,926	566,777
1985	485,576	318,093	803,669	370,972	402,375	1,577,724	2,351,071	199,635	372,300	571,935
1986	1,105,444	975,885	2,081,329	372,682	404,004	1,582,433	2,359,119	201,563	375,897	577,460
1987	1,771,834	1,824,728	3,596,562	375,217	406,474	1,589,807	2,371,498	203,815	380,093	583,908
1988	2,023,599	2,125,551	4,149,150	377,777	408,861	1,595,956	2,382,594	206,996	386,003	592,999
1989	2,040,458	2,151,042	4,191,500	381,717	412,463	1,604,540	2,398,720	210,502	392,514	603,016
1990	2,041,198	2,152,160	4,193,358	386,700	417,019	1,615,397	2,419,116	214,598	400,112	614,710
1991	2,041,198	2,152,160	4,193,358	390,062	420,092	1,622,720	2,432,874	217,797	406,055	623,852
1992	2,041,198	2,152,160	4,193,358	390,071	420,101	1,622,740	2,432,912	219,133	408,563	627,696
1993	2,041,198	2,152,160	4,193,358	390,071	420,101	1,622,740	2,432,912	219,133	408,563	627,696
1994	2,041,198	2,152,160	4,193,358	390,071	420,101	1,622,740	2,432,912	219,133	408,563	627,696
1995	2,041,198	2,152,160	4,193,358	390,071	420,101	1,622,740	2,432,912	219,133	408,563	627,696
1996	2,041,198	2,152,160	4,193,358	390,071	420,101	1,622,740	2,432,912	219,133	408,563	627,696
1997	2,041,198	2,152,160	4,193,358	390,071	420,101	1,622,740	2,432,912	219,133	408,563	627,696
1998	2,041,198	2,152,160	4,193,358	390,071	420,101	1,622,740	2,432,912	219,133	408,563	627,696
1999	2,041,198	2,152,160	4,193,358	390,071	420,101	1,622,740	2,432,912	219,133	408,563	627,696
2000	2,041,198	2,152,160	4,193,358	390,071	420,101	1,622,740	2,432,912	219,133	408,563	627,696
2001	2,041,198	2,152,160	4,193,358	390,071	420,101	1,622,740	2,432,912	219,133	408,563	627,696
2002	2,041,198	2,152,160	4,193,358	390,071	420,101	1,622,740	2,432,912	219,133	408,563	627,696
2003	2,041,198	2,152,160	4,193,358	390,071	420,101	1,622,740	2,432,912	219,133	408,563	627,696
2004	2,041,198	2,152,160	4,193,358	390,071	420,101	1,622,740	2,432,912	219,133	408,563	627,696
2005	2,041,198	2,152,160	4,193,358	390,071	420,101	1,622,740	2,432,912	219,133	408,563	627,696
2006	2,041,198	2,152,160	4,193,358	390,071	420,101	1,622,740	2,432,912	219,133	408,563	627,696
2007	2,041,198	2,152,160	4,193,358	390,071	420,101	1,622,740	2,432,912	219,133	408,563	627,696
2008	2,041,198	2,152,160	4,193,358	390,071	420,101	1,622,740	2,432,912	219,133	408,563	627,696
2009	2,041,198	2,152,160	4,193,358	390,071	420,101	1,622,740	2,432,912	219,133	408,563	627,696
2010	2,041,198	2,152,160	4,193,358	390,071	420,101	1,622,740	2,432,912	219,133	408,563	627,696
2011	2,041,198	2,152,160	4,193,358	390,071	420,101	1,622,740	2,432,912	219,133	408,563	627,696
2012	2,041,198	2,152,160	4,193,358	390,071	420,101	1,622,740	2,432,912	219,133	408,563	627,696
2013	2,041,198	2,152,160	4,193,358	277,090	315,505	1,249,211	1,841,806	219,133	408,563	627,696
2014	2,041,198	2,152,160	4,193,358	241,216	259,587	1,080,930	1,581,733	210,044	390,565	600,609
2015	2,041,198	2,152,160	4,193,358	202,621	195,049	704,729	1,102,399	204,161	379,543	583,704
2016	2,021,730	2,152,160	4,173,890	183,222	170,764	527,596	881,582	194,690	361,858	556,548
2017	1,997,459	2,152,160	4,149,619	151,566	141,597	411,121	704,284	176,025	327,252	503,277
2018	1,915,781	2,152,160	4,067,941	109,274	101,543	286,519	497,336	161,442	300,161	461,603
2019	1,870,802	2,152,160	4,022,962	70,431	66,196	182,872	319,499	157,605	292,952	450,557
2020	1,866,591	2,152,160	4,018,751	56,289	52,804	143,188	252,281	155,552	289,078	444,630
2021	1,864,000	2,152,160	4,016,160	53,229	49,854	136,155	239,238	154,191	286,483	440,674
2022	1,862,479	2,152,160	4,014,639	52,602	49,108	131,793	233,503	153,139	284,426	437,565
2023	1,861,369	2,123,638	3,985,007	51,964	48,500	128,493	228,957	152,608	283,397	436,005
2024	1,858,319	2,122,155	3,980,474	51,420	47,954	126,450	225,824	152,183	282,559	434,742
2025	1,849,340	2,119,116	3,968,456	50,605	47,032	122,656	220,293	151,668	281,565	433,233
2026	1,844,193	2,114,870	3,959,063	49,737	46,224	120,509	216,470	151,549	280,787	432,336
2027	1,840,874	2,110,886	3,951,760	47,973	44,520	114,822	207,315	151,430	279,968	421,398
2028	1,837,302	2,107,309	3,944,611	45,574	42,276	107,903	195,753	151,311	279,149	410,460
2029	1,833,551	2,103,756	3,937,307	42,385	39,333	99,935	181,653	151,192	278,330	400,522
2030	1,821,809	2,091,163	3,912,972	40,025	37,128	94,193	171,346	151,073	277,511	392,584
2031	1,805,223	2,075,746	3,880,969	33,030	30,686	78,363	142,079	17,244	32,399	49,643
2032	1,793,557	2,059,975	3,853,532	34,820	32,287	81,849	148,956	21,451	40,047	61,498
2033	1,763,220	2,023,924	3,787,144	33,891	31,410	79,468	144,769	22,907	42,694	65,601
2034	1,693,795	1,959,650	3,653,445	26,823	24,826	62,503	114,152	21,282	39,638	60,920
2035	1,555,622	1,834,067	3,389,689	19,099	17,726	45,016	81,841	19,499	36,264	55,763
TOTAL	100,836,440	106,076,572	206,913,012	19,155,076	20,953,345	81,011,415	121,119,836	10,897,132	20,317,454	31,214,586

- a) Unadjusted for prior overpayments or underpayments of charges.
b) Determined at the current Project Interest Rate of 4.727 percent per annum.

TRANSPORTATION CHARGE FOR EACH CONTRACTOR^{(a) (b)}

(in dollars)

Sheet 2 of 4

Calendar Year	SAN JOAQUIN VALLEY AREA										
	Devil's Den Water District (a)	Dudley Ridge Water District	Empire West Side Irrigation District (b)	Future Contractor San Joaquin Valley	Kern County Water Agency			County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
					Municipal and Industrial	Municipal and Industrial (c)	Agricultural				
	(11)	(12)	(13)	(14)	(15)	(15A)	(16)	(17)	(18)	(19)	(20)
1963	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	2,779	0	0	0	0	0	0	2,779
1965	0	0	0	6,145	65,610	9,470	0	0	0	0	81,225
1966	0	0	0	12,267	122,673	17,406	0	0	0	0	152,346
1967	0	0	0	26,750	237,871	35,014	0	0	0	0	299,635
1968	33,403	72,009	2,563	49,864	342,415	49,914	405,155	8,678	4,450	61,417	1,029,868
1969	45,140	72,135	7,688	58,490	399,856	53,553	832,046	9,195	4,837	232,380	1,715,320
1970	51,459	79,059	7,688	60,330	431,945	54,966	1,012,018	9,449	5,031	171,966	1,883,911
1971	60,487	90,137	7,688	61,455	453,533	55,771	1,344,141	9,594	5,418	182,996	2,271,220
1972	69,515	100,712	7,688	62,083	463,454	56,141	2,012,733	9,662	10,383	564,531	3,356,902
1973	78,543	110,783	7,688	62,516	467,769	56,318	2,321,381	9,693	5,998	218,352	3,339,041
1974	87,571	168,138	7,688	63,045	469,849	56,420	2,599,599	9,711	6,716	362,428	3,831,165
1975	96,599	204,218	7,688	63,618	472,213	56,564	3,113,607	9,736	6,919	432,463	4,463,625
1976	105,626	155,705	7,688	63,890	474,108	56,756	3,356,439	9,772	7,815	309,374	4,547,733
1977	114,654	153,082	7,688	64,545	476,867	57,048	3,677,694	9,816	7,159	295,802	4,864,355
1978	114,654	163,657	7,688	67,023	478,752	57,241	4,088,066	9,839	7,546	317,361	5,311,827
1979	114,654	194,092	7,688	67,207	480,192	57,415	4,488,873	9,867	7,740	357,173	5,784,901
1980	114,654	206,459	7,688	67,461	482,568	57,682	4,898,375	9,921	11,029	359,475	6,215,312
1981	114,654	206,459	7,688	68,781	496,103	59,093	5,360,913	10,204	8,320	381,033	6,713,248
1982	114,654	206,459	7,688	69,008	496,109	59,446	5,787,803	10,273	8,707	402,090	7,162,237
1983	114,654	216,027	7,688	69,617	503,452	60,567	6,273,816	10,500	8,901	47,870	7,313,092
1984	114,654	227,105	7,688	70,269	509,676	61,354	6,581,594	10,658	9,288	313,906	7,906,192
1985	114,654	237,680	7,688	70,998	517,963	62,545	7,008,485	10,898	9,481	228,364	8,268,756
1986	114,654	248,254	7,688	71,370	525,766	63,145	7,431,898	11,019	9,868	487,324	8,970,983
1987	114,654	258,829	7,688	71,882	528,199	63,534	7,863,136	11,097	10,062	508,378	9,437,459
1988	114,654	269,404	7,688	72,803	535,101	64,649	8,265,682	11,322	10,449	529,436	9,881,188
1989	114,654	279,979	7,688	73,858	546,471	66,493	8,556,072	11,697	10,836	550,994	10,218,742
1990	114,654	290,553	7,688	75,192	560,805	68,821	8,857,765	12,170	11,029	594,111	10,592,788
1991	114,654	290,553	7,688	76,092	570,482	70,392	8,857,765	12,490	11,029	594,111	10,605,256
1992	114,654	290,553	7,688	76,099	570,531	70,399	8,857,765	12,491	11,029	594,111	10,605,320
1993	114,654	290,553	7,688	76,099	570,531	70,399	8,857,765	12,491	11,029	594,111	10,605,320
1994	114,654	290,553	7,688	76,099	570,531	70,399	8,857,765	12,491	11,029	594,111	10,605,320
1995	114,654	290,553	7,688	76,099	570,531	70,399	8,857,765	12,491	11,029	594,111	10,605,320
1996	114,654	290,553	7,688	76,099	570,531	70,399	8,857,765	12,491	11,029	594,111	10,605,320
1997	114,654	290,553	7,688	76,099	570,531	70,399	8,857,765	12,491	11,029	594,111	10,605,320
1998	114,654	290,553	7,688	76,099	570,531	70,399	8,857,765	12,491	11,029	594,111	10,605,320
1999	114,654	290,553	7,688	76,099	570,531	70,399	8,857,765	12,491	11,029	594,111	10,605,320
2000	114,654	290,553	7,688	76,099	570,531	70,399	8,857,765	12,491	11,029	594,111	10,605,320
2001	114,654	290,553	7,688	76,099	570,531	70,399	8,857,765	12,491	11,029	594,111	10,605,320
2002	114,654	290,553	7,688	76,099	570,531	70,399	8,857,765	12,491	11,029	594,111	10,605,320
2003	114,654	290,553	7,688	76,099	570,531	70,399	8,857,765	12,491	11,029	594,111	10,605,320
2004	114,654	290,553	7,688	76,099	570,531	70,399	8,857,765	12,491	11,029	594,111	10,605,320
2005	114,654	290,553	7,688	76,099	570,531	70,399	8,857,765	12,491	11,029	594,111	10,605,320
2006	114,654	290,553	7,688	76,099	570,531	70,399	8,857,765	12,491	11,029	594,111	10,605,320
2007	114,654	290,553	7,688	76,099	570,531	70,399	8,857,765	12,491	11,029	594,111	10,605,320
2008	114,654	290,553	7,688	76,099	570,531	70,399	8,857,765	12,491	11,029	594,111	10,605,320
2009	114,654	290,553	7,688	76,099	570,531	70,399	8,857,765	12,491	11,029	594,111	10,605,320
2010	114,654	290,553	7,688	76,099	570,531	70,399	8,857,765	12,491	11,029	594,111	10,605,320
2011	114,654	290,553	7,688	76,099	570,531	70,399	8,857,765	12,491	11,029	594,111	10,605,320
2012	114,654	290,553	7,688	76,099	570,531	70,399	8,857,765	12,491	11,029	594,111	10,605,320
2013	114,654	290,553	7,688	76,099	570,531	70,399	8,857,765	12,491	11,029	594,111	10,605,320
2014	114,654	290,553	7,688	73,320	570,531	70,399	8,857,765	12,491	11,029	594,111	10,602,541
2015	114,654	290,553	7,688	69,954	504,922	60,929	8,857,765	12,491	11,029	594,111	10,524,096
2016	114,654	290,553	7,688	63,832	447,859	52,993	8,857,765	12,491	11,029	594,111	10,452,975
2017	114,654	290,553	7,688	49,349	332,660	35,385	8,857,765	12,491	11,029	594,111	10,305,685
2018	114,654	290,553	7,688	26,234	228,116	20,485	8,857,765	3,813	11,029	594,111	10,154,448
2019	114,654	290,553	7,688	17,609	170,675	16,846	8,857,765	3,297	11,029	594,111	10,084,227
2020	114,654	290,553	7,688	15,768	138,587	15,433	8,857,765	3,042	11,029	594,111	10,048,630
2021	114,654	290,553	7,688	14,643	116,999	14,628	8,857,765	2,898	11,029	594,111	10,024,968
2022	114,654	290,553	7,688	14,016	107,078	14,259	8,857,765	2,829	11,029	594,111	10,013,982
2023	114,654	290,553	7,688	13,582	102,763	14,082	8,857,765	2,798	11,029	594,111	10,009,025
2024	114,654	290,553	7,688	13,053	100,682	13,979	8,857,765	2,780	11,029	594,111	10,006,294
2025	114,654	290,553	7,688	12,480	98,319	13,836	8,857,765	2,756	11,029	594,111	10,003,191
2026	114,654	290,553	7,688	12,208	96,423	13,643	8,857,765	2,720	11,029	594,111	10,000,794
2027	114,654	290,553	7,688	11,554	93,664	13,351	8,857,765	2,675	11,029	594,111	9,997,044
2028	114,654	290,553	7,688	9,076	91,780	13,159	8,857,765	2,653	11,029	594,111	9,992,468
2029	114,654	290,553	7,688	8,892	90,339	12,985	8,857,765	2,624	11,029	594,111	9,990,640
2030	114,654	290,553	7,688	8,637	87,964	12,717	8,857,765	2,571	11,029	594,111	9,987,689
2031	114,654	290,553	7,688	7,318	74,428	11,306	8,857,765	2,288	11,029	594,111	9,971,140
2032	114,654	290,553	7,688	7,091	74,423	10,953	8,857,765	2,218	11,029	594,111	9,970,485
2033	114,654	290,553	7,688	6,482	67,079	9,833	8,857,765	1,991	11,029	594,111	9,961,185
2034	114,654	290,553	7,688	5,830	60,856	9,045	8,857,765	1,833	11,029	594,111	9,953,364
2035	114,654	290,553	7,688	5,101	52,568	7,855	8,857,765	1,594	11,029	594,111	9,942,918
TOTAL	7,392,929	17,285,820	517,659	3,789,545	28,370,199	3,494,597	504,736,716	619,407	684,287	34,644,216	601,535,375

c) Charges under Amendment No. 18 of the water supply contract with Kern County Water Agency.

TABLE B-15: CAPITAL COST COMPONENT OF

(in dollars)

Sheet 3 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1963	34,103	0	0	0	0	0	0	0	52,892	0
1964	64,236	20,562	14,748	4,467	37,994	1,169	29,073	8,399	84,582	35,768
1965	121,108	38,997	25,633	7,348	41,627	2,127	51,397	15,549	137,892	36,084
1966	220,291	73,722	45,669	12,739	74,670	3,833	92,298	28,262	237,296	62,734
1967	426,148	151,596	87,901	23,956	144,320	7,436	178,805	55,148	442,208	117,940
1968	685,058	298,069	143,929	39,348	236,721	17,029	292,290	89,129	744,820	198,528
1969	993,424	452,737	214,186	58,494	352,589	17,616	434,713	129,926	1,159,772	308,885
1970	1,296,622	577,738	302,077	86,552	497,541	23,928	604,076	174,966	1,726,054	452,818
1971	1,558,695	712,942	408,643	122,669	673,294	29,463	805,329	213,310	2,442,531	632,380
1972	1,692,943	803,573	464,327	140,258	765,130	31,979	913,808	231,382	2,865,091	735,585
1973	1,743,643	819,791	481,574	145,044	793,574	32,975	948,566	238,377	3,004,861	771,837
1974	1,762,106	860,761	489,815	149,313	807,166	33,304	960,946	240,779	3,096,257	792,791
1975	1,785,621	872,936	503,278	153,162	829,368	33,728	987,878	243,859	3,180,240	814,908
1976	1,798,818	883,082	513,332	155,904	845,949	33,985	1,008,238	245,629	3,259,841	836,081
1977	1,811,180	893,075	520,433	157,837	867,661	34,206	1,022,664	247,242	3,309,793	849,365
1978	1,821,564	905,368	525,180	159,181	865,490	34,402	1,032,203	248,638	3,340,505	857,442
1979	1,831,374	922,773	528,030	160,024	870,190	34,575	1,037,853	249,907	3,357,276	861,735
1980	1,850,943	960,473	532,481	161,207	877,531	34,902	1,046,940	252,338	3,379,139	867,613
1981	1,950,872	1,031,905	555,211	167,294	915,016	36,635	1,093,271	265,218	3,488,845	897,096
1982	1,942,366	1,055,899	552,645	166,951	910,785	36,497	1,087,574	264,168	3,483,434	895,402
1983	2,040,909	1,092,576	571,716	172,548	942,238	38,154	1,126,253	276,592	3,583,617	922,810
1984	2,164,777	1,114,336	595,753	180,544	981,878	40,235	1,174,192	292,189	3,729,050	966,665
1985	2,246,744	1,127,071	610,400	185,276	1,006,034	41,609	1,203,544	302,494	3,814,509	986,079
1986	2,336,488	1,145,615	628,736	190,510	1,036,274	43,124	1,240,782	313,881	3,908,110	1,011,555
1987	2,345,393	1,149,009	630,362	191,106	1,038,955	43,267	1,243,921	315,001	3,918,984	1,014,441
1988	2,352,892	1,157,516	631,679	191,460	1,041,128	43,395	1,246,625	315,955	3,925,288	1,016,137
1989	2,365,265	1,164,694	633,919	192,037	1,044,821	43,603	1,251,269	317,519	3,935,508	1,018,931
1990	2,380,690	1,169,365	636,685	192,740	1,049,383	43,862	1,257,026	319,459	3,947,965	1,022,352
1991	2,391,189	1,172,536	638,594	193,226	1,052,531	44,038	1,260,997	320,780	3,956,590	1,024,719
1992	2,391,739	1,172,654	638,715	193,261	1,052,731	44,048	1,261,240	320,852	3,957,220	1,024,885
1993	2,391,806	1,172,668	638,727	193,264	1,052,752	44,049	1,261,265	320,860	3,957,274	1,024,900
1994	2,391,806	1,172,668	638,727	193,264	1,052,752	44,049	1,261,265	320,860	3,957,274	1,024,900
1995	2,391,806	1,172,668	638,727	193,264	1,052,752	44,049	1,261,265	320,860	3,957,274	1,024,900
1996	2,391,806	1,172,668	638,727	193,264	1,052,752	44,049	1,261,265	320,860	3,957,274	1,024,900
1997	2,391,806	1,172,668	638,727	193,264	1,052,752	44,049	1,261,265	320,860	3,957,274	1,024,900
1998	2,391,806	1,172,668	638,727	193,264	1,052,752	44,049	1,261,265	320,860	3,957,274	1,024,900
1999	2,391,806	1,172,668	638,727	193,264	1,052,752	44,049	1,261,265	320,860	3,957,274	1,024,900
2000	2,391,806	1,172,668	638,727	193,264	1,052,752	44,049	1,261,265	320,860	3,957,274	1,024,900
2001	2,391,806	1,172,668	638,727	193,264	1,052,752	44,049	1,261,265	320,860	3,957,274	1,024,900
2002	2,391,806	1,172,668	638,727	193,264	1,052,752	44,049	1,261,265	320,860	3,957,274	1,024,900
2003	2,391,806	1,172,668	638,727	193,264	1,052,752	44,049	1,261,265	320,860	3,957,274	1,024,900
2004	2,391,806	1,172,668	638,727	193,264	1,052,752	44,049	1,261,265	320,860	3,957,274	1,024,900
2005	2,391,806	1,172,668	638,727	193,264	1,052,752	44,049	1,261,265	320,860	3,957,274	1,024,900
2006	2,391,806	1,172,668	638,727	193,264	1,052,752	44,049	1,261,265	320,860	3,957,274	1,024,900
2007	2,391,806	1,172,668	638,727	193,264	1,052,752	44,049	1,261,265	320,860	3,957,274	1,024,900
2008	2,391,806	1,172,668	638,727	193,264	1,052,752	44,049	1,261,265	320,860	3,957,274	1,024,900
2009	2,391,806	1,172,668	638,727	193,264	1,052,752	44,049	1,261,265	320,860	3,957,274	1,024,900
2010	2,391,806	1,172,668	638,727	193,264	1,052,752	44,049	1,261,265	320,860	3,957,274	1,024,900
2011	2,391,806	1,172,668	638,727	193,264	1,052,752	44,049	1,261,265	320,860	3,957,274	1,024,900
2012	2,391,806	1,172,668	638,727	193,264	1,052,752	44,049	1,261,265	320,860	3,957,274	1,024,900
2013	2,357,704	1,172,668	638,727	193,264	1,039,080	44,049	1,261,265	320,860	3,904,382	1,011,502
2014	2,327,570	1,152,106	623,979	188,797	1,029,076	42,880	1,232,192	312,471	3,872,692	1,003,161
2015	2,270,698	1,133,671	613,095	185,916	1,011,125	41,922	1,209,868	305,311	3,819,382	988,815
2016	2,171,516	1,098,946	593,059	180,525	978,082	40,216	1,168,968	292,598	3,719,978	962,166
2017	1,965,658	1,021,072	550,826	169,308	908,432	36,613	1,082,461	265,713	3,515,066	906,960
2018	1,706,749	874,600	494,799	153,916	816,031	32,020	968,975	231,731	3,212,455	826,373
2019	1,398,382	719,932	424,541	134,770	700,163	26,434	826,552	190,934	2,797,503	716,014
2020	1,095,184	594,931	336,650	106,713	555,211	20,122	657,190	145,895	2,231,220	572,081
2021	833,112	459,726	230,084	70,595	379,458	14,587	455,937	107,550	1,514,743	392,520
2022	698,863	369,096	174,400	53,006	287,622	12,070	347,457	89,479	1,092,184	289,315
2023	648,163	352,878	157,153	48,220	259,178	11,074	312,700	82,483	952,413	253,062
2024	629,700	311,907	148,912	43,951	245,586	10,746	300,319	80,082	861,017	232,108
2025	606,185	299,733	135,450	40,102	223,384	10,322	273,387	77,001	777,035	209,991
2026	592,989	289,586	125,396	37,360	206,803	10,064	253,028	75,232	697,433	188,819
2027	580,626	279,594	118,294	35,427	195,091	9,843	238,601	73,618	647,481	175,535
2028	570,242	267,301	113,547	34,084	187,262	9,648	229,062	72,222	616,770	167,458
2029	560,432	249,896	110,697	33,240	182,561	9,474	223,412	70,953	599,998	163,165
2030	540,864	212,196	106,246	32,057	175,221	9,148	214,325	68,522	578,135	157,287
2031	440,934	140,763	83,517	25,970	137,735	7,414	167,994	55,642	468,430	127,804
2032	449,441	116,769	86,082	26,314	141,966	7,552	173,692	56,693	473,841	129,498
2033	350,897	80,092	67,011	20,716	110,514	5,895	135,012	44,269	373,657	102,089
2034	227,030	58,352	42,974	12,720	70,873	3,814	87,074	28,671	228,224	62,253
2035	145,062	45,597	28,327	7,988	46,718	2,440	57,722	18,366	142,766	38,821
TOTAL	119,411,322	58,556,123	31,903,957	9,654,695	52,584,801	2,199,451	62,996,264	16,020,435	197,712,455	51,204,343

TRANSPORTATION CHARGE FOR EACH CONTRACTOR^{(a) (b)}

(in dollars)

Sheet 4 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Geronio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	South Bay	
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
1963	0	707,040	0	794,035	0	0	0	0	47,190	1,426,467
1964	22,220	1,288,250	9,598	1,621,057	0	0	0	0	85,158	2,565,097
1965	22,324	2,227,522	18,164	2,745,772	0	0	412	412	141,899	4,316,354
1966	38,748	3,983,276	34,159	4,907,697	0	0	575	575	166,311	6,838,875
1967	72,741	7,857,318	69,640	9,635,157	0	0	573	573	208,544	12,006,731
1968	122,561	14,660,938	136,331	17,659,749	0	0	575	575	286,944	21,165,208
1969	190,911	22,347,894	207,329	26,868,476	0	0	3,250	3,250	352,772	31,357,320
1970	280,651	29,642,714	263,910	35,929,647	0	0	15,402	15,402	375,250	40,697,527
1971	392,845	38,074,876	323,770	46,390,747	0	0	16,243	16,243	379,316	51,570,113
1972	457,120	45,039,005	362,298	54,502,499	0	0	17,655	17,655	380,162	60,825,478
1973	479,688	47,315,036	365,713	57,140,679	0	0	17,655	17,655	380,900	63,482,272
1974	493,016	49,381,065	380,819	59,448,138	0	0	17,656	17,656	381,403	66,291,290
1975	506,743	50,362,554	385,307	60,659,582	0	0	17,659	17,659	383,225	68,156,081
1976	519,918	51,232,639	389,688	61,723,104	0	0	17,660	17,660	383,668	69,630,282
1977	528,164	51,937,424	394,103	62,563,147	0	0	17,663	17,663	384,617	70,813,430
1978	533,176	52,552,819	399,917	63,275,885	0	0	17,664	17,664	385,813	72,012,908
1979	535,839	53,279,866	408,132	64,077,574	0	0	17,666	17,666	387,136	73,315,970
1980	539,463	54,731,316	426,127	65,660,473	0	0	17,667	17,667	388,527	75,373,221
1981	557,634	57,882,032	460,012	69,301,041	0	0	17,669	17,669	391,495	79,604,730
1982	556,613	58,694,856	471,499	70,118,689	0	0	17,670	17,670	391,239	80,879,815
1983	573,464	60,521,678	489,067	72,351,622	0	0	17,671	17,671	392,308	83,331,145
1984	597,969	62,055,638	499,401	74,388,627	0	0	17,672	17,672	396,038	86,133,979
1985	612,361	63,016,733	505,269	75,658,123	0	0	17,673	17,673	400,292	88,071,522
1986	628,036	64,281,000	514,178	77,278,289	0	0	17,673	17,673	401,549	91,686,402
1987	629,818	64,693,578	515,682	77,729,517	0	0	17,673	17,673	402,950	94,139,567
1988	630,861	65,134,594	519,571	78,207,101	0	0	17,673	17,673	403,980	95,634,685
1989	632,575	65,478,838	523,025	78,602,004	0	0	17,673	17,673	405,392	96,437,048
1990	634,672	65,727,074	525,276	78,906,549	0	0	17,673	17,673	407,181	97,151,375
1991	636,122	65,884,561	526,803	79,102,686	0	0	17,673	17,673	408,387	97,384,086
1992	636,225	65,892,040	526,860	79,112,470	0	0	17,673	17,673	408,390	97,397,819
1993	636,234	65,892,824	526,866	79,113,489	0	0	17,673	17,673	408,390	97,398,838
1994	636,234	65,892,824	526,866	79,113,489	0	0	17,673	17,673	408,390	97,398,838
1995	636,234	65,892,824	526,866	79,113,489	0	0	17,673	17,673	408,390	97,398,838
1996	636,234	65,892,824	526,866	79,113,489	0	0	17,673	17,673	408,390	97,398,838
1997	636,234	65,892,824	526,866	79,113,489	0	0	17,673	17,673	408,390	97,398,838
1998	636,234	65,892,824	526,866	79,113,489	0	0	17,673	17,673	408,390	97,398,838
1999	636,234	65,892,824	526,866	79,113,489	0	0	17,673	17,673	408,390	97,398,838
2000	636,234	65,892,824	526,866	79,113,489	0	0	17,673	17,673	408,390	97,398,838
2001	636,234	65,892,824	526,866	79,113,489	0	0	17,673	17,673	408,390	97,398,838
2002	636,234	65,892,824	526,866	79,113,489	0	0	17,673	17,673	408,390	97,398,838
2003	636,234	65,892,824	526,866	79,113,489	0	0	17,673	17,673	408,390	97,398,838
2004	636,234	65,892,824	526,866	79,113,489	0	0	17,673	17,673	408,390	97,398,838
2005	636,234	65,892,824	526,866	79,113,489	0	0	17,673	17,673	408,390	97,398,838
2006	636,234	65,892,824	526,866	79,113,489	0	0	17,673	17,673	408,390	97,398,838
2007	636,234	65,892,824	526,866	79,113,489	0	0	17,673	17,673	408,390	97,398,838
2008	636,234	65,892,824	526,866	79,113,489	0	0	17,673	17,673	408,390	97,398,838
2009	636,234	65,892,824	526,866	79,113,489	0	0	17,673	17,673	408,390	97,398,838
2010	636,234	65,892,824	526,866	79,113,489	0	0	17,673	17,673	408,390	97,398,838
2011	636,234	65,892,824	526,866	79,113,489	0	0	17,673	17,673	408,390	97,398,838
2012	636,234	65,892,824	526,866	79,113,489	0	0	17,673	17,673	408,390	97,398,838
2013	627,899	65,185,783	526,866	78,284,049	0	0	17,673	17,673	361,200	95,931,102
2014	622,744	64,604,573	517,269	77,529,510	0	0	17,673	17,673	323,232	94,848,656
2015	613,911	63,665,302	508,702	76,367,718	0	0	17,261	17,261	266,491	93,055,027
2016	597,487	61,909,548	492,708	74,205,797	0	0	17,098	17,098	242,079	90,529,969
2017	563,493	58,035,506	457,226	69,478,334	0	0	17,101	17,101	199,846	85,358,146
2018	513,673	51,231,885	390,535	61,453,742	0	0	17,098	17,098	121,446	76,773,614
2019	445,324	43,544,930	319,537	52,245,016	0	0	14,423	14,423	55,618	67,192,302
2020	355,583	36,250,109	262,956	43,183,845	0	0	2,271	2,271	33,140	57,983,548
2021	243,389	27,817,948	203,096	32,722,745	0	0	1,430	1,430	29,074	47,474,289
2022	179,114	20,853,819	164,569	24,610,994	0	0	18	18	28,228	39,338,929
2023	156,546	18,577,787	161,153	21,972,810	0	0	18	18	27,490	36,659,312
2024	143,218	16,511,759	146,048	19,665,353	0	0	17	17	26,987	34,339,691
2025	129,492	15,530,270	141,559	18,453,911	0	0	14	14	25,161	33,104,259
2026	116,317	14,660,184	137,179	17,390,390	0	0	13	13	24,722	31,711,208
2027	108,071	13,955,399	132,763	16,550,343	0	0	11	11	23,773	30,841,490
2028	103,059	13,340,004	126,950	15,837,609	0	0	9	9	22,577	30,084,910
2029	100,396	12,612,958	118,734	15,035,916	0	0	7	7	21,254	29,253,089
2030	96,772	11,161,507	100,740	13,453,020	0	0	6	6	19,863	27,623,303
2031	78,600	8,010,791	66,854	9,812,448	0	0	5	5	16,895	23,873,179
2032	79,622	7,197,968	55,367	8,994,805	0	0	3	3	17,151	23,046,430
2033	62,771	5,371,146	37,799	6,761,868	0	0	2	2	16,082	20,736,651
2034	38,265	3,837,186	27,466	4,724,864	0	0	1	1	12,352	18,519,098
2035	23,873	2,876,090	21,597	3,455,367	0	0	0	0	8,095	16,933,673
TOTAL	31,786,777	3,290,483,106	26,306,641	3,950,820,370	0	0	883,653	883,653	20,398,600	4,932,885,432

TABLE B-16A: MINIMUM OMP&R COMPONENT OF

(in dollars)

Sheet 1 of 4

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA				CENTRAL COASTAL AREA		
	Napa County FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD, Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1960	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	9,699	8,868	0	18,567	0	0	0
1963	0	0	0	38,048	34,788	82,896	155,732	0	0	0
1964	0	0	0	41,148	38,323	91,320	170,791	0	0	0
1965	0	0	0	78,529	75,616	195,792	349,937	0	0	0
1966	0	0	0	79,753	78,779	218,544	377,076	0	0	0
1967	0	0	0	127,896	123,666	335,224	586,786	0	0	0
1968	130	0	130	126,058	120,563	333,506	580,127	11,801	21,769	33,570
1969	80,875	0	80,875	145,410	138,051	372,584	656,045	63,112	116,434	179,546
1970	94,872	0	94,872	128,993	120,246	320,663	569,902	74,187	136,867	211,054
1971	45,579	0	45,579	113,071	108,346	296,004	517,421	74,052	136,617	210,669
1972	37,895	0	37,895	122,407	117,483	334,366	574,256	77,636	143,230	220,866
1973	32,993	0	32,993	122,738	116,785	325,727	565,250	75,792	139,829	215,621
1974	46,498	0	46,498	154,434	146,929	403,087	704,444	76,725	141,548	218,273
1975	37,707	0	37,707	189,176	182,087	513,823	885,086	92,864	171,323	264,187
1976	60,926	0	60,926	203,064	193,436	524,816	921,316	95,036	175,331	270,367
1977	79,893	0	79,893	179,921	169,113	500,214	849,248	103,035	190,088	293,123
1978	59,524	0	59,524	245,234	234,277	660,768	1,140,279	106,965	197,336	304,301
1979	74,926	0	74,926	237,005	232,122	666,785	1,135,912	100,993	186,321	287,314
1980	83,445	0	83,445	410,539	391,482	1,057,880	1,859,901	129,846	239,551	369,397
1981	102,243	0	102,243	317,100	301,992	833,570	1,452,662	142,739	263,338	406,077
1982	195,304	0	195,304	389,223	371,977	1,104,502	1,865,702	143,542	264,818	408,360
1983	146,780	0	146,780	491,175	478,238	1,390,115	2,359,528	172,483	318,212	490,695
1984	143,014	0	143,014	552,469	529,623	1,656,418	2,738,510	188,473	347,710	536,183
1985	246,793	0	246,793	718,378	681,536	1,859,140	3,259,054	242,106	446,661	688,767
1986	194,453	0	194,453	773,732	734,538	1,954,922	3,463,192	263,941	486,936	750,877
1987	344,812	240,827	585,639	851,033	810,128	2,172,939	3,834,100	301,329	555,913	857,242
1988	328,365	216,910	545,275	846,606	807,084	2,173,087	3,826,777	306,615	565,671	872,286
1989	323,959	210,540	534,499	846,764	807,245	2,173,624	3,827,639	306,538	565,530	872,068
1990	324,161	210,081	534,242	847,533	807,977	2,175,582	3,831,092	306,971	566,322	873,293
1991	325,168	210,426	535,594	848,482	808,893	2,178,107	3,835,482	307,590	567,461	875,051
1992	325,266	210,506	535,772	848,741	809,144	2,178,800	3,836,685	401,037	741,971	1,143,008
1993	325,727	210,622	536,349	849,139	809,515	2,179,709	3,838,363	421,678	780,221	1,201,899
1994	325,727	210,625	536,352	849,076	809,458	2,179,564	3,838,098	421,690	780,240	1,201,930
1995	326,374	210,775	537,149	849,652	809,994	2,180,874	3,840,520	423,240	783,341	1,206,581
1996	326,687	210,848	537,535	849,933	810,254	2,181,510	3,841,697	423,994	784,843	1,208,837
1997	326,822	210,882	537,704	850,033	810,348	2,181,739	3,842,120	424,325	785,512	1,209,837
1998	326,956	210,917	537,873	850,162	810,467	2,182,032	3,842,661	424,651	786,170	1,210,821
1999	327,298	211,002	538,300	850,491	810,771	2,182,780	3,844,042	425,466	787,806	1,213,272
2000	327,718	211,108	538,826	850,896	811,149	2,183,702	3,845,747	426,463	789,799	1,216,262
2001	328,133	211,369	539,502	851,935	812,141	2,186,390	3,850,466	426,997	790,807	1,217,804
2002	328,501	211,460	539,961	853,328	813,419	2,188,464	3,856,211	428,454	793,626	1,222,080
2003	328,755	211,524	540,279	853,971	813,207	2,257,362	3,974,540	429,049	794,816	1,223,865
2004	337,122	219,180	556,302	881,659	840,743	2,263,885	3,986,287	431,808	799,998	1,231,806
2005	337,074	219,170	556,244	881,611	840,697	2,263,777	3,986,085	431,691	799,764	1,231,455
2006	336,898	219,127	556,025	881,442	840,541	2,263,391	3,985,374	435,500	806,731	1,242,231
2007	337,067	219,169	556,236	881,606	840,693	2,263,762	3,986,011	435,899	807,526	1,243,425
2008	337,258	219,215	556,473	881,790	840,864	2,264,181	3,986,835	438,426	808,426	1,246,852
2009	337,255	219,214	556,469	881,787	840,862	2,264,175	3,986,824	436,342	808,413	1,244,755
2010	337,405	219,252	556,657	881,931	840,995	2,264,502	3,987,428	436,694	809,114	1,245,808
2011	337,867	219,468	557,335	882,793	841,812	2,266,676	3,991,281	437,507	810,697	1,248,204
2012	338,220	219,557	557,777	883,132	842,126	2,267,452	3,992,710	438,340	812,355	1,250,695
2013	338,462	219,618	558,080	883,365	842,342	2,267,985	3,993,692	438,910	813,493	1,252,403
2014	338,363	219,594	557,957	883,269	842,253	2,267,761	3,993,283	438,671	813,017	1,251,688
2015	338,991	219,750	558,741	883,874	842,814	2,269,142	3,995,830	440,151	815,974	1,256,125
2016	339,166	219,794	558,960	884,042	842,971	2,269,524	3,996,537	440,562	816,792	1,257,354
2017	339,671	219,919	559,590	884,529	843,422	2,270,634	3,998,585	441,742	819,143	1,260,885
2018	339,905	219,978	559,883	884,752	843,626	2,271,139	3,999,517	442,273	820,199	1,262,472
2019	340,075	220,019	560,094	884,910	843,775	2,271,501	4,000,186	442,654	820,947	1,263,601
2020	339,939	219,988	559,927	883,260	842,263	2,267,892	3,993,415	441,468	818,705	1,260,173
2021	340,126	220,034	560,160	884,152	804,435	2,164,137	3,812,724	441,903	819,571	1,261,474
2022	328,023	208,542	536,565	842,519	802,941	2,160,773	3,806,033	439,945	815,923	1,255,868
2023	327,920	208,516	536,436	842,418	802,847	2,160,346	3,805,611	439,681	815,388	1,255,069
2024	326,650	207,512	534,162	840,171	800,685	2,154,483	3,795,339	429,717	796,982	1,226,699
2025	326,661	207,514	534,175	840,181	800,693	2,154,505	3,795,379	429,743	797,030	1,226,773
2026	326,703	207,525	534,228	840,221	800,731	2,154,597	3,795,549	429,840	797,221	1,227,061
2027	326,725	207,531	534,256	840,240	800,748	2,154,643	3,795,631	429,890	797,321	1,227,211
2028	326,649	207,512	534,161	840,163	800,675	2,154,463	3,795,301	429,698	796,933	1,226,631
2029	326,600	207,500	534,100	840,112	800,628	2,154,346	3,795,086	429,519	796,583	1,226,102
2030	326,640	207,509	534,149	840,144	800,659	2,154,421	3,795,224	429,589	796,716	1,226,305
2031	326,633	207,507	534,140	840,132	800,648	2,154,389	3,795,169	429,547	796,626	1,226,173
2032	326,686	207,521	534,207	840,177	800,689	2,154,498	3,795,364	429,653	796,823	1,226,476
2033	326,571	207,492	534,063	840,067	800,587	2,154,243	3,794,897	429,379	796,278	1,225,657
2034	326,730	207,531	534,261	840,219	800,729	2,154,593	3,795,541	429,755	797,029	1,226,784
2035	326,466	207,466	533,932	839,965	800,493	2,154,012	3,794,470	429,132	795,786	1,224,918
TOTAL	18,000,800	10,479,646	28,480,446	48,088,608	45,856,045	124,045,553	217,990,206	22,764,967	42,157,472	64,922,439

a) Unadjusted for prior overpayments or underpayments of charges. Excludes charges for Off-Aqueduct power facilities, which are shown separately in Table B-16.

TRANSPORTATION CHARGE FOR EACH CONTRACTOR^(a)

(in dollars)

Sheet 2 of 4

Calendar Year	SAN JOAQUIN VALLEY AREA									
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Future Contractor San Joaquin Valley	Kern County Water Agency		County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
					Municipal and Industrial	Agricultural				
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1960	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	8,363	37,806	1,963	5,639	60,702	678,085	2,007	2,073	77,592	874,230
1969	44,176	45,479	2,237	30,158	80,553	1,197,127	2,286	2,086	90,772	1,494,874
1970	51,905	46,969	2,292	35,450	96,672	1,381,493	2,345	2,158	93,407	1,712,691
1971	51,813	47,997	2,315	35,386	106,654	1,642,995	2,366	2,288	94,874	1,986,688
1972	54,323	49,867	2,414	37,099	122,312	1,735,439	2,470	2,254	98,776	2,104,954
1973	53,035	50,005	2,386	36,216	125,523	1,719,558	2,439	2,310	98,329	2,089,831
1974	53,696	52,816	2,557	36,662	135,661	1,822,284	2,615	2,529	104,610	2,213,430
1975	64,999	66,962	3,242	44,374	162,739	2,234,201	3,317	3,191	132,663	2,715,688
1976	66,515	66,505	3,327	45,413	159,305	2,215,603	3,405	2,919	133,941	2,696,933
1977	72,127	75,677	3,814	49,233	189,800	2,523,564	3,904	3,716	153,003	3,074,838
1978	74,862	74,647	3,709	51,113	185,749	2,532,111	3,794	3,897	149,788	3,079,670
1979	70,677	68,811	3,430	48,259	173,785	2,377,921	3,508	3,477	138,337	2,888,205
1980	90,908	99,375	4,896	62,046	245,225	3,263,829	5,006	5,006	198,577	3,974,868
1981	99,978	118,584	5,972	68,208	266,562	3,419,969	6,106	5,186	239,606	4,230,171
1982	100,587	133,411	6,672	68,591	311,940	3,857,256	6,823	6,348	268,633	5,069,930
1983	120,840	151,493	7,532	82,422	386,283	4,775,643	7,700	6,979	304,107	5,842,999
1984	132,123	188,085	9,397	90,060	454,812	5,343,527	9,608	8,700	378,494	6,614,806
1985	169,611	214,276	10,659	115,690	532,425	6,432,418	10,899	11,561	430,244	7,927,783
1986	184,921	239,076	11,326	126,122	601,505	7,228,563	11,583	12,772	468,538	8,884,406
1987	211,065	258,955	12,241	143,989	645,830	7,958,659	12,519	13,888	506,930	9,764,076
1988	214,727	250,961	12,349	146,516	631,749	7,879,824	12,631	13,932	501,187	9,663,876
1989	214,673	250,781	12,340	146,478	631,318	7,875,376	12,621	13,928	500,829	9,658,999
1990	214,973	250,941	12,347	146,684	632,012	7,884,391	12,627	13,902	501,122	9,668,999
1991	215,404	251,005	12,349	146,979	632,606	7,894,196	12,628	13,843	501,194	9,680,204
1992	215,474	251,070	12,351	147,027	632,767	7,896,375	12,632	13,846	501,322	9,682,864
1993	229,366	251,596	12,372	156,544	634,812	7,840,121	12,655	13,857	502,289	9,653,612
1994	229,369	251,606	12,373	156,547	634,836	7,840,393	12,655	13,857	502,307	9,653,943
1995	229,723	252,217	12,404	156,787	636,257	7,856,990	12,685	13,873	503,527	9,674,463
1996	229,897	252,514	12,415	156,906	636,947	7,865,076	12,700	13,881	504,118	9,684,454
1997	229,973	252,649	12,424	156,959	637,276	7,868,878	12,707	13,884	504,390	9,689,140
1998	230,047	252,783	12,430	157,011	637,595	7,872,550	12,713	13,887	504,652	9,693,668
1999	230,235	253,107	12,446	157,138	638,357	7,881,426	12,729	13,895	505,299	9,704,632
2000	230,464	253,498	12,466	157,293	639,272	7,892,136	12,748	13,905	506,080	9,717,862
2001	230,778	253,892	12,484	157,506	640,173	7,903,410	12,769	13,920	506,865	9,731,797
2002	231,387	256,094	12,600	157,920	643,965	7,946,151	12,885	14,112	511,364	9,786,478
2003	231,523	256,326	12,609	158,012	644,502	7,952,475	12,897	14,118	511,829	9,794,291
2004	233,157	260,643	12,834	159,119	654,755	8,074,720	13,126	14,358	520,649	9,943,361
2005	233,131	260,598	12,829	159,102	654,651	8,073,494	13,124	14,356	520,556	9,941,841
2006	235,982	260,706	12,825	161,056	657,862	8,121,184	13,116	14,353	520,546	9,997,630
2007	236,074	260,862	12,831	161,117	658,222	8,125,399	13,124	14,356	520,858	10,002,843
2008	236,175	261,037	12,840	161,188	658,629	8,130,183	13,132	14,361	521,208	10,008,753
2009	236,173	261,036	12,839	161,187	658,621	8,130,112	13,132	14,361	521,203	10,008,664
2010	236,253	261,172	12,847	161,241	658,941	8,133,831	13,138	14,364	521,476	10,013,263
2011	236,567	261,632	12,869	161,453	660,349	8,150,115	13,160	14,379	522,356	10,032,880
2012	236,756	261,958	12,883	161,584	661,102	8,158,938	13,177	14,388	523,006	10,043,792
2013	236,888	262,179	12,896	161,671	661,615	8,164,976	13,188	14,393	523,448	10,051,254
2014	236,832	262,085	12,890	161,636	661,401	8,162,462	13,182	14,391	523,263	10,048,142
2015	237,169	262,665	12,919	161,864	662,743	8,178,170	13,212	14,405	524,418	10,067,565
2016	237,262	262,825	12,926	161,928	663,114	8,182,528	13,222	14,410	524,740	10,072,955
2017	237,530	263,282	12,949	162,110	664,165	8,194,889	13,245	14,422	525,654	10,088,246
2018	237,649	263,481	12,958	162,190	664,617	8,200,228	13,254	14,427	526,051	10,094,855
2019	237,733	263,616	12,966	162,251	664,926	8,203,917	13,261	14,431	526,327	10,099,428
2020	237,054	260,767	12,819	161,792	660,243	8,151,448	13,110	14,163	520,482	10,031,878
2021	237,151	260,934	12,826	161,859	660,624	8,155,944	13,119	14,167	520,819	10,037,443
2022	235,828	255,036	12,521	160,964	646,621	7,993,349	12,806	13,819	508,720	9,839,664
2023	235,765	254,926	12,515	160,922	646,348	7,990,237	12,800	13,817	508,503	9,835,833
2024	228,858	253,521	12,469	156,192	637,156	7,858,265	12,750	13,779	506,147	9,679,137
2025	228,864	253,530	12,469	156,195	637,178	7,858,522	12,753	13,779	506,165	9,679,455
2026	228,884	253,568	12,470	156,213	637,258	7,859,495	12,755	13,780	506,238	9,680,661
2027	228,896	253,583	12,472	156,219	637,300	7,859,962	12,756	13,780	506,272	9,681,240
2028	228,850	253,499	12,467	156,188	637,102	7,857,656	12,748	13,778	506,101	9,678,389
2029	228,780	253,263	12,464	156,142	635,058	7,836,845	12,745	13,776	505,784	9,654,857
2030	228,794	253,279	12,465	156,150	635,081	7,837,164	12,746	13,777	505,812	9,655,268
2031	228,784	253,249	12,462	156,141	635,001	7,836,281	12,744	13,776	505,753	9,654,191
2032	228,804	253,275	12,462	156,154	635,049	7,836,933	12,746	13,777	505,808	9,655,008
2033	228,740	253,166	12,457	156,114	634,801	7,834,020	12,741	13,774	505,597	9,651,410
2034	228,825	253,313	12,467	156,168	635,135	7,837,967	12,748	13,779	505,889	9,656,291
2035	228,684	253,071	12,452	156,074	634,572	7,831,334	12,737	13,772	505,405	9,648,101
TOTAL	12,857,429	14,389,593	707,498	8,774,621	36,038,751	447,310,581	723,579	777,426	28,724,849	550,304,327

TABLE B-16A: MINIMUM OMP&R COMPONENT OF

(in dollars)

Sheet 3 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1960	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	65,073	19,721	11,697	2,958	19,290	1,088	24,380	8,171	52,314	14,399
1969	86,340	26,169	15,522	3,924	25,595	1,444	32,346	10,843	69,418	19,106
1970	107,806	32,675	19,391	4,902	31,979	1,802	40,392	13,540	86,726	23,866
1971	178,822	54,193	32,230	8,152	53,149	2,991	66,998	22,459	144,137	39,636
1972	363,554	147,218	106,741	30,966	176,039	6,603	213,029	48,104	548,122	144,113
1973	404,662	169,787	121,341	34,673	200,118	7,347	243,320	53,976	724,532	190,155
1974	434,864	181,966	130,629	37,060	215,431	7,678	262,736	56,382	786,108	207,020
1975	504,790	224,685	151,033	43,179	249,085	9,082	303,109	65,579	905,424	238,842
1976	559,021	195,980	160,691	44,456	265,006	10,030	325,516	73,256	964,538	256,576
1977	675,755	263,764	184,858	47,755	304,874	11,894	381,263	87,385	1,069,692	289,860
1978	669,395	326,725	201,660	57,857	332,577	11,865	403,472	86,952	1,229,122	322,839
1979	661,827	278,793	196,406	52,251	323,914	12,137	401,764	87,216	1,126,206	302,715
1980	896,593	340,189	265,441	75,108	437,766	16,129	533,825	117,898	1,580,090	417,995
1981	989,232	409,671	282,033	73,354	465,123	17,805	580,755	130,265	1,545,365	418,705
1982	1,116,796	425,081	322,136	89,675	531,269	20,050	652,080	146,786	1,875,244	499,472
1983	1,586,221	668,424	431,015	116,606	710,833	28,035	878,784	206,194	2,404,557	645,177
1984	2,138,190	803,938	538,338	144,723	887,822	37,199	1,098,370	274,808	2,819,622	757,494
1985	2,329,286	859,987	604,746	169,189	997,345	40,795	1,220,028	300,787	3,349,728	888,715
1986	2,568,355	969,356	641,705	160,655	1,058,291	45,074	1,335,366	331,986	3,231,383	887,748
1987	2,544,163	959,818	658,361	176,582	1,085,764	44,904	1,345,423	330,094	3,541,202	922,115
1988	2,473,253	924,924	653,256	179,618	1,077,351	43,816	1,325,770	321,705	3,595,592	959,440
1989	2,473,198	937,993	647,386	169,707	1,067,660	43,827	1,331,662	321,733	3,429,172	928,684
1990	2,478,379	919,457	654,808	176,610	1,079,907	43,941	1,336,266	322,544	3,552,475	953,566
1991	2,483,145	970,995	655,912	174,805	1,081,728	44,078	1,342,630	323,431	3,521,379	948,187
1992	2,483,487	909,783	655,633	174,232	1,081,261	44,084	1,342,822	323,476	3,511,372	945,899
1993	2,491,471	948,164	657,540	174,103	1,084,409	44,246	1,348,075	324,616	3,509,311	946,416
1994	2,491,502	993,730	653,051	168,620	1,077,007	44,246	1,348,083	324,621	3,411,847	927,405
1995	2,496,472	834,772	665,772	182,340	1,097,986	44,352	1,351,955	325,352	3,656,078	975,746
1996	2,499,576	951,136	675,176	192,540	1,113,508	44,422	1,354,710	325,842	3,837,498	1,011,627
1997	2,501,011	1,005,570	649,581	160,683	1,071,278	44,460	1,355,981	326,065	3,271,345	901,398
1998	2,502,413	883,131	664,981	178,910	1,096,686	44,489	1,357,228	326,287	3,595,355	964,831
1999	2,505,790	978,432	672,844	187,107	1,109,648	44,566	1,360,222	326,814	3,741,208	993,814
2000	2,509,888	954,902	665,553	176,504	1,097,631	44,660	1,363,860	327,460	3,553,010	957,739
2001	2,512,755	963,230	653,029	160,364	1,076,966	44,717	1,365,656	327,854	3,266,758	902,242
2002	2,519,562	960,243	677,414	188,087	1,117,190	44,853	1,370,071	328,824	3,759,567	999,163
2003	2,522,022	932,632	663,732	170,337	1,094,613	44,908	1,372,281	329,211	3,444,225	938,032
2004	2,555,398	1,011,586	679,236	182,505	1,120,197	45,481	1,386,790	333,452	3,661,653	983,036
2005	2,554,962	971,775	686,854	191,986	1,132,761	45,469	1,386,418	333,381	3,830,091	1,015,835
2006	2,580,452	1,028,291	694,764	197,437	1,145,812	45,893	1,395,405	336,553	3,926,871	1,036,248
2007	2,586,047	983,007	672,699	163,054	1,109,401	46,043	1,411,302	337,553	3,323,233	921,707
2008	2,587,849	1,001,652	719,119	219,011	1,185,988	46,084	1,412,895	337,835	4,317,832	1,116,026
2009	2,587,811	995,264	680,813	172,237	1,122,788	46,083	1,412,857	337,828	3,486,567	953,846
2010	2,589,221	951,001	696,315	190,587	1,148,367	46,115	1,414,106	338,053	3,812,800	1,017,713
2011	2,594,397	1,003,190	687,494	178,253	1,133,808	46,216	1,417,439	338,777	3,594,016	975,634
2012	2,597,762	1,011,356	705,500	198,847	1,163,515	46,295	1,420,424	339,305	3,960,242	1,047,612
2013	2,600,040	1,022,373	705,096	197,415	1,162,849	46,347	1,422,444	339,662	3,934,844	1,043,012
2014	2,599,070	985,751	678,666	165,529	1,119,240	46,323	1,421,582	339,508	3,368,160	932,302
2015	2,605,183	1,015,281	690,359	177,248	1,138,533	46,465	1,427,060	340,474	3,576,759	973,973
2016	2,606,836	1,027,560	697,376	185,137	1,150,108	46,502	1,428,527	340,736	3,716,966	1,001,581
2017	2,611,587	1,029,588	733,703	227,523	1,210,040	46,612	1,432,754	341,482	4,470,607	1,149,360
2018	2,613,719	1,018,744	682,627	164,235	1,125,769	46,661	1,434,671	341,818	3,345,980	930,293
2019	2,615,213	1,063,266	701,299	186,416	1,156,579	46,696	1,436,021	342,054	3,740,246	1,007,452
2020	2,609,136	990,432	701,287	187,790	1,156,560	46,583	1,433,032	341,243	3,764,680	1,011,700
2021	2,610,807	1,062,479	708,160	195,499	1,167,899	46,624	1,434,507	341,507	3,901,680	1,038,686
2022	2,566,219	979,537	696,965	189,681	1,149,433	45,881	1,417,682	335,970	3,798,444	1,015,653
2023	2,567,088	984,490	717,693	214,241	1,183,632	45,919	1,419,298	336,184	4,234,861	1,101,070
2024	2,507,136	978,799	652,270	145,504	1,075,705	44,906	1,395,399	328,609	3,011,792	858,226
2025	2,498,266	969,204	703,641	223,232	1,160,470	44,654	1,363,368	326,943	4,376,749	1,117,947
2026	2,498,609	966,662	650,514	158,196	1,072,807	44,660	1,363,665	326,996	3,220,903	892,504
2027	2,498,763	959,067	676,658	190,072	1,115,945	44,663	1,363,798	327,020	3,787,437	1,003,055
2028	2,497,948	972,019	671,153	183,671	1,106,860	44,646	1,363,095	326,894	3,673,695	980,746
2029	2,490,790	945,498	668,557	181,886	1,102,586	44,523	1,360,143	325,977	3,641,960	974,044
2030	2,490,977	970,144	666,879	179,750	1,099,816	44,527	1,360,322	326,008	3,603,980	966,665
2031	2,490,667	965,332	657,127	167,965	1,083,726	44,519	1,360,050	325,954	3,394,590	925,767
2032	2,490,919	985,783	678,153	193,556	1,118,413	44,524	1,360,242	325,991	3,849,437	1,014,543
2033	2,489,624	933,482	648,663	158,111	1,069,759	44,493	1,359,012	325,785	3,219,431	891,415
2034	2,491,006	951,465	671,186	185,082	1,106,929	44,524	1,360,178	325,999	3,698,857	985,152
2035	2,488,388	790,834	656,491	168,234	1,082,679	44,462	1,357,813	325,586	3,399,332	926,301
TOTAL	140,596,559	53,952,146	37,578,959	10,108,482	61,975,073	2,503,010	76,702,527	18,349,653	203,354,417	54,579,841

TRANSPORTATION CHARGE FOR EACH CONTRACTOR^(a)

(in dollars)

Sheet 4 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Geronio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	South Bay	
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
1960	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	18,567
1963	0	0	0	0	0	0	0	0	12,626	168,358
1964	0	0	0	0	0	0	0	0	13,938	184,729
1965	0	0	0	0	0	0	0	0	28,937	378,874
1966	0	0	0	0	0	0	0	0	31,321	408,397
1967	0	0	0	0	0	0	0	0	47,719	634,505
1968	8,819	972,744	9,504	1,210,158	0	0	0	0	46,945	2,745,160
1969	11,706	1,295,613	12,610	1,610,636	0	0	0	0	52,963	4,074,939
1970	14,621	1,624,573	15,745	2,018,018	0	0	0	0	69,745	4,676,282
1971	24,302	2,716,582	26,120	3,369,771	0	0	54	54	55,532	6,185,714
1972	89,132	8,038,457	68,368	9,980,446	0	0	40	40	80,412	12,998,869
1973	117,781	9,890,314	78,312	12,236,318	0	0	1	1	54,219	15,194,233
1974	128,166	11,581,499	83,451	14,112,990	0	0	143	143	76,783	17,372,561
1975	147,900	13,584,540	101,892	16,529,140	0	0	1,069	1,069	84,546	20,517,423
1976	158,664	12,862,706	94,802	15,971,242	0	0	139	139	106,717	20,027,640
1977	178,814	16,207,852	122,003	19,825,769	0	0	892	892	98,635	24,222,398
1978	200,016	19,062,631	143,327	23,048,438	0	0	39	39	103,007	27,735,258
1979	186,816	16,426,602	126,868	20,183,515	0	0	3,235	3,235	119,358	24,692,465
1980	258,719	21,738,301	160,081	26,838,135	0	0	416	416	186,649	33,312,811
1981	258,227	23,608,805	185,158	28,964,498	0	0	3,847	3,847	185,051	35,344,549
1982	308,915	27,416,486	197,349	33,601,339	0	0	10,956	10,956	177,951	41,019,873
1983	398,531	37,783,938	306,291	46,164,606	0	0	-422	-422	261,141	55,265,327
1984	467,404	45,187,305	379,919	55,535,132	0	0	643	643	248,657	65,816,945
1985	549,623	49,544,862	407,674	61,262,765	0	0	2,599	2,599	344,174	73,731,935
1986	545,854	54,001,284	456,303	66,233,360	0	0	2,595	2,595	376,206	79,905,089
1987	587,508	55,458,551	450,373	68,134,858	0	0	2,595	2,595	427,789	83,606,299
1988	592,758	53,213,709	434,307	65,795,499	0	0	2,601	2,601	430,861	81,137,175
1989	572,385	54,003,885	438,683	66,365,975	0	0	2,604	2,604	430,654	81,691,777
1990	588,572	53,158,539	432,837	65,697,901	0	0	2,605	2,605	431,430	81,039,562
1991	584,956	55,400,716	449,872	67,981,834	0	0	2,607	2,607	432,764	83,343,536
1992	583,501	53,891,346	429,865	66,376,761	0	0	2,608	2,608	432,794	82,010,492
1993	583,711	54,591,945	442,775	67,146,782	0	0	2,608	2,608	433,194	82,812,807
1994	571,252	56,194,574	457,693	68,663,631	0	0	2,608	2,608	433,022	84,329,584
1995	602,830	52,232,578	405,936	64,872,169	0	0	2,608	2,608	433,628	80,567,118
1996	626,278	53,714,433	444,149	66,790,895	0	0	2,608	2,608	433,922	82,499,948
1997	554,011	58,835,161	462,021	71,138,565	0	0	2,608	2,608	434,002	86,853,976
1998	595,550	52,589,740	422,014	65,221,615	0	0	2,608	2,608	434,156	80,943,402
1999	614,465	55,929,342	453,343	68,917,595	0	0	2,608	2,608	434,549	84,654,998
2000	590,738	55,527,318	445,815	68,215,078	0	0	2,608	2,608	435,036	83,971,419
2001	554,324	56,927,086	448,689	69,203,670	0	0	2,611	2,611	435,610	84,981,460
2002	617,722	55,711,375	448,009	68,742,080	0	0	2,611	2,611	436,410	84,585,831
2003	577,608	55,751,461	439,076	68,280,138	0	0	2,611	2,611	448,736	84,264,460
2004	606,731	56,941,755	467,065	69,974,885	0	0	2,611	2,611	450,079	86,145,331
2005	628,233	56,497,609	454,020	69,729,394	0	0	2,611	2,611	450,019	85,897,649
2006	641,389	58,677,592	473,707	72,180,414	0	0	2,611	2,611	449,817	88,414,102
2007	565,888	57,491,483	459,402	70,070,819	0	0	2,611	2,611	450,012	86,312,007
2008	693,180	60,169,919	465,581	74,272,971	0	0	2,611	2,611	450,234	90,522,652
2009	586,911	56,289,371	463,487	69,135,863	0	0	2,611	2,611	450,232	85,385,418
2010	628,728	54,932,709	449,064	68,214,779	0	0	2,611	2,611	450,404	84,470,950
2011	601,071	58,241,535	466,385	71,278,215	0	0	2,613	2,613	451,001	87,561,529
2012	648,162	58,215,636	469,194	71,823,850	0	0	2,613	2,613	451,410	88,122,847
2013	645,099	60,665,862	472,899	74,257,942	0	0	2,613	2,613	451,688	90,567,672
2014	572,578	57,243,171	460,868	69,932,748	0	0	2,613	2,613	451,573	86,238,004
2015	599,741	56,135,681	470,786	69,197,543	0	0	2,613	2,613	452,299	85,530,716
2016	617,797	60,511,290	474,876	73,805,292	0	0	2,613	2,613	452,501	90,146,212
2017	714,527	59,959,356	475,733	74,402,872	0	0	2,613	2,613	453,083	90,765,874
2018	570,932	58,325,281	472,276	71,073,006	0	0	2,613	2,613	453,348	87,445,694
2019	621,457	64,007,100	486,910	77,410,709	0	0	2,613	2,613	453,536	93,790,167
2020	624,313	53,793,334	462,795	67,122,885	0	0	2,613	2,613	452,827	83,423,718
2021	641,964	62,252,557	486,445	75,888,814	0	0	2,613	2,613	434,427	91,997,655
2022	627,283	57,916,142	456,278	71,195,168	0	0	2,613	2,613	433,802	87,069,713
2023	683,216	58,388,523	457,850	72,334,065	0	0	2,613	2,613	433,683	88,203,310
2024	524,691	57,673,658	453,129	69,649,824	0	0	2,613	2,613	432,613	85,320,387
2025	695,789	56,161,345	448,996	70,090,604	0	0	2,613	2,613	432,626	85,761,625
2026	548,058	57,790,705	448,179	69,982,458	0	0	2,613	2,613	432,672	85,655,242
2027	620,495	56,132,153	445,700	69,164,826	0	0	2,613	2,613	432,696	84,838,473
2028	605,887	56,429,521	449,902	69,306,037	0	0	2,613	2,613	432,597	84,975,729
2029	601,569	57,117,218	440,889	69,895,640	0	0	2,613	2,613	432,532	85,540,930
2030	596,734	56,813,829	448,963	69,568,594	0	0	2,613	2,613	432,569	85,214,722
2031	569,943	53,955,682	447,375	66,388,697	0	0	2,613	2,613	432,550	82,033,533
2032	628,105	58,078,457	454,079	71,222,202	0	0	2,613	2,613	432,602	86,868,472
2033	547,458	53,675,923	436,911	65,800,067	0	0	2,613	2,613	432,468	81,441,175
2034	608,854	58,224,995	442,851	71,097,078	0	0	2,613	2,613	432,654	86,745,222
2035	570,346	48,430,518	390,172	60,631,156	0	0	2,613	2,613	432,348	76,267,538
TOTAL	33,689,308	3,143,816,763	25,134,001	3,862,340,739	0	0	154,165	154,165	24,408,691	4,748,601,013

TABLE B-16B: MINIMUM OMP&R COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

Sheet 1 of 4

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA				CENTRAL COASTAL AREA		
	Napa County FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD, Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1960	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0
1983	10,070	0	10,070	47,471	31,445	863,898	942,814	0	0	0
1984	29,831	0	29,831	156,619	77,063	2,031,618	2,265,300	0	0	0
1985	54,100	0	54,100	725,394	1,256,446	3,589,846	5,571,686	0	0	0
1986	36,662	0	36,662	640,573	1,110,640	3,044,746	4,795,959	0	0	0
1987	50,428	39,875	90,303	503,831	876,662	2,316,704	3,697,197	0	0	0
1988	50,074	52,020	102,094	479,061	837,986	2,137,471	3,454,518	0	0	0
1989	54,934	58,059	112,993	512,501	897,625	2,262,921	3,673,047	0	0	0
1990	67,061	62,620	129,681	535,134	934,831	2,330,743	3,800,708	0	0	0
1991	77,117	62,625	139,742	600,660	900,349	2,231,877	3,732,886	0	0	0
1992	88,801	67,615	156,416	679,483	897,709	2,213,149	3,790,341	351,741	639,972	991,713
1993	99,597	72,475	172,072	752,108	893,169	2,190,455	3,835,732	341,030	620,483	961,513
1994	110,829	77,863	188,692	829,507	898,696	2,193,012	3,921,215	334,599	608,783	943,382
1995	124,496	99,535	224,031	924,192	924,192	2,200,457	4,048,841	335,735	610,850	946,585
1996	129,261	109,175	238,436	944,553	901,618	2,146,711	3,992,882	327,535	595,930	923,465
1997	132,865	107,204	240,069	956,295	873,139	2,078,902	3,908,336	317,189	577,106	894,295
1998	135,328	104,768	240,096	921,587	841,449	2,003,451	3,766,487	305,677	556,160	861,837
1999	134,098	99,830	233,928	866,114	790,800	1,882,857	3,539,771	287,277	522,683	809,960
2000	133,558	95,834	229,392	820,450	749,106	1,783,587	3,353,143	272,131	495,126	767,257
2001	137,227	92,000	229,227	777,114	709,539	1,689,378	3,176,031	257,757	468,973	726,730
2002	141,308	89,041	230,349	742,218	677,678	1,613,518	3,033,414	246,183	447,915	694,098
2003	143,167	85,223	228,390	701,160	640,189	1,524,261	2,865,610	232,564	423,137	655,701
2004	145,721	82,284	228,005	668,488	610,359	1,453,236	2,732,083	221,728	403,420	625,148
2005	145,991	77,637	223,628	629,851	575,081	1,369,242	2,574,174	208,912	380,103	589,015
2006	140,908	74,096	215,004	600,290	548,091	1,304,979	2,453,360	199,107	362,264	561,371
2007	134,270	69,827	204,097	564,917	515,793	1,228,080	2,308,790	187,374	340,916	528,290
2008	129,070	66,392	195,462	536,388	489,745	1,166,060	2,192,193	177,912	323,700	501,612
2009	122,285	62,227	184,512	502,039	458,383	1,091,389	2,051,811	166,519	302,971	469,490
2010	117,056	58,935	175,991	474,625	433,536	1,032,229	1,940,590	157,492	286,548	444,040
2011	113,265	55,013	168,278	442,609	404,121	962,194	1,808,924	146,807	267,106	413,913
2012	109,856	51,542	161,398	414,111	378,102	900,242	1,692,455	137,355	249,908	387,263
2013	60,615	27,506	88,121	220,690	201,500	479,761	901,951	73,200	133,182	206,382
2014	75,513	33,180	108,693	265,854	242,736	577,943	1,086,533	88,180	160,438	248,618
2015	38,328	16,326	54,654	130,627	119,268	283,971	533,866	43,327	78,831	122,158
2016	28,886	11,976	40,862	95,821	87,488	208,306	391,615	31,782	57,826	89,608
2017	15,212	6,143	21,355	49,151	44,877	106,849	200,877	16,303	29,661	45,964
2018	15,934	6,272	22,206	50,181	45,818	109,090	205,089	16,644	30,283	46,927
2019	0	0	0	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0	0	0	0
2021	0	0	0	0	0	0	0	0	0	0
2022	0	0	0	0	0	0	0	0	0	0
2023	0	0	0	0	0	0	0	0	0	0
2024	0	0	0	0	0	0	0	0	0	0
2025	0	0	0	0	0	0	0	0	0	0
2026	0	0	0	0	0	0	0	0	0	0
2027	0	0	0	0	0	0	0	0	0	0
2028	0	0	0	0	0	0	0	0	0	0
2029	0	0	0	0	0	0	0	0	0	0
2030	0	0	0	0	0	0	0	0	0	0
2031	0	0	0	0	0	0	0	0	0	0
2032	0	0	0	0	0	0	0	0	0	0
2033	0	0	0	0	0	0	0	0	0	0
2034	0	0	0	0	0	0	0	0	0	0
2035	0	0	0	0	0	0	0	0	0	0
TOTAL	3,333,722	2,075,118	5,408,840	19,761,867	21,875,229	56,603,133	98,240,229	5,482,060	9,974,275	15,456,335

a) Unadjusted for prior overpayments or underpayments of charges.

FOR EACH CONTRACTOR FOR OFF-AQUEDUCT POWER FACILITIES^(a)

(in dollars)

Sheet 2 of 4

Calendar Year	SAN JOAQUIN VALLEY AREA								Total
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Kern County Water Agency		County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	
				Municipal and Industrial	Agricultural				
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1960	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0
1983	76,952	159,184	0	33,699	2,965,622	13,173	9,672	3,733	3,262,035
1984	179,517	387,882	0	519,391	9,350,587	26,662	33,435	49,393	10,546,867
1985	316,184	717,297	91,182	1,707,833	16,844,209	51,670	56,384	1,800,841	21,585,600
1986	268,173	635,447	38,668	1,564,552	15,123,780	47,691	44,834	1,527,392	19,250,537
1987	204,049	504,098	29,422	1,246,457	12,117,538	39,229	34,782	1,162,171	15,337,746
1988	188,263	484,100	27,146	1,193,457	11,615,976	36,194	33,326	1,072,259	14,650,721
1989	194,883	520,793	28,100	1,275,231	12,400,778	37,467	35,775	1,109,964	15,602,991
1990	196,360	544,561	28,313	1,345,090	13,063,852	37,751	36,690	1,118,378	16,370,995
1991	184,031	510,366	26,536	1,260,629	12,243,544	25,381	34,386	1,048,153	15,343,026
1992	178,684	495,540	25,765	1,224,008	11,887,872	34,353	33,387	1,017,704	14,897,313
1993	173,243	480,450	24,980	1,186,733	11,525,850	33,307	32,370	986,712	14,443,645
1994	169,976	471,390	24,509	1,164,356	11,308,518	32,679	31,760	968,107	14,171,295
1995	170,553	472,991	24,592	1,168,309	11,346,911	32,790	31,868	971,393	14,219,407
1996	166,388	461,438	23,992	1,139,772	11,069,759	31,989	31,090	947,667	13,872,095
1997	161,132	446,862	23,234	1,103,770	10,720,098	30,978	30,108	917,733	13,433,915
1998	155,284	430,644	22,390	1,063,710	10,331,023	29,854	29,015	884,425	12,946,345
1999	145,937	404,722	21,043	999,682	9,709,166	28,057	27,268	831,188	12,167,063
2000	138,243	383,384	19,933	946,976	9,197,269	26,578	25,831	787,366	11,525,580
2001	130,941	363,134	18,880	896,957	8,711,472	25,174	24,466	745,777	10,916,801
2002	125,061	346,827	18,033	856,680	8,320,290	24,043	23,368	712,289	10,426,591
2003	118,143	327,641	17,035	809,289	7,860,024	22,713	22,075	672,886	9,849,806
2004	112,638	312,375	16,241	771,580	7,493,777	21,655	21,046	641,532	9,390,844
2005	106,127	294,320	15,303	726,984	7,060,651	20,403	19,830	604,453	8,848,071
2006	101,146	280,507	14,584	692,864	6,729,272	19,446	18,899	576,084	8,432,802
2007	95,186	263,977	13,725	652,035	6,332,734	18,300	17,786	542,137	7,935,880
2008	90,379	250,646	13,032	619,107	6,012,924	17,376	16,887	514,758	7,535,109
2009	84,592	234,595	12,197	579,461	5,627,871	16,263	15,806	481,794	7,052,579
2010	80,006	221,879	11,536	548,051	5,322,808	15,382	14,949	455,678	6,670,289
2011	74,578	206,825	10,753	510,866	4,961,663	14,338	13,935	424,761	6,217,719
2012	69,776	193,508	10,061	477,974	4,642,202	13,415	13,038	397,413	5,817,387
2013	37,185	103,125	5,362	254,724	2,473,942	7,149	6,948	211,791	3,100,226
2014	44,795	124,229	6,459	306,852	2,980,228	8,612	8,370	255,133	3,734,678
2015	22,010	61,040	3,174	150,771	1,464,329	4,232	4,113	125,359	1,835,028
2016	16,145	44,776	2,328	110,598	1,074,153	3,104	3,017	91,957	1,346,078
2017	8,282	22,967	1,194	56,730	550,980	1,592	1,547	47,169	690,461
2018	8,455	23,449	1,219	57,920	562,534	1,626	1,580	48,158	704,941
2019	0	0	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0	0	0
2021	0	0	0	0	0	0	0	0	0
2022	0	0	0	0	0	0	0	0	0
2023	0	0	0	0	0	0	0	0	0
2024	0	0	0	0	0	0	0	0	0
2025	0	0	0	0	0	0	0	0	0
2026	0	0	0	0	0	0	0	0	0
2027	0	0	0	0	0	0	0	0	0
2028	0	0	0	0	0	0	0	0	0
2029	0	0	0	0	0	0	0	0	0
2030	0	0	0	0	0	0	0	0	0
2031	0	0	0	0	0	0	0	0	0
2032	0	0	0	0	0	0	0	0	0
2033	0	0	0	0	0	0	0	0	0
2034	0	0	0	0	0	0	0	0	0
2035	0	0	0	0	0	0	0	0	0
TOTAL	4,593,297	12,186,969	670,921	29,223,098	291,004,206	860,626	839,641	24,753,708	364,132,466

TABLE B-16B: MINIMUM OMP&R COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

Sheet 3 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)
1960	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0
1983	1,083,832	334,277	565,772	35,431	894,532	1,250	0	0	233,123	28,547
1984	2,489,348	938,407	1,421,432	101,685	2,253,665	76	0	0	492,291	690,162
1985	4,286,467	1,878,191	2,706,145	221,092	4,300,777	0	0	404,015	1,338,020	780,511
1986	3,718,514	1,776,804	2,460,188	200,220	3,917,927	0	0	342,668	1,215,908	1,148,358
1987	2,897,329	1,771,515	1,997,437	158,409	3,238,087	0	0	260,731	1,870,895	873,769
1988	2,737,325	2,150,606	1,958,708	168,632	3,224,679	0	0	240,559	1,726,152	806,170
1989	2,904,550	2,226,230	2,147,460	203,721	3,583,519	0	0	249,018	1,786,850	834,518
1990	3,002,677	2,243,107	2,285,118	241,372	3,768,960	0	0	351,269	2,077,380	840,844
1991	2,927,396	2,102,257	2,141,630	266,081	3,532,299	141,091	4,709,732	380,945	2,150,901	810,296
1992	2,963,366	2,041,187	2,079,416	269,154	3,429,687	144,603	4,572,915	420,109	2,286,458	808,362
1993	2,989,709	1,979,026	2,016,092	271,431	3,325,242	147,578	4,433,656	456,016	2,408,837	804,691
1994	3,033,968	1,941,710	1,978,076	276,588	3,262,541	152,035	4,350,055	495,200	2,551,804	810,069
1995	3,159,989	1,948,302	1,984,792	287,838	3,273,618	159,816	4,364,824	544,826	2,749,495	833,441
1996	3,224,189	1,900,714	1,936,313	290,866	3,193,659	162,999	4,258,211	581,127	2,883,513	836,554
1997	3,259,608	1,840,676	1,875,150	291,419	3,092,780	157,850	4,123,707	610,812	2,987,252	832,859
1998	3,273,583	1,773,871	1,807,094	290,230	2,980,531	152,121	3,974,041	634,941	3,066,583	824,535
1999	3,200,853	1,667,096	1,698,319	281,583	2,801,123	142,965	3,734,831	640,233	3,058,444	795,490
2000	3,150,151	1,579,201	1,608,778	275,094	2,653,440	135,427	3,537,920	647,695	3,064,340	773,049
2001	3,120,679	1,597,502	1,523,803	268,480	2,513,286	128,274	3,351,048	646,946	3,060,799	754,645
2002	3,111,318	1,622,914	1,455,378	263,984	2,400,429	122,514	3,200,572	649,856	3,074,565	742,180
2003	3,073,056	1,624,909	1,374,869	256,523	2,267,641	115,737	3,023,521	644,099	3,047,328	721,360
2004	3,047,643	1,636,690	1,310,805	251,379	2,161,977	110,344	2,882,636	642,872	3,041,521	707,040
2005	2,983,372	1,624,532	1,235,043	243,266	2,037,019	103,966	2,716,025	632,836	2,994,044	684,353
2006	2,973,458	1,548,287	1,177,079	237,963	1,941,415	99,087	2,588,554	631,569	2,975,818	670,578
2007	2,916,421	1,457,051	1,107,716	229,695	1,827,013	93,248	2,436,017	621,110	2,915,548	648,326
2008	2,889,243	1,383,468	1,051,775	223,559	1,734,746	88,539	2,312,995	615,150	2,877,585	631,976
2009	2,809,250	1,294,874	984,422	214,357	1,623,658	82,869	2,164,877	599,537	2,795,589	606,847
2010	2,760,225	1,224,685	931,061	207,574	1,535,646	78,377	2,047,528	589,530	2,740,786	588,463
2011	2,684,124	1,196,115	867,890	198,375	1,431,455	73,059	1,908,606	549,531	2,644,997	564,316
2012	2,615,175	1,170,116	812,010	190,172	1,339,289	68,355	1,785,719	514,149	2,559,062	542,746
2013	1,449,124	650,769	432,740	103,783	713,740	36,428	951,653	274,002	1,408,746	297,111
2014	1,812,367	816,697	521,299	127,955	859,805	43,883	1,146,406	330,076	1,751,203	367,392
2015	923,408	417,374	256,139	64,312	422,463	21,562	563,284	162,182	887,062	185,174
2016	704,835	306,163	187,890	47,176	309,896	15,817	413,195	118,968	687,465	139,901
2017	375,633	157,044	96,377	24,199	158,959	8,113	211,946	61,024	371,489	73,847
2018	397,915	160,338	98,398	24,706	162,293	8,283	216,390	62,304	398,533	77,526
2019	0	0	0	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0	0	0	0
2021	0	0	0	0	0	0	0	0	0	0
2022	0	0	0	0	0	0	0	0	0	0
2023	0	0	0	0	0	0	0	0	0	0
2024	0	0	0	0	0	0	0	0	0	0
2025	0	0	0	0	0	0	0	0	0	0
2026	0	0	0	0	0	0	0	0	0	0
2027	0	0	0	0	0	0	0	0	0	0
2028	0	0	0	0	0	0	0	0	0	0
2029	0	0	0	0	0	0	0	0	0	0
2030	0	0	0	0	0	0	0	0	0	0
2031	0	0	0	0	0	0	0	0	0	0
2032	0	0	0	0	0	0	0	0	0	0
2033	0	0	0	0	0	0	0	0	0	0
2034	0	0	0	0	0	0	0	0	0	0
2035	0	0	0	0	0	0	0	0	0	0
TOTAL	94,950,100	51,982,705	50,092,614	7,308,304	82,167,796	2,796,266	75,980,864	15,605,905	78,180,386	23,136,006

FOR EACH CONTRACTOR FOR OFF-AQUEDUCT POWER FACILITIES^(a)

(in dollars)

Sheet 4 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				TOTAL STATE WATER PROJECT
	San Geronio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	
	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)
1960	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0
1983	0	12,790,787	0	15,967,551	0	0	0	0	20,182,470
1984	0	39,327,717	0	47,714,783	0	0	0	0	60,556,781
1985	0	80,047,898	0	95,963,116	0	0	0	0	123,174,502
1986	0	99,389,254	0	114,169,841	0	0	0	0	138,252,999
1987	0	109,647,317	0	122,715,489	0	0	0	0	141,840,735
1988	0	113,615,349	64,518	126,692,698	0	0	0	0	144,900,031
1989	0	117,245,212	133,574	131,314,652	0	0	0	0	150,703,683
1990	791,383	117,062,962	224,311	132,889,383	0	0	0	0	153,190,767
1991	815,859	112,051,241	294,316	132,324,044	0	0	0	0	151,539,698
1992	864,173	111,067,158	367,414	131,314,002	0	0	0	0	151,149,785
1993	907,678	109,886,645	435,386	130,061,987	0	0	0	0	149,474,949
1994	959,067	109,974,921	563,096	130,349,130	0	0	0	0	149,573,714
1995	1,031,061	108,457,190	701,389	129,496,581	0	0	0	0	148,935,445
1996	1,094,729	109,262,166	893,336	130,518,376	0	0	0	0	149,545,254
1997	1,146,196	109,155,876	1,067,592	130,441,777	0	0	0	0	148,918,392
1998	1,187,519	108,417,740	1,294,926	129,677,715	0	0	0	0	147,492,480
1999	1,195,440	104,919,799	1,266,993	125,403,169	0	0	0	0	142,153,891
2000	1,204,843	102,259,312	1,263,361	122,152,611	0	0	0	0	138,027,983
2001	1,141,203	98,320,343	1,196,631	117,623,639	0	0	0	0	132,672,428
2002	1,089,958	95,302,028	1,142,897	114,178,593	0	0	0	0	128,563,045
2003	1,029,664	91,349,479	1,079,674	109,607,860	0	0	0	0	123,207,367
2004	981,685	88,350,870	1,029,365	106,154,827	0	0	0	0	119,130,907
2005	924,946	84,429,596	969,870	101,578,868	0	0	0	0	113,813,756
2006	881,535	81,417,216	924,351	98,066,910	0	0	0	0	109,729,447
2007	829,588	77,513,689	869,881	93,465,303	0	0	0	0	104,442,360
2008	787,693	74,448,183	825,951	89,870,863	0	0	0	0	100,295,239
2009	737,251	70,475,361	773,059	85,161,951	0	0	0	0	94,920,343
2010	697,288	67,406,773	731,155	81,539,091	0	0	0	0	90,770,001
2011	649,978	63,362,639	681,547	76,812,632	0	0	0	0	85,421,466
2012	608,129	59,778,231	637,665	72,620,818	0	0	0	0	80,679,321
2013	324,087	32,121,196	339,827	39,103,206	0	0	0	0	43,399,886
2014	390,410	39,012,662	409,372	47,589,527	0	0	0	0	52,768,049
2015	191,827	19,325,007	201,144	23,620,938	0	0	0	0	26,166,644
2016	140,714	14,289,320	147,548	17,508,888	0	0	0	0	19,377,051
2017	72,178	7,387,858	75,684	9,074,351	0	0	0	0	10,033,008
2018	73,692	7,602,238	77,271	9,359,887	0	0	0	0	10,339,050
2019	0	0	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0	0	0
2021	0	0	0	0	0	0	0	0	0
2022	0	0	0	0	0	0	0	0	0
2023	0	0	0	0	0	0	0	0	0
2024	0	0	0	0	0	0	0	0	0
2025	0	0	0	0	0	0	0	0	0
2026	0	0	0	0	0	0	0	0	0
2027	0	0	0	0	0	0	0	0	0
2028	0	0	0	0	0	0	0	0	0
2029	0	0	0	0	0	0	0	0	0
2030	0	0	0	0	0	0	0	0	0
2031	0	0	0	0	0	0	0	0	0
2032	0	0	0	0	0	0	0	0	0
2033	0	0	0	0	0	0	0	0	0
2034	0	0	0	0	0	0	0	0	0
2035	0	0	0	0	0	0	0	0	0
TOTAL	22,749,774	2,846,471,233	20,683,104	3,372,105,057	0	0	0	0	3,855,342,927

TABLE B-17: UNIT VARIABLE OMP&R COMPONENT

(in dollars per acre-foot)

Sheet 1 of 4

Calendar Year	NORTH BAY AQUEDUCT				SOUTH BAY AQUEDUCT		CALIFORNIA AQUEDUCT			
	Reach 1 Barker Slough Pumping Plant		Reach 3 Cordeira Pumping Plant ^(b)		Reach 1 South Bay and Del Valle Pumping Plant ^(c)		Reach 1 Harvey O. Banks Delta Pumping Plant		Reach 4 Dos Amigos Pumping Plant	
	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1961	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	4.1511341	4.1511341	0	0	0	0
1963	0	0	0	0	4.5639383	4.5639383	0	0	0	0
1964	0	0	0	0	3.5452154	3.5452154	0	0	0	0
1965	0	0	0	0	4.1911773	4.1911773	0	0	0	0
1966	0	0	0	0	3.5074573	3.5074573	0	0	0	0
1967	0	0	0	0	3.9306767	3.9306767	1.2030681	1.2030681	0	0
1968	0	0	5.7570016	5.7570016	3.3315620	4.8750942	1.5435322	1.5435322	1.0732031	2.6167353
1969	0	0	3.1823595	3.1823595	3.6949019	4.8016170	1.1067151	1.1067151	0.7028165	1.8095316
1970	0	0	3.7584301	3.7584301	4.4256141	5.3721490	0.9465349	0.9465349	0.7813430	1.7278779
1971	0	0	4.2082507	4.2082507	3.8714396	4.7522833	0.8808437	0.8808437	0.4125312	1.2933749
1972	0	0	3.9577735	3.9577735	4.3250690	5.1337448	0.9030996	0.9030996	0.5662758	1.4693754
1973	0	0	3.8103903	3.8103903	5.2455409	6.1841800	0.9386391	0.9386391	0.5996892	1.5383283
1974	0	0	3.5878850	3.5878850	6.3321503	7.2293909	0.8972406	0.8972406	0.5736894	1.4709300
1975	0	0	2.1606725	2.1606725	3.7365711	4.8327731	1.0962020	1.0962020	0.4606980	1.5569000
1976	0	0	2.9283909	2.9283909	4.5191527	5.7132795	1.1941268	1.1941268	0.5163827	1.7105095
1977	0	0	2.7516411	2.7516411	5.7630172	6.7679736	1.6852782	1.6852782	1.0525287	2.7378069
1978	0	0	3.5949619	3.5949619	5.2086183	6.8200209	1.6114026	1.6114026	0.4214924	2.0328950
1979	0	0	2.4747752	2.4747752	4.9524184	7.0889234	2.1365050	2.1365050	0.6587934	2.7952984
1980	0	0	2.9737588	2.9737588	4.5186576	6.0676232	1.5489656	1.5489656	0.9998288	2.5487944
1981	0	0	2.4099544	2.4099544	4.1637286	6.2476721	2.0839435	2.0839435	0.7177400	2.8016835
1982	0	0	10.2102226	10.2102226	10.1577401	11.8430383	1.6852782	1.6852782	1.0525287	2.7378069
1983	0	0	5.3428072	5.3428072	6.0802696	7.0448186	0.9645490	0.9645490	0.5673317	1.5318807
1984	0	0	1.0266849	1.0266849	3.0476855	4.1559105	1.1082250	1.1082250	0.6448576	1.7530826
1985	0	0	4.3496667	4.3496667	6.7711192	9.5028166	2.7316974	2.7316974	1.4026346	4.1343320
1986	0	0	5.2870254	5.2870254	8.2433448	11.4962754	3.2529306	3.2529306	1.6446531	4.8975837
1987	2.2557883	2.2557883	8.1476834	10.4034717	11.5838947	16.0558333	4.4719386	4.4719386	2.2122304	6.6841690
1988	2.4337178	2.4337178	8.6597907	11.0935081	12.0306561	16.7697297	4.6372736	4.6372736	2.2896287	8.9269023
1989	2.2520782	2.2520782	8.0033850	10.2554632	11.1027293	15.4004259	4.2976966	4.2976966	1.3229951	6.4299917
1990	2.5154174	2.5154174	8.9646100	11.4800274	12.3064064	17.0490711	4.7426647	4.7426647	2.3390613	7.0817260
1991	3.2955849	3.2955849	10.7996205	14.0952054	14.6628312	20.2717773	5.6089461	5.6089461	2.7419802	8.3509263
1992	3.3491942	3.3491942	10.8262400	14.1754342	14.6001496	20.1883059	5.5881563	5.5881563	2.7470807	8.3352370
1993	3.7482709	3.7482709	11.7532270	15.5017979	15.7504618	21.7738629	6.0234011	6.0234011	2.9628497	8.9862508
1994	3.8041721	3.8041721	11.7782927	15.5824648	15.7590056	21.7944908	6.0354850	6.0354850	2.9837843	9.0192493
1995	3.8152829	3.8152829	13.0554466	16.8707295	17.4471902	24.1098917	6.6627015	6.6627015	3.2816762	9.9443777
1996	3.8310698	3.8310698	13.6808598	17.5119296	18.2649301	25.2289723	6.9640422	6.9640422	3.4349363	10.3989785
1997	3.9797071	3.9797071	13.9525554	17.9322625	18.6122766	25.7051535	7.0928769	7.0928769	3.5533936	10.6482705
1998	4.1321307	4.1321307	14.2331204	18.3652511	18.9533191	26.1709642	7.2176451	7.2176451	3.6623851	10.8800302
1999	4.4044897	4.4044897	14.8881966	19.2926863	19.8217819	27.3595035	7.5377216	7.5377216	3.8617266	11.3994482
2000	4.7644574	4.7644574	15.7156379	20.4800953	20.8935904	28.8276958	7.9341054	7.9341054	4.0702584	12.0043638
2001	4.8156525	4.8156525	15.8427921	20.6584446	21.0264787	29.0133083	7.9868296	7.9868296	4.1206548	12.1074844
2002	5.0712513	5.0712513	16.5709360	21.6421873	21.9657394	30.1056449	8.3358255	8.3358255	4.3048175	12.6406430
2003	5.2899289	5.2899289	17.0594488	22.3493777	22.6135798	31.1845413	8.5709615	8.5709615	4.4138866	12.9848301
2004	5.4456639	5.4456639	17.6132145	23.0586784	23.1487233	32.1407350	8.8258627	8.8258627	4.5337949	13.3596576
2005	5.5213158	5.5213158	17.5258382	23.0471540	23.1881809	31.9675009	8.7793200	8.7793200	4.5122874	13.2916074
2006	5.4114457	5.4114457	17.1932648	22.6047105	22.7395585	31.3541048	8.6145463	8.6145463	4.4358277	13.0503740
2007	5.5100856	5.5100856	17.5229989	23.0330845	23.1714787	31.9446749	8.7731962	8.7731962	4.5095925	13.2827887
2008	5.6188113	5.6188113	17.8924276	23.5112389	23.6601117	32.6127847	8.9526730	8.9526730	4.5933055	13.5459785
2009	5.6129514	5.6129514	17.8932893	23.5062407	23.6528564	32.6028570	8.9500006	8.9500006	4.5919868	13.5419874
2010	5.7469661	5.7469661	18.1803804	23.9273465	24.0325532	33.1220313	9.0894781	9.0894781	4.6569251	13.7464032
2011	5.8798192	5.8798192	18.6343026	24.5143218	24.6216170	33.9274422	9.3058252	9.3058252	4.7577514	14.0635766
2012	6.1365210	6.1365210	19.3249399	25.4609149	25.5224043	35.1590815	9.6366772	9.6366772	4.9116693	14.5483465
2013	6.3455986	6.3455986	19.0803902	26.1539888	26.1387819	36.0018641	9.8630822	9.8630822	5.0171418	14.8802240
2014	6.3174457	6.3174457	19.6207547	25.9382004	25.8820426	35.6508323	9.7687897	9.7687897	4.9732441	14.7420338
2015	6.7500858	6.7500858	20.8339726	27.5840584	27.4857074	37.8435187	10.3578113	10.3578113	5.2472266	15.6050379
2016	6.9130390	6.9130390	21.1828444	28.0958834	27.9306543	38.4519122	10.5212579	10.5212579	5.3234914	15.8447493
2017	7.2684874	7.2684874	22.1520346	29.4205220	29.2182660	40.2124623	10.9941963	10.9941963	5.5057453	16.4999416
2018	7.4531614	7.4531614	22.6145570	30.0677184	29.8129734	41.0053102	11.1923368	11.1923368	5.5679466	16.7602834
2019	7.5596046	7.5596046	22.9510700	30.5706746	30.2458511	41.5709841	11.3251330	11.3251330	5.6012653	16.9263983
2020	7.5587276	7.5587276	22.6842570	30.2429846	29.8959415	41.0655605	11.1696190	11.1696190	5.5175604	16.6871794
2021	7.6820450	7.6820450	23.0497191	30.7317641	30.3740798	41.7193452	11.3452654	11.3452654	5.5753713	16.9206367
2022	7.6485980	7.6485980	22.9595429	30.6081409	30.2517234	41.5520439	11.3003205	11.3003205	5.4529245	16.7532450
2023	7.5818286	7.5818286	22.8434400	30.4523651	30.1001223	41.1911734	11.2033543	11.2033543	5.3304369	16.5257935
2024	7.5575758	7.5575758	22.6865893	30.2441651	29.8968617	41.0668197	11.1699580	11.1699580	5.2721468	16.4071728
2025	7.5643160	7.5643160	22.7095200	30.2738360	29.9236596	41.1034546	11.1797950	11.1797950	5.2420653	16.4218603
2026	7.5917590	7.5917590	22.7919200	30.3836790	30.0322021	41.2440772	11.2118751	11.2118751	5.2606038	16.4724789
2027	7.6060749	7.6060749	22.8349200	30.4409949	30.0888883	41.3137600	11.2248717	11.2248717	5.2702628	16.4951345
2028	7.5566450	7.5566450	22.6865200	30.2431650	29.8933404	41.0115887	11.1182483	11.1182483	5.2368241	16.3550724
2029	7.5087955	7.5087955	22.5258795	30.0916395	29.7162799	40.8037799	11.0307799	11.0307799	5.1466895	16.2025461
2030	7.5514495	7.5514495	22.6708800	30.223295	29.8727234	40.9139051	11.0411817	11.0411817	5.1912622	16.2324439
2031	7.5463192	7.5463192	22.6555200	30.210392	29.8524787	40.8517102	10.9992315	10.9992315	5.1458430	16.1450745
2032	7.5806026	7.5806026	22.7584800	30.3390826	29.9881330	41.0029236	11.0147906	11.0147906	5.2721799	16.1423085
2033	7.5063029	7.5063029	22.5353600	30.0416629	29.641383	40.609193	10.9067810	10.9067810	5.0771930	15.9839740
2034	7.6089251	7.6089251	22.8434400	30.4523651	30.1001223	41.1911734	11.2033543	11.2033543	5.3304369	16.5257935
2035	7.4387134	7.4387134	22.3244400	29.7711534	29.4265553	40.2353552	10.8085999	10.8085999	5.0312857	15.8398856

OF TRANSPORTATION CHARGE^(a)

(in dollars per acre-foot)

Sheet 2 of 4

Calendar Year	CALIFORNIA AQUEDUCT (Continued)									
	Reach 14A		Reach 15A		Reach 16A		Reach 17E		Reach 18A	
	Buena Vista Pumping Plant		Wheeler Ridge Pumping Plant		Wind Gap Pumping Plant		A.D. Edmonston Pumping Plant		Alamo Powerplant	
	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1961	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0
1970	0.3333333	2.0612112	0	0	0	0	0	0	0	0
1971	1.3594550	2.6528299	4.9729730	7.6258029	0	0	0	0	0	0
1972	1.0808850	2.5502604	1.1418280	3.6920884	2.2892599	5.9813483	7.3206022	13.3019505	0	0
1973	0.9844807	2.5228090	1.2143719	3.7371809	2.1051633	5.8423442	7.4512435	13.2935877	0	0
1974	0.9223291	2.3932591	1.0924098	3.4856689	1.9449022	5.4305711	6.9004732	12.3310443	0	0
1975	0.8190849	2.3578849	0.9574493	3.3334342	1.9610412	5.2944754	6.9962702	12.2907456	0	0
1976	0.9626676	2.6731771	1.0211874	3.6943645	2.2275746	5.9219391	7.9384515	13.8603906	0	0
1977	1.0884667	3.4544078	1.3629729	4.8173807	2.9115870	7.7289677	9.9329609	17.6619286	0	0
1978	0.9606230	2.9935180	1.0432294	4.0367474	1.9779157	6.0146631	7.0810192	13.0958823	0	0
1979	0.9921984	2.7452810	1.1740700	3.9193510	2.3241837	6.2435347	7.4916296	13.7351643	0	0
1980	1.5432390	4.0920334	1.7199589	5.8119923	3.5098225	9.3218148	11.6112470	20.9330618	0	0
1981	1.1409430	3.9426265	1.1927814	5.1354079	2.4900268	7.6254347	8.9914362	16.6168709	0	0
1982	1.7367035	4.4745104	1.8550756	6.3295860	4.0292253	10.3588113	14.7182482	25.0770595	0	0
1983	1.9099508	3.4418315	2.1144298	5.5562613	4.4784357	10.0346970	14.3356170	24.3703140	0	0
1984	2.3066669	6.4409989	2.7989909	9.2398898	5.8338427	15.0738325	19.8154757	34.8693082	0	0
1985	2.7487969	7.6463806	3.3381951	10.9845757	7.0020115	17.9865872	23.9046919	41.8912791	-9.9232704	31.9680087
1986	3.7523933	10.4365623	4.5620731	14.9863554	9.6536984	24.6523338	33.1874108	57.8397446	-8.2886192	49.551254
1987	3.8873964	10.8142987	4.7267293	15.5410280	10.0104676	25.5514956	34.4363089	59.9878045	-6.0065310	53.9812735
1988	3.6100047	10.0399964	4.3884269	14.4284233	9.2775782	23.7060015	31.8708151	55.5768166	-6.0070976	49.5697190
1989	3.9734700	11.0551960	4.8316799	15.8868759	10.2378943	26.1247702	35.2462570	61.3710272	-5.6902726	55.6807546
1990										
1991	4.6810260	13.0319523	5.6945441	18.7264964	12.1073645	30.8338609	41.8373377	72.6711986	-5.6888729	66.9823257
1992	4.6640495	12.992865	5.6738225	18.6731090	12.0625109	30.7356199	41.7431975	72.4788174	-5.5647588	66.9140586
1993	5.0117916	13.9980424	6.0978785	20.095209	12.9812414	33.0771623	45.1056905	78.1828528	-5.6386191	72.5442337
1994	5.018354	14.0311047	6.0979751	20.1290798	12.9957798	33.1248596	45.1966843	78.3215439	-5.7920931	72.5294508
1995	5.5132108	15.4575885	6.7093983	22.1669868	14.3369711	36.5039579	49.9048481	86.4088060	-9.4363300	76.9724760
1996	5.7766572	16.1756357	7.0261520	23.2017877	14.9970372	38.1988249	52.2289534	90.4277783	-9.4485268	80.9729251
1997	5.9016632	16.5499337	7.1723650	23.7222987	15.3420650	39.0643637	53.2249315	92.2892952	-9.4426964	82.8465988
1998	6.0192696	16.8922988	7.2971534	24.1964532	15.6926339	39.8890871	54.1183925	94.1183925	-9.4371754	84.6812171
1999	6.2958673	17.6953155	7.6378338	25.3331493	16.4639528	41.7971021	56.6657159	98.4628180	-9.4369516	89.0258664
2000	6.6341674	18.6853122	8.0537978	26.6923290	17.3982543	44.0058533	59.6573742	103.7479575	-9.4085835	94.3073740
2001	6.7035900	18.8110744	8.1269187	26.9379931	17.5617051	44.4996982	60.0442037	104.5439019	-9.4637630	95.0801389
2002	7.0147112	19.6553542	8.5056293	28.1609835	18.3717254	46.5327089	62.6630267	109.1957356	-9.4622583	99.7334773
2003	7.2381596	20.2228997	8.7775174	29.0005071	18.6934564	47.893635	64.5112830	112.4052465	-9.4659054	102.9393411
2004	7.4775392	20.8371968	9.0687290	29.9059258	19.4574674	49.3633932	66.4635992	115.8269924	-9.4627127	106.3642797
2005	7.4683284	20.7993358	9.0567878	29.8167236	19.3651071	49.1813307	66.0986849	115.2805156	-9.4622976	105.8142180
2006	7.3573276	20.4077016	8.9213036	29.3290052	19.0174911	48.3464963	64.8180986	113.1645949	-8.6686150	104.4959799
2007	7.4579117	20.7407004	9.0424352	29.7831356	19.3464251	49.1295607	65.9813733	115.1109340	-8.6707909	106.4401341
2008	7.6044434	21.1504219	9.2211522	30.3715741	19.7280826	50.0946567	67.3026244	117.4022811	-8.6752089	108.7270722
2009	7.6023040	21.1442914	9.2185347	30.3628261	19.7223182	50.0851443	67.2482456	117.3333899	-8.6728980	108.6604919
2010	7.7161892	21.4625924	9.3574352	30.8200276	20.0232558	50.8432834	68.2925197	119.1358031	-8.6759206	110.4598825
2011	7.8929114	21.9564880	9.5729436	31.5294316	20.4902235	52.0196551	69.9164845	121.9361396	-8.6794940	113.2566456
2012	8.1631606	22.7115071	9.9025030	32.6140101	21.2042287	53.8182388	72.4136906	126.2319294	-8.6628030	117.5691264
2013	8.3480914	23.2283154	10.1279586	33.562740	21.6928191	55.0490931	74.0861386	129.1352317	-8.6765626	120.4586691
2014	8.2710610	23.0130948	10.0340793	33.0471741	21.4893266	54.5365007	73.3552787	127.8817794	-8.6839400	119.2078394
2015	8.7521497	24.3571876	10.6207653	34.9779529	22.7604381	57.7383910	77.7929940	135.5313850	-8.3074712	127.2239138
2016	8.8856021	24.7303514	10.7835272	35.5138786	23.1131323	58.6270109	79.0133184	137.6403293	-8.3049871	129.3353422
2017	9.2719096	25.7718512	11.2546017	37.0264529	24.1337985	61.1602514	82.5862793	143.7465307	-8.3083793	135.4381514
2018	9.4503388	26.2106222	11.4722217	37.6828439	24.6051930	62.2880369	84.2365109	146.5245478	-8.3043689	138.2201789
2019	9.5801711	26.5065694	11.6305881	38.1371575	24.9118250	63.0489825	85.4376880	148.4866705	-8.3171282	140.1695423
2020	9.4752219	26.1624013	11.5025579	37.6649592	24.5972928	62.2622520	84.4200286	146.6822806	-8.3137344	138.3685462
2021	9.5783200	26.4989567	11.6356585	38.1346152	24.9384604	63.0730756	85.6995225	148.7725981	-8.3147924	140.4578057
2022	9.4987503	26.2519953	11.5486319	37.8001772	24.6939193	62.4945465	85.2527620	147.7473085	-8.3093695	139.4379390
2023	9.4195575	25.953510	11.4520648	37.4054158	24.3369334	61.7423692	84.4046399	146.1470091	-2.6346106	143.5123985
2024	9.3923059	25.7994787	11.4187506	37.182373	24.1177783	61.3360156	84.1049432	145.4409588	-2.6329627	142.8115961
2025	9.4003137	25.8221740	11.4285611	37.2507351	23.9932866	61.2440217	84.1597029	145.4037246	-2.6366728	142.7670518
2026	9.4328922	25.9053711	11.4682851	37.3736562	23.9819843	61.3556405	84.4415386	145.7971791	-2.6327908	143.1643883
2027	9.4496877	25.9537628	11.4889986	37.4340208	23.9307487	61.3647695	84.5988165	145.9636310	-2.6320072	143.3316238
2028	9.3585216	25.7350222	11.4175070	37.1161473	23.7757669	60.9068679	84.0562807	144.9631486	-2.6370376	142.3261110
2029	9.2892986	25.5441628	11.3243596	36.8685224	23.6792918	60.5478142	83.7185763	144.2663905	-2.6327494	141.633611
2030	9.2872415	25.5196854	11.3130487	36.8327341	23.7594539	60.5921880	83.9061685	144.4983565	-2.6279605	141.8703960
2031	9.2256952	25.3707697	11.2577255	36.6284952	23.7433811	60.3718763	83.6784718	144.0503481	-2.6327524	141.4175957
2032	9.2145443	25.3357628	11.2388773	36.5296401	23.8051116	60.4271517	83.8724949	144.2996466	-2.6340407	141.6856059
2033	9.0687715	25.0527455	11.0634018	36.1161473	23.5852688	59.7014101	82.7308255	144.4323236	-2.6370376	139.7983082
2034	9.1367384	25.3392845	11.1448291	36.4841136	23.8911035	60.3752171	83.6897287	144.0649458	-2.6364672	141.4284786
2035	8.8812548	24.7211404	10.8319947	35.5531351	23.4411494	58.8945545	81.7316012	140.6261557	-2.6281104	137.9980453

- b) For the period 1968 through 1986, rates are for an interim facility.
c) The relatively minor costs of Del Valle Pumping Plant have been combined with those of South Bay Pumping Plant to simplify the allocation procedure.

TABLE B-17: UNIT VARIABLE OMP&R COMPONENT

(in dollars per acre-foot)

Sheet 3 of 4

Calendar Year	CALIFORNIA AQUEDUCT (Continued)							
	Reach 22B		Reach 26A		Reach 29A		Reach 29G	
	Pearblossom Pumping Plant		Devil Canyon Powerplant		Oso Pumping Plant		William E. Warne Powerplant	
	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)
1961	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0
1972	14.2519509	27.5539014	-2.3717647	25.1821367	1.4212193	14.7231698	0	0
1973	4.4326545	17.7262422	-8.4298618	9.2963804	1.0210537	14.3146414	0	0
1974	3.4431782	15.7742225	-5.1043660	10.6698565	0.9241725	13.2552168	0	0
1975	3.1739313	15.4646769	-5.6510611	9.8136158	0.9362286	13.2269742	0	0
1976	3.9391330	17.7995236	-6.4449941	11.3545295	0.8622774	14.7226680	0	0
1977	3.4988957	21.1608243	-11.6274558	9.5333685	0.9076172	18.5695458	0	0
1978	4.1377503	17.2334926	-8.1314274	9.1020052	0.7314697	13.8271520	0	0
1979	5.1961178	22.4951308	-9.5825772	13.1125536	0.9504526	18.4494656	0	0
1980	4.6302946	25.5633564	-8.3797007	17.1836557	1.9319235	22.8649853	0	0
1981	3.7143949	20.3312658	-4.3565125	15.9747533	1.2092253	17.8260962	0	0
1982	6.8751788	31.9522383	-7.8354177	24.1168206	1.4250799	26.5021394	-2.1701933	24.3319461
1983	5.5535884	29.9239024	-23.2556095	6.6682929	2.0049762	26.3752902	-8.8617144	17.5135758
1984	2.4775004	16.2126647	-34.6617332	-18.4490685	1.6058965	15.3410608	-13.2829964	2.0580644
1985	6.2418274	41.1311356	-31.4957865	9.6353491	3.2385416	38.1278498	-15.4152306	22.7126192
1986	7.5274412	39.4954499	-30.9963363	8.4991136	3.7504406	45.6417197	-15.1254246	30.5162951
1987	10.4462130	59.9973384	-30.1326742	29.8646642	4.9123403	62.7520849	-15.1351474	47.6169375
1988	10.8386631	64.8201366	-30.0656765	34.7544601	5.0686552	65.0564597	-15.1302436	49.9262161
1989	10.0321957	59.6019147	-29.9712012	29.6307135	4.7475657	60.3243823	-14.9695396	45.3548427
1990	11.0989914	66.7797460	-30.0350519	36.7446941	5.1683888	66.5394160	-15.2307367	51.3086793
1991	13.1576608	80.1399865	-29.9337565	50.2062300	5.9874765	78.6586751	-15.0836203	63.5750548
1992	13.1308775	80.0449361	-29.8342001	50.2107360	5.9750155	78.4538329	-15.1610283	63.2928046
1993	14.1709356	86.7151693	-29.9866502	56.7285191	6.3879204	84.5707732	-15.1351475	69.4356257
1994	14.1709607	86.7004115	-29.9024052	56.7980063	6.3880233	84.7095672	-15.0115970	69.6979702
1995	15.6406043	92.6130803	-30.7704453	61.8426350	6.9681007	93.3769067	-14.1321399	79.2447668
1996	16.3503765	97.3296280	-30.9344017	66.3952263	7.2493744	97.6771527	-13.3513140	84.3258387
1997	16.4442325	99.408313	-30.7445858	68.7462455	7.3671163	99.6564115	-12.9348159	86.7215956
1998	16.9432775	101.6244946	-30.7696872	70.8548074	7.5289857	101.6473782	-13.4007272	88.2466510
1999	17.7020817	106.7279480	-30.6426258	76.6805122	7.8816541	106.3443721	-11.8312867	94.5121854
2000	18.6384440	112.9458180	-30.7889201	82.1568979	8.2711968	112.0191543	-11.8982052	100.1209491
2001	18.7537398	113.8338787	-30.8106183	83.0232604	8.3364314	112.8803333	-11.7764843	101.1038490
2002	19.6314184	119.3648957	-30.7653235	88.5995722	8.6815562	117.8772918	-11.6389096	106.2383822
2003	20.2527286	123.1920697	-30.6042092	92.5878605	8.9255818	121.3308283	-11.5597387	109.7710896
2004	20.9485867	127.3128664	-30.6878872	96.6249792	9.2317494	125.0587418	-11.2983363	113.7603735
2005	20.9181563	126.7323743	-30.6012629	96.1311114	9.2513520	124.5318676	-11.2487331	113.2831345
2006	20.6061855	125.1021654	-30.6826849	94.4194805	9.0786952	122.2432901	-11.0519281	111.1913620
2007	20.9237410	127.3638841	-30.6396562	96.7242279	9.2120792	124.3230132	-11.1859920	113.1370212
2008	21.3384363	130.0655085	-30.5914594	99.4740491	9.3818060	126.7840871	-11.0473294	115.7367577
2009	21.3335543	129.9940462	-30.6888667	99.3251795	9.3792678	126.7126577	-10.9592290	115.7534287
2010	21.6644808	132.1243633	-30.6008766	101.5234867	9.5111085	128.6469116	-11.1092373	117.5376743
2011	22.1782870	135.4349326	-30.5432795	104.8916531	9.7157929	131.6519325	-10.8769339	120.7749986
2012	22.9683065	140.5374329	-30.5077383	110.0296946	10.0251762	136.2571056	-10.7199673	125.5371383
2013	23.5055570	143.9642261	-30.5297354	113.4344907	10.2197287	139.3549604	-10.6800682	128.6748922
2014	23.2818770	142.4897164	-30.5444438	111.9452726	10.1161104	138.0078898	-10.6948592	127.3130306
2015	24.6834607	151.9073745	-30.5070650	121.4003095	10.6730905	146.2044755	-10.5547790	135.6496965
2016	25.0699494	154.4052916	-30.4459488	123.9593428	10.8276122	148.4679415	-10.4561618	138.0117797
2017	26.1945328	161.6326842	-30.3998047	131.2328795	11.2747538	155.0212845	-10.3887433	144.6325412
2018	26.7142886	164.9344675	-30.4147520	134.5197155	11.4812736	158.0058214	-10.3429867	147.6628347
2019	27.0907131	167.2602554	-30.3468036	136.9134518	11.6316496	160.1183201	-10.1875452	149.9307749
2020	26.7872806	165.1558268	-30.4239313	134.7318955	11.5101531	158.1924337	-10.2552603	147.9371734
2021	27.2026303	167.6604360	-30.3207459	137.3396901	11.6761749	160.4487730	-10.0525210	150.3962520
2022	27.0642298	166.5341688	-30.3843956	136.1497732	11.6337091	159.3810176	-10.1059576	149.2750500
2023	26.8655391	170.3779376	-30.3597177	140.0182197	11.5420679	157.6890770	-10.0297645	147.6593125
2024	26.7864099	169.5980060	-30.3402216	139.2577844	11.5104811	156.9514399	-9.9403308	147.0111091
2025	26.8096632	169.5767150	-30.3665516	139.2101634	11.5197562	156.9234808	-9.8774676	147.0460132
2026	26.9041239	170.0685122	-30.4375120	139.6310002	11.5574383	157.3546174	-9.8826418	147.4719756
2027	26.9538838	170.2855076	-30.4002318	139.8852758	11.5771724	157.5408034	-9.8969089	147.6438945
2028	26.7832088	169.1093198	-30.3554611	138.7538587	11.2989238	156.2620724	-9.8715937	146.3904787
2029	26.6763375	168.3099786	-30.4085361	137.9014425	11.0479970	155.3143875	-9.9169148	145.3974727
2030	26.7649434	168.6353394	-30.5099389	138.1254005	11.0204792	155.5188357	-9.8706095	145.6482262
2031	26.7483259	168.1659216	-30.4712239	137.6946977	10.9514526	155.0018007	-9.8791527	145.1226480
2032	26.7259981	168.3916040	-30.3808113	138.0107927	10.9026430	155.2022896	-9.8410344	145.3612552
2033	26.3147799	166.1297881	-30.4343631	135.6954250	10.7055429	153.1377785	-9.9388252	143.1989533
2034	26.5526591	167.8811377	-30.3498899	137.612478	10.6494945	154.7144403	-9.9054503	140.8999000
2035	25.8347297	163.8327750	-30.3891976	133.4435774	10.2201751	150.8463308	-10.2293379	140.6169929

OF TRANSPORTATION CHARGE^(a)

(in dollars per acre-foot)

Sheet 4 of 4

Calendar Year	CALIFORNIA AQUEDUCT (Continued)					
	Reach 29J		Reach 31A		Reach 33A	
	Castaic Powerplant		Las Perillas and Badger Hill Pumping Plants		Devil's Den, Sawtooth, and Polonio Pumping Plants and San Luis Obispo Powerplant	
	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate
	(29)	(30)	(31)	(32)	(33)	(34)
1961	0	0	0	0	0	0
1962	0	0	0	0	0	0
1963	0	0	0	0	0	0
1964	0	0	0	0	0	0
1965	0	0	0	0	0	0
1966	0	0	0	0	0	0
1967	0	0	0	0	0	0
1968	0	0	1.5014866	4.1182219	0	0
1969	0	0	1.2624065	3.0719381	0	0
1970	0	0	1.6309699	3.3588478	0	0
1971	0	0	1.4985537	2.7919286	0	0
1972	-2.9350830	11.7880868	1.7489056	3.2182810	0	0
1973	-6.8099448	7.5046966	1.4609575	2.9992858	0	0
1974	-7.4013274	5.8538894	1.4255635	2.8964935	0	0
1975	-6.5604921	6.6664821	1.0379624	2.5948624	0	0
1976	-6.7213324	8.0013356	1.5465478	3.2570573	0	0
1977	-26.6745694	-8.1050236	1.5544740	3.9204151	0	0
1978	-8.0386119	5.7885401	1.9022180	3.9351130	0	0
1979	-18.3116870	0.1377786	1.5336852	4.3289836	0	0
1980	-20.2910065	2.5739788	1.5124754	4.0612698	0	0
1981	-14.1872705	3.6388257	1.4545894	4.2562729	0	0
1982	-9.5722266	14.7597195	2.8057864	5.5435933	0	0
1983	-50.2359352	-32.7223594	2.1831513	3.7150320	0	0
1984	-6.6760970	-4.6180326	0.8626362	2.6157188	0	0
1985	-28.5417319	-5.8291127	2.4012480	6.5355800	0	0
1986	-27.7026075	2.8136876	2.8348919	7.7324756	0	0
1987	-26.9752609	20.6416766	3.9845632	10.6687322	0	0
1988	-26.8067065	23.1195096	4.1400520	11.0669543	0	0
1989	-26.6493122	18.7055305	3.8218242	10.2518159	0	0
1990	-26.4920000	24.8166793	4.2371057	11.3188317	0	0
1991	-26.4627196	37.1123352	5.0475070	13.3984333	0	0
1992	-26.3585825	36.9342221	5.0249912	13.3602282	0	0
1993	-26.3319601	43.1036656	5.4230185	14.4092693	0	0
1994	-26.3097971	43.3881731	5.4231081	14.4423774	0	0
1995	-25.4737375	53.7710293	5.9969744	15.9413521	0	0
1996	-25.3361344	58.9897043	6.2750720	16.6740505	0	0
1997	-25.2378223	61.4837733	6.3914984	17.0397689	0	0
1998	-25.2599015	62.9867495	6.5086116	17.3886418	0	0
1999	-25.0753092	69.4378762	6.8068484	18.2062966	0	0
2000	-25.0663959	75.0545532	7.1749083	19.1792721	0	0
2001	-25.0401347	76.0637143	7.2205463	19.3280307	0	0
2002	-24.9969157	81.2414665	7.5430876	20.1837306	0	0
2003	-24.9855450	84.7855446	7.7655548	20.7503849	0	0
2004	-24.9132819	88.8470916	8.0063846	21.3660422	0	0
2005	-24.8902313	88.3929032	7.9628715	21.2544789	0	0
2006	-24.8661609	86.3252011	7.8088191	20.8591931	0	0
2007	-24.8650270	88.2719942	7.9571438	21.2399325	0	0
2008	-24.8542588	90.8824989	8.1249409	21.6709194	0	0
2009	-24.8444812	90.9089475	8.1224478	21.6644352	0	0
2010	-24.8544968	92.6831775	8.2528328	21.9992360	0	0
2011	-24.8162350	95.9587636	8.4551209	22.5186975	0	0
2012	-24.7856223	100.7515160	8.7644600	23.3128065	0	0
2013	-24.7798151	103.8950771	8.9761186	23.8563426	0	0
2014	-24.7804389	102.5325917	8.8879578	23.6299916	0	0
2015	-24.7620930	110.8876035	9.4386592	25.0436971	0	0
2016	-24.7450653	113.2667144	9.5914576	25.4362069	0	0
2017	-24.7426093	119.8899319	10.0336251	26.5335667	0	0
2018	-24.7367804	122.9260543	10.2378441	26.9981275	0	0
2019	-24.7130412	125.2177337	10.3864922	27.3128905	0	0
2020	-24.7172109	123.2199625	10.2663336	26.9535130	0	0
2021	-24.6864437	125.7098083	10.4305328	27.3511695	0	0
2022	-24.6962680	124.5787920	10.3885126	27.1417576	0	0
2023	-24.6801190	122.9791935	10.2978885	26.8316820	0	0
2024	-24.6651650	122.3459441	10.2666570	26.6738298	0	0
2025	-24.6526683	122.3933449	10.2758583	26.6977186	0	0
2026	-24.6546970	122.8172786	10.3131311	26.7856100	0	0
2027	-24.6576380	122.9862565	10.3325985	26.8277330	0	0
2028	-24.6516734	121.7388053	10.2654428	26.6205152	0	0
2029	-24.6582451	120.7392272	10.2236466	26.4785108	0	0
2030	-24.6517585	120.9964677	10.2583615	26.4908054	0	0
2031	-24.6544981	120.4681499	10.2514095	26.3964840	0	0
2032	-24.6463182	120.7149370	10.2979980	26.4403065	0	0
2033	-24.6671441	118.5318092	10.1970381	26.1810121	0	0
2034	-24.6580216	120.1509684	10.3364502	26.5389963	0	0
2035	-24.7092412	115.9077517	10.1052197	25.9451053	0	0

TABLE B-18: VARIABLE OMP&R COMPONENT OF

(in dollars)

Sheet 1 of 4

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA				CENTRAL COASTAL AREA		
	Napa County FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD, Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1962	0	0	0	2,051	34,919	0	36,970	0	0	0
1963	0	0	0	7,900	49,811	0	57,711	0	0	0
1964	0	0	0	5,931	68,203	0	74,134	0	0	0
1965	0	0	0	10,918	68,765	62,926	142,609	0	0	0
1966	0	0	0	19,330	52,135	121,140	192,605	0	0	0
1967	0	0	0	19,399	56,949	160,650	236,998	0	0	0
1968	6,989	0	6,989	29,898	120,985	341,769	492,652	0	0	0
1969	8,551	0	8,551	31,859	3,904	298,968	334,731	0	0	0
1970	13,598	0	13,598	49,688	0	431,442	481,130	0	0	0
1971	10,609	0	10,609	23,842	28,329	416,328	468,499	0	0	0
1972	14,434	0	14,434	54,839	144,669	524,207	723,715	0	0	0
1973	14,449	0	14,449	18,397	15,590	547,808	581,795	0	0	0
1974	17,473	0	17,473	9,499	29	636,187	645,715	0	0	0
1975	14,779	0	14,779	22,317	4,765	425,285	452,367	0	0	0
1976	20,856	0	20,856	97,875	121,693	502,768	722,336	0	0	0
1977	22,635	0	22,635	82,578	123,044	497,792	703,414	0	0	0
1978	21,692	0	21,692	74,911	39,986	652,861	767,758	0	0	0
1979	16,237	0	16,237	136,993	77,085	652,117	866,195	0	0	0
1980	19,945	0	19,945	101,875	66,950	533,951	702,776	0	0	0
1981	21,692	0	21,692	122,391	136,930	549,796	809,117	0	0	0
1982	12,385	0	12,385	155,416	74,800	1,033,436	1,263,652	0	0	0
1983	12,219	0	12,219	33,576	22,240	611,018	666,834	0	0	0
1984	3,001	0	3,001	28,193	13,872	365,721	407,786	0	0	0
1985	13,049	0	13,049	168,979	292,686	836,248	1,297,913	0	0	0
1986	12,673	0	12,673	212,842	369,030	1,011,673	1,593,545	0	0	0
1987	32,334	21,633	53,967	307,277	534,660	1,412,913	2,254,850	0	0	0
1988	37,108	33,001	70,109	328,742	575,044	1,466,777	2,370,563	0	0	0
1989	36,356	32,925	69,281	313,907	549,795	1,386,039	2,249,741	0	0	0
1990	49,307	39,366	88,673	360,127	629,110	1,568,515	2,557,752	0	0	0
1991	74,282	55,036	129,318	512,835	768,706	1,905,547	3,187,088	0	0	0
1992	88,596	62,195	150,791	595,030	786,133	1,938,077	3,319,240	334,006	607,704	941,710
1993	112,078	76,952	189,030	732,668	870,083	2,133,839	3,736,590	360,231	655,419	1,015,650
1994	127,776	85,518	213,294	824,376	893,138	2,179,450	3,896,964	361,060	656,925	1,017,985
1995	154,873	109,270	264,143	1,012,615	1,012,615	2,410,989	4,436,219	398,534	725,108	1,123,642
1996	171,092	123,360	294,452	1,110,075	1,059,617	2,522,897	4,692,589	416,851	758,436	1,175,287
1997	185,958	129,937	315,895	1,182,437	1,079,617	2,570,515	4,832,569	425,994	775,072	1,201,066
1998	201,283	136,815	338,098	1,203,865	1,099,180	2,617,097	4,920,142	434,716	790,940	1,225,656
1999	222,846	147,859	370,805	1,258,537	1,149,099	2,735,950	5,143,586	455,157	828,131	1,283,288
2000	248,633	162,087	410,920	1,326,074	1,210,763	2,882,770	5,419,607	479,482	872,389	1,351,871
2001	272,278	166,044	438,322	1,334,612	1,218,559	2,901,331	5,454,502	483,201	879,155	1,362,356
2002	307,535	177,190	484,725	1,393,872	1,272,666	3,030,157	5,696,695	504,593	918,077	1,422,670
2003	340,605	187,263	527,868	1,434,489	1,309,750	3,118,454	5,862,693	518,760	943,852	1,462,612
2004	375,168	195,227	570,395	1,478,474	1,349,911	3,214,073	6,042,458	534,152	971,855	1,506,007
2005	398,716	198,215	596,931	1,470,505	1,342,635	3,196,750	6,009,890	531,362	966,781	1,498,143
2006	396,035	194,541	590,576	1,442,289	1,316,872	3,135,411	5,894,572	521,480	948,801	1,470,281
2007	408,607	198,363	606,970	1,469,455	1,341,676	3,194,468	6,005,599	530,999	966,120	1,497,119
2008	422,262	202,558	624,820	1,500,188	1,369,737	3,261,278	6,131,203	541,774	985,723	1,527,497
2009	427,343	202,628	629,971	1,499,731	1,369,320	3,260,286	6,129,337	541,611	985,429	1,527,040
2010	440,263	207,753	648,016	1,523,613	1,391,125	3,312,204	6,226,942	549,981	1,000,657	1,550,638
2011	468,224	212,849	681,073	1,560,662	1,424,953	3,392,745	6,378,360	562,968	1,024,286	1,587,254
2012	504,126	222,449	726,575	1,617,318	1,476,681	3,515,908	6,609,907	582,821	1,060,406	1,643,227
2013	536,157	230,345	766,502	1,656,086	1,512,078	3,600,186	6,768,350	596,409	1,085,130	1,681,539
2014	549,890	229,639	779,529	1,639,938	1,497,335	3,565,083	6,702,356	590,750	1,074,834	1,665,584
2015	604,091	245,703	849,794	1,740,802	1,589,428	3,784,351	7,114,581	626,092	1,139,137	1,765,229
2016	632,157	251,635	883,792	1,768,788	1,614,980	3,845,192	7,228,960	635,904	1,156,991	1,792,895
2017	679,614	264,573	944,187	1,849,773	1,688,923	4,021,247	7,559,943	663,340	1,206,905	1,870,245
2018	712,605	271,295	983,900	1,886,244	1,722,223	4,100,531	7,708,998	674,953	1,228,038	1,902,991
2019	741,409	275,170	1,016,579	1,912,265	1,745,982	4,157,098	7,815,345	682,822	1,242,354	1,925,176
2020	753,050	275,138	1,028,188	1,889,015	1,724,754	4,106,556	7,720,325	673,837	1,226,007	1,899,844
2021	765,836	279,626	1,045,462	1,919,090	1,752,212	4,171,935	7,843,237	683,779	1,244,095	1,927,874
2022	763,367	278,409	1,041,776	1,911,394	1,745,185	4,155,205	7,811,784	678,544	1,234,570	1,913,114
2023	757,305	275,979	1,033,284	1,894,794	1,730,029	4,119,117	7,743,940	670,792	1,220,466	1,891,258
2024	755,499	275,096	1,030,595	1,889,074	1,724,806	4,106,682	7,720,562	666,845	1,213,286	1,880,131
2025	756,846	275,341	1,032,187	1,890,759	1,726,345	4,110,346	7,727,450	667,443	1,214,373	1,881,816
2026	759,592	276,340	1,035,932	1,897,227	1,732,251	4,124,409	7,753,887	669,640	1,218,370	1,888,010
2027	761,025	276,861	1,037,886	1,900,433	1,735,178	4,131,376	7,766,987	670,694	1,220,287	1,890,981
2028	756,079	275,062	1,031,141	1,886,533	1,722,486	4,101,159	7,710,178	665,513	1,210,861	1,876,374
2029	753,001	273,942	1,026,943	1,877,278	1,714,036	4,081,038	7,672,352	661,963	1,204,402	1,866,365
2030	755,558	274,873	1,030,431	1,882,039	1,718,384	4,091,391	7,691,814	662,271	1,204,961	1,867,232
2031	755,046	274,686	1,029,732	1,879,179	1,715,772	4,085,171	7,680,122	659,912	1,200,671	1,860,583
2032	758,477	275,934	1,034,411	1,886,134	1,722,123	4,100,292	7,708,549	661,008	1,202,664	1,863,672
2033	751,042	273,229	1,024,271	1,867,642	1,705,239	4,060,092	7,632,973	654,526	1,190,869	1,845,395
2034	761,309	276,965	1,038,274	1,893,177	1,728,552	4,115,600	7,737,329	663,475	1,207,153	1,870,628
2035	744,279	270,769	1,015,048	1,850,827	1,689,885	4,023,535	7,564,247	648,627	1,180,139	1,828,766
TOTAL	23,344,484	9,757,644	33,102,128	72,983,761	69,347,000	172,236,123	314,566,884	25,198,872	45,847,829	71,046,701

TRANSPORTATION CHARGE FOR EACH CONTRACTOR^(a)

(in dollars)

Sheet 2 of 4

Calendar Year	SAN JOAQUIN VALLEY AREA									
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Future Contractor San Joaquin Valley	Kern County Water Agency		County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
					Municipal and Industrial	Agricultural				
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	30,400	68,978	5,176	0	0	440,923	2,355	4,760	65,680	618,272
1969	30,627	68,774	101	0	0	321,387	181	3,338	17,956	430,364
1970	39,429	69,819	6,811	0	0	470,866	0	5,595	16,550	609,070
1971	34,872	53,097	7,747	0	0	769,054	4,785	6,353	158,419	1,034,327
1972	44,751	62,364	8,515	0	0	1,119,339	2,057	7,375	379,677	1,624,078
1973	28,247	33,931	4,615	0	0	764,825	2,308	3,017	77,630	914,573
1974	28,096	49,114	4,413	0	46,752	671,406	2,207	3,114	106,332	911,434
1975	27,764	63,140	4,671	0	34,580	842,161	2,491	3,920	134,295	1,113,022
1976	38,108	70,851	5,131	0	94,653	965,096	2,737	4,910	100,597	1,282,083
1977	19,896	26,387	1,746	0	84,310	488,473	3,620	2,602	42,779	669,813
1978	44,711	105,196	923	0	188,130	1,595,243	4,251	6,294	24,502	1,969,250
1979	82,848	107,742	4,861	0	193,697	2,365,059	5,591	13,137	433,610	3,206,545
1980	56,379	104,501	2,279	0	142,041	1,999,684	5,608	8,829	192,291	2,511,612
1981	54,054	114,869	16,415	0	230,129	2,129,668	6,444	8,961	233,767	2,794,307
1982	70,403	112,250	988	0	152,211	2,629,131	4,791	6,468	50,789	3,027,031
1983	47,029	65,718	0	0	21,239	1,598,530	5,438	3,687	1,541	1,743,182
1984	33,327	79,064	0	0	105,518	1,872,613	5,434	6,317	10,068	2,112,341
1985	83,002	195,140	24,806	0	463,993	4,550,571	14,057	14,860	489,918	5,836,347
1986	98,202	241,450	14,693	0	593,987	5,711,100	18,121	16,590	580,363	7,274,506
1987	135,493	343,567	20,053	0	849,135	8,228,988	26,737	23,254	792,074	10,419,301
1988	140,550	370,589	20,781	0	913,230	8,864,850	27,708	25,041	820,838	11,183,587
1989	130,198	357,508	19,290	0	875,008	8,480,517	25,720	24,067	761,954	10,674,262
1990	143,749	408,616	21,245	0	1,008,906	9,770,084	28,327	27,033	839,185	12,247,145
1991	170,160	481,848	25,053	0	1,189,796	11,526,965	33,404	31,971	989,585	14,448,782
1992	169,675	480,944	25,005	0	1,187,443	11,499,489	33,341	31,852	987,726	14,415,475
1993	182,997	518,506	26,959	0	1,280,011	12,390,661	35,945	34,333	1,064,871	15,534,283
1994	183,418	520,411	27,057	0	1,284,495	12,424,945	36,077	34,402	1,068,783	15,579,588
1995	202,455	573,791	29,833	0	1,416,189	13,696,759	39,778	37,977	1,178,409	17,175,191
1996	211,760	600,021	31,197	0	1,481,008	14,327,805	41,596	39,695	1,232,279	17,965,361
1997	216,405	614,405	31,945	0	1,516,364	14,660,518	42,594	40,429	1,261,820	18,384,480
1998	220,835	627,778	32,640	0	1,549,289	14,971,297	43,521	41,141	1,289,284	18,775,785
1999	231,220	657,749	34,198	0	1,623,256	15,681,688	45,598	42,965	1,350,835	19,667,509
2000	243,576	692,652	36,013	0	1,709,610	16,519,532	48,017	45,224	1,422,517	20,717,141
2001	245,466	698,602	36,322	0	1,724,387	16,664,003	48,430	45,525	1,434,737	20,897,472
2002	256,333	729,365	37,921	0	1,800,537	17,406,570	50,562	47,514	1,497,916	21,826,718
2003	263,530	749,224	38,955	0	1,849,847	17,896,803	51,939	48,854	1,538,702	22,437,854
2004	271,348	770,852	40,079	0	1,903,507	18,428,703	53,438	50,307	1,583,120	23,101,354
2005	269,931	766,926	39,875	0	1,894,023	18,346,509	53,166	50,042	1,575,055	22,995,527
2006	264,912	753,006	39,151	0	1,859,824	18,022,503	52,201	49,103	1,546,470	22,587,170
2007	269,748	766,416	39,849	0	1,892,709	18,331,618	53,131	50,007	1,574,011	22,977,489
2008	275,221	781,603	40,638	0	1,930,202	18,695,578	54,184	51,030	1,605,199	23,433,655
2009	275,138	781,373	40,626	0	1,929,633	18,690,099	54,168	51,015	1,604,725	23,426,777
2010	279,390	793,168	41,239	0	1,958,767	18,973,009	54,986	51,810	1,628,949	23,781,318
2011	285,987	811,468	42,190	0	2,003,970	19,411,978	56,254	53,043	1,666,534	24,331,424
2012	296,073	839,439	43,645	0	2,073,062	20,082,991	58,194	54,929	1,723,979	25,172,312
2013	302,976	858,589	44,640	0	2,120,360	20,542,309	59,521	56,220	1,763,306	25,747,921
2014	300,101	850,615	44,226	0	2,100,665	20,351,040	58,968	55,682	1,746,931	25,508,228
2015	318,055	900,411	46,815	0	2,223,662	21,545,597	62,420	59,040	1,849,197	27,005,197
2016	323,040	914,242	47,534	0	2,257,825	21,877,298	63,379	59,971	1,877,603	27,420,892
2017	336,976	952,047	49,500	0	2,351,504	22,798,003	66,000	62,667	1,955,243	28,571,940
2018	342,877	967,069	50,281	0	2,389,083	23,180,188	67,041	63,796	1,986,094	29,046,429
2019	346,873	976,653	50,779	0	2,413,185	23,432,998	67,706	64,553	2,005,778	29,358,525
2020	342,309	962,850	50,062	0	2,379,390	23,118,916	66,748	63,667	1,977,431	28,961,373
2021	347,360	976,321	50,762	0	2,412,492	23,433,480	67,682	64,668	2,005,095	29,357,860
2022	344,700	966,662	50,260	0	2,388,762	23,216,215	67,013	64,412	1,985,260	29,083,284
2023	340,763	954,000	49,601	0	2,357,683	22,934,506	66,135	63,859	1,959,254	28,725,801
2024	338,758	946,694	49,222	0	2,339,842	22,781,426	65,629	63,669	1,944,250	28,529,490
2025	339,060	947,541	49,265	0	2,341,524	22,795,505	65,687	63,725	1,945,991	28,548,298
2026	340,178	950,462	49,418	0	2,348,528	22,864,319	65,890	63,908	1,951,989	28,634,692
2027	340,712	951,769	49,486	0	2,351,550	22,894,487	65,980	63,982	1,954,673	28,672,639
2028	338,081	943,688	49,065	0	2,331,753	22,704,329	65,420	63,374	1,938,076	28,433,786
2029	336,277	937,905	48,764	0	2,317,499	22,563,964	65,019	62,921	1,926,202	28,258,551
2030	336,433	936,612	48,698	0	2,314,667	22,546,785	64,930	62,935	1,923,545	28,234,605
2031	335,235	931,571	48,436	0	2,302,497	22,433,250	64,580	62,696	1,913,191	28,091,456
2032	335,792	931,411	48,427	0	2,302,280	22,433,769	64,569	62,784	1,912,864	28,091,896
2033	332,498	922,275	47,952	0	2,279,294	22,191,508	63,936	62,169	1,894,101	27,793,733
2034	337,046	934,887	48,608	0	2,310,029	22,471,157	64,811	63,019	1,920,002	28,149,559
2035	329,502	913,961	47,520	0	2,257,931	21,946,580	63,359	61,609	1,877,026	27,497,488
TOTAL	14,413,315	39,698,447	2,094,971	0	96,247,453	942,357,220	2,733,915	2,648,016	81,369,423	1,181,562,760

a) Unadjusted for prior overpayments or underpayments of charges.

TABLE B—18: VARIABLE OMP&R COMPONENT OF

(in dollars)

Sheet 3 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0
1972	780	0	0	12,786	0	4,495	1,516	0	32,107	0
1973	286	0	102,811	6,895	159,535	3,854	0	0	301,444	0
1974	15,558	0	100,954	9,891	157,742	4,932	221	0	177,172	6,529
1975	99,186	0	108,253	12,758	170,111	6,392	0	0	136,067	53,485
1976	385,090	0	135,276	17,835	213,595	8,163	0	0	139,356	68,933
1977	197,849	0	0	23,468	0	1,960	1,693	0	236,741	85,762
1978	580,325	0	173,781	20,835	263,672	2,724	0	0	36,908	70,731
1979	1,058,567	2	228,381	28,596	340,428	2,327	90,780	0	236	3,803
1980	1,515,701	3,115	278,232	31,673	434,576	3,999	102,253	0	0	18,644
1981	1,318,964	20,964	246,110	30,192	386,295	21,104	81,326	0	255,932	57,813
1982	1,261,151	140,453	425,795	39,556	670,998	0	335,498	0	202,799	303,848
1983	803,270	-310,078	435,303	27,261	688,251	927	0	0	39,971	4,893
1984	448,617	-53,002	255,641	18,288	405,318	13	0	0	-100,750	-141,245
1985	1,110,491	-75,779	698,776	57,091	1,110,541	0	0	104,668	80,936	47,214
1986	1,040,718	40,797	719,213	58,533	1,145,368	0	0	95,904	76,492	72,243
1987	1,651,886	392,190	1,165,809	92,455	1,889,914	0	0	148,653	543,537	253,849
1988	1,842,758	577,988	1,338,665	115,250	2,203,884	0	0	161,943	632,531	295,413
1989	1,734,544	467,637	1,303,673	123,675	2,175,471	0	0	148,709	539,279	251,862
1990	1,999,051	620,418	1,542,613	162,942	2,544,309	0	0	233,859	771,638	312,329
1991	2,501,589	927,809	1,851,235	230,001	3,053,334	120,568	4,071,111	325,533	1,164,785	438,801
1992	2,605,433	923,355	1,849,038	239,335	3,049,713	127,136	4,066,283	369,367	1,275,352	450,892
1993	2,939,275	1,077,591	2,003,121	269,685	3,303,849	145,089	4,405,131	448,323	1,565,706	523,036
1994	3,039,491	1,084,704	2,002,779	280,042	3,303,286	152,313	4,404,382	496,101	1,692,581	537,310
1995	3,348,304	1,344,277	2,139,362	310,253	3,528,559	169,340	4,704,743	577,293	1,978,964	599,874
1996	3,684,150	1,474,742	2,248,315	337,734	3,708,258	186,251	4,944,345	664,029	2,283,997	662,625
1997	3,934,797	1,537,095	2,298,239	357,173	3,790,600	190,547	5,054,134	737,335	2,529,861	705,337
1998	4,191,297	1,574,670	2,347,526	377,026	3,871,894	194,765	5,162,523	812,939	2,777,507	746,809
1999	4,584,387	1,735,947	2,465,415	408,767	4,066,335	204,759	5,421,780	916,967	3,165,150	823,243
2000	5,045,446	1,876,363	2,609,049	446,138	4,303,236	216,908	5,737,648	1,037,382	3,614,903	911,943
2001	5,320,208	2,030,901	2,629,562	463,304	4,337,071	218,685	5,782,761	1,102,930	3,852,279	949,787
2002	5,825,431	2,307,258	2,757,330	500,140	4,547,802	229,387	6,063,737	1,216,748	4,323,659	1,043,702
2003	6,286,505	2,552,045	2,845,737	530,958	4,657,618	236,760	6,258,159	1,317,622	4,740,499	1,122,165
2004	6,756,791	2,825,338	2,940,926	563,996	4,850,621	244,637	6,467,493	1,425,282	5,179,098	1,203,946
2005	6,983,738	2,961,161	2,927,518	576,632	4,828,504	243,373	6,438,003	1,481,399	5,383,341	1,230,477
2006	7,212,312	2,891,893	2,889,860	584,228	4,766,393	240,340	6,355,189	1,531,909	5,514,097	1,242,558
2007	7,656,773	2,957,112	2,942,106	610,073	4,852,564	244,812	6,470,085	1,630,662	5,880,832	1,307,713
2008	8,160,510	3,044,565	3,004,515	638,623	4,955,496	250,073	6,607,329	1,737,459	6,286,761	1,380,700
2009	8,472,259	3,045,450	3,002,862	653,871	4,952,773	249,919	6,603,699	1,808,110	6,515,731	1,414,391
2010	8,947,250	3,104,886	3,052,073	680,440	5,033,938	254,057	6,711,917	1,910,957	6,903,597	1,482,243
2011	9,570,187	3,368,152	3,128,547	715,096	5,160,071	260,491	6,880,095	1,959,340	7,384,373	1,575,473
2012	10,345,495	3,697,580	3,246,415	760,308	5,354,475	270,409	7,139,302	2,033,947	8,010,163	1,698,858
2013	11,021,366	3,979,182	3,325,573	797,561	5,485,036	277,054	7,313,383	2,083,935	8,530,273	1,799,070
2014	11,323,552	4,091,050	3,291,512	807,915	5,428,858	274,176	7,238,478	2,062,295	8,686,954	1,822,468
2015	12,531,555	4,601,835	3,509,060	881,062	5,787,671	292,616	7,716,894	2,200,974	9,712,025	2,027,385
2016	13,256,225	4,700,568	3,566,762	895,549	5,882,840	297,472	7,843,789	2,237,501	10,477,043	2,132,101
2017	14,422,810	4,975,432	3,733,715	937,468	6,158,206	311,508	8,210,940	2,343,081	11,684,975	2,322,821
2018	15,271,947	5,101,432	3,809,986	956,621	6,284,004	317,906	8,378,672	2,391,208	12,585,665	2,448,259
2019	16,047,311	5,196,536	3,863,712	970,110	6,372,616	322,390	8,496,822	2,424,934	13,428,471	2,560,282
2020	16,396,672	5,113,629	3,815,100	957,903	6,292,436	318,247	8,389,915	2,393,774	13,823,493	2,586,853
2021	17,206,081	5,216,957	3,872,956	972,430	6,387,863	323,052	8,517,151	2,429,920	14,091,052	2,713,833
2022	17,638,201	5,170,020	3,846,940	965,899	6,344,950	320,707	8,459,936	2,412,277	13,968,967	2,766,563
2023	18,713,299	5,103,638	3,935,730	988,191	6,491,400	330,079	8,655,199	2,482,764	14,365,869	2,923,580
2024	19,192,450	5,077,356	3,917,714	983,669	6,461,683	328,466	8,615,579	2,470,642	14,287,849	2,985,687
2025	19,758,960	5,079,323	3,917,222	983,545	6,460,873	328,366	8,614,498	2,469,870	14,282,962	3,062,622
2026	19,813,953	5,096,917	3,928,583	986,399	6,479,611	329,279	8,639,480	2,476,743	14,326,141	3,158,453
2027	19,837,095	5,103,929	3,933,596	987,655	6,487,880	329,663	8,650,502	2,479,637	14,352,228	3,250,934
2028	19,697,933	5,052,161	3,906,425	980,834	6,443,065	327,350	8,590,753	2,462,242	14,236,145	3,310,667
2029	19,602,095	5,010,678	3,887,960	976,198	6,412,610	325,757	8,550,146	2,450,262	14,148,688	3,375,827
2030	19,634,863	5,021,354	3,895,474	978,086	6,425,006	326,303	8,566,675	2,454,358	14,171,666	3,466,949
2031	19,572,195	4,999,427	3,884,632	975,363	6,407,122	325,260	8,542,828	2,446,525	14,127,475	3,558,033
2032	19,606,519	5,009,670	3,889,848	976,671	6,415,720	325,830	8,554,294	2,450,815	14,159,907	3,668,325
2033	19,348,085	4,919,070	3,837,599	963,554	6,329,544	321,537	8,439,392	2,418,510	13,922,351	3,707,198
2034	19,573,702	4,986,266	3,880,365	974,289	6,400,082	325,285	8,533,441	2,446,713	14,120,964	3,861,933
2035	19,098,930	4,810,170	3,784,538	950,229	6,242,029	317,396	8,322,704	2,387,368	13,691,311	3,843,174
TOTAL	543,042,219	163,584,199	153,675,818	33,252,716	253,153,503	12,007,208	318,204,607	81,311,718	397,308,106	91,171,006

TRANSPORTATION CHARGE FOR EACH CONTRACTOR^(a)

(in dollars)

Sheet 4 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Geronio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	South Bay	
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
1962	0	0	0	0	0	0	0	0	0	36,970
1963	0	0	0	0	0	0	0	0	0	57,711
1964	0	0	0	0	0	0	0	0	0	74,134
1965	0	0	0	0	0	0	0	0	0	142,609
1966	0	0	0	0	0	0	0	0	0	192,605
1967	0	0	0	0	0	0	0	0	0	236,998
1968	0	0	0	0	0	0	0	0	0	1,117,913
1969	0	0	0	0	0	0	0	0	0	773,646
1970	0	0	0	0	0	0	0	0	0	1,103,798
1971	0	0	0	0	0	0	0	0	0	1,513,435
1972	0	848,011	0	899,695	0	0	0	0	0	3,261,922
1973	0	1,083,333	0	1,658,158	0	0	0	0	0	3,168,975
1974	0	1,872,299	0	2,345,298	0	0	0	0	0	3,919,920
1975	0	3,887,151	0	4,473,403	0	0	0	0	0	6,053,571
1976	0	5,485,263	0	6,453,511	0	0	0	0	0	8,478,786
1977	0	-350,764	0	196,709	0	0	0	0	0	1,592,571
1978	0	3,846,391	0	4,995,367	0	0	0	0	0	7,754,067
1979	0	4,126,481	0	5,879,601	0	0	0	0	0	9,968,578
1980	0	6,496,832	0	8,885,025	0	0	0	0	0	12,119,358
1981	0	9,154,674	0	11,573,374	0	0	0	0	0	15,198,490
1982	0	13,112,668	0	16,492,766	0	0	0	0	0	20,795,834
1983	0	-4,787,259	0	-3,097,461	0	0	0	0	0	-675,226
1984	0	-6,266,470	0	-5,433,590	0	0	0	0	0	-2,910,462
1985	0	-1,788,020	0	1,345,918	0	0	0	0	0	8,493,227
1986	0	2,571,692	0	5,820,960	0	0	0	0	0	14,701,684
1987	0	27,032,889	0	33,171,182	0	0	0	0	0	45,899,300
1988	0	35,704,428	17,339	42,890,199	0	0	0	0	0	56,514,458
1989	0	29,468,939	28,058	36,241,847	0	0	0	0	0	49,235,131
1990	293,957	37,303,934	68,666	45,853,716	0	0	0	0	0	60,747,286
1991	441,815	54,516,899	143,125	69,786,605	0	0	0	0	0	87,551,793
1992	482,023	55,667,074	185,972	71,290,973	0	0	0	0	0	90,118,189
1993	589,977	65,230,856	263,403	82,765,042	0	0	0	0	0	103,240,595
1994	636,138	66,839,507	347,450	84,816,084	0	0	0	0	0	105,523,915
1995	742,112	73,770,292	522,151	93,735,524	0	0	0	0	0	116,734,719
1996	867,121	83,316,261	743,801	105,121,629	0	0	0	0	0	129,249,318
1997	970,696	89,576,929	954,609	112,637,352	0	0	0	0	0	137,371,362
1998	1,075,577	94,807,593	1,231,604	119,171,730	0	0	0	0	0	144,431,411
1999	1,237,148	107,228,455	1,419,621	133,677,974	0	0	0	0	0	160,143,162
2000	1,421,315	119,430,550	1,626,422	148,277,303	0	0	0	0	0	176,176,842
2001	1,436,302	122,843,950	1,646,475	152,614,215	0	0	0	0	0	180,766,867
2002	1,532,773	133,298,703	1,749,815	165,396,485	0	0	0	0	0	194,827,293
2003	1,601,770	141,316,585	1,820,638	175,323,061	0	0	0	0	0	205,614,088
2004	1,671,612	150,215,661	1,901,509	186,246,910	0	0	0	0	0	217,467,124
2005	1,663,067	151,603,367	1,892,310	188,212,890	0	0	0	0	0	219,313,381
2006	1,633,459	149,947,900	1,850,836	186,660,974	0	0	0	0	0	217,203,573
2007	1,673,329	155,241,801	1,889,766	193,357,628	0	0	0	0	0	224,444,805
2008	1,720,901	161,717,514	1,941,920	201,446,366	0	0	0	0	0	233,163,541
2009	1,718,326	163,562,264	1,942,401	203,942,056	0	0	0	0	0	235,655,181
2010	1,756,358	168,785,958	1,977,937	210,601,611	0	0	0	0	0	242,808,525
2011	1,814,625	176,228,758	2,043,256	220,088,464	0	0	0	0	0	253,066,575
2012	1,903,515	186,649,440	2,138,960	233,248,867	0	0	0	0	0	267,400,888
2013	1,962,417	194,127,750	2,201,802	242,904,402	0	0	0	0	0	277,868,714
2014	1,936,652	193,142,882	2,174,555	242,281,347	0	0	0	0	0	276,937,044
2015	2,100,226	210,878,969	2,341,563	264,581,835	0	0	0	0	0	301,316,636
2016	2,144,496	217,169,481	2,389,060	272,992,887	0	0	0	0	0	310,319,426
2017	2,270,329	231,831,224	2,521,512	291,724,021	0	0	0	0	0	330,670,336
2018	2,327,190	239,622,140	2,582,204	302,077,234	0	0	0	0	0	341,719,552
2019	2,368,603	246,006,214	2,627,920	310,685,921	0	0	0	0	0	350,801,546
2020	2,330,860	243,940,155	2,587,985	308,947,022	0	0	0	0	0	348,556,752
2021	2,375,977	250,225,127	2,637,626	316,970,025	0	0	0	0	0	357,144,458
2022	2,355,392	249,316,970	2,615,056	316,181,878	0	0	0	0	0	356,031,836
2023	2,422,315	249,665,378	2,582,984	318,660,426	0	0	0	0	0	358,054,709
2024	2,409,161	249,676,986	2,570,245	318,977,487	0	0	0	0	0	358,138,265
2025	2,408,336	251,054,101	2,571,130	320,991,808	0	0	0	0	0	360,181,559
2026	2,415,615	251,901,256	2,579,621	322,132,051	0	0	0	0	0	361,444,572
2027	2,420,015	252,277,523	2,583,012	322,693,669	0	0	0	0	0	362,062,162
2028	2,400,443	249,817,370	2,558,033	319,783,421	0	0	0	0	0	358,834,900
2029	2,385,695	247,862,260	2,538,076	317,526,252	0	0	0	0	0	356,350,463
2030	2,389,570	248,360,189	2,543,189	318,233,682	0	0	0	0	0	357,057,764
2031	2,382,119	247,338,848	2,532,637	317,092,464	0	0	0	0	0	355,754,357
2032	2,387,587	247,868,487	2,537,530	317,851,203	0	0	0	0	0	356,549,731
2033	2,347,531	243,421,016	2,493,972	312,469,359	0	0	0	0	0	350,765,731
2034	2,381,021	246,809,627	2,526,311	316,819,999	0	0	0	0	0	355,615,789
2035	2,308,576	238,294,185	2,441,701	306,492,311	0	0	0	0	0	344,397,860
TOTAL	82,114,042	8,341,206,927	88,085,768	10,558,117,837	0	0	0	0	0	12,158,396,310

TABLE B-19: TOTAL TRANSPORTATION

(in dollars)

Sheet 1 of 4

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA				CENTRAL COASTAL AREA		
	Napa County FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD, Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1962	0	0	0	11,750	43,787	0	55,537	0	0	0
1963	0	0	0	153,066	189,194	456,425	798,685	0	0	0
1964	0	0	0	173,772	267,039	633,130	1,073,941	9,089	27,087	17,998
1965	0	0	0	249,438	369,432	1,176,729	1,795,599	14,973	43,993	29,020
1966	19,468	0	19,468	275,931	380,251	1,434,828	2,091,010	24,444	71,149	46,705
1967	43,738	0	43,738	351,838	459,118	1,707,493	2,518,449	45,108	124,419	81,311
1968	132,535	0	132,535	397,738	560,106	2,011,497	2,969,341	69,493	199,664	130,171
1969	259,822	0	259,822	453,462	495,859	2,111,420	3,060,741	124,641	356,687	232,046
1970	283,077	0	283,077	467,476	487,543	2,231,657	3,186,676	137,768	394,120	256,352
1971	233,386	0	233,386	428,449	506,921	2,198,917	3,134,287	138,994	397,691	258,697
1972	231,048	0	231,048	514,715	633,145	2,349,520	3,497,380	143,630	410,998	267,368
1973	227,271	28,522	255,793	479,241	503,976	2,367,782	3,350,999	142,317	407,313	264,996
1974	246,850	30,005	276,855	502,584	519,105	2,535,558	3,557,247	143,676	411,229	267,553
1975	244,344	33,045	277,389	550,959	559,921	2,439,192	3,550,072	160,330	458,651	298,321
1976	278,787	37,290	316,077	641,273	689,006	2,529,815	3,860,094	272,620	778,307	505,687
1977	302,852	41,275	344,127	604,597	667,738	2,505,924	3,778,259	283,450	809,575	526,125
1978	285,112	44,852	329,964	664,642	652,087	2,828,466	4,145,195	294,128	840,114	545,986
1979	298,809	48,404	347,213	721,684	689,974	2,841,707	4,253,365	290,073	828,699	538,626
1980	322,779	60,998	383,777	862,460	841,404	3,120,379	4,824,243	321,657	918,686	597,029
1981	359,910	76,415	436,325	796,532	828,336	2,927,743	4,552,611	344,629	984,132	639,503
1982	455,330	92,185	547,515	899,899	834,590	3,678,729	5,413,309	341,225	974,559	633,334
1983	447,047	128,237	575,284	828,402	920,613	4,408,303	6,257,318	368,709	1,052,790	684,081
1984	523,249	192,510	715,759	1,100,529	1,015,833	5,613,994	7,730,356	386,324	1,102,960	716,636
1985	799,518	318,093	1,117,611	1,983,723	2,633,043	7,862,958	12,479,724	441,741	1,260,702	818,961
1986	1,349,232	975,885	2,325,117	1,999,829	2,618,212	7,593,774	12,211,815	465,504	1,328,337	862,833
1987	2,199,408	2,127,063	4,326,471	2,037,358	2,627,924	7,492,363	12,157,645	505,144	1,441,150	936,006
1988	2,439,146	2,427,482	4,866,628	2,032,186	2,628,975	7,373,291	12,034,452	513,611	1,465,285	951,674
1989	2,455,707	2,452,566	4,908,273	2,054,889	2,667,128	7,427,127	12,149,141	517,040	1,475,084	958,044
1990	2,481,727	2,464,227	4,945,954	2,129,494	2,788,937	7,690,234	12,608,668	521,569	1,488,003	966,434
1991	2,517,765	2,480,247	4,998,012	2,352,039	2,898,040	7,938,251	13,188,330	525,387	1,498,903	973,516
1992	2,543,861	2,492,476	5,036,337	2,513,325	2,913,087	7,952,766	13,379,178	1,305,917	3,704,127	2,398,210
1993	2,578,600	2,512,209	5,090,809	2,723,986	2,992,868	8,126,743	13,843,597	1,342,072	3,806,758	2,464,686
1994	2,605,530	2,526,166	5,131,696	2,893,030	3,021,393	8,174,766	14,089,189	1,336,482	3,790,993	2,454,511
1995	2,646,941	2,571,740	5,218,681	3,176,530	3,166,902	8,415,060	14,758,492	1,376,642	3,904,504	2,527,862
1996	2,668,238	2,595,543	5,263,781	3,294,632	3,191,590	8,473,858	14,960,080	1,387,513	3,935,285	2,547,772
1997	2,686,843	2,600,183	5,287,026	3,378,836	3,183,205	8,453,896	15,015,937	1,386,641	3,932,894	2,546,253
1998	2,704,765	2,604,660	5,309,425	3,365,085	3,171,197	8,425,320	14,962,202	1,384,177	3,926,010	2,541,833
1999	2,725,540	2,610,851	5,336,391	3,365,213	3,170,771	8,424,327	14,960,311	1,387,033	3,934,216	2,547,183
2000	2,751,307	2,621,189	5,372,496	3,387,491	3,191,119	8,472,799	15,051,409	1,397,209	3,963,086	2,565,877
2001	2,778,836	2,621,573	5,400,409	3,353,732	3,160,340	8,399,839	14,913,911	1,387,088	3,934,586	2,547,498
2002	2,818,542	2,629,851	5,448,393	3,379,489	3,183,864	8,455,879	15,019,232	1,398,363	3,966,544	2,568,181
2003	2,853,725	2,636,170	5,489,895	3,404,691	3,208,247	8,522,817	15,135,755	1,399,506	3,969,874	2,570,368
2004	2,899,209	2,648,851	5,548,060	3,418,692	3,221,114	8,553,934	15,193,740	1,406,821	3,990,657	2,583,836
2005	2,922,979	2,647,182	5,570,161	3,372,038	3,178,514	8,452,509	15,003,061	1,391,098	3,946,309	2,555,211
2006	2,915,039	2,639,924	5,554,963	3,314,092	3,125,605	8,326,521	14,766,218	1,375,220	3,901,579	2,526,359
2007	2,921,142	2,639,519	5,560,661	3,306,049	3,118,263	8,309,050	14,733,362	1,373,405	3,896,530	2,523,125
2008	2,929,788	2,640,325	5,570,113	3,308,437	3,120,447	8,314,259	14,743,143	1,375,168	3,901,580	2,526,412
2009	2,928,081	2,636,229	5,564,310	3,273,628	3,088,666	8,238,590	14,600,884	1,363,605	3,868,981	2,505,376
2010	2,935,922	2,638,100	5,574,022	3,270,440	3,085,757	8,231,675	14,587,872	1,363,300	3,868,182	2,504,882
2011	2,960,554	2,639,490	5,600,044	3,276,135	3,090,987	8,244,355	14,611,477	1,366,415	3,877,067	2,510,652
2012	2,993,400	2,645,708	5,639,108	3,304,632	3,117,010	8,306,342	14,727,984	1,377,649	3,908,881	2,531,232
2013	2,976,432	2,629,629	5,606,061	3,037,231	2,871,425	7,597,143	13,505,799	1,327,652	3,768,020	2,440,368
2014	3,004,964	2,634,573	5,639,537	3,030,277	2,841,911	7,491,717	13,363,905	1,327,645	3,766,499	2,438,854
2015	3,022,608	2,633,939	5,656,547	2,957,924	2,746,559	7,042,193	12,746,676	1,313,731	3,727,216	2,413,485
2016	3,021,939	2,635,565	5,657,504	2,931,873	2,716,203	6,850,618	12,498,694	1,302,938	3,696,405	2,393,467
2017	3,031,956	2,642,795	5,674,751	2,935,019	2,718,819	6,809,851	12,463,689	1,297,410	3,680,371	2,382,961
2018	2,984,225	2,649,705	5,633,930	2,930,451	2,713,210	6,767,279	12,410,940	1,295,312	3,673,993	2,378,681
2019	2,952,286	2,647,349	5,599,635	2,867,606	2,655,953	6,611,471	12,135,030	1,283,081	3,639,334	2,356,253
2020	2,959,580	2,647,286	5,606,866	2,828,564	2,619,821	6,517,636	11,966,021	1,270,857	3,604,647	2,333,790
2021	2,969,962	2,651,820	5,621,782	2,816,471	2,606,501	6,472,227	11,895,199	1,279,873	3,630,022	2,350,149
2022	2,953,869	2,639,111	5,592,980	2,806,515	2,597,234	6,447,571	11,851,320	1,271,628	3,606,547	2,334,919
2023	2,946,594	2,608,133	5,554,727	2,789,176	2,581,376	6,407,956	11,778,508	1,263,081	3,582,332	2,319,251
2024	2,940,468	2,604,763	5,545,231	2,780,665	2,573,445	6,387,615	11,741,725	1,248,745	3,541,572	2,292,827
2025	2,932,467	2,601,971	5,534,438	2,781,545	2,574,070	6,387,507	11,743,122	1,248,854	3,541,822	2,292,968
2026	2,930,488	2,598,735	5,529,223	2,787,185	2,579,206	6,399,515	11,765,906	1,141,029	3,234,827	2,093,798
2027	2,928,624	2,595,278	5,523,902	2,788,646	2,580,446	6,400,841	11,769,933	1,139,302	3,229,436	2,090,134
2028	2,920,030	2,589,883	5,509,913	2,772,270	2,565,437	6,363,525	11,701,232	1,127,181	3,194,888	2,067,707
2029	2,913,152	2,585,198	5,498,350	2,759,775	2,553,997	6,335,319	11,649,091	1,121,535	3,178,779	2,057,244
2030	2,904,007	2,573,545	5,477,552	2,762,208	2,556,171	6,340,005	11,658,384	1,119,182	3,171,944	2,052,762
2031	2,886,902	2,557,939	5,444,841	2,752,341	2,547,106	6,317,923	11,617,370	1,106,703	3,136,399	2,029,696
2032	2,878,720	2,543,430	5,422,150	2,761,131	2,555,099	6,336,639	11,652,869	1,112,112	3,151,646	2,039,534
2033	2,840,833	2,504,645	5,345,478	2,741,600	2,537,236	6,293,803	11,572,639	1,106,812	3,136,653	2,029,841
2034	2,781,834	2,444,146	5,225,980	2,760,219	2,554,107	6,332,696	11,647,022	1,114,512	3,158,332	2,043,820
2035	2,626,367	2,312,302	4,938,669	2,709,891	2,508,104	6,222,563	11,440,558	1,097,258	3,109,447	2,012,189
TOTAL	145,515,446	128,388,980	273,904,426	159,989,312	158,031,619	433,896,224	751,917,155	64,343,031	118,297,030	182,640,061

a) Unadjusted for prior overpayments or underpayments of charges.

CHARGE FOR EACH CONTRACTOR^(a)

(in dollars)

Sheet 2 of 4

Calendar Year	SAN JOAQUIN VALLEY AREA									
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Future Contractor San Joaquin Valley	Kern County Water Agency		County of Kings	Oak Flat Water District	Tulare Basin Water Storage District	Total
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	2,779	0	0	0	0	0	2,779
1965	0	0	0	6,145	75,080	0	0	0	0	81,225
1966	0	0	0	12,267	140,079	0	0	0	0	152,346
1967	0	0	0	26,750	272,885	0	0	0	0	299,635
1968	72,166	178,793	9,702	55,503	453,031	1,524,163	13,040	11,283	204,689	2,522,370
1969	119,943	174,388	10,026	88,648	533,963	2,350,560	11,662	10,261	341,108	3,640,559
1970	142,793	195,847	16,791	95,780	583,583	2,864,377	11,794	12,784	281,923	4,205,672
1971	147,172	191,231	17,750	96,841	615,958	3,756,190	16,745	14,059	436,289	5,292,235
1972	168,589	212,943	18,617	99,182	641,906	4,867,511	14,189	20,012	1,042,984	7,085,933
1973	159,825	194,719	14,689	98,732	649,639	4,805,764	14,440	17,325	394,311	6,343,444
1974	169,363	270,068	14,658	99,707	708,682	5,093,289	14,533	12,359	573,370	6,956,029
1975	189,362	334,320	15,601	107,992	726,095	6,189,969	15,544	14,030	699,421	8,292,334
1976	210,249	293,061	16,146	109,303	784,822	6,537,138	15,914	15,644	543,912	8,526,189
1977	206,677	255,146	13,248	113,778	808,025	6,689,731	17,340	13,477	491,584	8,609,006
1978	234,227	343,500	12,320	118,136	909,871	8,215,420	17,884	17,737	491,651	10,360,746
1979	268,179	370,645	15,979	115,466	905,089	9,231,853	18,966	24,354	929,120	11,879,651
1980	261,941	410,335	14,863	129,507	927,516	10,161,888	20,535	24,864	750,343	12,701,792
1981	268,686	439,912	30,075	136,989	1,051,887	10,910,550	22,754	22,467	854,406	13,737,726
1982	285,644	452,120	15,348	137,599	1,019,706	12,274,190	21,887	21,523	721,512	14,949,529
1983	359,475	592,422	15,220	152,039	1,005,240	15,613,611	36,811	29,239	357,251	18,161,308
1984	459,621	882,136	17,085	160,329	1,650,751	23,148,321	52,362	57,740	751,861	27,180,206
1985	683,451	1,364,393	134,335	186,688	3,284,759	34,835,683	87,524	92,286	2,949,367	43,618,486
1986	665,950	1,364,227	72,375	197,492	3,348,955	35,495,341	88,414	84,064	3,063,614	44,380,432
1987	665,261	1,365,449	69,404	215,871	3,333,155	36,168,321	89,582	81,986	2,969,553	44,958,582
1988	658,194	1,375,054	67,964	219,319	3,338,185	36,626,332	87,855	82,748	2,923,720	45,379,371
1989	654,408	1,409,061	67,418	220,336	3,394,521	37,312,743	87,505	84,606	2,923,741	46,154,339
1990	669,736	1,494,671	69,593	221,876	3,615,635	39,576,092	90,875	88,654	3,052,796	48,879,928
1991	684,249	1,533,772	71,626	223,071	3,723,905	40,522,470	93,903	91,229	3,133,043	50,077,268
1992	678,487	1,518,107	70,809	223,126	3,685,149	40,141,501	92,817	90,114	3,100,863	49,600,973
1993	700,260	1,541,105	71,999	232,643	3,742,487	40,614,397	94,398	91,589	3,147,983	50,236,861
1994	697,417	1,533,960	71,627	232,646	3,724,618	40,431,621	93,902	91,048	3,133,308	50,010,147
1995	717,385	1,589,552	74,517	232,886	3,861,686	41,758,425	97,744	94,747	3,247,440	51,674,382
1996	722,699	1,604,526	75,292	233,005	3,898,658	42,120,405	98,776	95,695	3,278,175	52,127,231
1997	722,164	1,604,469	75,291	233,058	3,898,341	42,107,259	98,770	95,450	3,278,054	52,112,856
1998	720,820	1,601,758	75,148	233,110	3,891,525	42,032,635	98,579	95,072	3,272,472	52,021,119
1999	722,046	1,606,131	75,375	233,237	3,902,226	42,130,045	98,875	95,157	3,281,433	52,144,525
2000	726,937	1,620,087	76,100	233,392	3,936,789	42,466,702	99,834	95,989	3,310,074	52,565,904
2001	721,839	1,606,181	75,374	233,605	3,902,448	42,136,650	98,864	94,940	3,281,490	52,151,391
2002	727,435	1,622,839	76,242	234,019	3,942,113	42,530,776	99,981	96,023	3,315,680	52,645,108
2003	727,850	1,623,744	76,287	234,111	3,944,569	42,567,067	100,040	96,076	3,317,528	52,687,272
2004	731,797	1,634,423	76,842	235,218	3,970,773	42,854,965	100,710	96,740	3,339,412	53,040,880
2005	723,843	1,612,397	75,695	235,201	3,916,589	42,338,419	99,184	95,257	3,294,175	52,390,760
2006	716,694	1,584,772	74,248	237,155	3,851,481	41,730,724	97,254	93,384	3,237,211	51,622,923
2007	715,662	1,581,808	74,093	237,216	3,843,897	41,647,516	97,046	93,178	3,231,117	51,521,533
2008	716,429	1,583,839	74,198	237,287	3,848,869	41,696,450	97,183	93,307	3,235,276	51,582,838
2009	710,557	1,567,557	73,350	237,286	3,808,646	41,305,847	96,054	92,211	3,201,833	51,093,341
2010	710,303	1,566,772	73,310	237,340	3,806,690	41,287,413	95,997	92,152	3,200,214	51,070,191
2011	711,786	1,570,478	73,500	237,552	3,816,116	41,381,521	96,243	92,386	3,207,762	51,187,344
2012	717,259	1,585,458	74,277	237,683	3,853,069	41,741,896	97,277	93,384	3,238,509	51,638,812
2013	691,703	1,514,446	70,586	237,770	3,677,630	40,038,992	92,349	88,590	3,092,656	49,504,722
2014	696,382	1,527,482	71,263	234,956	3,709,849	40,351,495	93,253	89,472	3,119,438	49,893,590
2015	691,888	1,514,669	70,596	231,818	3,603,027	40,045,861	92,355	88,587	3,093,085	49,431,886
2016	691,101	1,512,396	70,476	225,760	3,532,388	39,991,744	92,196	88,427	3,088,411	49,292,899
2017	697,442	1,528,849	71,331	211,459	3,440,444	40,401,637	93,328	89,665	3,122,177	49,656,332
2018	703,635	1,544,552	72,146	188,424	3,360,221	40,800,715	85,734	90,832	3,154,414	50,000,673
2019	699,260	1,530,822	71,433	179,860	3,265,632	40,494,680	84,264	90,013	3,126,216	49,542,180
2020	694,017	1,514,170	70,569	177,560	3,193,653	40,128,129	82,900	88,859	3,092,024	49,041,881
2021	699,165	1,527,808	71,276	176,502	3,204,743	40,447,189	83,699	89,864	3,120,025	49,420,271
2022	695,182	1,512,251	70,469	174,980	3,156,719	40,067,329	82,648	89,260	3,088,091	48,936,929
2023	691,182	1,499,479	69,804	174,504	3,120,875	39,782,508	81,733	88,705	3,061,868	48,570,658
2024	682,270	1,490,768	69,379	169,245	3,091,659	39,497,456	81,159	88,477	3,044,508	48,214,921
2025	682,578	1,491,624	69,422	168,675	3,090,856	39,511,792	81,196	88,533	3,046,267	48,230,943
2026	683,716	1,494,583	69,576	168,421	3,095,852	39,581,579	81,365	88,717	3,052,338	48,316,147
2027	684,262	1,495,905	69,646	167,773	3,095,866	39,612,214	81,411	88,791	3,055,056	48,350,924
2028	681,585	1,487,740	69,220	165,264	3,073,793	39,419,750	80,821	88,181	3,038,288	48,104,642
2029	679,711	1,481,721	68,916	165,034	3,055,881	39,258,574	80,388	87,726	3,026,097	47,904,048
2030	679,881	1,480,444	68,851	164,787	3,050,429	39,241,714	80,247	87,741	3,023,468	47,877,562
2031	678,673	1,475,373	68,586	163,459	3,023,232	39,127,296	79,612	87,501	3,013,055	47,716,787
2032	679,250	1,475,239	68,577	163,245	3,022,705	39,128,467	79,533	87,590	3,012,783	47,717,389
2033	675,892	1,465,994	68,097	162,596	2,991,007	38,883,293	78,668	86,972	2,993,809	47,406,328
2034	680,525	1,478,753	68,763	161,998	3,015,065	39,166,889	79,392	87,827	3,020,002	47,759,214
2035	672,840	1,457,585	67,660	161,175	2,952,926	38,635,679	77,690	86,410	2,976,542	47,088,507
TOTAL	39,256,970	83,560,829	3,991,049	12,564,166	193,374,114	2,185,408,723	4,937,527	4,949,370	169,492,196	2,697,534,944

TABLE B-19: TOTAL TRANSPORTATION

(in dollars)

Sheet 3 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1962	0	0	0	0	0	0	0	0	0	0
1963	34,103	0	0	0	0	0	0	0	52,892	0
1964	64,236	20,562	14,748	4,467	37,994	1,169	29,073	8,390	84,582	35,768
1965	121,108	38,997	25,633	7,348	41,627	2,127	51,397	15,549	137,892	36,084
1966	220,291	73,722	45,669	12,739	74,670	3,833	92,298	28,262	237,296	62,734
1967	426,148	151,596	87,901	23,956	144,320	7,436	178,805	55,148	442,208	117,940
1968	750,131	317,790	155,626	42,306	256,011	13,117	316,670	97,300	797,134	212,925
1969	1,079,764	478,906	229,708	62,418	378,184	19,060	467,059	140,769	1,229,190	327,991
1970	1,404,428	610,413	321,468	91,454	529,520	25,730	644,468	188,506	1,812,780	476,684
1971	1,737,517	767,135	440,873	130,821	726,443	32,454	872,327	235,769	2,586,668	672,016
1972	2,057,277	950,791	571,068	184,010	941,169	43,077	1,128,353	279,486	3,445,320	879,698
1973	2,148,591	989,578	705,726	186,612	1,153,227	44,176	1,191,886	292,353	4,030,837	961,992
1974	2,212,528	1,042,727	721,398	196,264	1,180,339	45,914	1,223,903	297,161	4,059,537	1,006,340
1975	2,389,597	1,097,621	762,564	209,099	1,248,564	49,202	1,290,987	309,438	4,221,731	1,107,235
1976	2,742,929	1,079,062	809,299	218,195	1,324,550	52,178	1,333,754	318,885	4,363,735	1,161,590
1977	2,684,784	1,156,839	705,291	229,060	1,162,535	48,060	1,405,620	334,627	4,616,226	1,224,987
1978	3,071,284	1,232,093	900,621	237,873	1,461,739	48,991	1,435,675	335,590	4,606,555	1,251,012
1979	3,551,768	1,201,568	952,817	240,871	1,534,532	49,039	1,530,397	337,123	4,483,718	1,168,253
1980	4,263,237	1,303,777	1,076,154	267,988	1,749,873	55,030	1,683,018	370,226	4,959,229	1,304,252
1981	4,259,068	1,462,540	1,083,354	270,840	1,766,434	75,544	1,755,352	395,483	5,290,142	1,373,614
1982	4,320,313	1,621,433	1,300,576	296,182	2,113,052	56,547	2,075,152	410,954	5,561,477	1,698,722
1983	5,514,232	1,785,199	2,003,806	351,846	3,235,854	68,366	2,005,037	482,786	6,261,268	1,601,427
1984	7,240,932	2,803,679	2,811,164	445,240	4,528,683	77,523	2,272,562	566,997	6,940,213	2,269,076
1985	9,972,988	3,789,470	4,620,067	632,648	7,414,697	82,404	2,423,572	1,111,964	8,583,193	2,702,519
1986	9,664,075	3,932,572	4,449,842	609,918	7,157,860	88,198	2,576,148	1,084,439	8,431,893	3,119,904
1987	9,438,771	4,272,532	4,451,969	618,552	7,252,720	88,171	2,589,344	1,054,479	9,874,618	3,094,174
1988	9,406,228	4,811,034	4,582,308	654,960	7,547,042	87,211	2,572,395	1,040,162	9,879,563	3,077,160
1989	9,477,557	4,796,554	4,732,438	689,140	7,871,471	87,430	2,582,931	1,036,997	9,690,809	3,033,995
1990	9,860,797	4,952,347	5,119,224	773,664	8,442,559	87,803	2,593,292	1,227,131	10,349,458	3,129,091
1991	10,303,319	5,173,597	5,287,371	864,113	8,719,892	349,775	11,384,470	1,350,689	10,793,655	3,222,003
1992	10,444,025	5,046,979	5,222,802	875,982	8,613,392	359,871	11,243,260	1,433,804	11,030,402	3,230,038
1993	10,812,261	5,177,449	5,315,480	908,483	8,766,252	380,962	11,448,127	1,549,815	11,441,128	3,299,043
1994	10,956,767	5,192,812	5,272,633	918,514	8,695,586	392,643	11,363,785	1,636,782	11,613,506	3,299,684
1995	11,396,571	5,300,019	5,428,653	973,695	8,952,915	417,557	11,682,787	1,768,331	12,341,811	3,433,961
1996	11,799,721	5,499,260	5,498,531	1,014,404	9,068,177	437,721	11,818,531	1,891,858	12,962,282	3,535,706
1997	12,087,222	5,556,009	5,461,697	1,002,539	9,007,410	436,906	11,795,087	1,995,072	12,745,732	3,464,494
1998	12,359,099	5,404,340	5,458,328	1,039,430	9,001,863	435,424	11,755,057	2,095,027	13,396,719	3,561,075
1999	12,682,836	5,554,143	5,475,305	1,070,721	9,029,858	436,339	11,778,098	2,204,874	13,922,076	3,637,447
2000	13,097,291	5,583,134	5,522,107	1,091,000	9,107,059	441,034	11,900,693	2,333,397	14,189,527	3,667,631
2001	13,345,448	5,764,301	5,445,121	1,085,412	8,980,075	435,725	11,760,730	2,398,590	14,137,110	3,631,574
2002	13,848,117	6,063,083	5,528,849	1,145,475	9,118,173	440,803	11,895,645	2,516,288	15,115,065	3,809,945
2003	14,273,389	6,282,254	5,523,065	1,151,082	9,108,624	441,454	11,915,226	2,611,792	15,189,326	3,806,457
2004	14,751,638	6,646,282	5,569,694	1,191,144	9,185,547	444,511	11,998,184	2,722,466	15,839,546	3,918,922
2005	14,913,878	6,730,136	5,488,142	1,205,148	9,051,036	436,857	11,801,711	2,768,476	16,164,750	3,955,565
2006	15,158,028	6,641,139	5,400,430	1,212,892	8,906,372	429,369	11,600,413	2,820,891	16,374,060	3,974,284
2007	15,551,077	6,569,838	5,361,248	1,196,086	8,841,730	428,152	11,578,669	2,910,185	16,076,887	3,902,646
2008	16,029,408	6,602,353	5,414,136	1,274,457	8,928,982	428,745	11,594,484	3,011,304	17,439,452	4,153,602
2009	16,261,126	6,508,256	5,306,824	1,233,729	8,751,971	422,920	11,442,698	3,066,335	16,755,161	3,999,984
2010	16,688,502	6,453,240	5,318,176	1,271,865	8,770,703	422,598	11,434,816	3,159,400	17,414,457	4,113,319
2011	17,240,514	6,740,125	5,322,658	1,284,988	8,778,086	423,815	11,467,405	3,168,508	17,580,660	4,140,323
2012	17,950,238	7,051,720	5,402,652	1,342,591	8,910,031	429,108	11,606,710	3,208,261	18,486,741	4,314,116
2013	17,428,234	6,824,992	5,102,136	1,292,023	8,400,705	403,878	10,948,745	3,018,459	17,778,245	4,150,695
2014	18,062,559	7,045,604	5,115,456	1,290,196	8,436,979	407,262	11,038,658	3,044,350	17,679,009	4,125,323
2015	18,330,844	7,168,161	5,068,653	1,308,538	8,359,792	402,565	10,917,106	3,008,941	17,995,228	4,175,347
2016	18,739,412	7,133,237	5,045,087	1,308,387	8,320,926	400,007	10,854,479	2,989,803	18,601,452	4,235,749
2017	19,375,688	7,183,136	5,114,621	1,358,498	8,435,637	402,846	10,938,101	3,011,300	20,042,137	4,452,988
2018	19,990,330	7,155,114	5,085,810	1,299,478	8,388,097	404,870	10,998,708	3,027,061	19,542,633	4,282,451
2019	20,060,906	6,979,734	4,989,552	1,291,296	8,229,358	395,520	10,759,395	2,957,922	19,966,220	4,283,748
2020	20,100,992	6,698,992	4,853,037	1,252,406	8,004,207	384,952	10,480,137	2,880,912	19,819,393	4,170,634
2021	20,650,000	6,739,162	4,811,200	1,238,524	7,935,220	384,263	10,407,595	2,878,977	19,507,475	4,145,039
2022	20,903,283	6,518,653	4,718,305	1,208,586	7,782,005	378,658	10,225,075	2,837,726	18,859,595	4,071,531
2023	21,928,550	6,441,006	4,810,576	1,250,652	7,934,210	387,072	10,387,197	2,901,431	19,553,143	4,277,712
2024	22,329,286	6,368,062	4,718,896	1,173,124	7,782,974	384,118	10,311,297	2,879,333	18,160,658	4,076,021
2025	22,863,411	6,348,260	4,756,313	1,246,879	7,844,727	383,342	10,251,253	2,873,814	19,436,746	4,390,560
2026	22,905,551	6,353,165	4,704,493	1,181,955	7,759,221	384,003	10,256,173	2,878,971	18,244,477	4,239,776
2027	22,916,484	6,342,590	4,728,548	1,213,154	7,798,916	384,169	10,252,901	2,880,275	18,787,146	4,429,524
2028	22,766,123	6,291,481	4,691,125	1,198,589	7,737,187	381,644	10,182,910	2,861,358	18,526,610	4,458,871
2029	22,653,317	6,206,072	4,667,214	1,191,324	7,697,757	379,754	10,133,701	2,847,192	18,390,646	4,513,036
2030	22,666,704	6,203,694	4,668,599	1,189,893	7,700,043	379,978	10,141,322	2,848,888	18,353,781	4,590,901
2031	22,503,796	6,105,522	4,625,276	1,169,298	7,628,583	377,193	10,070,872	2,828,121	17,990,495	4,611,604
2032	22,546,879	6,112,222	4,654,083	1,196,541	7,676,099	377,906	10,088,228	2,833,499	18,483,185	4,812,366
2033	22,188,606	5,932,644	4,553,273	1,142,381	7,509,817	371,925	9,933,416	2,788,564	17,515,439	4,700,702
2034	22,291,738	5,996,063	4,594,525	1,172,091	7,577,884	373,623	9,980,693	2,801,383	18,048,045	4,909,320
2035	21,732,380	5,646,601	4,469,356	1,126,451	7,371,426	364,298	9,738,239	2,731,320	17,233,409	4,808,296
TOTAL	898,000,200	328,075,173	273,251,348	60,342,485	449,881,173	19,505,935	533,884,262	131,287,711	876,555,364	220,091,196

CHARGE FOR EACH CONTRACTOR^(a)

(in dollars)

Sheet 4 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Geronio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	South Bay	
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
1962	0	0	0	0	0	0	0	0	0	55,537
1963	0	707,040	0	794,035	0	0	0	0	59,816	1,652,536
1964	22,220	1,288,250	9,598	1,621,057	0	0	0	0	99,096	2,823,960
1965	22,324	2,227,522	18,164	2,745,772	0	0	412	412	170,836	4,837,837
1966	38,748	3,983,276	34,159	4,907,697	0	0	575	575	197,632	7,439,877
1967	72,741	7,857,318	69,640	9,635,157	0	0	573	573	256,263	12,878,234
1968	131,380	15,633,682	145,835	18,869,907	0	0	575	575	333,889	25,028,281
1969	202,617	23,643,507	219,939	28,479,112	0	0	3,250	3,250	405,735	36,205,906
1970	295,272	31,267,287	279,655	37,947,665	0	0	15,402	15,402	444,995	46,477,607
1971	417,147	40,791,458	349,890	49,760,518	0	0	16,297	16,297	434,848	59,269,262
1972	546,252	53,925,473	430,666	65,382,640	0	0	17,695	17,695	450,574	77,085,268
1973	597,469	58,288,683	444,025	71,035,155	0	0	17,656	17,656	435,119	81,845,479
1974	621,182	62,834,863	464,270	75,906,426	0	0	17,799	17,799	458,186	87,583,771
1975	654,643	67,834,245	487,199	81,662,125	0	0	18,728	18,728	467,775	94,727,074
1976	678,582	69,580,608	484,490	84,147,857	0	0	17,799	17,799	490,385	98,136,708
1977	706,978	67,794,512	516,106	82,585,625	0	0	18,555	18,555	483,252	96,628,399
1978	733,192	75,461,841	543,244	91,319,690	0	0	17,703	17,703	488,820	107,502,232
1979	722,655	73,832,949	535,000	90,140,600	0	0	20,901	20,901	506,494	107,977,013
1980	798,182	82,966,449	586,208	101,383,633	0	0	18,083	18,083	575,176	120,805,390
1981	815,861	90,645,511	645,170	109,838,913	0	0	21,516	21,516	576,546	130,147,769
1982	865,528	99,224,010	668,848	120,212,794	0	0	28,626	28,626	569,190	142,695,522
1983	971,995	106,309,144	795,358	131,386,318	0	0	17,249	17,249	653,449	158,103,716
1984	1,065,373	140,304,190	879,320	172,204,952	0	0	18,315	18,315	644,695	209,597,243
1985	1,161,984	190,821,473	912,943	234,229,922	0	0	20,272	20,272	744,469	293,471,186
1986	1,173,890	220,243,230	970,481	263,502,450	0	0	20,268	20,268	777,755	324,546,174
1987	1,217,326	256,832,335	966,055	301,751,046	0	0	20,268	20,268	830,739	365,485,901
1988	1,223,619	267,668,080	1,035,735	313,585,497	0	0	20,274	20,274	834,841	378,186,348
1989	1,204,960	266,196,874	1,123,340	312,524,478	0	0	20,277	20,277	836,047	378,067,639
1990	2,308,584	273,252,509	1,251,090	323,347,549	0	0	20,278	20,278	838,611	392,128,991
1991	2,478,752	287,853,417	1,414,116	349,195,169	0	0	20,280	20,280	941,151	419,819,113
1992	2,565,922	286,517,618	1,510,111	348,094,206	0	0	20,281	20,281	841,184	420,676,286
1993	2,717,600	295,602,270	1,668,430	359,087,300	0	0	20,281	20,281	841,584	432,927,190
1994	2,802,691	298,901,826	1,895,105	362,942,334	0	0	20,281	20,281	841,412	436,826,052
1995	3,012,237	300,352,884	2,156,342	367,217,763	0	0	20,281	20,281	842,018	443,636,121
1996	3,224,362	312,185,684	2,608,152	381,544,389	0	0	20,281	20,281	842,312	458,693,359
1997	3,307,137	323,460,790	3,011,088	393,331,183	0	0	20,281	20,281	842,392	470,542,569
1998	3,494,880	321,707,897	3,475,410	393,184,549	0	0	20,281	20,281	842,546	470,266,132
1999	3,683,287	333,970,420	3,666,823	407,112,227	0	0	20,281	20,281	842,939	484,350,890
2000	3,853,130	343,110,004	3,862,464	417,758,481	0	0	20,281	20,281	843,426	495,575,083
2001	3,768,063	343,984,203	3,818,661	418,555,013	0	0	20,284	20,284	844,000	495,819,594
2002	3,876,687	350,204,930	3,867,587	427,430,647	0	0	20,284	20,284	844,800	505,375,008
2003	3,845,276	354,310,349	3,866,254	432,324,548	0	0	20,284	20,284	857,126	510,484,754
2004	3,896,262	361,401,110	3,924,805	441,490,111	0	0	20,284	20,284	858,469	520,142,201
2005	3,852,480	358,423,396	3,843,066	438,634,641	0	0	20,284	20,284	858,409	516,423,625
2006	3,792,617	355,935,532	3,775,760	436,021,787	0	0	20,284	20,284	858,207	512,745,961
2007	3,705,039	356,139,797	3,745,915	436,007,239	0	0	20,284	20,284	858,402	512,598,011
2008	3,838,008	362,228,440	3,760,318	444,703,689	0	0	20,284	20,284	858,624	521,380,271
2009	3,678,722	356,219,820	3,705,813	437,353,359	0	0	20,284	20,284	858,622	513,359,781
2010	3,718,608	357,018,264	3,685,022	439,468,970	0	0	20,284	20,284	858,794	515,448,315
2011	3,701,908	363,725,756	3,718,054	447,292,800	0	0	20,286	20,286	859,391	523,448,409
2012	3,796,040	370,536,131	3,772,685	456,807,024	0	0	20,286	20,286	859,800	533,601,895
2013	3,559,502	352,100,591	3,541,394	434,549,599	0	0	20,286	20,286	812,888	507,767,375
2014	3,522,384	354,003,288	3,562,064	437,333,132	0	0	20,286	20,286	774,805	510,791,754
2015	3,505,705	350,004,959	3,522,195	433,768,034	0	0	19,874	19,874	718,790	506,069,023
2016	3,500,494	353,879,639	3,504,192	438,512,864	0	0	19,711	19,711	694,580	510,372,657
2017	3,620,527	357,213,944	3,530,155	444,679,578	0	0	19,714	19,714	652,929	516,827,364
2018	3,485,487	356,781,544	3,522,286	443,963,869	0	0	19,711	19,711	574,794	516,277,910
2019	3,435,384	353,558,244	3,434,367	440,341,646	0	0	17,036	17,036	509,154	511,784,015
2020	3,310,756	333,983,598	3,313,736	419,253,752	0	0	4,884	4,884	485,967	489,964,018
2021	3,261,330	340,295,632	3,327,167	425,581,584	0	0	4,043	4,043	463,501	496,616,402
2022	3,161,789	328,086,931	3,235,903	411,988,040	0	0	2,631	2,631	462,030	482,440,477
2023	3,262,077	326,631,688	3,201,987	412,967,301	0	0	2,631	2,631	461,173	482,917,330
2024	3,077,070	323,862,403	3,169,422	408,292,664	0	0	2,630	2,630	459,600	477,798,343
2025	3,233,617	322,745,716	3,161,685	409,536,323	0	0	2,627	2,627	457,787	479,047,442
2026	3,079,990	324,352,145	3,164,979	409,504,899	0	0	2,626	2,626	457,394	478,811,022
2027	3,148,581	322,365,075	3,161,475	408,408,838	0	0	2,624	2,624	456,469	477,742,126
2028	3,109,389	319,586,895	3,134,885	404,927,067	0	0	2,622	2,622	455,174	473,895,538
2029	3,087,660	317,592,436	3,097,699	402,457,808	0	0	2,620	2,620	453,786	471,144,482
2030	3,083,076	316,335,525	3,092,892	401,255,296	0	0	2,619	2,619	452,432	469,895,789
2031	3,030,662	309,305,321	3,046,866	393,293,609	0	0	2,618	2,618	449,445	461,661,069
2032	3,095,314	313,144,912	3,046,976	398,068,210	0	0	2,616	2,616	449,753	466,464,633
2033	2,957,760	302,468,085	2,968,682	385,031,294	0	0	2,615	2,615	448,550	452,943,557
2034	3,028,140	308,871,808	2,996,628	392,641,941	0	0	2,614	2,614	445,006	460,880,109
2035	2,902,795	289,600,793	2,853,470	370,578,834	0	0	2,613	2,613	440,443	437,599,071
TOTAL	170,339,901	17,621,978,029	160,209,514	21,743,402,291	0	0	1,037,818	1,037,818	44,807,291	25,695,243,986

TABLE B-20A: CALCULATION OF DELTA WATER RATES

[values in millions of dollars (\$) or millions of acre-feet (AF)
discounted to 1985 at 4.727 percent per annum]

Procedure	Capital Cost Component	Minimum Operation, Maintenance, Power, and Replacement Component ^a	Total Delta Water Rate
In accordance with amendment to Articles 22(e) and 22(g) (for all contractors except Solano County Flood Control and Water Conservation District)			
<u>Commencing in 1986</u>			
Total costs of "initial" Project conservation facilities to be reimbursed and Project water entitlements during the Project repayment period	\$1,641.57 ^b 114.98 AF	\$896.07 ^c 114.98 AF	\$2,537.64 114.98 AF
Less, Project power revenues to be realized during the Project repayment period	695.06	223.10	918.16
Less, Delta Water Charges paid, and Project water entitlements, prior to 1986	315.25 ^d 37.16 AF	127.58 37.16 AF	442.83 37.16 AF
Subtotal	\$631.26 77.82 AF	\$545.39 77.82 AF	\$1,176.65 77.82 AF
Rate applicable 1986 through 2035	\$8.11 per acre-foot	\$7.01 per acre-foot	\$15.12 per acre-foot
Calculation under original provisions of Article 22(e) and 22(g) (for Solano County Flood Control and Water Conservation District)			
<u>Commencing in 1986</u>			
Total costs of "initial" Project conservation facilities to be reimbursed and Project water entitlements during the Project repayment period	\$1,674.84 ^b 114.98 AF	\$896.07 ^c 114.98 AF	\$2,570.91 114.98 AF
Less, Project power revenues to be realized during the Project repayment period	695.06	223.10	918.16
Less, Delta Water Charges paid, and Project water entitlements, prior to 1986	315.25 ^d 37.16 AF	127.58 37.16 AF	442.83 37.16 AF
Total	\$664.53 77.82 AF	\$545.39 77.82 AF	\$1,209.92 77.82 AF
Rate applicable 1986 through 2035	\$8.54 per acre-foot	\$7.01 per acre-foot	\$15.55 per acre-foot

- a) Considering that all operating costs of Project conservation facilities will not vary with annual amounts of Project water delivered, and therefore are properly classified as "minimum" OMP&R costs.
- b) Including net credits of \$4,850,000 for settlements as to the magnitude of Project capital costs incurred prior to December 31, 1960, and net credits of \$6,678,320 for settlement as to the magnitude of Project capital costs incurred during the 1961 through 1978 period.
- c) Includes conservation power costs and credits at San Luis.
- d) Applying all Delta Water Charges paid prior to 1970 to reimburse capital costs (the Charge was not divided into components until 1970).

TABLE B-20B: DELTA WATER RATES BY FACILITY ^(a)

Item	Rate per acre-foot		
	Capital Cost Component	Minimum Operation, Maintenance, Power and Replacement Component	Total Delta Water Rate
<u>Initial Conservation Facilities</u>			
Oroville Division			
Water supply and power costs ^(b)	\$ 14.44	\$6.53	\$20.97
<u>Less, Oroville power revenues</u>	<u>-8.93</u>	<u>-2.87</u>	<u>-11.80</u>
Subtotal	\$5.51	\$3.66	\$ 9.17
Delta Facilities	1.89	1.44	3.33
California Aqueduct, portion of Reaches 1, 2A, 2B, and 3	1.84	1.43	3.27
San Luis Facilities	2.76	2.12	4.88
Planning and preoperating costs through 1984	0.56	0	0.56
<u>Less, Capital Cost Credits</u>	<u>-0.40</u>	<u>0</u>	<u>-0.40</u>
<u>Less, Delta Water Charges paid prior to 1986</u>	<u>-4.05</u>	<u>-1.64</u>	<u>-5.69</u>
Rate applicable 1986 through 2035	\$8.11	\$7.01	\$15.12

- a) Delta Water Rate applicable to all contractors except Solano County Flood Control and Water Conservation District. (See Table B-20A).
- b) Includes revenue received from non-contractors.

TABLE B-21: TOTAL DELTA WATER

(in dollars)

Sheet 1 of 4

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA				CENTRAL COASTAL AREA		
	Napa County FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD, Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	14,000	50,050	177,100	241,150	0	0	0
1968	0	0	0	19,156	29,701	193,245	242,102	0	0	0
1969	0	0	0	30,324	44,096	215,483	289,903	0	0	0
1970	0	0	0	80,908	107,730	585,200	773,838	0	0	0
1971	0	0	0	57,320	123,080	637,120	817,520	0	0	0
1972	0	0	0	99,668	143,877	707,328	950,873	0	0	0
1973	0	0	0	120,880	167,099	782,167	1,070,146	0	0	0
1974	0	0	0	137,684	182,339	818,664	1,138,687	0	0	0
1975	0	0	0	146,204	187,324	804,123	1,137,651	0	0	0
1976	0	0	0	168,489	208,652	862,036	1,239,177	0	0	0
1977	0	0	0	172,931	208,645	827,062	1,208,638	0	0	0
1978	0	0	0	206,378	243,231	926,594	1,376,203	0	0	0
1979	0	0	0	237,771	273,208	1,005,955	1,516,934	0	0	0
1980	0	18,325	18,325	272,717	307,426	1,090,867	1,671,010	12,396	3,479	15,875
1981	0	25,440	25,440	415,564	469,768	1,589,984	2,475,316	18,068	10,414	28,482
1982	0	34,917	34,917	457,988	519,053	1,679,289	2,656,330	38,166	99,788	137,954
1983	0	12,035	12,035	316,703	359,775	1,114,795	1,791,273	38,004	68,902	106,906
1984	0	22,453	22,453	334,587	380,914	1,132,448	1,847,949	57,909	105,498	163,407
1985	0	22,001	22,001	381,970	435,728	1,244,939	2,062,637	106,103	192,937	299,040
1986	76,284	35,761	112,045	423,378	485,372	1,330,615	2,239,365	151,206	275,347	426,553
1987	81,576	213,786	295,362	438,498	503,517	1,330,615	2,272,630	189,008	343,299	532,307
1988	86,868	243,482	330,350	453,619	521,662	1,330,615	2,305,896	234,370	426,734	661,104
1989	93,672	286,395	380,067	468,739	539,806	1,360,857	2,369,402	302,413	549,514	851,927
1990	101,989	330,396	432,385	483,860	557,951	1,391,098	2,432,909	378,016	687,777	1,065,793
1991	110,229	346,721	456,950	514,101	580,632	1,421,339	2,516,072	378,016	687,777	1,065,793
1992	118,546	375,796	494,342	544,343	603,313	1,451,580	2,599,236	378,016	687,777	1,065,793
1993	128,374	406,270	534,644	574,584	625,994	1,481,822	2,682,400	378,016	687,777	1,065,793
1994	138,127	436,589	574,716	604,825	635,066	1,512,063	2,751,954	378,016	687,777	1,065,793
1995	147,880	532,521	680,401	635,066	635,066	1,512,063	2,782,195	378,016	687,777	1,065,793
1996	157,633	587,716	745,349	665,308	635,066	1,512,063	2,812,437	378,016	687,777	1,065,793
1997	167,310	594,713	762,023	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
1998	177,063	601,865	778,928	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
1999	186,437	609,017	795,454	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2000	197,324	616,014	813,338	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2001	206,623	623,166	829,789	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2002	214,486	630,318	844,804	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2003	223,785	637,470	861,255	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2004	232,858	644,467	877,325	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2005	241,930	645,244	887,174	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2006	248,734	646,021	894,755	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2007	258,563	646,799	905,362	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2008	266,879	647,576	914,455	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2009	275,195	648,354	923,549	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2010	283,512	649,131	932,643	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2011	293,340	649,908	943,248	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2012	301,657	650,686	952,343	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2013	311,485	651,463	962,948	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2014	321,313	652,241	973,554	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2015	331,142	653,018	984,160	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2016	340,214	653,018	993,232	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2017	349,287	653,018	1,002,305	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2018	358,359	653,018	1,011,377	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2019	367,431	653,018	1,020,449	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2020	376,504	653,018	1,029,522	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2021	378,016	653,018	1,031,034	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2022	378,016	653,018	1,031,034	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2023	378,016	653,018	1,031,034	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2024	378,016	653,018	1,031,034	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2025	378,016	653,018	1,031,034	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2026	378,016	653,018	1,031,034	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2027	378,016	653,018	1,031,034	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2028	378,016	653,018	1,031,034	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2029	378,016	653,018	1,031,034	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2030	378,016	653,018	1,031,034	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2031	378,016	653,018	1,031,034	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2032	378,016	653,018	1,031,034	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2033	378,016	653,018	1,031,034	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2034	378,016	653,018	1,031,034	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
2035	378,016	653,018	1,031,034	695,549	635,066	1,512,063	2,842,678	378,016	687,777	1,065,793
TOTAL	13,442,849	29,088,435	42,531,284	36,603,974	35,532,715	90,999,586	163,136,275	18,536,379	33,713,654	52,250,033

CHARGE FOR EACH CONTRACTOR

(in dollars)

Sheet 2 of 4

Calendar Year	SAN JOAQUIN VALLEY AREA									
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Future Contractor San Joaquin Valley	Kern County Water Agency		County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
					Municipal and Industrial	Agricultural				
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	13,060	40,695	10,469	0	0	165,522	3,177	8,073	98,608	339,604
1969	17,804	61,267	3,281	0	0	337,686	4,200	8,805	102,478	535,521
1970	37,905	104,405	19,950	0	0	964,915	8,645	17,290	228,095	1,381,205
1971	48,508	129,596	21,720	0	0	1,377,772	9,412	20,272	264,260	1,871,540
1972	61,891	160,756	24,113	0	0	2,175,835	11,253	43,131	905,057	3,382,036
1973	77,328	195,541	26,664	0	386,638	2,373,167	13,333	27,553	373,307	3,473,531
1974	90,239	224,202	27,909	0	446,545	2,781,595	13,954	29,770	445,138	4,059,352
1975	97,774	329,688	27,413	0	481,560	3,041,048	14,620	33,702	827,591	4,853,396
1976	114,612	414,245	29,388	0	549,549	3,931,785	15,673	35,966	877,151	5,968,369
1977	119,360	312,532	28,195	0	569,545	4,071,218	15,977	40,289	626,210	5,783,326
1978	133,724	342,208	31,588	0	674,939	4,950,959	20,006	41,065	666,516	6,861,005
1979	145,178	395,523	34,294	0	772,757	5,901,986	22,863	45,725	771,613	8,089,939
1980	157,432	555,341	37,679	0	881,371	6,984,026	27,272	70,658	933,481	9,647,260
1981	229,464	740,789	54,204	0	1,351,487	11,140,730	41,556	77,692	1,373,168	15,009,090
1982	242,352	782,396	57,248	0	1,518,993	12,703,436	47,707	85,873	1,530,443	16,968,448
1983	160,885	543,462	38,004	0	1,057,789	9,141,315	35,471	58,273	78,506	11,113,705
1984	163,433	580,379	38,606	0	1,333,200	9,741,623	39,893	61,770	1,140,169	13,009,073
1985	179,667	667,740	42,441	0	1,328,406	11,616,126	48,100	69,320	644,383	14,596,183
1986	192,032	745,447	45,362	0	1,487,870	13,151,922	55,946	77,115	1,469,725	17,225,419
1987	192,032	777,200	45,362	0	1,574,057	13,901,906	60,483	78,627	1,533,232	18,162,899
1988	192,032	808,954	45,362	0	1,646,636	14,601,991	60,483	81,651	1,596,738	19,033,847
1989	192,032	840,707	45,362	0	1,711,655	15,107,020	60,483	84,676	1,661,757	19,703,692
1990	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
1991	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
1992	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
1993	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
1994	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
1995	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
1996	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
1997	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
1998	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
1999	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2000	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2001	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2002	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2003	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2004	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2005	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2006	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2007	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2008	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2009	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2010	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2011	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2012	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2013	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2014	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2015	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2016	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2017	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2018	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2019	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2020	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2021	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2022	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2023	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2024	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2025	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2026	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2027	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2028	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2029	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2030	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2031	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2032	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2033	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2034	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
2035	192,032	872,460	45,362	0	1,808,427	15,631,705	60,483	86,188	1,791,794	20,488,451
TOTAL	11,692,216	49,886,233	2,821,266	0	100,960,639	869,222,013	3,412,725	5,061,944	100,570,150	1,143,627,186

TABLE B-21: TOTAL DELTA WATER

(in dollars)

Sheet 3 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0
1972	160,756	12,860	41,797	4,662	64,303	1,367	67,518	13,021	369,739	85,202
1973	222,207	29,835	51,552	7,279	79,994	2,577	95,104	26,131	54,908	14,338
1974	279,090	53,027	59,539	10,791	93,030	3,721	121,869	39,631	465,150	114,427
1975	319,822	68,533	63,964	13,250	100,515	4,752	140,722	50,989	479,733	119,705
1976	431,018	93,061	74,449	17,045	117,550	6,269	174,366	67,591	538,772	137,142
1977	469,922	107,142	79,144	19,079	122,180	6,861	189,848	77,255	540,410	139,097
1978	600,180	141,095	97,313	24,428	147,413	9,687	236,913	98,345	631,768	165,313
1979	720,173	174,899	115,033	29,836	171,470	11,889	284,640	117,285	714,457	189,760
1980	857,818	219,413	134,920	35,949	210,736	14,256	337,177	138,590	811,952	215,694
1981	1,355,100	363,167	218,713	57,637	343,292	22,946	534,813	211,396	1,237,658	330,644
1982	1,551,434	421,730	254,298	66,408	400,739	26,335	372,710	235,100	1,341,923	364,482
1983	1,110,994	311,636	184,283	47,759	291,367	19,002	434,517	163,925	943,775	252,096
1984	450,405	346,169	202,914	52,247	321,718	20,719	472,282	174,500	1,003,760	266,383
1985	565,881	411,679	240,344	61,540	381,970	24,474	551,734	200,605	1,152,983	308,405
1986	635,066	467,227	275,347	70,160	438,498	27,822	625,994	223,785	1,285,253	350,799
1987	665,308	497,469	293,809	74,545	476,300	29,636	660,771	233,160	1,345,736	371,967
1988	695,549	533,758	312,271	78,930	514,101	31,300	695,549	242,535	1,406,218	393,136
1989	1,900,663	565,511	330,733	83,315	551,903	33,114	733,350	251,910	1,466,701	414,305
1990	1,997,435	594,241	349,287	87,700	576,096	34,777	768,128	261,587	1,534,744	435,474
1991	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
1992	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
1993	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
1994	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
1995	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
1996	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
1997	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
1998	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
1999	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2000	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2001	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2002	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2003	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2004	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2005	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2006	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2007	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2008	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2009	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2010	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2011	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2012	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2013	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2014	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2015	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2016	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2017	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2018	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2019	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2020	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2021	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2022	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2023	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2024	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2025	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2026	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2027	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2028	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2029	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2030	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2031	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2032	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2033	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2034	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
2035	2,092,695	627,506	349,287	87,700	576,096	34,777	768,128	261,587	1,551,376	435,474
TOTAL	109,160,096	33,650,222	19,097,625	4,789,060	31,327,495	1,896,469	42,063,765	14,598,756	87,137,540	24,264,699

CHARGE FOR EACH CONTRACTOR

(in dollars)

Sheet 4 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Geronio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	South Bay	
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	241,150
1968	0	0	0	0	0	1,050	875	1,925	0	583,631
1969	0	0	0	0	0	1,225	929	2,154	0	827,578
1970	0	0	0	0	0	3,848	1,995	5,843	0	2,160,886
1971	0	0	0	0	0	4,546	3,186	7,732	0	2,696,792
1972	0	2,043,211	0	2,864,436	0	4,929	3,778	8,707	0	7,206,052
1973	0	2,317,893	0	2,901,818	0	7,059	4,444	11,503	0	7,456,998
1974	0	4,231,933	0	5,472,208	0	8,336	4,931	13,267	0	10,683,514
1975	0	5,073,286	0	6,435,271	0	9,416	5,117	14,533	0	12,440,851
1976	0	6,422,167	0	8,079,430	0	7,004	5,780	12,784	0	15,299,760
1977	0	7,104,278	0	8,855,216	0	16,917	5,827	22,744	0	15,869,924
1978	0	9,016,389	0	11,168,844	0	12,635	6,844	19,479	0	19,425,531
1979	0	10,935,192	0	13,464,634	0	16,575	7,773	24,348	0	23,095,855
1980	84,294	13,102,796	12,396	16,175,991	0	19,834	8,801	28,635	0	27,557,096
1981	140,930	20,910,099	36,136	25,762,531	0	21,682	13,370	35,052	0	43,335,911
1982	167,929	23,998,560	57,248	29,258,896	0	16,117	14,694	30,811	0	49,087,356
1983	124,148	17,203,307	50,672	21,137,481	0	15,202	10,134	25,336	0	34,186,736
1984	138,982	18,766,458	64,344	22,280,881	20,590	15,442	10,681	46,713	0	37,460,476
1985	166,935	22,050,974	84,882	26,202,406	24,050	16,976	12,166	53,192	0	43,235,459
1986	195,056	25,089,658	120,965	29,805,630	31,753	18,145	13,457	63,355	0	49,872,367
1987	211,689	26,609,281	151,206	31,620,877	37,802	18,145	13,911	69,858	0	52,953,933
1988	228,321	28,130,417	196,568	33,458,653	43,850	18,145	14,516	76,511	0	55,866,361
1989	244,954	29,651,552	241,930	36,469,941	49,898	18,145	15,121	83,164	0	59,858,193
1990	261,587	30,415,144	302,413	37,618,613	57,458	18,145	15,725	91,328	0	62,129,479
1991	261,587	30,415,144	302,413	37,763,770	145,158	415,817	16,330	577,305	0	62,868,341
1992	261,587	30,415,144	302,413	37,763,770	145,158	415,817	16,935	577,910	0	62,989,502
1993	261,587	30,415,144	302,413	37,763,770	145,158	415,817	17,540	578,515	0	63,113,573
1994	261,587	30,415,144	302,413	37,763,770	145,158	415,817	18,145	579,120	0	63,223,804
1995	261,587	30,415,144	302,413	37,763,770	145,158	415,817	18,901	579,876	0	63,360,486
1996	261,587	30,415,144	302,413	37,763,770	145,158	415,817	19,657	580,632	0	63,456,432
1997	261,587	30,415,144	302,413	37,763,770	145,158	415,817	20,413	581,388	0	63,504,103
1998	261,587	30,415,144	302,413	37,763,770	145,158	415,817	21,169	582,144	0	63,521,764
1999	261,587	30,415,144	302,413	37,763,770	145,158	415,817	21,925	582,900	0	63,539,046
2000	261,587	30,415,144	302,413	37,763,770	145,158	415,817	22,832	583,607	0	63,557,837
2001	261,587	30,415,144	302,413	37,763,770	145,158	415,817	23,739	584,714	0	63,575,195
2002	261,587	30,415,144	302,413	37,763,770	145,158	415,817	24,647	585,622	0	63,591,118
2003	261,587	30,415,144	302,413	37,763,770	145,158	415,817	25,554	586,529	0	63,608,476
2004	261,587	30,415,144	302,413	37,763,770	145,158	415,817	26,461	587,436	0	63,625,453
2005	261,587	30,415,144	302,413	37,763,770	145,158	415,817	27,368	588,343	0	63,636,209
2006	261,587	30,415,144	302,413	37,763,770	145,158	415,817	28,427	589,402	0	63,644,849
2007	261,587	30,415,144	302,413	37,763,770	145,158	415,817	29,485	590,460	0	63,656,514
2008	261,587	30,415,144	302,413	37,763,770	145,158	415,817	30,544	591,519	0	63,666,666
2009	261,587	30,415,144	302,413	37,763,770	145,158	415,817	31,602	592,577	0	63,676,818
2010	261,587	30,415,144	302,413	37,763,770	145,158	415,817	32,661	593,636	0	63,686,971
2011	261,587	30,415,144	302,413	37,763,770	145,158	415,817	33,870	594,845	0	63,698,785
2012	261,587	30,415,144	302,413	37,763,770	145,158	415,817	35,080	596,055	0	63,709,090
2013	261,587	30,415,144	302,413	37,763,770	145,158	415,817	36,441	597,416	0	63,721,056
2014	261,587	30,415,144	302,413	37,763,770	145,158	415,817	37,802	598,777	0	63,733,023
2015	261,587	30,415,144	302,413	37,763,770	145,158	415,817	39,314	600,289	0	63,745,141
2016	261,587	30,415,144	302,413	37,763,770	145,158	415,817	40,826	601,801	0	63,755,725
2017	261,587	30,415,144	302,413	37,763,770	145,158	415,817	40,826	601,801	0	63,764,798
2018	261,587	30,415,144	302,413	37,763,770	145,158	415,817	40,826	601,801	0	63,773,870
2019	261,587	30,415,144	302,413	37,763,770	145,158	415,817	40,826	601,801	0	63,782,942
2020	261,587	30,415,144	302,413	37,763,770	145,158	415,817	40,826	601,801	0	63,792,015
2021	261,587	30,415,144	302,413	37,763,770	145,158	415,817	40,826	601,801	0	63,793,527
2022	261,587	30,415,144	302,413	37,763,770	145,158	415,817	40,826	601,801	0	63,793,527
2023	261,587	30,415,144	302,413	37,763,770	145,158	415,817	40,826	601,801	0	63,793,527
2024	261,587	30,415,144	302,413	37,763,770	145,158	415,817	40,826	601,801	0	63,793,527
2025	261,587	30,415,144	302,413	37,763,770	145,158	415,817	40,826	601,801	0	63,793,527
2026	261,587	30,415,144	302,413	37,763,770	145,158	415,817	40,826	601,801	0	63,793,527
2027	261,587	30,415,144	302,413	37,763,770	145,158	415,817	40,826	601,801	0	63,793,527
2028	261,587	30,415,144	302,413	37,763,770	145,158	415,817	40,826	601,801	0	63,793,527
2029	261,587	30,415,144	302,413	37,763,770	145,158	415,817	40,826	601,801	0	63,793,527
2030	261,587	30,415,144	302,413	37,763,770	145,158	415,817	40,826	601,801	0	63,793,527
2031	261,587	30,415,144	302,413	37,763,770	145,158	415,817	40,826	601,801	0	63,793,527
2032	261,587	30,415,144	302,413	37,763,770	145,158	415,817	40,826	601,801	0	63,793,527
2033	261,587	30,415,144	302,413	37,763,770	145,158	415,817	40,826	601,801	0	63,793,527
2034	261,587	30,415,144	302,413	37,763,770	145,158	415,817	40,826	601,801	0	63,793,527
2035	261,587	30,415,144	302,413	37,763,770	145,158	415,817	40,826	601,801	0	63,793,527
TOTAL	13,736,240	14,927,345			6,797,511		1,667,417		0	
		1,671,754,075		2,068,403,407		19,001,283		27,466,211		3,497,414,396

TABLE B—22: TOTAL TRANSPORTATION^(a) AND

(in dollars)

Sheet 1 of 4

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA				CENTRAL COASTAL AREA		
	Napa County FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD, Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1962	0	0	0	11,750	43,787	0	55,537	0	0	0
1963	0	0	0	153,066	189,194	456,425	798,685	0	0	0
1964	0	0	0	173,772	267,039	633,130	1,073,941	9,089	17,998	27,087
1965	0	0	0	249,438	369,432	1,176,729	1,795,599	14,973	29,020	43,993
1966	19,468	0	19,468	275,931	380,251	1,434,828	2,091,010	24,444	46,705	71,149
1967	43,738	0	43,738	365,838	509,168	1,884,593	2,759,599	43,108	81,311	124,419
1968	132,535	0	132,535	416,894	589,807	2,204,742	3,211,443	69,493	130,171	199,664
1969	259,822	0	259,822	483,786	539,955	2,326,903	3,350,644	124,641	232,046	356,687
1970	283,077	0	283,077	548,384	595,273	2,816,857	3,960,514	137,768	256,352	394,120
1971	233,386	0	233,386	485,769	630,001	2,836,037	3,951,807	138,994	258,697	397,691
1972	231,048	0	231,048	614,383	777,022	3,056,848	4,448,253	143,630	267,368	410,998
1973	227,271	28,522	255,793	600,121	671,075	3,149,949	4,421,145	142,317	264,996	407,313
1974	246,850	30,005	276,855	640,268	701,444	3,354,222	4,695,934	143,676	267,553	411,229
1975	244,344	33,045	277,389	697,163	747,245	3,243,315	4,687,723	160,330	298,321	458,651
1976	278,787	37,290	316,077	809,762	897,658	3,391,851	5,099,271	272,620	505,687	778,307
1977	302,852	41,275	344,127	777,528	876,383	3,332,986	4,986,897	283,450	526,125	809,575
1978	285,112	44,852	329,964	871,020	959,318	3,755,060	5,521,398	294,128	545,986	840,114
1979	298,809	48,404	347,213	959,455	963,182	3,847,662	5,770,299	290,073	538,626	828,699
1980	322,779	79,323	402,102	1,135,177	1,148,830	4,211,246	6,495,253	334,053	600,508	934,561
1981	359,910	101,855	461,765	1,212,096	1,298,104	4,517,727	7,027,927	362,697	649,917	1,012,614
1982	455,330	127,102	582,432	1,357,878	1,353,643	5,358,118	8,069,639	379,391	733,122	1,112,513
1983	447,047	140,272	587,319	1,245,105	1,280,388	5,523,098	8,048,591	406,713	752,983	1,159,696
1984	523,249	214,963	738,212	1,435,116	1,396,747	6,746,442	9,578,305	444,233	822,134	1,266,367
1985	799,518	340,094	1,139,612	2,365,693	3,068,771	9,107,897	14,542,361	547,844	1,011,898	1,559,742
1986	1,425,516	1,011,646	2,437,162	2,423,207	3,103,584	8,924,389	14,451,180	616,710	1,138,180	1,754,890
1987	2,280,984	2,340,849	4,621,833	2,475,856	3,131,441	8,822,978	14,430,275	694,152	1,279,305	1,973,457
1988	2,526,014	2,670,964	5,196,978	2,485,805	3,150,637	8,703,906	14,340,348	747,981	1,378,408	2,126,389
1989	2,549,379	2,738,961	5,288,340	2,523,628	3,206,934	8,787,981	14,518,543	819,453	1,507,558	2,327,011
1990	2,583,716	2,794,623	5,378,339	2,613,354	3,346,888	9,081,335	15,041,577	899,585	1,654,211	2,553,796
1991	2,627,994	2,826,968	5,454,962	2,866,140	3,478,672	9,359,590	15,704,402	903,403	1,661,293	2,564,696
1992	2,662,407	2,868,272	5,530,679	3,057,668	3,516,400	9,404,346	15,978,414	1,683,933	3,085,987	4,769,920
1993	2,706,974	2,918,479	5,625,453	3,298,570	3,618,862	9,608,565	16,525,997	1,720,088	3,152,463	4,872,551
1994	2,743,657	2,962,755	5,706,412	3,497,855	3,656,459	9,686,829	16,841,143	1,714,498	3,142,288	4,856,786
1995	2,794,821	3,104,261	5,899,082	3,811,596	3,801,968	9,927,123	17,540,687	1,754,658	3,215,639	4,970,297
1996	2,825,871	3,183,259	6,009,130	3,959,940	3,826,656	9,985,921	17,772,517	1,765,529	3,235,549	5,001,078
1997	2,854,153	3,194,896	6,049,049	4,074,385	3,818,271	9,965,959	17,858,615	1,764,657	3,234,030	4,998,687
1998	2,881,828	3,206,525	6,088,353	4,061,234	3,806,263	9,937,383	17,804,880	1,762,193	3,229,610	4,991,803
1999	2,911,977	3,219,868	6,131,845	4,060,762	3,805,837	9,936,390	17,802,989	1,765,049	3,234,960	5,000,009
2000	2,948,631	3,237,203	6,185,834	4,083,040	3,826,185	9,984,862	17,894,087	1,775,225	3,253,654	5,028,879
2001	2,985,459	3,244,739	6,230,198	4,049,281	3,795,406	9,911,902	17,756,589	1,765,104	3,235,275	5,000,379
2002	3,033,028	3,260,169	6,293,197	4,075,038	3,818,930	9,967,942	17,861,910	1,776,379	3,255,958	5,032,337
2003	3,077,510	3,275,640	6,353,150	4,100,240	3,843,313	10,034,880	17,978,433	1,777,522	3,258,145	5,035,667
2004	3,132,067	3,293,318	6,425,385	4,114,241	3,856,180	10,065,997	18,036,418	1,784,837	3,271,613	5,056,450
2005	3,164,909	3,292,426	6,457,335	4,067,587	3,813,580	9,964,572	17,845,739	1,769,114	3,242,988	5,012,102
2006	3,163,773	3,285,945	6,449,718	4,009,641	3,760,671	9,838,584	17,608,896	1,753,236	3,214,136	4,967,372
2007	3,179,705	3,286,318	6,466,023	4,001,598	3,753,329	9,821,113	17,576,040	1,751,421	3,210,902	4,962,323
2008	3,196,667	3,287,901	6,484,568	4,003,986	3,755,513	9,826,322	17,585,821	1,753,184	3,214,189	4,967,373
2009	3,203,276	3,284,583	6,487,859	3,969,177	3,723,732	9,750,653	17,443,562	1,741,621	3,193,153	4,934,774
2010	3,219,434	3,287,231	6,506,665	3,965,989	3,720,823	9,743,738	17,430,550	1,741,316	3,192,659	4,933,975
2011	3,253,894	3,289,398	6,543,292	3,971,684	3,726,053	9,756,418	17,454,155	1,744,431	3,198,429	4,942,860
2012	3,295,057	3,296,394	6,591,451	4,000,181	3,752,076	9,818,405	17,570,662	1,755,665	3,219,009	4,974,674
2013	3,287,917	3,281,092	6,569,009	3,732,780	3,506,491	9,109,206	16,348,477	1,705,668	3,128,145	4,833,813
2014	3,326,277	3,286,814	6,613,091	3,725,826	3,476,977	9,003,780	16,206,583	1,705,661	3,126,631	4,832,292
2015	3,353,750	3,286,957	6,640,707	3,653,473	3,381,625	8,554,256	15,589,354	1,691,747	3,101,262	4,793,009
2016	3,362,153	3,288,583	6,650,736	3,627,422	3,351,269	8,362,681	15,341,372	1,680,954	3,081,244	4,762,198
2017	3,381,243	3,295,813	6,677,056	3,630,568	3,353,885	8,321,914	15,306,367	1,675,426	3,070,738	4,746,164
2018	3,342,584	3,302,723	6,645,307	3,626,000	3,348,276	8,279,322	15,253,618	1,673,328	3,066,458	4,739,786
2019	3,319,717	3,300,367	6,620,084	3,563,155	3,291,019	8,123,534	14,977,708	1,661,097	3,044,030	4,705,127
2020	3,336,084	3,300,304	6,636,388	3,524,113	3,254,887	8,029,699	14,808,699	1,648,873	3,021,567	4,670,440
2021	3,347,978	3,304,838	6,652,816	3,512,020	3,241,567	7,984,290	14,737,877	1,657,889	3,037,926	4,695,815
2022	3,331,885	3,292,129	6,624,014	3,502,064	3,232,300	7,959,634	14,693,998	1,649,644	3,022,696	4,672,340
2023	3,324,610	3,261,151	6,585,761	3,484,725	3,216,442	7,920,019	14,621,186	1,641,097	3,007,028	4,648,125
2024	3,318,484	3,257,781	6,576,265	3,476,214	3,208,511	7,899,678	14,584,403	1,626,761	2,980,604	4,607,365
2025	3,310,863	3,254,989	6,565,852	3,477,094	3,209,136	7,899,570	14,585,800	1,626,870	2,980,745	4,607,615
2026	3,308,504	3,251,753	6,560,257	3,482,734	3,214,272	7,911,578	14,608,584	1,519,045	2,781,575	4,300,620
2027	3,306,640	3,248,296	6,554,936	3,484,195	3,215,512	7,912,904	14,612,611	1,517,318	2,777,911	4,295,229
2028	3,298,046	3,242,901	6,540,947	3,467,819	3,200,503	7,875,588	14,543,910	1,505,197	2,755,484	4,260,681
2029	3,291,168	3,238,216	6,529,384	3,455,324	3,189,063	7,847,382	14,491,769	1,499,551	2,745,021	4,244,572
2030	3,282,023	3,226,563	6,508,586	3,457,757	3,191,237	7,852,068	14,501,062	1,497,198	2,740,539	4,237,737
2031	3,264,918	3,210,957	6,475,875	3,447,890	3,182,172	7,829,986	14,460,048	1,484,719	2,717,473	4,202,192
2032	3,256,736	3,196,448	6,453,184	3,456,680	3,190,165	7,848,702	14,495,547	1,490,128	2,727,311	4,217,439
2033	3,218,849	3,157,663	6,376,512	3,437,149	3,172,302	7,805,866	14,415,317	1,484,828	2,717,618	4,202,446
2034	3,159,850	3,097,164	6,257,014	3,455,768	3,189,173	7,844,759	14,489,700	1,492,528	2,731,597	4,224,125
2035	3,004,383	2,965,320	5,969,703	3,405,440	3,143,170	7,734,626	14,283,236	1,475,274	2,699,966	4,175,240
TOTAL	158,958,295	157,477,415	316,435,710	196,593,286	193,564,334	524,895,810	915,053,430	82,879,410	152,010,684	234,890,094

a) Unadjusted for prior overpayments or underpayments of charges. See Table B-19 for total Transportation Charge for each contractor.

DELTA WATER^(b) CHARGE FOR EACH CONTRACTOR

(in dollars)

Sheet 2 of 4

Calendar Year	SAN JOAQUIN VALLEY AREA									
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Future Contractor San Joaquin Valley	Kern County Water Agency		County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
					Municipal and Industrial	Agricultural				
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	2,779	0	0	0	0	0	2,779
1965	0	0	0	6,145	75,080	0	0	0	0	81,225
1966	0	0	0	12,267	140,079	0	0	0	0	152,346
1967	0	0	0	26,750	272,885	0	0	0	0	299,635
1968	85,226	219,488	20,171	55,503	453,031	1,689,685	16,217	19,356	303,297	2,861,974
1969	137,747	235,655	13,307	88,648	533,963	2,688,246	15,862	19,066	443,586	4,176,080
1970	180,698	300,252	36,741	95,780	583,583	3,829,292	20,439	30,074	510,018	5,586,877
1971	195,680	320,827	39,470	96,841	615,958	5,133,962	26,157	34,331	700,549	7,163,775
1972	230,480	373,699	42,730	99,182	641,906	7,043,346	25,442	63,143	1,948,041	10,467,969
1973	237,153	390,260	41,353	98,732	1,036,277	7,178,931	27,773	38,878	767,618	9,816,975
1974	259,602	494,270	42,567	99,707	1,155,227	7,874,884	28,487	42,129	1,018,508	11,015,381
1975	287,136	664,008	43,014	107,992	1,207,655	9,231,017	30,164	47,732	1,527,012	13,145,730
1976	324,861	707,306	45,534	109,303	1,334,371	10,468,923	31,587	51,610	1,421,063	14,494,558
1977	326,037	567,678	41,443	113,778	1,377,570	10,760,949	33,317	53,766	1,117,794	14,392,332
1978	367,951	685,708	43,908	118,136	1,584,810	13,166,379	37,890	58,802	1,158,167	17,221,751
1979	413,357	766,168	50,273	115,466	1,677,846	15,133,839	41,829	70,079	1,700,733	19,969,590
1980	419,373	965,676	52,542	129,507	1,808,887	17,145,914	47,807	95,522	1,683,824	22,349,052
1981	498,150	1,180,701	84,279	136,989	2,403,374	22,051,280	64,310	100,159	2,227,574	28,746,816
1982	527,996	1,234,516	72,596	137,599	2,538,699	24,977,626	69,594	107,396	2,251,955	31,917,977
1983	520,360	1,135,884	53,224	152,039	2,063,029	24,754,926	72,282	87,512	435,757	29,275,013
1984	623,054	1,462,515	55,691	160,329	2,983,951	32,889,944	92,255	119,510	1,892,030	40,279,279
1985	863,118	2,032,133	176,776	186,688	4,613,165	46,451,809	135,624	161,606	3,593,750	58,214,669
1986	857,982	2,109,674	117,737	197,492	5,063,634	48,420,454	144,360	161,179	4,533,339	61,605,851
1987	857,293	2,142,649	114,766	215,871	5,134,022	49,843,417	150,065	160,613	4,502,785	63,121,481
1988	850,226	2,184,008	113,326	219,319	5,211,631	51,001,513	148,338	164,399	4,520,458	64,413,218
1989	846,440	2,249,768	112,780	220,336	5,332,986	52,192,953	147,988	169,282	4,585,498	65,858,031
1990	861,768	2,367,131	114,955	221,876	5,650,872	54,980,988	151,358	174,842	4,844,590	69,368,380
1991	876,281	2,406,232	116,988	223,071	5,759,142	55,927,366	154,386	177,417	4,924,837	70,565,720
1992	870,519	2,390,567	116,171	223,126	5,720,386	55,546,397	153,300	176,302	4,892,657	70,089,425
1993	892,292	2,413,565	117,361	232,643	5,777,724	56,019,293	154,881	177,777	4,939,777	70,725,313
1994	889,449	2,406,420	116,989	232,646	5,759,855	55,836,517	154,385	177,236	4,925,102	70,498,599
1995	909,417	2,462,012	119,879	232,886	5,896,923	57,163,321	158,227	180,935	5,039,234	72,162,834
1996	914,731	2,476,986	120,654	233,005	5,933,895	57,525,301	159,259	181,883	5,069,969	72,615,683
1997	914,196	2,476,929	120,653	233,058	5,933,578	57,512,155	159,253	181,638	5,069,848	72,601,308
1998	912,852	2,474,218	120,510	233,110	5,926,762	57,437,531	159,062	181,260	5,064,266	72,509,571
1999	914,078	2,478,591	120,737	233,237	5,937,463	57,534,941	159,358	181,345	5,073,227	72,632,977
2000	918,969	2,492,547	121,462	233,392	5,972,026	57,871,598	160,317	182,177	5,101,868	73,054,356
2001	913,871	2,478,641	120,736	233,605	5,937,685	57,541,546	159,347	181,128	5,073,284	72,639,843
2002	919,467	2,495,299	121,604	234,019	5,977,350	57,935,672	160,464	182,211	5,107,474	73,133,520
2003	919,882	2,496,204	121,649	234,111	5,979,806	57,971,963	160,523	182,264	5,109,322	73,175,724
2004	923,829	2,506,883	122,204	235,218	6,006,010	58,259,861	161,193	182,928	5,131,206	73,529,332
2005	915,875	2,484,857	121,057	235,201	5,951,826	57,743,315	159,667	181,445	5,085,969	72,879,212
2006	908,726	2,457,232	119,610	237,155	5,886,718	57,135,620	157,737	179,572	5,029,005	72,111,375
2007	907,694	2,454,268	119,455	237,216	5,879,134	57,052,412	157,529	179,366	5,022,911	72,009,985
2008	908,461	2,456,299	119,560	237,287	5,884,106	57,101,346	157,666	179,495	5,027,070	72,071,290
2009	902,589	2,440,017	118,712	237,286	5,843,883	56,710,743	156,537	178,399	4,993,627	71,581,793
2010	902,335	2,439,232	118,672	237,340	5,841,927	56,692,309	156,480	178,340	4,992,008	71,558,643
2011	903,818	2,442,938	118,862	237,552	5,851,353	56,786,417	156,726	178,574	4,999,556	71,675,796
2012	909,291	2,457,918	119,639	237,683	5,888,306	57,146,792	157,760	179,572	5,030,303	72,127,264
2013	883,735	2,386,906	115,948	237,770	5,712,867	55,443,888	152,832	174,778	4,884,450	69,993,174
2014	888,414	2,399,942	116,625	234,956	5,745,086	55,756,391	153,736	175,660	4,911,232	70,382,042
2015	883,920	2,387,129	115,958	231,818	5,638,264	55,450,757	152,838	174,775	4,884,879	69,920,338
2016	883,133	2,384,856	115,838	225,760	5,567,625	55,396,640	152,679	174,615	4,880,205	69,781,351
2017	889,474	2,401,309	116,693	211,459	5,475,681	55,806,533	153,811	175,853	4,913,971	70,144,784
2018	895,667	2,417,012	117,508	188,424	5,395,458	56,205,611	146,217	177,020	4,946,208	70,489,125
2019	891,292	2,403,282	116,795	179,860	5,300,869	55,899,576	144,747	176,201	4,918,010	70,030,632
2020	886,049	2,386,630	115,931	177,560	5,228,890	55,533,025	143,383	175,047	4,883,818	69,530,333
2021	891,197	2,400,268	116,638	176,502	5,239,980	55,852,085	144,182	176,052	4,911,819	69,908,723
2022	887,214	2,384,711	115,831	174,980	5,191,956	55,472,225	143,131	175,448	4,879,885	69,425,381
2023	883,214	2,371,939	115,166	174,504	5,156,112	55,187,404	142,216	174,893	4,853,662	69,059,110
2024	874,302	2,363,228	114,741	169,245	5,126,896	54,902,352	141,642	174,665	4,836,302	68,703,373
2025	874,610	2,364,084	114,784	168,675	5,126,093	54,916,688	141,679	174,721	4,838,061	68,719,395
2026	875,748	2,367,043	114,938	168,421	5,131,089	54,986,475	141,848	174,905	4,844,132	68,804,599
2027	876,294	2,368,365	115,008	167,773	5,131,103	55,017,110	141,894	174,979	4,846,850	68,839,376
2028	873,617	2,360,200	114,582	165,264	5,109,030	54,824,646	141,304	174,369	4,830,082	68,593,094
2029	871,743	2,354,181	114,278	165,034	5,091,118	54,663,470	140,871	173,914	4,817,891	68,392,500
2030	871,913	2,352,904	114,213	164,787	5,085,666	54,646,610	140,730	173,929	4,815,262	68,366,014
2031	870,705	2,347,833	113,948	163,459	5,058,469	54,532,192	140,095	173,689	4,804,849	68,205,239
2032	871,282	2,347,699	113,939	163,245	5,057,942	54,533,363	140,016	173,778	4,804,577	68,205,841
2033	867,924	2,338,454	113,459	162,596	5,026,244	54,288,189	139,151	173,160	4,785,603	67,849,780
2034	872,557	2,351,213	114,125	161,998	5,050,302	54,571,785	139,875	174,015	4,811,796	68,247,666
2035	864,872	2,330,045	113,022	161,175	4,988,163	54,040,575	138,173	172,598	4,768,336	67,576,959
TOTAL	50,949,186	133,447,062	6,812,315	12,564,166	305,675,252	3,043,290,283	8,350,252	10,011,314	270,062,346	3,841,162,176

b) See Table B-21 for total Delta Water Charge for each contractor.

TABLE B-22: TOTAL TRANSPORTATION^(a) AND

(in dollars)

Sheet 3 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1962	0	0	0	0	0	0	0	0	0	0
1963	34,103	0	0	0	0	0	0	0	52,892	0
1964	64,236	20,562	14,748	4,467	37,994	1,169	29,073	8,390	84,582	35,768
1965	121,108	38,997	25,633	7,348	41,627	2,127	51,397	15,549	137,892	36,084
1966	220,291	73,722	45,669	12,739	74,670	3,833	92,298	28,262	237,296	62,734
1967	426,148	151,596	87,901	23,956	144,320	7,436	178,805	55,148	442,208	117,940
1968	750,131	317,730	155,626	42,306	256,011	13,117	316,670	97,300	797,134	212,925
1969	1,079,764	478,906	229,708	62,418	378,184	19,060	467,059	140,769	1,229,190	327,991
1970	1,404,428	610,413	321,468	91,454	529,520	25,730	644,468	188,506	1,812,780	476,684
1971	1,737,517	767,135	440,873	130,821	726,443	32,454	872,327	235,769	2,586,668	672,016
1972	2,218,033	963,651	612,865	188,672	1,005,472	44,444	1,195,871	292,507	3,815,059	964,900
1973	2,370,798	1,019,413	757,278	193,891	1,233,221	46,753	1,286,990	318,484	4,085,745	976,330
1974	2,491,618	1,095,754	780,937	207,055	1,273,369	49,635	1,345,772	336,792	4,524,687	1,120,767
1975	2,709,419	1,166,154	826,528	222,349	1,349,079	53,954	1,431,709	360,427	4,701,464	1,226,940
1976	3,173,947	1,172,123	883,748	235,240	1,442,100	58,447	1,508,120	386,476	4,902,507	1,298,732
1977	3,154,706	1,263,981	784,435	248,139	1,284,715	54,921	1,595,468	411,882	5,156,636	1,364,084
1978	3,671,464	1,373,188	997,934	262,301	1,609,152	58,678	1,672,588	433,935	5,238,303	1,416,323
1979	4,271,941	1,376,467	1,067,850	270,707	1,706,002	60,928	1,815,037	454,408	5,198,175	1,358,015
1980	5,121,055	1,523,190	1,211,074	303,937	1,960,609	69,286	2,020,195	508,826	5,771,181	1,519,946
1981	5,614,168	1,825,707	1,302,067	328,477	2,109,726	98,490	2,290,165	606,879	6,527,800	1,704,258
1982	5,871,747	2,043,163	1,554,874	362,590	2,513,791	82,882	2,447,862	646,054	6,903,400	2,063,204
1983	6,625,226	2,096,835	2,188,089	399,605	3,527,221	87,368	2,439,554	646,711	7,205,043	1,853,523
1984	7,691,337	3,149,848	3,014,078	497,448	4,850,401	98,242	2,744,844	741,497	7,943,973	2,535,459
1985	10,538,869	4,201,149	4,860,411	694,188	7,796,667	106,878	2,975,306	1,312,569	9,736,176	3,010,924
1986	10,299,141	4,399,799	4,725,189	680,078	7,596,358	116,020	3,202,142	1,308,224	9,717,146	3,470,703
1987	10,104,079	4,770,001	4,745,778	693,097	7,729,020	117,807	3,250,115	1,287,639	11,220,354	3,466,141
1988	10,101,777	5,344,792	4,894,579	733,890	8,061,143	118,511	3,267,944	1,282,697	11,285,781	3,470,296
1989	11,378,220	5,362,065	5,063,171	772,455	8,423,374	120,544	3,316,281	1,288,889	11,157,510	3,448,300
1990	11,858,232	5,546,588	5,468,511	861,364	9,018,655	122,580	3,361,420	1,488,718	11,884,202	3,564,565
1991	12,396,014	5,801,103	5,636,658	951,813	9,295,988	384,552	12,152,598	1,612,276	12,345,031	3,657,477
1992	12,536,720	5,674,485	5,572,089	963,682	9,189,488	394,648	12,011,388	1,695,391	12,581,778	3,665,512
1993	12,904,956	5,804,955	5,664,767	996,185	9,342,348	415,739	12,216,255	1,811,402	12,992,504	3,734,517
1994	13,049,462	5,820,318	5,621,920	1,006,214	9,271,682	427,420	12,131,913	1,898,369	13,164,882	3,735,158
1995	13,489,266	5,927,525	5,777,940	1,061,395	9,529,011	452,334	12,450,915	2,029,918	13,893,187	3,869,435
1996	13,892,416	6,126,766	5,847,818	1,102,104	9,644,273	472,498	12,586,659	2,153,445	14,513,658	3,971,180
1997	14,179,917	6,183,515	5,810,984	1,090,239	9,583,506	471,683	12,563,215	2,256,659	14,297,108	3,899,968
1998	14,451,794	6,031,846	5,807,615	1,127,130	9,577,959	470,201	12,523,185	2,356,614	14,948,095	3,996,549
1999	14,775,531	6,181,649	5,824,592	1,158,421	9,605,954	471,116	12,546,226	2,466,461	15,473,452	4,072,921
2000	15,189,986	6,210,640	5,871,394	1,178,700	9,683,155	475,821	12,668,821	2,594,984	15,740,903	4,103,105
2001	15,438,143	6,391,807	5,794,408	1,173,112	9,556,171	470,502	12,528,858	2,660,177	15,688,486	4,067,048
2002	15,940,812	6,690,589	5,878,136	1,233,175	9,694,269	475,580	12,663,773	2,777,875	16,666,441	4,245,419
2003	16,366,084	6,909,760	5,872,352	1,238,782	9,684,720	476,231	12,683,354	2,873,379	16,740,702	4,241,931
2004	16,844,333	7,273,788	5,918,981	1,278,844	9,761,643	479,288	12,766,312	2,984,053	17,390,922	4,354,396
2005	17,006,573	7,357,642	5,837,429	1,292,848	9,627,132	471,634	12,569,839	3,030,063	17,716,126	4,391,039
2006	17,250,723	7,268,645	5,749,717	1,300,592	9,482,468	464,146	12,368,541	3,082,478	17,925,436	4,409,758
2007	17,643,742	7,197,344	5,710,535	1,283,786	9,417,826	462,929	12,346,797	3,171,772	17,628,263	4,338,120
2008	18,122,103	7,229,859	5,763,423	1,362,157	9,505,078	463,522	12,362,612	3,272,891	18,990,828	4,589,076
2009	18,553,821	7,135,762	5,656,111	1,321,429	9,328,067	457,697	12,210,826	3,327,922	18,306,537	4,435,458
2010	18,781,197	7,080,746	5,667,463	1,359,565	9,346,799	457,375	12,202,944	3,420,987	18,965,833	4,548,793
2011	19,333,209	7,367,631	5,671,945	1,372,688	9,354,182	458,592	12,235,533	3,430,095	19,132,036	4,575,797
2012	20,042,933	7,679,226	5,751,939	1,430,291	9,486,127	463,885	12,374,838	3,469,848	20,038,117	4,749,590
2013	19,520,929	7,452,498	5,451,423	1,379,723	8,976,801	438,655	11,716,873	3,280,046	19,329,621	4,586,169
2014	20,155,254	7,673,110	5,464,743	1,377,896	9,013,075	442,039	11,806,786	3,305,937	19,230,385	4,560,797
2015	20,423,539	7,795,667	5,417,940	1,396,238	8,935,888	437,342	11,685,234	3,270,528	19,546,604	4,610,821
2016	20,832,107	7,760,743	5,394,374	1,396,087	8,897,022	434,784	11,622,607	3,251,390	20,152,828	4,671,223
2017	21,468,383	7,810,642	5,463,908	1,446,198	9,011,733	437,623	11,706,229	3,272,887	21,593,513	4,888,462
2018	22,083,025	7,782,620	5,435,097	1,387,178	8,964,193	439,647	11,766,836	3,288,648	21,094,009	4,717,925
2019	22,153,601	7,607,240	5,338,839	1,378,996	8,805,454	430,297	11,527,523	3,219,509	21,517,596	4,719,222
2020	22,193,687	7,326,498	5,202,324	1,340,106	8,580,303	419,729	11,248,265	3,142,499	21,370,769	4,606,108
2021	22,742,695	7,366,668	5,160,487	1,326,224	8,511,316	419,040	11,175,723	3,140,564	21,058,851	4,580,513
2022	22,995,978	7,146,159	5,067,592	1,296,286	8,358,101	413,435	10,993,203	3,099,313	20,410,971	4,507,005
2023	24,021,245	7,068,512	5,159,863	1,338,352	8,510,306	421,849	11,135,325	3,163,018	21,104,519	4,713,186
2024	24,421,981	6,995,568	5,068,183	1,260,824	8,359,070	418,895	11,079,425	3,140,920	19,712,034	4,511,495
2025	24,956,106	6,975,766	5,105,600	1,334,579	8,420,823	418,119	11,019,381	3,135,401	20,988,122	4,826,034
2026	24,998,246	6,980,671	5,053,780	1,269,655	8,335,317	418,780	11,024,301	3,140,558	19,795,853	4,675,250
2027	25,009,179	6,970,096	5,077,835	1,300,854	8,375,012	418,946	11,021,029	3,141,862	20,338,522	4,864,998
2028	24,858,818	6,918,987	5,040,412	1,286,289	8,313,283	416,421	10,951,038	3,122,945	20,077,986	4,894,345
2029	24,746,012	6,833,578	5,016,501	1,279,024	8,273,853	414,531	10,901,829	3,108,779	19,942,022	4,948,510
2030	24,759,399	6,831,200	5,017,886	1,277,593	8,276,139	414,755	10,909,450	3,110,475	19,905,157	5,026,375
2031	24,536,491	6,733,028	4,974,563	1,256,998	8,204,679	411,970	10,839,000	3,089,708	19,541,871	5,047,078
2032	24,599,574	6,739,728	5,003,370	1,284,241	8,252,195	412,683	10,856,356	3,095,086	20,034,561	5,247,840
2033	24,281,301	6,560,150	4,902,560	1,230,081	8,085,913	406,702	10,701,544	3,050,151	19,066,815	5,136,176
2034	24,284,433	6,623,569	4,943,812	1,259,791	8,153,980	408,400	10,748,821	3,062,970	19,599,421	5,344,794
2035	23,825,075	6,274,107	4,818,643	1,214,151	7,947,522	399,075	10,506,367	2,992,907	18,784,785	5,243,770
TOTAL	1,007,160,296	361,725,395	292,348,973	65,131,545	481,208,668	21,402,404	575,948,027	145,886,467	963,692,924	244,355,895

DELTA WATER^(b) CHARGE FOR EACH CONTRACTOR

(in dollars)

Sheet 4 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR		GRAND TOTAL
	San Geronio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	South Bay		
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	
1962	0	0	0	0	0	0	0	0	0	55,537	
1963	0	707,040	0	794,035	0	0	0	0	59,816	1,652,536	
1964	22,220	1,288,250	9,598	1,621,057	0	0	0	0	99,096	2,823,960	
1965	22,324	2,227,522	18,164	2,745,772	0	0	412	412	170,836	4,837,837	
1966	38,748	3,983,276	34,159	4,907,697	0	0	575	575	197,632	7,439,877	
1967	72,741	7,857,318	69,640	9,635,157	0	0	573	573	256,263	13,119,384	
1968	131,380	15,633,682	145,835	18,869,907	0	1,050	1,450	2,500	333,889	25,611,912	
1969	202,617	23,643,507	219,939	28,479,112	0	1,225	4,179	5,404	405,735	37,033,484	
1970	295,272	31,267,287	279,655	37,947,665	0	3,848	17,397	21,245	444,995	48,638,493	
1971	417,147	40,791,458	349,890	49,760,518	0	4,546	19,483	24,029	434,848	61,966,054	
1972	546,252	55,968,684	430,666	68,247,076	0	4,929	21,473	26,402	460,574	84,292,320	
1973	597,469	60,606,576	444,025	73,936,973	0	7,059	22,100	29,159	435,119	89,302,477	
1974	621,182	67,066,796	464,270	81,378,634	0	8,336	22,730	31,066	458,186	98,267,285	
1975	654,643	72,907,531	487,199	88,097,396	0	9,416	23,845	33,261	467,775	107,167,925	
1976	678,582	76,002,775	484,490	92,227,287	0	7,004	23,579	30,583	490,385	113,436,468	
1977	706,978	74,898,790	516,106	91,440,841	0	16,917	24,382	41,299	483,252	112,498,323	
1978	733,192	84,478,230	543,244	102,488,534	0	12,635	24,547	37,182	488,820	126,927,763	
1979	722,655	84,768,141	535,000	103,605,324	0	16,575	28,674	45,249	506,494	131,072,868	
1980	882,476	96,069,245	598,604	117,559,624	0	19,834	26,884	46,718	575,176	148,362,486	
1981	956,791	111,555,610	681,306	135,601,444	0	21,682	34,886	56,568	576,546	173,483,680	
1982	1,033,457	123,222,570	726,096	149,471,690	0	16,117	43,320	59,437	569,190	191,782,878	
1983	1,096,143	123,512,451	846,030	152,523,799	0	15,202	27,383	42,585	653,449	192,290,452	
1984	1,204,355	159,070,648	943,664	194,485,833	20,590	15,442	28,996	65,028	644,695	247,057,719	
1985	1,328,919	212,872,447	997,825	260,432,328	24,050	16,976	32,438	73,464	744,469	336,706,645	
1986	1,368,946	245,332,888	1,091,446	293,308,080	31,753	18,145	33,725	83,623	777,755	374,418,541	
1987	1,429,015	283,441,616	1,117,261	333,371,923	37,802	18,145	34,179	90,126	830,739	418,439,834	
1988	1,451,940	295,798,497	1,232,303	347,044,150	43,850	18,145	34,790	96,785	834,841	434,052,709	
1989	1,449,914	295,848,426	1,365,270	348,994,419	49,898	18,145	35,398	103,441	836,047	437,925,832	
1990	2,570,171	303,667,653	1,553,503	360,966,162	57,458	18,145	36,003	111,606	838,611	454,258,471	
1991	2,740,339	318,268,561	1,716,529	386,958,939	145,158	415,817	36,610	597,585	841,151	482,687,455	
1992	2,827,509	316,932,762	1,812,524	385,857,976	145,158	415,817	37,216	598,191	841,184	483,665,789	
1993	2,979,187	326,017,414	1,970,843	396,851,070	145,158	415,817	37,821	598,796	841,584	496,040,764	
1994	3,064,278	329,316,970	2,197,518	400,706,104	145,158	415,817	38,426	599,401	841,412	500,049,857	
1995	3,273,824	330,768,028	2,458,755	404,981,533	145,158	415,817	39,182	600,157	842,018	506,996,608	
1996	3,485,949	342,600,828	2,910,565	419,308,159	145,158	415,817	39,938	600,913	842,312	522,149,792	
1997	3,568,724	353,875,934	3,313,501	431,094,953	145,158	415,817	40,694	601,669	842,392	534,046,673	
1998	3,756,467	352,123,041	3,777,823	430,948,319	145,158	415,817	41,450	602,425	842,546	533,787,897	
1999	3,944,874	364,385,564	3,969,236	444,875,997	145,158	415,817	42,206	603,181	842,939	547,889,937	
2000	4,114,717	373,525,148	4,164,877	455,522,251	145,158	415,817	43,113	604,088	843,426	559,132,921	
2001	4,029,650	374,399,347	4,121,074	456,318,783	145,158	415,817	44,023	604,998	844,000	559,394,790	
2002	4,138,274	380,620,074	4,170,000	465,194,417	145,158	415,817	44,931	605,906	844,800	568,966,127	
2003	4,106,863	384,725,493	4,168,667	470,088,318	145,158	415,817	45,838	606,813	845,126	574,093,231	
2004	4,157,849	391,816,254	4,227,218	479,253,881	145,158	415,817	46,745	607,720	845,469	583,767,655	
2005	4,114,067	388,838,540	4,145,479	476,398,411	145,158	415,817	47,652	608,627	845,409	580,059,835	
2006	4,054,204	386,350,676	4,078,173	473,785,557	145,158	415,817	48,711	609,686	845,207	576,390,811	
2007	3,966,626	386,554,941	4,048,328	473,771,009	145,158	415,817	49,769	610,744	845,402	576,254,526	
2008	4,099,595	392,643,584	4,062,731	482,467,459	145,158	415,817	50,828	611,803	845,624	585,046,938	
2009	3,940,309	386,634,964	4,008,226	475,117,129	145,158	415,817	51,886	612,861	845,622	577,036,600	
2010	3,980,195	387,433,408	3,987,435	477,232,740	145,158	415,817	52,945	613,920	845,794	579,135,287	
2011	3,963,495	394,140,900	4,020,467	485,056,570	145,158	415,817	54,156	615,131	845,391	587,147,195	
2012	4,057,627	400,951,275	4,075,098	494,570,794	145,158	415,817	55,366	616,341	845,800	597,310,986	
2013	3,821,089	382,515,735	3,843,807	472,313,369	145,158	415,817	56,727	617,702	845,888	571,488,432	
2014	3,783,971	384,418,432	3,864,477	475,096,902	145,158	415,817	58,088	619,063	845,805	574,524,778	
2015	3,767,292	380,420,103	3,824,608	471,531,804	145,158	415,817	59,188	620,163	845,790	569,814,165	
2016	3,762,081	384,294,783	3,806,605	476,276,634	145,158	415,817	60,537	621,512	845,580	574,128,383	
2017	3,882,114	387,629,088	3,832,568	482,443,348	145,158	415,817	60,540	621,515	845,929	580,592,163	
2018	3,747,074	387,196,688	3,824,699	481,727,639	145,158	415,817	60,537	621,512	845,794	580,051,781	
2019	3,696,971	383,973,388	3,736,780	478,105,416	145,158	415,817	57,862	618,837	845,154	575,566,958	
2020	3,572,343	364,398,742	3,616,149	457,017,522	145,158	415,817	45,710	606,685	845,967	553,756,034	
2021	3,522,917	370,710,776	3,629,580	463,345,354	145,158	415,817	44,869	605,844	845,501	560,409,930	
2022	3,423,376	358,502,075	3,538,316	449,751,810	145,158	415,817	43,457	604,432	845,030	546,234,005	
2023	3,523,664	357,046,832	3,504,400	450,731,071	145,158	415,817	43,457	604,432	845,173	546,710,858	
2024	3,338,657	354,277,547	3,471,835	446,056,434	145,158	415,817	43,456	604,431	845,600	541,591,871	
2025	3,495,204	353,160,860	3,464,098	447,300,093	145,158	415,817	43,453	604,428	845,787	542,840,970	
2026	3,341,577	354,767,289	3,467,392	447,268,669	145,158	415,817	43,452	604,427	845,394	542,604,550	
2027	3,410,168	352,780,219	3,463,888	446,172,608	145,158	415,817	43,450	604,425	845,466	541,535,654	
2028	3,370,976	350,002,039	3,437,298	442,690,837	145,158	415,817	43,448	604,423	845,174	537,689,066	
2029	3,349,247	348,007,580	3,400,112	440,221,578	145,158	415,817	43,446	604,421	845,786	534,938,010	
2030	3,344,663	346,750,669	3,395,305	439,019,066	145,158	415,817	43,445	604,420	845,432	533,689,317	
2031	3,292,249	339,720,465	3,349,279	431,057,379	145,158	415,817	43,444	604,419	844,445	525,454,597	
2032	3,356,901	343,560,056	3,349,389	433,831,980	145,158	415,817	43,442	604,417	844,753	530,258,161	
2033	3,219,347	332,883,229	3,271,095	422,795,064	145,158	415,817	43,441	604,416	844,550	516,737,083	
2034	3,289,727	339,286,952	3,299,041	430,405,711	145,158	415,817	43,440	604,415	844,006	524,673,637	
2035	3,164,382	320,015,937	3,155,883	408,342,604	145,158	415,817	43,439	604,414	844,443	501,392,599	
TOTAL	184,076,141	19,293,732,104	175,136,859	23,811,805,698	6,797,511	19,001,283	2,705,235	28,504,029	44,807,291	29,192,658,428	

TABLE B-23: EQUIVALENT UNIT CHARGE FOR WATER SUPPLY FOR EACH CONTRACTOR ^(a)

(in dollars per acre-foot)

Project Service Area and Water Supply Contractor	Transportation Charge					Delta Water Charge	Total Equivalent Unit Charge
	Capital Cost Component	Minimum OMP&R Component	Off-Aqueduct Component	Variable OMP&R Component	Total		
FEATHER RIVER AREA							
City of Yuba City	0	0	0	0	0	23.05	23.05
County of Butte	0	0	0	0	0	15.50	15.50
Plumas County Flood Control and Water Conservation District	17.88	1.94	0	0	19.82	15.91	35.73
Feather River Area	1.27	.14	0	0	1.41	16.92	18.33
NORTH BAY AREA							
Napa County Flood Control and Water Conservation District	119.14	22.94	4.68	16.68	163.44	10.71	174.15
Solano County Flood Control and Water Conservation District	79.20	7.55	2.11	5.22	94.08	18.80	112.88
North Bay Area	95.67	13.90	3.17	9.94	122.68	15.46	138.14
SOUTH BAY AREA							
Alameda County Flood Control and Water Conservation District, Zone 7	16.72	23.14	11.06	22.45	73.37	16.20	89.57
Alameda County Water District	15.37	17.87	10.73	18.78	62.75	13.96	76.71
Santa Clara Valley Water District	17.53	14.01	8.39	15.04	54.97	11.61	66.58
South Bay Area	17.00	16.13	9.24	16.88	59.25	12.74	71.99
SAN JOAQUIN VALLEY AREA							
County of Kings	3.35	2.84	4.54	7.68	18.41	13.45	31.86
Devil's Den Water District	8.19	11.16	5.48	9.88	34.71	11.63	46.34
Dudley Ridge Water District	4.53	3.35	3.77	6.80	18.45	11.95	30.40
Empire West Side Irrigation District	2.67	2.65	3.43	6.05	14.80	12.60	27.40
Kern County Water Agency	7.75	6.54	6.75	9.95	30.99	12.79	43.78
Oak Flat Water District	1.75	1.59	2.37	4.17	9.88	11.50	21.38
Tulare Lake Basin Water Storage District	4.62	3.42	3.87	7.07	18.98	12.19	31.17
San Joaquin Valley Area	7.24	6.10	5.45	9.48	28.27	12.67	40.94
CENTRAL COASTAL AREA							
San Luis Obispo County Flood Control and Water Conservation District	21.02	29.30	7.84	20.61	78.77	19.85	98.62
Santa Barbara County Flood Control and Water Conservation District	21.57	29.78	7.84	20.61	79.80	19.83	99.63
Central Coastal Area	21.37	29.61	7.84	20.61	79.43	19.84	99.27
SOUTHERN CALIFORNIA AREA							
Antelope Valley-East Kern Water Agency	49.44	36.87	31.21	77.94	195.46	26.61	222.07
Castaic Lake Water Agency	69.90	41.14	50.84	68.36	230.24	24.24	254.48
Coachella Valley Water District	39.71	29.55	54.09	85.23	208.58	14.76	223.34
Crestline-Lake Arrowhead Water Agency	77.37	51.52	44.85	101.21	274.95	23.78	298.73
Desert Water Agency	40.35	30.02	54.48	86.20	211.05	14.77	225.82
Littlerock Creek Irrigation District	42.06	30.08	36.62	89.62	198.38	22.22	220.60
Mojave Water Agency	60.05	46.17	50.48	118.72	275.42	24.92	300.34
Palmdale Water District	59.46	42.90	40.17	105.25	247.78	34.61	282.39
San Bernardino Valley Municipal Water District	128.38	84.14	35.99	82.18	330.69	36.98	367.67
San Gabriel Valley Municipal Water District	119.05	80.98	43.78	70.47	314.28	36.41	350.69
San Geronio Pass Water Agency	101.44	68.59	49.03	94.63	313.69	24.97	338.66
The Metropolitan Water District of Southern California	64.69	39.55	45.66	61.33	211.23	20.97	232.20
Ventura County Flood Control District	80.23	49.09	40.27	94.90	264.49	23.60	288.09
Southern California Area	65.48	40.92	45.23	65.23	216.86	21.51	238.37
ALL AREAS	35.49	23.01	23.85	35.57	117.92	16.85	134.77

a) Hypothetical charges, which, if assessed on all entitlement water delivered to date, all surplus water delivered prior to May 1, 1973 and all entitlement water now estimated to be delivered during the remainder of the project repayment period (Table B5-B), would provide a sum at the end of the period financially equivalent to all Transportation Charge and Delta Water Charge payments required under a water supply contract, considering interest at the Project Interest Rate, 4.727 percent per annum.

**TABLE B-24: EQUIVALENT UNIT TRANSPORTATION COSTS OF WATER
DELIVERED FROM OR THRU EACH AQUEDUCT REACH^(a)**

(in dollars per acre-foot)

Aqueduct Reach	Unit Costs of Reach ^(b)					Cumulative Unit Costs from the Delta				
	Capital Costs	Minimum OMP&R	Off-Aqueduct Costs	Variable OMP&R	Total	Capital Costs	Minimum OMP&R	Off-Aqueduct Costs	Variable OMP&R	Total
NORTH BAY AQUEDUCT										
1	49.26	4.28	1.53	4.62	59.69	49.26	4.28	1.53	4.62	59.69
2	40.54	4.33	.00	.00	44.87	89.80	8.61	1.53	4.62	104.56
3	44.99	15.82	3.57	12.92	77.30	134.79	24.43	5.10	17.54	181.86
SOUTH BAY AQUEDUCT										
1	5.98	10.85	6.89	12.46	36.18	7.55	12.89	9.92	18.35	48.71
2	.57	1.06	.00	.00	1.63	8.12	13.95	9.92	18.35	50.34
4	1.89	2.10	.00	.00	3.99	10.01	16.05	9.92	18.35	54.33
5	4.06	1.48	.00	.00	5.54	14.07	17.53	9.92	18.35	59.87
6	.23	.11	.00	.00	.34	14.30	17.64	9.92	18.35	60.21
7	1.85	.24	.00	.00	2.09	16.15	17.88	9.92	18.35	62.30
8	2.71	.35	.00	.00	3.06	18.86	18.23	9.92	18.35	65.36
9	5.26	1.49	.00	.00	6.75	24.12	19.72	9.92	18.35	72.11
CALIFORNIA AQUEDUCT										
1	1.57	2.04	3.03	5.89	12.53	1.57	2.04	3.03	5.89	12.53
2A	1.12	.36	.00	.00	1.48	2.69	2.40	3.03	5.89	14.01
2B	.55	.18	.00	.00	.73	3.24	2.58	3.03	5.89	14.74
3	.45	.14	.00	.00	.59	3.69	2.72	3.03	5.89	15.33
4	.76	.85	1.44	2.97	6.02	4.45	3.57	4.47	8.86	21.35
5	.62	.17	.00	.00	.79	5.07	3.74	4.47	8.86	22.14
6	.16	.06	.00	.00	.22	5.23	3.80	4.47	8.86	22.36
7	.62	.42	.00	.00	1.04	5.85	4.22	4.47	8.86	23.40
8C	.02	.05	.00	.00	.07	5.87	4.27	4.47	8.86	23.47
8D	.35	.25	.00	.00	.60	6.22	4.52	4.47	8.86	24.07
9	.26	.19	.00	.00	.45	6.48	4.71	4.47	8.86	24.52
10A	.30	.22	.00	.00	.52	6.78	4.93	4.47	8.86	25.04
11B	.45	.15	.00	.00	.60	7.23	5.08	4.47	8.86	25.64
12D	.43	.14	.00	.00	.57	7.66	5.22	4.47	8.86	26.21
12E	.29	.24	.00	.00	.53	7.95	5.46	4.47	8.86	26.74
13B	.64	.31	.00	.00	.95	8.59	5.77	4.47	8.86	27.69
14A	2.41	2.26	2.57	5.41	12.65	11.00	8.03	7.03	14.27	40.33
14B	.37	.24	.00	.00	.61	11.37	8.27	7.03	14.27	40.94
14C	.33	.20	.00	.00	.53	11.70	8.47	7.03	14.27	41.47
15A	1.77	2.41	3.13	6.69	14.00	13.47	10.88	10.16	20.96	55.47
16A	2.97	4.01	6.76	14.33	28.07	16.44	14.89	16.93	35.29	83.55
17E	10.24	9.56	23.56	49.51	92.87	26.68	24.45	40.48	84.80	176.41
17F	2.71	.09	.00	.00	2.80	29.39	24.54	40.48	84.80	179.21
18A	3.24	1.00	.00	-5.25	-1.01	32.63	25.54	40.48	79.55	178.20
19	2.24	1.10	.00	.00	3.34	34.87	26.64	40.48	79.55	181.54
19C	.85	.00	.00	.00	.85	35.72	26.64	40.48	79.55	182.39
20A	1.81	.87	.00	.00	2.68	36.68	27.51	40.48	79.55	184.22
20B	2.41	.92	.00	.00	3.33	39.09	28.43	40.48	79.55	187.55
21	1.28	.61	.00	.00	1.89	40.37	29.04	40.48	79.55	189.44
22A	.80	.45	.00	.00	1.25	41.17	29.49	40.48	79.55	190.69
22B	9.97	9.41	8.14	13.85	41.37	51.14	38.90	48.62	93.40	232.06
23	1.32	.63	.00	.00	1.95	52.46	39.53	48.62	93.40	234.01
24	6.22	1.35	.00	.00	7.57	58.68	40.88	48.62	93.40	241.58
25	3.29	.09	.00	.00	3.38	61.97	40.97	48.62	93.40	244.96
26A	4.54	4.70	.00	-24.97	-15.73	66.51	45.67	48.62	68.43	229.23
28G	7.69	1.73	.00	.00	9.42	74.20	47.40	48.62	68.43	238.65
28H	7.46	1.02	.00	.00	8.48	81.66	48.42	48.62	68.43	247.13
28J	18.08	8.60	.00	.00	26.68	99.74	57.02	48.62	68.43	273.81
WEST BRANCH										
29A	2.56	4.09	2.80	7.46	16.91	31.95	28.63	43.28	92.26	196.12
29F	1.86	.54	.00	.00	2.40	33.81	29.17	43.28	92.26	198.52
29G	6.33	1.80	.00	-10.35	-2.22	40.14	30.97	43.28	81.91	196.30
29H	3.70	2.96	.00	.00	6.66	43.84	33.93	43.28	81.91	202.96
29J	6.79	.51	.00	-23.13	-15.83	50.63	34.44	43.28	58.78	187.13
30	10.84	1.21	.00	.00	12.05	61.47	35.65	43.28	58.78	199.18
COASTAL BRANCH										
31A	5.68	11.15	2.46	4.76	24.05	11.90	15.67	6.93	13.62	48.12
33A	2.20	3.91	.00	.00	6.11	14.10	19.58	6.93	13.62	54.23
34	.14	.04	.00	.00	.18	14.24	19.62	6.93	13.62	54.41
35	.35	.09	.00	.00	.44	14.59	19.71	6.93	13.62	54.85

- a) Representative of transportation unit costs only; does not include a unit cost for conservation. The Delta Water Rate should be added to these values in order to approximate total unit costs at canalside. Includes surplus water prior to May 1, 1973.
- b) Hypothetical charges which, if assessed on all entitlement water delivered to date, all surplus water delivered prior to May 1, 1973 and all entitlement water now estimated to be delivered during the remainder of the project repayment period (Table B-5B), would provide a sum at the end of the period financially equivalent to all Transportation Charges required under the water supply contract, considering interest at the Project Interest Rate of 4.727 percent per annum.

TABLE B-25: ANNUAL SURPLUS WATER DELIVERIES

Project Service Area and Water Supply Contractor	Calendar Year Deliveries (acre-feet)											
	1973 ^(a)	1974	1975	1976	1978 ^(b)	1979	1980 ^(c)	1981 ^(c)	1982 ^(c)	1983	1984	Total
SOUTH BAY AREA												
Alameda County Flood Control and Water Conservation District, Zone 7	0	0	0	3,636	0	0	0	0	0	0	0	3,636
Alameda County Water District	0	0	0	4,147	0	0	0	0	0	0	0	4,147
Santa Clara Valley Water District	2,499	2,934	18,470	24,705	0	15,998	14,278	18,920	1,303	0	3,663	102,770
Total	2,499	2,934	18,470	32,488	0	15,998	14,278	18,920	1,303	0	3,663	110,553
SAN JOAQUIN VALLEY AREA												
Devil's Den Water District	4,104	4,128	7,495	5,727	0	0	6,092	10,647	6,359	0	7,419	51,971
Dudley Ridge Water District	13,192	33,391	40,555	30,922	7,586	38,545	39,079	32,327	14,463	13,019	19,500	282,579
Empire West Side Irrigation District	2,814	1,539	3,448	3,457	0	0	0	2,992	926	0	0	15,176
Hacienda Water District ^(d)	5,600	1,972	3,759	3,720	0	1,000	0	0	0	0	0	16,051
Kern County Water Agency	163,744	299,433	410,820	442,150	8,623	524,247	327,233	624,581	124,736	0	230,691	3,156,258
Oak Flat Water District	1,013	3,471	3,576	3,840	6	698	718	2,788	721	0	1,644	18,475
Tulare Lake Basin Water Storage District	63,988	68,989	132,206	57,806	0	66,342	14,817	215,926	67,365	0	0	687,439
Total	254,455	412,923	601,859	547,622	16,215	630,832	387,939	889,261	214,570	13,019	259,254	4,227,949
SOUTHERN CALIFORNIA AREA												
Littlerock Creek Irrigation District	80	67	356	0	0	0	0	247	0	0	0	750
Total	80	67	356	0	0	0	0	247	0	0	0	750
TOTAL ALL AREAS	257,034	415,924	620,685	580,110	16,215	646,830	402,217	908,428	215,873	13,019	262,917	4,339,252

a) May through December only.

b) No Surplus Water was delivered in 1977.

c) Includes Unscheduled Water, previously called Extra Surplus Water.

d) District merged with Tulare Lake Basin Water Storage District effective January 1, 1981.

TABLE B-26: POWER COSTS FOR PUMPING SURPLUS WATER

(in dollars)

Area/Pumping Plant	Calendar Year											
	May 1973 Through 1977		1978		1979		1980		1981		1982-1984 ^a	
	Capacity	Energy	Capacity	Energy	Capacity	Energy	Capacity	Energy	Capacity	Energy	Capacity	Energy
SOUTH BAY AQUEDUCT												
<u>Reach 1</u>												
South Bay and Del Valle Pumping Plants	101,248	145,182	0	0	27,116	39,517	30,319	35,268	36,749	44,229	-	-
CALIFORNIA AQUEDUCT												
<u>Reach 1</u>												
Harvey O. Banks Delta Pumping Plant	359,211	1,821,229	144,188	15,039	382,070	599,886	530,982	373,023	625,106	806,574	-	-
<u>Reach 4</u>												
Doe Amigos Pumping Plant	308,955	773,678	51,403	6,591	232,001	256,188	227,837	162,404	281,362	366,945	-	-
<u>Reach 14A</u>												
Buena Vista Pumping Plant	280,094	351,929	0	0	35,743	51,045	28,682	73,422	69,202	85,341	-	-
<u>Reach 15A</u>												
Wheeler Ridge Pumping Plant	130,745	40,567	0	0	6,771	8,205	3,559	11,451	22,262	27,489	-	-
<u>Reach 16A</u>												
Wind Gap Pumping Plant	0	13,342	0	0	3,165	4,194	5,146	9,753	24,138	29,847	-	-
<u>Reach 17E</u>												
A. D. Edmonston Pumping Plant	0	3,367	0	0	0	0	0	0	1,054	1,629	-	-
<u>Reach 31A</u>												
Las Perillas and Badger Hill Pumping Plants	109,779	152,253	0	0	8,769	11,808	3,228	22,755	26,168	34,020	-	-
TOTAL	1,290,032	3,301,547	195,591	21,630	695,635	970,843	829,753	688,076	1,086,041	1,396,074	-	-
COMBINED TOTAL	4,591,579		217,221		1,666,478		1,517,829		2,482,115		-	

a) Amounts not available at time of publication.

**TABLE B-27: POWER, REPLACEMENT, AND ADMINISTRATIVE CHARGE
FOR SURPLUS WATER DELIVERIES**

(in dollars)

Area/Agency	Calendar Year				
	1978	1979	1980	1981	1982-1984 ^a
<u>SOUTH BAY AREA</u>					
Alameda County Water District					
Capacity	0	0	0	0	-
Energy	0	0	0	0	-
Replacement	0	0	0	0	-
Administrative	0	0	0	725	-
Total	0	0	0	725	-
Santa Clara Valley Water District					
Capacity	3,275	37,413	41,641	50,706	-
Energy	0	54,354	48,510	61,028	-
Replacement	0	413	533	3,538	-
Administrative	0	4,005	5,638	11,192	-
Total	3,275	96,185	96,322	126,464	-
<u>SAN JOAQUIN VALLEY AREA</u>					
Devil's Den Water District					
Capacity	0	0	8,485	14,608	-
Energy	0	0	13,101	22,575	-
Replacement	0	0	3,332	4,099	-
Administrative	0	0	3,815	6,160	-
Total	0	0	28,733	47,442	-
Dudley Ridge Water District					
Capacity	14,642	37,615	40,160	40,674	-
Energy	10,119	51,418	52,131	42,078	-
Replacement	248	886	1,255	12,446	-
Administrative	3,793	20,051	21,859	19,221	-
Total	28,802	109,970	115,405	114,419	-
Empire West Side Irrigation District					
Capacity	0	0	0	2,520	-
Energy	0	0	0	3,897	-
Replacement	0	0	0	1,152	-
Administrative	0	0	0	1,869	-
Total	0	0	0	9,438	-
Kern County Water Agency					
Capacity	154,051	547,875	636,135	784,875	-
Energy	11,505	774,587	553,902	980,142	-
Replacement	281	7,633	149,588	275,232	-
Administrative	4,312	116,977	281,776	348,397	-
Total	170,149	1,447,072	1,621,401	2,388,646	-
Oak Flat Water District					
Capacity	4	417	432	1,601	-
Energy	6	651	666	2,475	-
Replacement	0	5	134	521	-
Administrative	3	176	666	1,950	-
Total	13	1,249	1,898	6,547	-
Tulare Lake Basin Water Storage District (Includes Hacienda Water District)					
Capacity	23,619	72,315	102,900	189,238	-
Energy	0	89,833	19,766	281,071	-
Replacement	0	2,042	5,705	83,132	-
Administrative	0	46,075	22,258	146,357	-
Total	23,619	210,265	150,629	699,798	-
<u>SOUTHERN CALIFORNIA AREA</u>					
Littlerock Creek Irrigation District					
Capacity	0	0	0	1,819	-
Energy	0	0	0	2,808	-
Replacement	0	0	0	431	-
Administrative	0	0	0	123	-
Total	0	0	0	5,181	-
<u>TOTAL, ALL CONTRACTORS</u>					
Capacity	195,591	695,635	829,753	1,086,041	-
Energy	21,630	970,843	688,076	1,396,074	-
Replacement	529	10,979	160,547	380,551	-
Administrative	8,108	187,284	336,012	535,994	-
Total	225,858	1,864,741	2,014,388	3,398,660	-

a) Final amounts are not available at time of publication.

Please turn page for "Index to Tabular Material."

INDEX TO TABULAR

SUBJECT	MAIN TEXT (with Allowance for Future Capital Price Escalation for Financial Planning Purposes)											
	TABLE NO.	TITLE	1984	1983	1982	1981	1980	1979	1978	1977	1976	1975
OPERATIONS FOR PRIOR YEAR	1	SWP Accomplishments through 1984	1	17	20	Ex.25	p.132	p.125	p.88	p.73	p.39	p.36
	2	Water Quality at Selected Stations in 1984	2	16	19	5	5	5	5	5	5	5
	3	Historical Summary of Entitlements, Deliveries, and Water Conveyed	3	11	14	2	1	1	1	1	1	1
	4	Summary of 1984 Deliveries and Credits to Long-Term Contractors	4	12	15	3	2	2	2	2	2	2
	5	Monthly Water Deliveries in 1984	5	13	16	4	3	3	3	3	3	3
	6	Monthly Power Operations in 1984	6	18	21	6	6	6	6	6	5	6
	6A	Reconciliation of 1984 SWP and CVP Energy Use at SWP Plants and Joint-Use Facilities	none	none	none	none	none	none	none	none	none	none
	7	SWP Power and Transmission Service Purchases in 1984	7	none	none	none	none	none	none	none	none	none
	8	SWP Power Sales in 1984	8	none	none	none	none	none	none	none	none	none
	9	Recreation Use at SWP Facilities in 1984	9	19	22	Ex.26	p.138	p.133	p.95	p.81	p.66	none
	10	Fish Planted at SWP Facilities in 1984	10	20	23	Ex.27	none	none	none	none	none	none
CONTRACT AMENDMENTS	11	Water Supply Contract Amendments as of June 30, 1985	11	Fig.16	Fig.19	Fig.6	Fig.6	Fig.6	Fig.6	Fig.6	Fig.7	Fig.7
DESIGN AND CONSTRUCTION ACTIVITIES	12	SWP Design Activities in Progress, July 1984-June 1985	12	8	10	Ex.10	none	none	none	none	none	none
	13	SWP Construction Activities in Progress, July 1984-June 1985	13	10	12	Ex.14	none	none	none	none	none	none
FUTURE OPERATIONS	14	Water Contractors' Requests for Entitlement Water, 1984 through 1990	14	14	17	Ex.17	p.89	p.94	p.66	p.57	p.28	p.26
	15	Projected Water Deliveries and Energy Requirements	15	none	none	none	none	none	none	none	none	none
	16	Projected Electrical Capacity Requirements	16	none	none	none	none	none	none	none	none	none
	17	Summary of Major SWP Power Contracts	17	Fig.17	Fig.20	Ex.19	p.102	none	none	none	none	none
	18	Projected Energy Resources and Costs	18	7	9	Ex.29	p.104	none	none	none	none	none
FUTURE COSTS AND FINANCING	19	SWP Financial Analysis, June 30, 1985	19	21	24	7	7	7	7	none	7	7
	20	SWP Capital Expenditures	20	22	25	8	8	8	8	7	8	8
	21	Application of Revenue Bond Proceeds	21	23	26	none	none	none	none	none	none	none
	22	Projected Bond Sales	22	26	29	9A	9A	9A	none	none	none	none
	23	Revenue Bond Proceeds Affecting the Project Interest Rate	23	24	27	none	none	none	none	none	none	none
	24	Actual Bond Sales and Project Interest Rates	24	25	28	9	9	9	9	none	9	9
	25	SWP Operation, Maintenance, Power and Replacement Costs	25	27	30	10	10	10	10	8	10	10
	26	Annual Service on Bonds Sold through June 30, 1985	26	28	31	11	11	11	11	none	11	11
	27	Estimated Future Unit Water Charges	27	6	7	Ex.2	p.19	Fig.1	none	none	none	none

MATERIAL IN BULLETIN

SUBJECT		APPENDIX B (No Allowance for Future Price Escalation, for Billing Purposes)		CORRESPONDING TABLE OR EXHIBIT NUMBER IN PREVIOUS BULLETIN 132									
		TABLE NO.	TITLE	1983 and 1984	1982*	1981	1980	1979	1978	1977	1976	1975	1974
AQUEDUCT REACHES		B-1	Factors for Distributing Reach Capital Costs Among Contractors	B-1	none	B-1	B-1	B-1	B-1	B-1	B-1	B-1	B-1
		B-2	Factors for Distributing Reach Minimum OMP&R Costs Among Contractors	B-2	none	B-2	B-2	B-2	B-2	B-2	B-2	B-2	B-2
VARIABLE COSTS		B-3	Power Costs and Credits and Annual Replacement Deposits for Each Aqueduct Pumping and Power Recovery Plant	B-3	none	B-3	B-3	B-3	B-3	B-3	B-3	B-3	B-3
ANNUAL WATER DELIVERY QUANTITIES		B-4	Annual Entitlements to Project Water	B-4	none	B-4	B-4	B-4	B-4	B-4	B-4	B-4	B-4
		B-5A	Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor	B-5A	none	B-5A	B-5A	B-5A	B-5A	B-5A	B-5A	B-5	B-5
		B-5B	Annual Water Quantities Delivered to Each contractor	B-5B	none	B-5B	B-5B	B-5B	B-5B	B-5B	B-5B	B-5	none
		B-6	Annual Water Quantities Conveyed through Each Pumping and Power Recovery Plant of Project Transportation Facilities	B-6	none	B-6	B-6	B-6	B-6	B-6	B-6	B-6	B-6
RECONCILIATION OF CAPITAL EXPENDITURES		B-7	Reconciliation of Capital Costs Allocated to Water Supply and Power Generation	B-7	none	B-7	B-7	B-7	B-7	B-7	B-7	B-7	B-7
		B-8	Capital Costs of Requested Delivery Structures	B-8	none	B-8	B-8	B-8	B-8	B-8	B-8	B-8	B-8
		B-9	Capital Costs of Requested Excess Peeking Capacity	B-9	none	B-9	B-9	B-9	B-9	B-9	B-9	B-9	B-9
COSTS PAID THROUGH:	TRANSPORTATION CHARGE	B-10	Capital Costs of Each Aqueduct Reach to be Reimbursed through Capital Cost Component of Transportation Charge	B-10	none	B-10	B-10	B-10	B-10	B-10	B-10	B-10	B-10
		B-11	Minimum OMP&R Costs of Each Aqueduct Reach to be Reimbursed through Minimum OMP&R Component of Transportation Charge	B-11	none	B-11	B-11	B-11	B-11	B-11	B-11	B-11	B-11
		B-12	Variable OMP&R Costs to be Reimbursed through Variable OMP&R Component of Transportation Charge	B-12	none	B-12	B-12	B-12	B-12	B-12	B-12	B-12	B-12
	DELTA WATER CHARGE	B-13	Capital and Operating Costs of Project Conservation Facilities to be Reimbursed through Delta Water Charge	B-13	32	B-13	B-13	B-13	B-13	B-13	B-13	B-13	B-13
REDETERMINED ANNUAL TRANSPORTATION CHARGE FOR EACH CONTRACTOR		B-14	Capital Costs of Transportation Facilities Allocated to Each Contractor	B-14	none	B-14	B-14	B-14	B-14	B-14	B-14	B-14	B-14
		B-15	Capital Cost Component of Transportation Charge for Each Contractor	B-15	none	B-15	B-15	B-15	B-15	B-15	B-15	B-15	B-15
		B-16A	Minimum OMP&R Component of Transportation Charge for Each Contractor	B-16A	none	B-16	B-16	B-16	B-16	B-16	B-16	B-16	B-16
		B-16B	Off-Aqueduct Component of Transportation Charge for Each Contractor	B-16B	none	none	none	none	none	none	none	none	none
		B-17	Unit Variable OMP&R Component of Transportation Charge	B-17	none	B-17	B-17	B-17	B-17	B-17	B-17	B-17	B-17
		B-18	Variable OMP&R Component of Transportation Charge for Each Contractor	B-18	none	B-18	B-18	B-18	B-18	B-18	B-18	B-18	B-18
		B-19	Total Transportation Charge for Each Contractor	B-19	none	B-19	B-19	B-19	B-19	B-19	B-19	B-19	B-19
FUTURE DELTA WATER RATES		B-20A	Calculation of Delta Water Rates	B-20A	33	B-20A	B-20	B-20	B-20	B-20	B-20	B-20	B-20
		B-20B	Delta Water Rates by Facility	B-20B	none	B-20B	none	none	none	none	none	none	none
TOTAL CHARGES		B-21	Total Delta Water Charge for Each Contractor	B-21	none	B-21	B-21	B-21	B-21	B-21	B-21	none	none
		B-22	Total Transportation and Delta Water Charge for Each Contractor	B-22	none	B-22	B-22	B-22	B-22	B-22	B-22	none	none
EQUIVALENT COSTS OF WATER		B-23	Equivalent Unit Charge for Water Supply for Each Contractor	B-23	none	B-23	B-23	B-23	B-23	B-23	B-23	B-21	B-21
		B-24	Equivalent Unit Transportation Costs of Water Delivered from or through Each Aqueduct Reach	B-24	34	B-24	B-24	B-24	B-24	B-24	B-24	B-22	B-22
SURPLUS WATER SERVICE AND CHARGES		B-25	Annual Surplus Water Deliveries	B-25	none	B-25	B-25	B-25	B-25	B-25	B-25	none	none
		B-26	Power Costs for Pumping Surplus Water	B-26	none	B-26	B-26	B-26	B-26	B-26	B-26	none	none
		B-27	Power, Replacement and Administrative Charge for Surplus Water Deliveries	B-27	none	B-27	B-27	B-27	B-27	B-27	B-27	none	none
		B-28	Projected Annual Surplus Water Deliveries	B-28	none	B-28	B-28	B-28	B-28	none	B-28	none	none

* Appendix B tables for Bulletin 132-82 are published under separate cover.

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