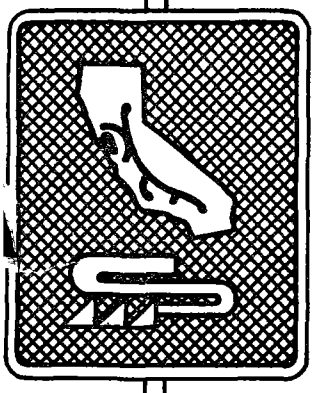


State of California

THE RESOURCES AGENCY

Department of Water Resources

BULLETIN No. 132-67

THE CALIFORNIA STATE WATER PROJECT IN 1967

JUNE 1967

RONALD REAGAN
Governor
State of California

WILLIAM R. GIANELLI
Director
Department of Water Resources

State of California

THE RESOURCES AGENCY

Department of Water Resources

BULLETIN No. 132-67

THE CALIFORNIA STATE WATER PROJECT IN 1967

JUNE 1967

RONALD REAGAN
Governor
State of California

WILLIAM R. GIANELLI
Director
Department of Water Resources

FOREWORD

This is the fifth in a series of annual reports by the Department of Water Resources on the California State Water Project, published for the information of the State Legislature, the California Water Resources Development Finance Committee, project water and power users, project investors, and the public.

The State Water Project in 1967 enters the second half of a 12-year heavy construction period which began when the Burns-Porter Act was ratified by Californians in the General Election of November 8, 1960, and which will end with water deliveries to Perris reservoir in 1972. The Project's current construction and operations budget is equivalent to the expenditure of over $1 million daily.

Soon after taking office, in January 1967, Governor Reagan appointed a special task force of eminently qualified experts to evaluate the Project's construction and financial status. After a four-month study, the task force concluded that the Project would require construction funds additional to those presently available -- up to $300 million through 1972, and up to $600 million through 1985, to complete all project facilities. The updated financial analysis included in this bulletin, which was initiated prior to completion of the task force's review, confirms the need for supplemental funds, though of a smaller magnitude -- $51 million through 1972, and $147 through 1985.

The difference in the two forecasts is due to the inclusion in the task force's analysis of about $400 million in costs over and above those considered in this bulletin. This amount is primarily an allowance to cover considerations of a contingency nature. The actual amounts to be ultimately incurred will depend on policy, legal, and financial decisions to be made in the future.

Continuing vigilance and analysis will be required to insure that additional construction funds are available, if and when needed by the Project. Meanwhile, those actions and decisions required to keep construction on schedule, and to provide service in accordance with plan, are being made as the mid-point review continues.

William R. Gianelli

William R. Gianelli, Director
Department of Water Resources
The Resources Agency
State of California
May 29, 1967

TABLE OF CONTENTS

	Page
FOREWORD	iii
ORGANIZATION, DEPARTMENT OF WATER RESOURCES	xv
ORGANIZATION, CALIFORNIA WATER COMMISSION	ixii
ABSTRACT	xviii
CHAPTER I. THE CALIFORNIA STATE WATER PROJECT IN 1967	1
CHAPTER II. PROJECT CONTINUING HISTORY	5
General Project History	5
Legislative Actions	5
Administrative Actions	8
Management Personnel Changes	8
Financing and Construction Review	8
Recreation and Fish and Wildlife Enhancement	10
Power Management	12
History of Individual Facilities	13
Upper Feather Area	14
Oroville Area	14
Miners Ranch Canal	14
Flood Control Contributions	15
Disposition of Construction Headquarters	15
Oroville-Thermalito Letter of Agreement	16
Recreation and Fish and Wildlife Enhancement	16
North Bay Aqueduct	16
South Bay Aqueduct	17
Delta Facilities	19
California Aqueduct	20
North San Joaquin Division	20
San Luis Division	22
South San Joaquin Division	22
Tehachapi Division	22
Mojave Division	24
Santa Ana Division	26
West Branch of the California Aqueduct	28
San Joaquin Drainage Facilities	28
Local Projects	29
CHAPTER III. PROJECT RESEARCH AND DEVELOPMENT ACTIVITIES - FAULT MOVEMENT	33
Earthquakes	34
Seismographs	34
Measurements Scales	34
Intensity	35
Magnitude	35
A History of California Earthquakes	35

Page

California Fault Systems 36
Proximity to the State Water Project. 38
Potential Consequences. 39
The Plan for Protecting Project Facilities 40
The Program. 41
Measurement Activities. 43
Fault Movement 43
Crustal Tilting. 44
Seismic. 44
Earthquake Hazard Evaluation. 45
Development of Design Procedures. 46
Results of the Program 47

CHAPTER IV. PROJECT CONSTRUCTION ACTIVITIES. . . . 49

Design 49
Land Acquisitions and Relocations. 50
Construction 51
Upper Feather Area. 51
Oroville Area 52
North Bay Aqueduct. 54
South Bay Aqueduct. 54
California Aqueduct 54
North San Joaquin Division 54
San Luis Division. 55
South San Joaquin Division 56
Tehachapi Division 56
Mojave Division 58
Santa Ana Division 58
West Branch. 58
Coastal Branch 58

CHAPTER V. PROJECT GENERAL OPERATION ACTIVITIES 59

Water Rights Administration. 59
Processing of Project Applications. 59
Diversions from the Feather River and Sacramento-San Joaquin Delta 59
Grizzly Valley Dam and Lake Davis. 61
Abbey Bridge Dam and Reservoir 61
Negotiation of Water Rights Agreements. 61
Feather River Service Area 61
Delta Service Area 62
California Aqueduct, West Branch 63
California Aqueduct, Santa Ana Division. . . . 64
Water Contracts Administration 64
Contract Negotiations 65
Contract Amendment Negotiations 65
Settlements Concerning Charges to Water Contractors 66

Page

Contractor Turnouts 68
Surplus Water Contracting Program 70
Power Management 71
Power Purchase Contracts. 71
Canadian Entitlement Power Contracts 71
Bonneville Power Administration Contract . . . 72
Intertie Contract. 72
Miscellaneous Contracts. 72
Power Sales Contracts 72
Disposition of Long-Term Oroville-Thermalito Power 72
Oroville-Thermalito Letter of Agreement. . . . 72
Planning and Support of Operations 73
Operation and Maintenance Activation. 73
Water Supply Arrangements for 1967. 74
San Luis Operating Agreement. 75
Project Cost Accounting. 76

CHAPTER VI. PROJECTED WATER AND POWER DEMANDS AND SUPPLIES 79

Estimates of Project Water Demands 79
Water Quantities Involved in Construction 79
Annual Entitlements to Project Water. 81
Water Requirements for Recreation and Fish and Wildlife Enhancement 81
Losses Incidental to Project Operation. 82
Estimates of Future Water Supplies 82
Delta Supplies v. Project Demands 83
Supply from Additional Conservation Facilities. . . 84
Estimates of Project Pumping Power Requirements. 86
Estimates of Project Power Production. 86

CHAPTER VII. PROJECT DIRECT OPERATIONS AND MAINTENANCE ACTIVITIES 89

Frenchman Dam and Lake 89
Water Operations. 90
General Maintenance 90
Antelope Dam and Lake. 91
Water Operations. 91
General Maintenance 91
Grizzly Valley Dam and Lake Davis. 92
Water Operations. 92
South Bay Aqueduct 92
Water Operations. 92
Power Operations. 93
Water Quality 94
General Maintenance 94
Plant Maintenance 94

Page

San Luis Division 95
O'Neill Dam and Forebay. 95
Los Banos Creek Detention Dam and Reservoir. 96
Little Panoche Creek Detention Dam and Reservoir . . 96
Big Bend Powerplant 98

CHAPTER VIII. PLANS FOR PROJECT FINANCING 99

Capital Expenditures. 99
Estimation Bases for Unscheduled Project Facilities 99
Composition of Total Estimated Costs of Project Facilities. 103
Changes in Estimated Capital Costs of Project Facilities. 104
Allocation of Capital Costs Among Project Purposes and Programs. 104
Capital Costs to be Financed 107
Summary of Financing. 108
Burns-Porter Financing 110
Revenue Bond Financing 110
Miscellaneous Receipts 112
State Appropriations. 113
Federal Reimbursements. 114
Advance Payments from Water Contractors 114
Payments by the City of Los Angeles 115
Rights-of-Way Rentals and Sales 115
Short-term Interest Earnings. 116
Supplemental Funds 116
Offset Bonds. 116
Water Bond Service. 119
Scheduling of Future Water Bond Sales. 120
Pattern of Water Bond Service. 120
Payment of Water Bond Service. 120
Project Net Operating Revenues. 122
Operating Costs. 122
Operating Revenues 124
Water Supply and Oroville-Thermalito Power. . . 125
Drainage Revenues 128
Adjustments to Net Operating Revenues. 128
Financial Analysis. 130

TABLES

1 Construction Contracts as of April 1, 1967 133
2 General Data Relating to Water Supply Contractors. . 134
3 Distribution of Minimum Project Yield. 135
4 Project Water Demands at the Delta 136
5 Annual Entitlements to Project Water 137

		Page
6	Estimated Annual Project Energy Requirements for Pumping	140
7	Estimated Annual Project Energy Generation	141
8	Frenchman Lake Monthly Operation	142
9	Antelope Lake Monthly Operation	143
10	South Bay Aqueduct Monthly Operation	144
11	Water Quality at South Bay Pumping Plant	145
12	Composition of Projected Annual Capital Costs	146
13	General Reconciliation of Capital Cost Changes	147
14	Composition of Projected Annual Operating Costs	148
15	Actual and Projected Capital Costs of Facilities by Project Purpose	149
16	Actual and Projected Operating Costs of Facilities by Project Purpose and by Category	154
17	Actual and Projected Capital Costs by Programs	159
18	Actual and Projected Operating Costs by Programs	160
19	Summary of Annual Capital Expenditures	161
20	Projected Capital Expenditures and Receipts for Recreation and Fish and Wildlife Enhancement, State Nonutility Programs	162
21	Actual and Projected Receipts, Federal Programs	163
22	Projected Capital Expenditures and Receipts for Requested Excess Delivery Capabilities, State Utility Programs	164
23	Actual and Projected State Utility Revenues	165
24	Net Operating Revenues Available for Coverage of General Obligation Bond Service	166
25	Financial Analysis for Water Bonds - June 1966	167
26	Miscellaneous Receipts and the Expenditures Thereof	168
27	Analysis of Offset Bonds	169
28	Service on Actual and Projected General Obligation Bonds	170
29	State of California Water Bonds - Schedule of Maturities, Amount and Coupon	171
30	Redemption Premiums for State of California Water Bonds	172

FIGURES

1	California State Water Project and Active Faults	37
2	State Water Project Generalized Construction Schedule	53
3	Location of Water Supply Contracting Agencies	67
4	Estimated Onpeak Power Requirements and Proposed Sources of Supply	87
5	Annual Capital Expenditures	109
6	Financing of Capital Expenditures	111
7	Net Operating Revenues and Application of Net Operating Revenues	123

APPENDICES

		Page
APPENDIX A.	FINANCIAL STATEMENTS	173
	Introduction	175
	Basic Financial Statements	176
	Exhibits	
I	State Water Resources Development System - Balance Sheet - December 31, 1966.	176
II	State Water Resources Development System - Statement of Net Revenues and Application Thereof (Notes 3 and 5) - Cumulative to December 31, 1966.	178
III	State Water Resources Development System - Statement of Source and Application of Funds - Cumulative to December 31, 1966.	179
	Notes to Financial Statements	
1	Basis of Financial Statements.	180
2	Property Plant and Equipment	180
3	Current Assets	181
4	Water Resources Development Bonds.	183
5	Advances from California Water Fund.	184
6	Grants in Aid of Construction.	184
7	Construction Contract Commitments.	185
8	Revenues	185
	Supplementary Information	
A	State Water Resources Development System - Changes in Property, Plant and Equipment - For Calendar Year Ended December 31, 1966.	187
B	State Water Resources Development System - Composition of Property, Plant and Equipment - December 31, 1966	188
C	State Water Resources Development System - Statement of Actual and Projected Net Revenues and Application Thereof - December 31, 1966.	189
APPENDIX B.	DISTRIBUTION OF COSTS OF THE PROJECT TRANSPORTATION FACILITIES AMONG WATER SUPPLY CONTRACTORS	191
	Introduction	193
	Scope of Analysis.	193
	Basis for Maximum Use of Facilities.	195
	Maximum Annual Entitlements	195
	Aqueduct Reaches.	196

Page

Operational Considerations 196
Future Contractors. 198
Capacity Provided for Delivery of Entitlements 199
Reservoirs. 200
Compensating Capacity for Operational Losses. 201
Compensating Capacity for Scheduled Outages 202
Compensating Capacity for Downstream Regulation. 202
Capacity Provided for Requested Excess Capacity 203
Maximum Use of Aqueduct Reaches by Contractors . . 204
Basis for Variable Annual Use of Facilities 206
Annual Reach Deliveries for Each Water Supply Contractor. 206
Reach Costs by Category 207
Capital Costs. 207
Annual Operation and Maintenance Costs 208
Costs Allocated to Water Supply Contractors 209
Allocated Capital Costs. 209
Capital Cost Components. 209
Minimum Operation, Maintenance, Power and Replacement Components 210
Variable Operation, Maintenance, Power and Replacement Components 210
Total Annual Transportation Charges 212

Tables

B-1 Maximum Annual Entitlements 215
B-2 Project Transportation Facilities, Reach Delivery Capabilities and Capacities . . . 216
B-3 Reach Summary of Proportionate Use of Project Transportation Facilities by Water Supply Contractors 219
B-4 Annual Quantities Delivered from Each Reach for Each Contractor 235
B-5 Annual Quantities Conveyed through Each Pumping and Power Recovery Plant. 240
B-6 Required Advance of Funds for Excess Capacity in the California Aqueduct and Perris Reservoir. 246
B-7 Actual and Projected Capital Costs Allocated to Transportation for Each Aqueduct Reach 247
B-8 Direct Annual Operating Costs of Pumping and Power Recovery Plants 253

Page

B- 9 Actual and Projected Minimum Operation, Maintenance, Power, and Replacement Costs Allocated to Transportation for Each Aqueduct Reach 255
B-10 Actual and Projected Variable Operation, Maintenance, Power, and Replacement Costs Allocated to Transportation 261
B-11 Allocated Capital Costs to Each Contractor. 263
B-12 Capital Cost Components of Each Contractor. 267
B-13 Minimum Operation, Maintenance, Power, and Replacement Components of Each Contractor. 271
B-14 Unit Variable Operation, Maintenance, Power, and Replacement Charges. 275
B-15 Variable Operation, Maintenance, Power, and Replacement Components of Each Contractor. 277
B-16 Total Transportation Charges of Each Contractor. 281

Figures

B-1 Schematic Relationship of Data Substantiating Statements of Charges. . . . 197
B-2 Operational Considerations Associated with Proportionate Use of Project Transportation Facilities 205

APPENDIX C. DEVELOPMENT AND STATUS 285

Abstract 287
The California State Water Project 287
California's Water Problem 287
Historical Solution to California's Water Problem. . . . 288
Authorization of Facilities for Construction 289
Funds Available for Construction 290
Project Water Contracting Program. 292
Project Power Contracting Program. 294
Project Drainage Contracting Program 295
Nonreimbursable Programs 296
Flood Control 296
Recreation and Fish and Wildlife Enhancement. . . . 297
Project Accomplishments To Date. 298
Construction and Description of Facilities 299
Upper Feather Area. 302
Oroville Area 303
North Bay Aqueduct. 304
South Bay Aqueduct. 305

	Page
Peripheral Canal	306
North San Joaquin Division	307
San Luis Division	308
South San Joaquin Division	309
Tehachapi Division	310
Mojave Division	311
Santa Ana Division	312
West Branch	313
Coastal Branch	314
Upper Eel River Development	315
General Project Statistics	316

PLATES

Plate 1, "Location of Facilities - The California State Water Project", is located at the end of this bulletin.

STATE OF CALIFORNIA
THE RESOURCES AGENCY
RONALD REAGAN, Governor
NORMAN B. LIVERMORE, JR., Administrator, The Resources Agency

DEPARTMENT OF WATER RESOURCES
WILLIAM R. GIANELLI, Director

ROBERT G. EILAND, Assistant Director
ALFRED R. GOLZE', Deputy Director
JOHN R. TEERINK, Deputy Director

UTILITY COMMITTEE
William R. Gianelli, Chairman
Helen T. Moss, Secretary

Robert G. Eiland
Alfred R. Golze'
John R. Teerink
Donald A. Sandison
John E. Hunt
Robin R. Reynolds
Wesley E. Steiner
Porter A. Towner
J. K. Cummings
Haywood G. Dewey, Jr.
Richard Winn
Russell Kletzing
Harry W. Falk, Jr.

STAFF AND SERVICES MANAGEMENT

Wesley E. Steiner . . . . . Assistant Chief Engineer

This report was prepared under the direction of

John R. Eaton . . . . . .Chief, Water Contracts Coordination

by

Jean H. Jaquith . . . . . .Chief, Project Analysis Section

Assisted by

Arden H. Johnson
Robert B. Chiarovano
Clinton E. Fitzgerald
Shirley A. Holman
Donald R. Long
Frances Mercer
James C. Scheler
Barbara J. Thomas
Kenneth L. Scribner
Donald H. Taylor
Lawrence W. Smith
Margaret E. Ward
Donald A. Williams
Harley R. Woodworth

- - - -

DIVISION OF DESIGN AND CONSTRUCTION

Estimates of future construction costs
were primarily prepared under the direction of

Haywood G. Dewey, Jr. . . . . Assistant Chief Engineer

AREA MANAGEMENT

Estimates of future water supply
were prepared under the direction of

John M. Haley . . . . . .Chief, Statewide Planning Office

Data concerning future project operations and maintenance
were prepared under the direction of

Robin R. Reynolds . . . .Chief, Statewide Operations Office

Supplemental cost estimates
were prepared under the following District Engineers

Gordon W. Dukleth . . . . . Northern District
Carl A. Werner. . . . . Sacramento District
Charles A. McCullough . . . . .San Francisco Bay District
Carl L. Stetson . . . . . .San Joaquin District
James J. Doody . . . . . Southern District

- - - -

POWER OFFICE

Power planning considerations and future power costs
were prepared under the direction of

J. K. Cummings. . . . . Chief, Power Office

- - - -

COMPTROLLER

Donald A. Sandison. . . . . Comptroller

Financial Statements
were compiled under the direction of

Corning D. Gilpin . . . . . .Utility Accounting Officer

The Project Financing Program
was prepared under the direction of

John E. Hunt. . . . . Financial Adviser

Assisted by

Dillon, Read & Co., Inc. . . . . Financial Consultants

CALIFORNIA WATER COMMISSION

IRA J. CHRISMAN, Chairman, Visalia

WILLIAM H. JENNINGS, Vice Chairman, La Mesa

CLAIR A. HILL, Redding

JOHN P. BUNKER, Gustine

WILLIAM P. MOSES, San Pablo

EDWIN KOSTER, Grass Valley

SAMUEL B. NELSON, Los Angeles

NORRIS POULSON, La Jolla

MARION R. WALKER, Ventura

-----O-----

WILLIAM M. CARAH
Executive Secretary

WILLIAM L. BERRY, SR.
Engineer

ABSTRACT

The Bulletin 132 series is a continuing annual progress report on a dynamic and growing project. It provides a central reference for current project data. It systematically updates the Project's long-range cost and financial projections. It forms a portion of the substantiating material which, by provision of the 30 long-term contracts executed with local agencies for a project water supply, must accompany the annual statements of water charges issued by the State.

Bulletin 132-67 reports progress on design, construction, operation, financial, and management activities of the California State Water Project since about April 1, 1966.

Two major power contracts were executed and negotiations for five others were completed. One of the executed contracts was with the City of Los Angeles Department of Water and Power for cooperative power development of the West Branch of the California Aqueduct, whereby the City would construct a powerplant and supply to the State, without charge, power equivalent to that of a plant the State would otherwise have constructed on Castaic reservoir. The other contract was executed with four of the State's major utility companies for supplemental power and energy to satisfy project pumping requirements.

Grizzly Valley Dam, third in a series of five dams to be constructed in the Upper Feather Area, was completed.

Oroville Dam embankment is being placed at the rate of two million cubic yards of fill each month, and is expected to be complete in November 1967.

Along the California Aqueduct, the planned capacity of Cedar Springs Lake has been decreased; a single Devil Canyon Powerplant has been approved; and, construction of Cottonwood Powerplant has been deferred.

Several new amendments have been executed to existent water supply contracts providing for the enlargement of certain project facilities, and negotiations are under way with Kings County and two Southern California agencies for disposition of the remaining 8,600 acre-feet of the minimum project yield.

Comprehensive estimates of project costs are updated and the Project's financial program reanalyzed. Project capital requirements are estimated to eventually total $2,818 million, including an allowance of $161 million for future price escalation -- a contingency included in project cost estimates for the first time. A need for construction funds, in addition to those currently assumed to be available, would first be evidenced in 1971, and would total $147 million through 1985.

CHAPTER I. THE CALIFORNIA STATE WATER PROJECT IN 1967

The California State Water Project in 1967 mounts the peak year of its construction and enters the second half of a momentous 12-year building effort -- an effort which began when the initial impetus was financially assured in 1960, and which will not end until scheduled water deliveries are made to Perris reservoir in 1972.

The California State Water Project in 1967 also enters the era of a new state administration, under Governor Ronald Reagan, and of a new management, under Water Resources Director William R. Gianelli.

A tribute to the men of vision who played key roles, each in his time, to make certain that California's future water needs would be met, the Project of today may be traced back two decades, through three state administrations.

Under Governor Earl Warren, State Engineer Edward Hyatt initiated the California Water Plan in the post-war years of the 1940's -- a bold step to ensure that water development in California would take place in an orderly fashion.

Under the administrations of Governors Warren and Goodwin J. Knight in the early 1950's, State Engineer A. D. Edmonston fathered the Feather River Project -- a part of the California Water Plan designed to fulfill the State's role in conjunction with federal and local development of California's water resources.

Under the administrations of Governors Knight and Edmund G. Brown, Water Resources Director Harvey O. Banks and Deputy Director Ralph M. Brody nursed the California State Water Project, which evolved from the concept of the Feather River Project, through the difficult days of the north-south controversy in the late 1950's. These men were also instrumental in gaining public acceptance and approval of the Burns-Porter Act in 1960 -- providing the financial base upon which to launch full-scale construction.

Under Governor Brown, Water Resources Director William E. Warne moved the gigantic Project from preliminary designs to actual construction progress.

Governor Reagan is reviewing the general level of expenditures prevailing throughout state government, in the orderly process of state administration change. Certain economies effected to date as a result of this review have primarily pertained to expenditures financed by the State General Fund.

The basic facilities of the California State Water Project are financed through proceeds of the $1.75 billion of general obligation bonds authorized by the Burns-Porter Act. Though payment of principal and interest on these bonds is guaranteed by the general taxing power of the State, the Project's financial program has been designed to be independent of reliance upon the General Fund. In addition to general obligation bonds, sources of project funds include revenue bonds, state tideland gas and oil revenues, and advances or reimbursements from local and federal agencies.

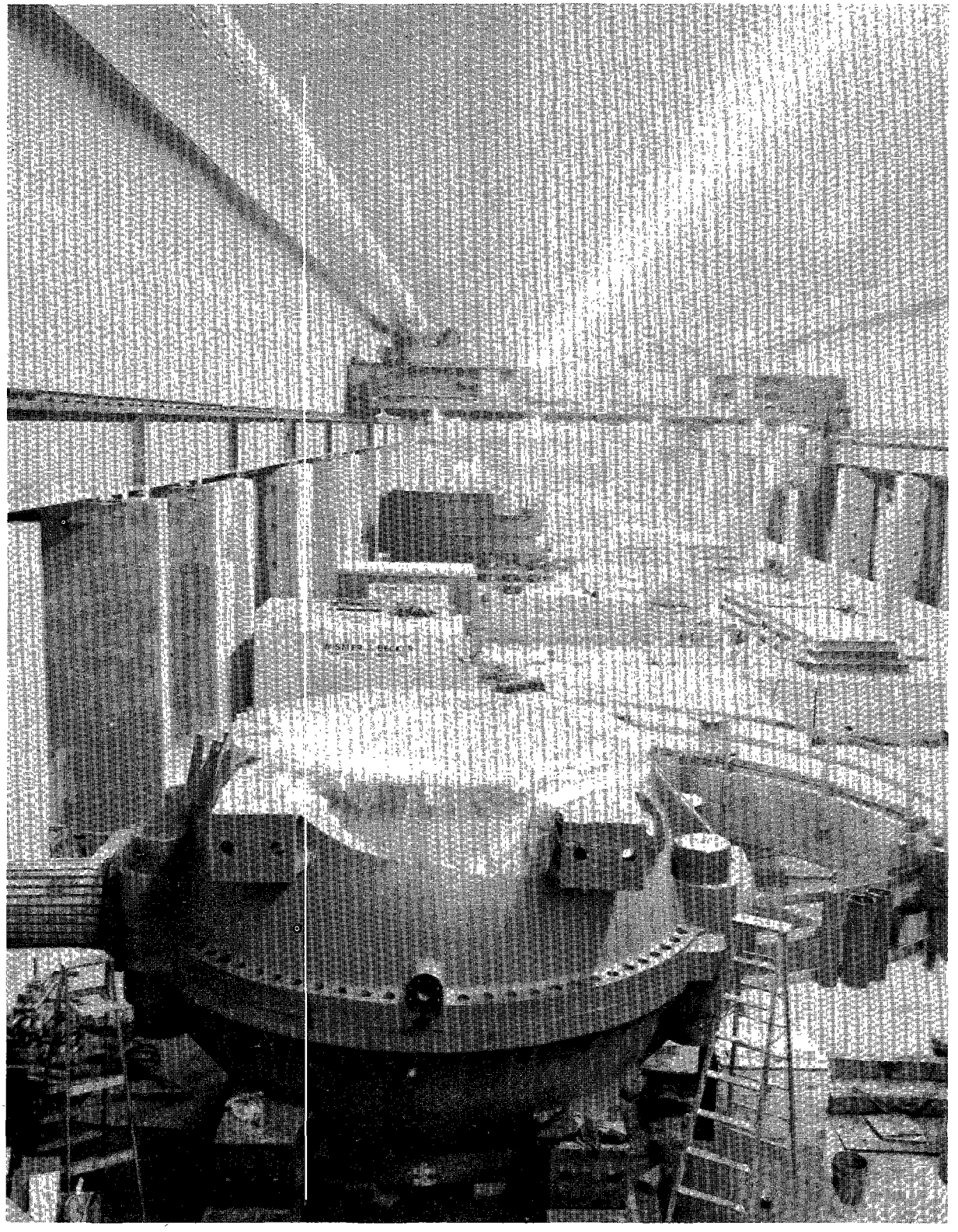
The Project's current annual budget is equivalent to more than $1 million a day. The Project's total capital cost will approach $3 billion, including planning costs which extend back to 1952 and the costs of project facilities to be constructed beyond 1972.

Consistent with the new administration's concern for the State's overall financial picture and for the orderly development of required water supplies, Governor Reagan established a special task force of highly qualified experts to ". . . evaluate exactly where the Project stands from a financial and construction standpoint ...." The task force's studied conclusions are recorded in the Project's continuing history of significant events (documented in Chapter II) and are supported in the Project's updated financial program (developed in Chapter VIII).

The new administration has also initiated a review of recreational (and fish and wildlife enhancement) developments connected with the State Water Project. Administrator Norman Livermore of the Resources Agency established a task force of state officials to conduct the review, which is currently in progress.

Recreational developments are not included among the facilities authorized by the Burns-Porter Act -- except for four dams and reservoirs in the Upper Feather Area which are associated primarily with recreation and fish and wildlife enhancement. Project funds cannot be used to finance the costs of these developments -- except for required lands.

The costs of recreational developments connected with the State Water Project are being financed primarily by the State General Fund. The total cost to be so financed has been estimated as more than $165 million for construction, and about $2 million, annually, for related operation and maintenance activities. The task force will review and evaluate present plans for such developments and will recommend a future program which would adequately serve the public without excessive public costs.



The huge machine hall of the underground Oroville Powerplant. (Oroville Area)

Director Gianelli has also initiated actions to conserve project funds.

The Department announced that it is not in a position to proceed with the immediate construction of a joint-use San Joaquin Master Drain, as previously contemplated. Instead, the Department has asked the Bureau of Reclamation to proceed at once with the construction of a separate interceptor drain, as provided for in the federal San Luis Act.

The Director took this action after contacting 28 potential users of the State's share of a joint-use San Joaquin Master Drain. These potential users indicated they were currently unwilling, or unable, to assume repayment of the State's share of the cost. However, the Department contemplates the eventual construction of a San Joaquin drainage facility when full repayment of the concerned costs can be assured.

This brief introduction to the California State Water Project in 1967 highlights the mid-point reappraisal of administrative and management policies to conserve project funds, to preserve the independent reimbursability of project costs, and to ensure that all water-oriented needs of the State are accounted for. This emphasis is not intended to detract from either the tremendous progress in constructing the Project (described in Chapter IV) and in preparing for its full-scale operation (described in Chapters II, V, and VI) or the significant accomplishments realized from the operation of completed project facilities (recorded in Chapter VII). Those actions required to keep construction on schedule, and to provide service in accordance with plan, are being made as the mid-point review continues.

CHAPTER II. PROJECT CONTINUING HISTORY

Previous bulletins of this series have noted those specific actions which have affected the course of the State Water Project prior to about April 1, 1966. The documents noted therein collectively constitute the historical archives of the Project.

This chapter records specific accomplishments during the period April 1, 1966, to April 1, 1967, for continuation of the Project's history. Overall progress on various individual programs of the Project is described in other chapters of this bulletin.

General Project History

This section discusses legislative and administrative actions affecting the Project as a whole. Actions affecting individual project facilities are discussed in a subsequent section.

Legislative Actions

Several actions of the 1966 Legislature dealt with the project purpose of recreation and fish and wildlife enhancement, and affected the availability of funds for financing project costs.

The enactment of Assembly Bill 12 was noted in last year's bulletin.1/

This important new law annually reserves up to $5 million of the State's tideland oil and gas revenues for the multiple-purpose costs of state water projects which are allocated to recreation and to fish and wildlife enhancement, and also for costs of land acquired with project funds specifically for recreation at these projects. The Department is required to make an annual report to the Legislature on such costs. To the extent the Legislature, by subsequent acts, approves such allocations and costs, the reserved funds will be released to the Department for expenditure on state water projects.

The preparation and review of cost allocations is a complex technical matter requiring continuing association

---

1/ *Department of Water Resources Bulletin 132-66, pp. 11-12.*

with the process and considerable background experience. Assembly Concurrent Resolution 58[2/] requested the Legislative Analyst to review the cost allocations on the State Water Project and to report results and recommendations to the Legislature whenever approval of a cost allocation is sought by the Department.

Assembly Bill 183,[3/] introduced in the First Extraordinary Session of the 1966 Legislature, would have approved the prior expenditure of: (1) $1,366,281, expended from project funds through June 30, 1965, for the costs of specific recreation lands; and, (2) $5,708,619 for the multiple-purpose costs of completed Frenchman and Antelope Dams and Lakes allocated to recreation and fish and wildlife enhancement. (The bases for these amounts are described in last year's bulletin.[4/]) The bill was referred to the Rules Committee for assignment to the Assembly Interim Committee on Water. A committee hearing was conducted August 10, 1966, at which the Department testified, together with the Departments of Parks and Recreation and Fish and Game.

The Assembly Interim Committee's conclusions and recommendations were included in a report[5/] to the 1967 Legislature. Of the $7,074,900 covered in Assembly Bill 183, the Committee recommended approval of only $454,082 of Water Bond proceeds which had been expended at Antelope Dam and Lake. The report also thoroughly discussed the Department's method of allocating project costs to the purposes of recreation and fish and wildlife enhancement.

Meanwhile, a Senate Bill[6/] has been introduced in the 1967 Legislature which would provide the necessary legislative approval to make $8,260,841 available to the Department, in accordance with its updated report on cost allocations -- subsequently described in the section on "Administrative Actions".

Senate Bill 2[7/] provides an appropriation of $2 million annually, for the next five years, from the State's

---

2/ *Calif. Stats. of 1966, First Extraordinary Session, Resolution Chapter 97.*
3/ *Department of Water Resources Bulletin 132-66, p. 12.*
4/ *Department of Water Resources Bulletin 132-66, p. 15.*
5/ *Assembly Interim Committee Reports, 1965-67, Vol 26, No. 15, "Recreation Costs at Water Projects", published by the Assembly of the State of California.*
6/ *Senate Bill 1046 of the 1967 Regular Session, introduced April 11, 1967, by Senator Cologne.*
7/ *Calif. Stats. of 1966, First Extraordinary Session, Chapter 155.*

tideland gas and oil revenues to the State Water Pollution Control Fund. This appropriation is subject in priority both to the $11 million appropriated annually to the California Water Fund and the $5 million reserved annually for nonreimbursable costs of the State Water Project. It does not affect the availability of project funds. However, Item 108.1 of the Budget Act of 1966[8/] took $100,000 away from the $11 million-accrual to the California Water Fund, for use in mosquito control research by the University of California during fiscal year 1967-68. This budget item was inserted during the closing minutes of the 1966 session.

House Resolution 115 of the 1966 First Extraordinary Session requested an interim study concerning the appropriate funding of planning studies, reports, and investigations. This resolution was introduced at the request of some of the Project's water supply contractors, who had objected to the Department's classification of certain of these costs as being properly financed by project funds (reimbursed by water contractors) instead of by the General Fund (not reimbursed by water contractors). The Department testified on this matter before the Assembly Interim Committee on Water on August 11, 1966. On January 5, 1967, the Committee submitted its report to the 1967 Legislature.[9/] The report concluded that the problem was primarily a budgetary one, to be considered by the Ways and Means Committee at the time the Department budget received its annual legislative review. The report recommended that all proposed expenditures that might fall in the "gray area", of being properly financed by either project funds or the General Fund, be reviewed by the Legislature before expenditures were made.

In line with suggestions made in the Assembly Interim Committee's report, and in answer to a specific request from the Committee Chairman[10/] concerning guidelines for determining the appropriate source of funds for two "gray area" programs, the Department prepared an internal study[11/] on all planning programs presently being financed by project funds. The results of the Department's study were transmitted to the Committee Chairman on April 28, 1967,[12/] together with

---

8/ *Calif. Stats. of 1966, Second Extraordinary Session, Chapter 2.*

9/ *Assembly Journal, March 14, 1967, pp. 871-875.*

10/ *Letter from The Hon. Carley V. Porter, Chairman, Assembly Committee on Water, to William R. Gianelli, Director, Department of Water Resources, March 29, 1967.*

11/ *Department of Water Resources memorandum from R. G. Eiland and D. A. Sandison to W. R. Gianelli, "Report on Planning Programs Funded by Project Funds", April 18, 1967.*

12/ *Letter from W. R. Gianelli to The Hon. Carley V. Porter, April 28, 1967.*

the Department's stated intention to terminate the planned expenditure of about $603,000 of the $4,949,000 in planning costs reviewed for fiscal year 1967-68.

Administrative Actions

Chapter I referred to changes in key management personnel and to the current reappraisal of State Water Project financing.

This section describes Department administrative action taken in the areas of personnel, financing, recreation and fish and wildlife enhancement, and power management.

Management Personnel Changes. William R. Gianelli became the new Director of Water Resources on January 2, 1967, occupying the position vacated by William E. Warne.13/

As a part of other personnel changes within the Department, Alfred R. Golze'14/ was appointed Deputy Director on February 23, 1967, and was given direct charge of all work related to completion of the State Water Project.

Financing and Construction Review. On January 10, 1967, Governor Reagan appointed a special task force of eminently qualified authorities15/ in the fields of water development and financing to:

1. Make a comprehensive review of the financing program of the State Water Project.

2. Review the construction progress of the State Water Project in terms of necessary timetables which must be met.

13/ *William E. Warne, Director of the Department of Water Resources, January 2, 1961 to January 1, 1967.*

14/ *Alfred R. Golze', Chief Engineer of the Department of Water Resources, February 20, 1961 to February 22, 1967.*

15/ *Clair A. Hill, Chairman, member of the California Water Commission; Harvey O. Banks of Leeds, Hill and Jewett, and former Director of the Department of Water Resources; M. J. Shelton, Vice President of Koebig and Koebig; Samuel B. Nelson, member of the California Water Commission and former Chief Engineer of the City of Los Angeles Department of Water and Power; Gerald H. Jones, consulting engineer and former Assistant Stat and, Don M. Davis, of Stone and Youngberg.*

Director Gianelli outlined details of the assignment in a letter[16/] to the Task Force, January 19, 1967.

The Task Force submitted its report[17/] to the Governor on May 12, 1967, and discussed its findings before a meeting of the California Water Commission, held in Sacramento on that date. The Task Force concluded that:

1. The State Water Project was facing a possible funding deficiency of $300 million between now and 1973, and that the overall deficiency might be as high as $600 million by 1985.

2. The Department should immediately initiate re-examination of project financing to determine the deficiencies more precisely, since the long-range forecast cannot be adequately evaluated this soon.

3. Escalation of construction costs and enlargement of the Project yield were major causes of the funding deficiency, and future financing studies should consider several alternatives: deferment or scaling down of any project facility not immediately required to make initial water deliveries on schedule; additional general obligation bond issues; release of the so-called bond offset reserve for immediate use; joint financing with other agencies; release of nearly $14 million in water fund money now tied up as a state guarantee of local financial requirements for Black Butte and New Hogan Dams, constructed by the Federal Government; and, the study of alternative sources of an interim water supply which would permit a delay in construction of the Upper Eel River Development.

4. The State Water Project was "eminently sound in engineering and concept"; that "water deliveries probably can be made sufficiently close to the planned dates to preclude critical deficiencies in supplies"; that the current Tehachapi crossing design of a single-lift system with four-stage pumps is the best of several considered designs and construction should

---

16/ *Department of Water Resources letter "To the Members of the Water Resources Task Force", from W. R. Gianelli, January 19, 1967.*

17/ *"Water Resources Task Force Report on the State Water Project", May 1967.*

proceed as planned; that a coordinated study of the timing of construction for the Peripheral Canal be initiated immediately, in order to have the Canal in operation by 1974 so that present delivery schedules could be accomplished.

Recreation and Fish and Wildlife Enhancement. On February 18, 1967, Norman B. Livermore, Jr., Administrator of The Resources Agency, appointed an interdepartmental task force[18] to review the recreation and fish and wildlife program associated with the State Water Project.

The Administrator's basic charge to the task force[19] is to review, evaluate, and make recommendations on the current program in terms of: planned developments and costs; planning policies and criteria; authorization procedures; demands of proposed developments on the General Fund (as to both capital outlay and operations); and, the interrelationship of state and local participation.

The task force is to complete its deliberations by August 15, 1967.

Current plans for recreation and fish and wildlife enhancement developments are summarized in the third of a continuing series of Department bulletins.[20] This bulletin

---

18/ *Ray J. Nesbit, Chairman, Executive Officer, State Wildlife Conservation Board; William Carah, Executive Secretary, California Water Commission; Robert Eiland, Assistant Director, Department of Water Resources; John H. Knight, Deputy Chief, Park Management, Department of Parks and Recreation; and James Trout, Senior Construction Budget Analyst, Department of Finance.*

19/ *Memorandum from the Resources Agency Administrator to Messrs. Nesbit, Gianelli, and Dolder, "Task Force Review of Department of Water Resources Program for Recreation, Fish and Wildlife Enhancement Programs, State Water Project", February 18, 1967.*

20/ *Department of Water Resources Bulletin 153-67, "Allocations of Costs Among Purposes of the California State Water Project", December 1966.*

constitutes the Department's initial annual cost allocation report to the Legislature under the specific provisions of Assembly Bill 12.[21/] The report requests approval of the following expenditures financed by project funds:

1. The capital costs of completed Frenchman and Antelope Dams and Lakes which the Department has allocated to recreation and fish and wildlife enhancement ($6,047,340).

2. The expenditures made through June 30, 1966, for acquiring rights-of-way, easements and property for recreation development associated with all project facilities ($2,213,501).

Senate Bill 1046,[22/] now before the Legislature, would provide approval of the $8,260,841 expenditure.

The estimation of recreation benefits at project facilities is basic to the Department's allocation of costs among project purposes. The usual method of evaluating recreation benefits is to derive a unit monetary value (or recreation visitor-day value), then multiply this value by the estimated number of recreationists who will visit a particular project facility during the analysis period.

The Departments of Water Resources and Parks and Recreation recently adopted a new procedure[23/] for evaluating recreation benefits in connection with water resources development. This procedure represents a slight modification of established federal standards,[24/] and was approved by the California Water Commission for use in connection with the Davis-Grunsky Program on March 3, 1967.

The new procedure provides for evaluating general recreation values within a range of $0.50 to $2.50 per visitor-day. A set of guidelines establishes specific values within this range for a particular project facility. These

---

21/ *See Footnote 1, p. 5.*
22/ *See Footnote 6, p. 6.*
23/ *Department of Parks and Recreation memorandum from Edward F. Dolder to W. R. Gianelli, January 25, 1967. Department of Water Resources memorandum from W. R. Gianelli to William Penn Mott, Jr., Director, Department of Parks and Recreation, "Recreation Evaluation Guidelines", March 10, 1967.*
24/ *Supplement No. 1 to U. S. Senate Document No. 97, 87th Congress, 2d Session.*

guidelines consider the variety and the quality of the recreational developments to be provided, and the esthetic qualities of the site itself. Standards apply only to the more common, general types of recreation activity; not to the rarer kinds of activity for which higher unit values would be used.

Power Management. Two important long-term power contracts have been executed since April 1, 1966.

A 70-year contract[25/] was executed between the Department (acting for the State) and the City of Los Angeles Department of Water and Power, for cooperative power development of the West Branch of the California Aqueduct. Under the contract, the State will construct the 7-mile-long Angeles Tunnel between Pyramid and Castaic reservoirs with a 30-foot diameter, instead of the originally planned 17-foot diameter. In return, the City will construct, operate, and maintain a 1,250,000-kilowatt pumped storage peaking plant at Castaic, and will supply the State, without charge, capacity with energy on a continuous basis equivalent in value to what the State would have generated in its smaller, originally planned, powerplant. The contract provides for certain payments to the State, in order to ensure that the benefits of joint development are equally realized by both parties.

A contract[26/] for supplemental power and energy to satisfy project pumping requirements (exclusive of those for the pump-back operation at Oroville-Thermalito Powerplants) was executed between the State and four of the State's major utilities -- collectively known as the "Suppliers".[27/] The contract will continue until March 31, 1978, and can be terminated thereafter only on five years' notice.

25/ *"Contract for Cooperative Development, West Branch, California Aqueduct, Between the Department of Water Resources, Resources Agency, State of California, and the Department of Water and Power, City of Los Angeles, Los Angeles, California", executed September 2, 1966. (DWR Contract No. 860418, DWP Contract No. 10099).*

26/ *"Contract Between California Suppliers and the State of California for the Sale, Exchange and Transmission of Electric Capacity and Energy for the Operation of the State Water Project Pumping Plants", executed November 18, 1966.*

27/ *The Pacific Gas and Electric Company, Southern California Edison Company, San Diego Gas and Electric Company, and the City of Los Angeles Department of Water and Power.*

This contract provides for the furnishing of all supplemental electric capacity and energy needed after the Project has used all power available from Cottonwood, Devil Canyon, Pyramid, and San Luis Obispo Powerplants; the San Luis Pumping-Generating Plant; the West Branch Cooperative Power Development; the Pacific Northwest area; and the Central Valley Project. The contract also provides for project power to be supplied from: project powerplants other than those named in the contract; Oroville Thermalito Powerplants; a state thermal plant; or, any other source -- if and when the State gives due notice, and when terms and conditions for the use of such power are negotiated.

The firm capacity available from the Suppliers Contract is limited to 40,000 kilowatts, prior to April 1, 1971.

Written notice of amounts of firm capacity needed during onpeak periods for each month of the ensuing six years must be given to the Suppliers. The notice constitutes a commitment to purchase the stated amounts, except where the terms of the contract permit revisions. The first such notice was sent by the Department on January 17, 1967.

Under the Suppliers Contract, onpeak firm capacity will cost $1.417 per kilowatt per month; energy charges are 3 mills per kilowatt-hour for both onpeak and offpeak energy.

The negotiation of terms relating to five contracts covering the purchase and transmission of Pacific Northwest power was essentially completed in October 1966. Each of these contracts is described in Chapter V. Overall progress in power management activities was reported in a series of progress reports[28/] issued by the Department.

History of Individual Facilities

Significant actions and events pertaining to individual facilities of the State Water Project, during the general period April 1, 1966 to April 1, 1967, are described in this section.

28/ *Department of Water Resources Progress Report (unnumbered), "Electric Power in the State Water Project" -- a quarterly series which commenced December 1963, and ended June 30, 1966.*

Upper Feather Area

Grizzly Valley Dam and Lake Davis were dedicated by Director William E. Warne on December 14, 1966, at Portola.

Two reports were released concerning Abbey Bridge Dam and reservoir -- the fourth facility planned for the Upper Feather Area. One dealt with final formulation[29/] of the facility itself; the other with associated recreational developments and land acquisition.[30/]

The official descriptions of four project facilities in the Upper Feather Area -- Frenchman Dam and Lake, Antelope Dam and Lake, Abbey Bridge Dam and reservoir, and Dixie Refuge Dam and reservoir -- were updated.[31/]

Oroville Area

A potential problem involving an existing canal located near Oroville reservoir became an issue during the reporting period. Another potential problem area, concerning federal flood control contributions under an executed contract, is becoming increasingly important as construction nears completion. Meanwhile, plans are being finalized for recreational developments, the cessation of construction activities, and the initiation of facility operations.

Miners Ranch Canal. The "Miners Ranch Canal", a facility of the Oroville-Wyandotte Irrigation District, became an issue in 1966. The canal parallels the Oroville reservoir above the normal pool elevation for approximately 7.5 miles.

The District contends that operation of Oroville reservoir will conflict with the operation of its system, create major slides, and cause substantial damage to the canal. The District has petitioned the California Public Utilities Commission to require the Department to construct a replacement facility. The Department has maintained it is not legally responsible for protection of the Miners Ranch Canal and has

---

29/ *Department of Water Resources Bulletin 139, "Abbey Bridge Reservoir: Advance Planning Report", December 1966.*

30/ *Department of Water Resources Bulletin 117-4, "Abbey Bridge Reservoir: Water Resources Recreation Report", December 1966.*

31/ *Department of Water Resources Project Orders 14, 15, 16, and 17, July 22, 1966.*

contended that the California Public Utilities Commission does not have jurisdiction over the matter.

On December 16, 1966, the Office of the Attorney General filed an action in the Federal District Court, asking that the California Public Utilities Commission be enjoined from proceeding further on the District's application.

Flood Control Contributions. In each year since 1963, the President's budget request to the Congress has included an item for flood control contribution at Oroville Dam consistent with the contract[32/] between the State and the United States; i.e., the request based on 22 percent of the preceding fiscal year's expenses at Oroville, plus accrued deficits in federal payments from preceding years. Each year, the House Appropriations Committee has continued to reduce the requested appropriation through application of a 2-5/8 percent interest rate in the cost allocation process, the going federal rate at the time of negotiation, in lieu of the composite state-federal interest rate of 3-1/2 percent agreed to during contract negotiations. This divergence from the provisions of the executed contract has been repeatedly pointed out by the Department,[33/] and will reach a climax when final payment to the State becomes due.

Disposition of Construction Headquarters. In December 1966, the existing Oroville construction headquarters was declared unsuitable for use as an operation and maintenance headquarters[34/] and, on December 30, 1966, a contract was awarded for construction of an Oroville operation and maintenance headquarters on Glen Drive.

32/ *Contract No. DA-04-167-CIVENG-62-56, DWR 152012, March 8, 1962.*

33/ *"Statement on Federal Public Works Appropriations for Fiscal Year 1968", presented by W. R. Gianelli before the House Committee on Appropriations, Subcommittee on Public Works Appropriations, Washington, D.C., May 4, 1967.*

34/ *Department of Water Resources memorandum from Carl A. Werner, District Director, Sacramento District, to Messrs. Teerink, Golze', Gardner, and Warne, "Utilization of the Glen Drive Complex", December 20, 1966, approved December 20, 1966.*

This action was reviewed by the new Director in 1967 and certain procedures adopted[35/] for the disposition of employee housing at the Glen Drive Complex not required for permanent operational facilities. The Department's overall position concerning the facilities of the Glen Drive Complex was redefined.[36/]

Oroville-Thermalito Letter of Agreement. Disposition of Oroville-Thermalito power which may become available prior to April 1, 1969, the earliest date that the California Suppliers would purchase its full output under a proposed long-term contract, was arranged in a letter of agreement[37/] signed November 18, 1966.

Recreation and Fish and Wildlife Enhancement. The Departments of Water Resources and Parks and Recreation entered into an agreement, May 6, 1966, to provide Parks and Recreation with an interest in state lands at Oroville reservoir for recreational purposes.

Plans for comprehensive recreational developments at Oroville reservoir, Thermalito Forebay, and Thermalito Afterbay were described in a recently released report.[38/]

North Bay Aqueduct

In August 1966, a tripartite contract[39/] was executed among the Department and Napa and Solano Counties, providing

---

35/ *"A Position Paper Regarding Employee Housing at Glen Drive Complex, Oroville Division", April 3, 1967, approved April 29, 1967.*

36/ *Utility Committee Memorandum from Helen T. Moss, Secretary, to W. R. Gianelli, Chairman, "Position With Regard to Glen Drive Complex Facilities", April 28, 1967, approved April 29, 1967.*

37/ *Letter to W. E. Warne from the California Suppliers, November 18, 1966 (DWR Contract No. 860441, LA Contract No. 10107).*

38/ *Department of Water Resources Bulletin 117-6, "Oroville Reservoir-Thermalito Forebay-Thermalito Afterbay Water Resources Recreation Report", December 1966.*

39/ *Agreement between the Solano County Flood Control and Water Conservation District, Napa County Flood Control and Water Conservation District, and the State of California, Department of Water Resources, executed August 25, 1966.*

for water service to the Napa County Flood Control and Water Conservation District to begin in 1968.

From 1968 to about 1980, nonproject water will be made available to the District from the Solano County Flood Control and Water Conservation District's federal Solano Project entitlement. Phase I construction will permit the transportation and delivery of such water through the Cordelia-Napa portion of the North Bay Aqueduct. Phase I construction was symbolically dedicated in Napa on March 3, 1967.

A Department report[40/] was issued in December 1966, concerning acquisition of rights-of-way for Phase II construction, which will complete the Delta-Cordelia portion of the North Bay Aqueduct. Studies are still continuing since early purchases of rights-of-way in areas susceptible to urban development could reduce the eventual costs of Phase II. When Phase II construction is completed in about 1980, a project water supply for both Napa and Solano Counties will be diverted from the Sacramento-San Joaquin Delta.

South Bay Aqueduct

Groundbreaking ceremonies for the Del Valle features of the South Bay Aqueduct were conducted by Director Warne, May 9, 1966, as construction began at Del Valle Dam.

In January 1967, the Department released a report[41/] concerning planned recreational developments associated with Del Valle reservoir.

A contract[42/] between the State and the United States was signed in May 1966, providing for a federal flood control contribution to the cost of Del Valle Dam and reservoir. Under the contract, the contribution will be 30.7 percent of all construction costs incurred subsequent to October 14, 1958, up to

---

40/ *Memorandum from C. A. McCullough, District Director, San Francisco Bay District, to Messrs. Teerink, Golze', and Warne, "Supplemental Report for Alignment of Phase II of the North Bay Aqueduct", November 16, 1966, approved December 8, 1966.*

41/ *Department of Water Resources Bulletin 117-2, "Del Valle Reservoir: Recreation Development Plan", December 1966.*

42/ *Contract No. DA-04-203-CIVENG-66-195 (DWR Contract No. 460387) executed May 31, 1966.*

a maximum of $4,080,000 -- plus $776,000 for the present worth of estimated annual operation and maintenance costs allocable to flood control. (An item of $530,000 was included in the $4.1 billion federal Public Works Act, for fiscal year 1967, for the initial federal contribution under the executed contract.)

Negotiation of this contract was virtually complete in 1964. Execution was delayed when unfavorable geological conditions were discovered at the site and the dam had to be redesigned. These conditions materially increased the estimated cost of the facility; therefore, the portion allocable to flood control is estimated to exceed the contractual limit of $4,080,000. The Department hopes to secure Congressional authorization for a restudy of the situation so that the contractual limit may be increased.

On January 26, 1967, the Senate Public Works Committee directed the U. S. Corps of Engineers to determine whether any modification of the recommendations within its original report[43/] would be justified with respect to federal contributions to project costs.

In its review report,[44/] the General Accounting Office disagreed with the amount of the federal contribution under the executed contract and stated that a more complete evaluation of the factors involved would have indicated that a local flood control contribution of between $1,100,000 and $2,400,000 may have been appropriate. The Department of the Army and the Corps of Engineers do not concur in the General Accounting Office's views.

The report maintains that the Corps does not have adequate procedural means to collect and report information with respect to local benefits on such projects as Del Valle Dam and reservoir. The General Accounting Office also suggests that Congress may wish to consider the information presented in the review, should any future legislation be introduced which would authorize a reevaluation of the costs

---

43/ *U. S. Army Engineer District, San Francisco, Corps of Engineers, "Review Report on Alameda Creek, California, for Flood Control and Allied Purposes", March 1961.*

44/ *Report to the Congress of the United States by the Comptroller General of the United States, "Review of Planned Federal Contribution Toward the Cost of State-Constructed Del Valle Dam and Reservoir, Alameda County, California", January 1967.*

of Del Valle allocable to flood control -- and of the amount properly contributable by the Federal Government.

Delta Facilities

The Peripheral Canal is the officially designated State Water Project facility to transfer project water across the Sacramento-San Joaquin Delta.

A bill[45/] was introduced in the Eighty-ninth Congress, which would authorize the Bureau of Reclamation to participate with the State in the design and construction of the Peripheral Canal. However, no action was taken on the bill.

Director William E. Warne briefed the California Congressional Delegation in Washington D.C., June 8, 1966, on the proposed federal-state participation in the Peripheral Canal. Briefings on the proposal were held in Sacramento and Los Angeles on December 15, and 16, 1966, for the Congressional Delegation and other interested parties, to emphasize the urgency of federal authorization. A brief factual summary[46/] was distributed.

The Bureau of Reclamation has already distributed its preliminary feasibility report on the Peripheral Canal. The results of the State's review were transmitted to the Bureau, July 18, 1966.[47/]

Previous studies by the Department have indicated that the Peripheral Canal should be operational by 1974, to meet planned objectives. The Department is currently making a reanalysis and evaluation of the consequences should the Canal not become operational by that date.

45/ *House Resolution 18401, 89th Congress, Second Session, introduced by Congressman John McFall, October 17, 1966.*

46/ *Department of Water Resources Report (unnumbered), "The Peripheral Canal of the Sacramento-San Joaquin Delta", December 1966.*

47/ *Letter from Hugo Fisher, Administrator of Resources, The Resources Agency, State of California, to Mr. R. J. Pafford, Jr., Regional Director Region 2, Bureau of Reclamation, July 18, 1966.*

In April 1967, the first agreement[48/] concerning Western Delta water entitlements was executed between the Department of Water Resources, acting for the State, and the Contra Costa County Water District of Pittsburg, California. This agreement defines the loss of the District's entitlement to Delta water and the State's responsibility[49/] thereof, due to operation of the State Water Project. Under the contract, the State agrees to reimburse the District for the cost of a substitute supply in replacement of Delta water lost due to operation of the Project.

Payments to the District will vary annually, with a maximum payment estimated at $86,000 in a dry year.

The Department is proceeding in discussions with other municipal and industrial water users in Contra Costa County, with the object of executing similar agreements with them.

California Aqueduct

Various actions during the reporting period affected the design of certain California Aqueduct features. These, and other pertinent events, are recorded for each division of the Aqueduct main line, and for each Aqueduct branch, in the following sections:

North San Joaquin Division. The Clifton Court Forebay is the furthermost upstream feature of the California Aqueduct.

On October 7, 1966, the Department of Water Resources requested concurrence by the California Water Commission, as required by law in eminent domain proceedings, in its proposal to acquire approximately 4,550 acres of land for construction of the Clifton Court Forebay. This acreage included not only the land requirements of the Forebay proper, but also those for associated recreational developments.

The Commission deferred the matter until its January 6, 1967, meeting, at the request of local interests which contended

---

48/ *Agreement between the State of California, Department of Water Resources, and the Contra Costa County Water District, executed April 21, 1967.*

49/ *California Water Code Sections 10505, 11460-11463, and 12200-12220.*

that other locations in Contra Costa County were better suited for water-associated recreation. The Department also provided additional information[50/] which had been requested by the Commission.

While it was conceded that the Forebay would be required to serve the water supply function of the Project, the size planned by the Department was questioned. The Commission again deferred final action on the Department's proposal, until its February meeting, to allow time for the new Director to review the Department's plan.

Following his personal review, Director Gianelli recommended that:

> "1. The California Water Commission concur in my Director's declaration of public interest and necessity for lands needed for the water supply features of the Clifton Court Forebay. These lands equal 2,993 acres.
>
> "2. A decision on the lands to be acquired specifically for recreation be delayed until a new Director of the State Department of Parks and Recreation has had the opportunity to review the recreational plan, and discuss it further with local interests."[51/]

The Commission reconvened February 3, 1967, and adopted a resolution[52/] to concur in the first recommendation, but took no action on the second.

One of the planned recreational developments associated with the California Aqueduct in the North San Joaquin division was the subject of a report[53/] released in 1967. The report provides information to support requests for General Fund appropriations to commence construction at proposed Ingram Creek Aquatic Recreation Area, in western Stanislaus County.

50/ *Letter from W. E. Warne to Ralph M. Brody, Chairman, California Water Commission, October 28, 1966.*

51/ *Letter from W. R. Gianelli to Ralph M. Brody, January 31, 1967.*

52/ *Resolution No. 67-13, California Water Commission, State of California, February 3, 1967.*

53/ *Department of Water Resources Bulletin 117-20, "Ingram Creek Aquatic Recreation Area, Recreation Development Plan", December 1966.*

San Luis Division. In February 1967, the Department was notified[54/] that the official U. S. Department of the Interior nomenclature for the San Luis Forebay facilities had been revised to honor the late J. E. O'Neill -- a past president of the Westlands Water District -- who was instrumental in passage of the federal San Luis Act by the Congress. The joint-use forebay facilities were officially renamed O'Neill Dam and O'Neill Forebay. The Department modified its project nomenclature accordingly.[55/]

South San Joaquin Division. A request,[56/] originated by the Kern County Water Agency, for a change in design capacities for certain aqueduct reaches in the South San Joaquin division was approved in September 1966. The design capacity in the reaches between Tupman Road and Buena Vista Pumping Plant will be increased 278 cubic feet per second; in the reaches between the Pumping Plant and Santiago Creek, 122 cubic feet per second.

A report[57/] concerning the Kettleman City Aquatic Recreation Area, in western Kings County, was released in January 1967.

Tehachapi Division. A proposal[58/] concerning the future enlargement of the California Aqueduct downstream from the Tehachapi Pumping Plant was discussed during the November 1966 meeting of the Water Service Contractors Council.[59/]

54/ *Letter from Robert J. Pafford, Jr., Regional Director, Bureau of Reclamation, U. S. Department of the Interior, to W. R. Gianelli, February 21, 1967.*

55/ *Department of Water Resources Project Nomenclature Order 12, March 30, 1967.*

56/ *Department of Water Resources memorandum from Carl L. Stetson to Messrs. Teerink, Golze' and Warne, "Request for Change of Aqueduct Capacity Allocated to Kern County Water Agency", August 25, 1966, approved September 14, 1966.*

57/ *Department of Water Resources Bulletin 117-19, "Kettleman City Aquatic Recreation Area: Recreation Development Plan", December 1966.*

58/ *Letter to J. J. Doody from Robert A. Skinner, General Manager, The Metropolitan Water District of Southern California, August 29, 1966.*

59/ *Water Service Contractors Council Memo 254, "Minutes of Water Service Contractors Council, Los Angeles, California, November 17, 1966", December 29, 1966.*

As a result, letters were sent to all contracting agencies in Southern California asking for approval of the proposal, whereby:

1. Tunnel linings and siphons of the Tehachapi division would be constructed to withstand increased water pressures so as to accommodate a future increase in conveyance capacity of approximately 1,260 cubic feet per second.

2. The Mojave division would be constructed so that, by future additions to the canal lining, siphons, and additional pumping units at Pearblossom Pumping Plant, the conveyance capacity could be increased by approximately 700 cubic feet per second. (Sufficient capacity is included in the design of the West Branch to accommodate the remaining 560 cubic feet per second of the potential increase in the Tehachapi division's capacity.)

3. All additional project costs to be incurred by reason of the above would be allocated among all downstream water supply contractors by the same ratios the State would have computed had the proposal not been accepted -- and would be reimbursed to the State under the standard 50-year amortization schedule.

4. The additional delivery capability which may be provided in the future would be distributed among downstream contractors in accordance with the ratio of the present delivery capability being provided for each contractor to the total present capability of the aqueduct reaches involved.

Unanimous approval was received from all contractors whose water charges would be affected. The proposal was formally approved by Director Warne in December 1966.60/

In response to an appeal by The Metropolitan Water District of Southern California, the 1965 decision to adopt a single-lift system for the Tehachapi Pumping Plant was

---

60/ *Memorandum from James J. Doody to Messrs. Teerink, Golze', and Warne, "Transmittal of Position Paper", December 23, 1966, approved December 30, 1966.*

reexamined. Director Gianelli notified[61] Metropolitan that the new administration's policy would confirm the Department's previous position:

> "... I have concluded that the single-lift system, as recommended by the Tehachapi Crossing Consulting Board in their letter dated May 8, 1965, and as approved by the Chief Engineer in his memorandum to the Director of August 18, 1965, should be constructed as currently planned. While, from an engineering standpoint it would appear possible to construct the system utilizing at least two-lift pumps, information has not been presented to demonstrate the infeasibility of the single-lift system."[62]

A decision was recently made[63] to increase the design capacity of the Tehachapi division, from 4,100 cubic feet per second to 4,150 cubic feet per second. The increase was necessary to help compensate for a reduction in regulatory storage capacity for a project reservoir located downstream therefrom.

Pump unit capacities limit the total capacity of the division. If experiences gained during the operation of the initially installed units indicate that actual pump performance is not sufficient to accommodate the approved capacity increase, the specifications for the last group of units (three currently scheduled for installation by 1976) would be modified accordingly.

Mojave Division. Intensive geological and seismological studies by the Department resulted in the reformulation[64] of plans for Cedar Springs Dam and Lake[65] in August 1966. Under this action:

61/ *Letter from W. R. Gianelli to Joseph Jensen, Chairman, Board of Directors, The Metropolitan Water District of Southern California, January 31, 1967.*

62/ *Ibid, p. 4.*

63/ *Department of Water Resources memorandum from John R. Eaton, Chief, Water Contracts Coordination, to Messrs. Steiner, Teerink, Golze', and Gianelli, "Design Capacity of the Tehachapi Division, California Aqueduct", April 18, 1967, approved May 6, 1967.*

64/ *Department of Water Resources memorandum from J. J. Doody to Messrs. Teerink, Golze', and Warne, "Cedar Springs Reservoir Position Paper", July 21, 1966, approved August 8, 1966.*

65/ *Department of Water Resources Project Nomenclature Order 9, December 20, 1966.*

1. Cedar Springs Dam and Lake will be sized to 78,000 acre-feet of capacity (as opposed to the previously planned 200,000 acre-feet) with a normal water surface of 3,355-foot elevation.

2. The design conveyance capacities of the Mojave division will be increased by 100 cubic feet per second to compensate for the loss of downstream regulatory storage capacity.

3. Continuing studies will be made to determine the optimum method for providing an additional 100 cubic feet per second conveyance capacity from San Luis reservoir to the Mojave division.66/

House Resolution 150 of the 1966 First Extraordinary Session of the Legislature commemorates the late W. E. "Ted" Silverwood for his efforts in promoting the State Water Project and refers to a Senate Resolution adopted in 1960, which requested the Department to propose to the U. S. Department of the Interior that Cedar Springs Lake be named "Silverwood Lake".67/

66/ *The current draft of Amendment 7 to the water supply contract between the State and The Metropolitan Water District of Southern California would release, to the Project, 50 cubic feet per second of the District's excess capacity between Kettleman City and the Mojave division. This capacity, together with the reach capacities formerly reserved for a potential thermal powerplant (considered in the vicinity of the Tehachapi Pumping Plant), and the 50 cubic feet per second increase in the design capacity of the Tehachapi division (See Footnote 63), would provide the additional capacity required below Kettleman City to compensate for the loss of Cedar Springs storage.*

67/ *Assembly Bill 1637 of the 1967 Session was introduced by Assemblyman Hinckley, April 6, 1967, to establish Silverwood Lake as the official name for Cedar Springs Lake.*

The proposed Cottonwood Powerplant was restudied in early 1967 and the decision made[68] to initially construct only the bypass portion of the plant and to defer construction of the generation features. The work on the site development construction contract, underway prior to the restudy, is continuing and will be completed in September, 1967.

The pump unit installation schedule for Pearblossom was established[69] in March 1967. Only the first four units of Pearblossom Pumping Plant will be installed under the initial contract (to be operable in 1972) with the last two units installed so as to be operable in 1977.

Santa Ana Division. A previous Department plan to construct two powerplants in Devil Canyon was reassessed in 1966 and a decision made[70] to construct only a single installation -- designated the Devil Canyon Powerplant.[71]

The change was made on the basis of operational reliability and economic advantage. A west side surface alignment was chosen for the aqueduct between the San Bernardino Tunnel and the Powerplant because of lower overall construction cost and greater accessibility for repair in event of seismic damage.

The Board of Directors of the San Gabriel Valley Municipal Water District asked the Department for increased capacity in the San Bernardino Tunnel in the amount of 21 cubic feet per second.[72] Negotiations are under way which would accommodate the request.

68/ *Department of Water Resources Memorandum from James J. Doody, to Messrs. Dewey, and Golze', "Cottonwood Powerplant Feasibility Study", April 3, 1967, approved May 16, 1967.*

69/ *Department of Water Resources memorandum from Robin R. Reynolds, Chief, Statewide Operations Office, to Messrs. Teerink, Golze' and Dewey, "Staging of Oso and Pearblossom Pumping Plant Units", March 7, 1967, approved April 27, 1967.*

70/ *Department of Water Resources memorandum from J. J. Doody, to Messrs. Teerink, Golze' and Warne, "Transmittal of Position Paper on Devil Canyon Power Development", June 6, 1966, approved August 8, 1966.*

71/ *Department of Water Resources Project Nomenclature Order 10, December 20, 1966.*

72/ *Letter to J. J. Doody from San Gabriel Valley Municipal Water District, March 2, 1967.*

In October 1966, Amendment 5[73/] to The Metropolitan Water District of Southern California's water supply contract was executed to provide for possible future enlargement of Perris reservoir to a total capacity of 500,000 acre-feet, as compared with the 100,000 acre-foot facility the State would otherwise have constructed. Under terms of the amendment, the District will advance to the State funds to cover all additional design and construction costs incurred by reason of the amendment. The enlargement may be made in one or more stages. Advances for the additional rights-of-way, relocation, and planning costs involved were covered in Amendment 4, described in last year's bulletin.[74/]

In accordance with Amendment 4, the Department had transmitted[75/] to the District analyses of several alternative sizes and staging intervals for Perris Dam and reservoir, up to a maximum size of 500,000 acre-feet. The District was notified, in accordance with paragraph 6 of the Amendment, that the Department planned to start final design on Perris Dam and reservoir within 90 days after receipt of the analyses.

Metropolitan subsequently gave notice[76/] that it desired the Department to provide for the future enlargement of Perris reservoir, and negotiation on Amendment 5 commenced in July 1966.

In October 1966, Metropolitan and the Department executed still another water supply contract amendment.[77/] Amendment 6 provides for the construction of 787 cubic feet per second of excess peaking capacity in the San Bernardino Tunnel, and for Metropolitan's advance to the State of funds covering all additional construction costs occasioned thereby.

73/ *Amendment 5 to water supply contract between the State of California, Department of Water Resources, and The Metropolitan Water District of Southern California, executed October 10, 1966.*

74/ *Department of Water Resources Bulletin 132-66, p. 26.*

75/ *Letter from James J. Doody to Robert A. Skinner, General Manager, The Metropolitan Water District of Southern California, May 31, 1966.*

76/ *Letter from Robert A. Skinner to James J. Doody, July 15, 1966.*

77/ *Amendment 6 to water supply contract between the State of California, Department of Water Resources, and The Metropolitan Water District of Southern California, executed October 10, 1966.*

West Branch of the California Aqueduct. In October 1966, a change in design for Pyramid Dam and reservoir was approved[78/] to allow a normal water surface elevation of 2,578 feet. Total storage capacity at the new elevation will be about 170,000 acre-feet. This increase in capacity was necessary to permit provision of 10,000 acre-feet of storage for the West Branch Cooperative Power Development.

The pump unit installation schedule for Oso Pumping Plant was established in March 1967.[79/] All units will be installed under the initial contract and will be operable in 1971.

In November 1966, the official description of the West Branch of the California Aqueduct was redefined[80/] to reflect the West Branch Cooperative Power Development.[81/]

San Joaquin Drainage Facilities

Over a period of years, the Department and the Bureau of Reclamation have been negotiating a contract for construction of a joint San Joaquin Master Drain. In 1966, the Department approved the form of a contract which provided for state construction and operation of the First Stage of the Master Drain (with the Federal Government paying its equitable share of the costs for drainage service from the federal San Luis Unit service area), and sent it to the U. S. Department of the Interior and the Bureau of the Budget for final review. Early in 1967, the Department was notified[82/] that the Federal Government was prepared to sign the contract, as drafted.

78/ *Department of Water Resources Memorandum from James J. Doody to Messrs. Teerink, Golze', and Warne, "Position Paper Regarding the Size of Pyramid Reservoir", September 16, 1966, approved October 10, 1966.*

79/ *See Footnote 69, p. 26.*

80/ *Department of Water Resources, Project Order 18, November 19, 1966.*

81/ *See Footnote 25, p. 12.*

82/ *Letter from Kenneth Holum, Assistant Secretary of the Interior, U. S. Department of the Interior, to W. R. Gianelli, January 19, 1967.*

By letters dated January 31, 1967, Director Gianelli notified 28 local agencies in the San Joaquin Valley of the pending contract with the Federal Government, and requested each of these agencies to give an indication -- by March 1, 1967 -- on whether or not they desired to participate in the use of the drainage facility, and whether or not they would be willing to repay their share of the reimbursable costs of the State's portion of the costs thereof. Full repayment of the costs would approximate $16 to $20 per acre-foot for a drain discharging in the vicinity of Antioch Bridge.

Responses indicated an unwillingness or inability to assume repayment of the cost of the State's participation in the facility. Since the only project costs which the Legislature has declared to be nonreimbursable are those allocable to recreation and fish and wildlife enhancement, the Department withdrew its participation in the proposed federal-state drainage facility.

Director Gianelli notified the Bureau[83/] of the negative response from potential drainage contractors in the San Joaquin Valley and advised that the State was not in a position, at that time, to proceed with construction of the First Stage of the San Joaquin Master Drain as contemplated under the draft agreement. He requested that the Bureau proceed with construction of a federal Interceptor Drain, as provided for in the federal San Luis Act.

The Director added that the State, acting through the Department of Water Resources, still desired to participate in the acquisition of the necessary lands, easements, and rights-of-way for the federal Interceptor Drain, so that sufficient lands could be acquired at the time of federal construction to ultimately locate the state drainage construction within the same right-of-way area. The Department also expressed the desire to participate in the necessary pilot plant test studies aimed at developing waste water denitrification processes.

Local Projects

The Davis-Grunsky Act authorizes state financial assistance by grants, loans, or both to public agencies for

---

83/ *Letter from W. Gianelli to Robert J. Pafford, Jr., March 10, 1967.*

local water projects. State loans are authorized to agencies for the construction of needed local projects and for the preparation of feasibility reports on such projects. State grants are authorized for construction costs allocated to the enhancement of fish and wildlife, to recreation, and to initial water supply and sanitary facilities for recreation. Direct state participation in local projects is also authorized under certain conditions.

Prior to April 1, 1967, the Department had approved a total of $45,158,039 in grant and loan applications under the Davis-Grunsky program. The following loans and grants, approved since April 1, 1966, account for $19,673,039 of the total:

1. A total of $4,403,100 in recreation, fish enhancement, and initial water supply and sanitary facilities grants to the Yuba County Water Agency for its Yuba River development project in Yuba, Sierra, and Nevada Counties.

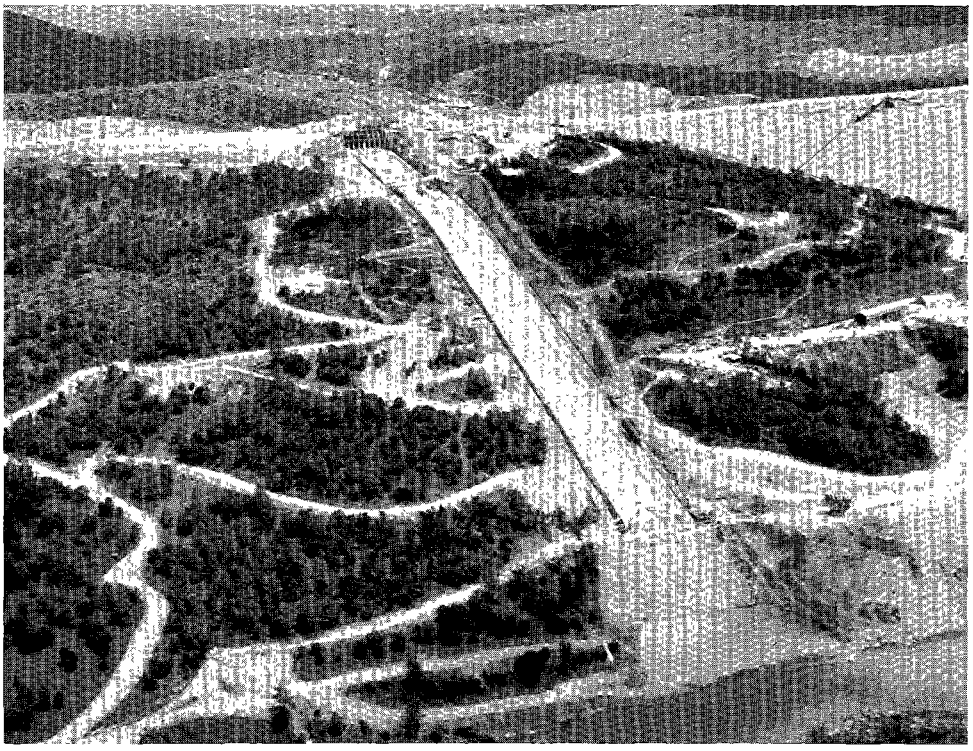
2. A total of $4,295,000 in recreation, fish enhancement, and initial water supply and sanitary facilities grants to the Siskiyou County Flood Control and Water Conservation District for its Box Canyon Project in Siskiyou County

3. A $12,500 loan to the Igo-Ono Community Services District for the preparation of a feasibility report on a municipal and irrigation water distribution system in Shasta County.

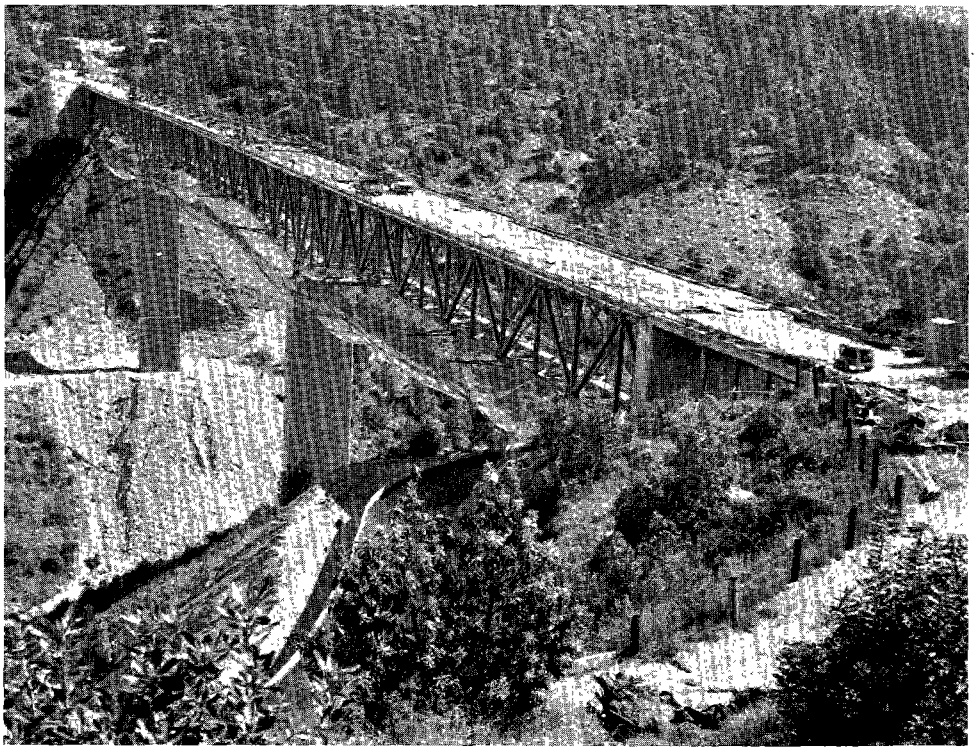
4. A total of $7,970,700 in recreation, fish enhancement, and initial water supply and sanitary facilities grants to the Merced Irrigation District for its Merced River Development in Merced and Mariposa Counties.

5. A $388,690 loan to the Manila Community Services District for construction of a municipal water distribution system to serve the community of Manila in Humboldt County.

6. A $2,545,000 grant to the Oroville-Wyandotte Irrigation District for recreation construction in connection with dams and reservoirs of the District's South Fork Feather River Project in Plumas and Butte Counties.



The Oroville Dam Spillway. (Oroville Area)



The B. Abbott Goldberg Bridge across the South Fork of the Feather River. (Oroville Area)

7. A $20,500 loan to the Willow Creek Community Services District for a feasibility report on a municipal water system in Humboldt County.

8. A $2,000 feasibility report loan to the Groveland Community Services District for extension of a municipal water supply system in Tuolumne County.

9. A supplemental grant of $35,549 to the Jackson Valley Irrigation District for initial water supply and sanitary facilities in Amador County.

Transactions under the Davis-Grunsky program continue to be reported annually to the Legislature.84/

84/ *Department of Water Resources 1966 Report to the Legislature, "Transactions Under the Davis-Grunsky Act", January 1967.*

CHAPTER III. PROJECT RESEARCH AND DEVELOPMENT ACTIVITIES - FAULT MOVEMENT

California and Alaska experience more, and larger, earthquakes than the other 48 states combined. Both lie within a seismic belt which roughly circles the Pacific Ocean. About 80 percent of the Earth's major quakes occur within this infamous "Ring of Fire".

This State has earthquakes for the same reason it has mountain scenery. California's quakes are tectonic in nature -- caused by those forces within the Earth which are responsbile for mountain building.

Structurally, the State is broken into a number of blocks separated by "faults", great fractures in the Earth's crust. Due to slowly developing stresses deep within the Earth, these blocks move in relation to each other. Every time one block grates past another, California has an earthquake.

Tectonic forces constantly introduce strain into the rocks on each side of a fault. If resistance of the rocks is relatively small, the Earth moves after only a slight buildup of elastic strain, and the resulting earthquake is minor. If the strength of the rocks is relatively large, or if the fault is "glued" tightly by friction, then stresses may build to massive proportions, and result in a major earthquake when eventually released.

This chapter is devoted to a nontechnical description of significant research and development programs which affect the design, construction, and contemplated operation of the State Water Project.

One of the programs highlighted in last year's chapter was the Department's pioneer development of preconstruction techniques to control a downward moving land surface -- in those arid locales to be traversed by the California Aqueduct where the underlying soil exhibits a unique tendency to consolidate when intensely irrigated by man.

This year's chapter describes the Department's research program concerning tectonic movements of the Earth itself and their effects upon the Project. Such movements are neither caused nor controlled by man. Their destructive effects can be minimized through proper planning, however.

This program is concerned not only with earthquakes -- the dramatic expression of sudden tectonic movements -- but also with ordinarily imperceptible displacements which may cause serious consequences where project facilities are concerned.

Earthquakes

Fault movements cause California's earthquakes -- not vice versa. Neither the relationship of faults to earthquakes nor the scope of the State's extensive fault systems were recognized until this century. Furthermore, while earthquakes are impossible to ignore and have been measured for some years, the detection of underlying fault movements was not possible until recent advances in instrumentation technology. Thus, the recorded history of fault movement in California has centered on its more noticeable consequences -- earthquakes.

Seismographs

The seismograph, basic instrument for measuring earthquakes, was effectively developed in about 1880. A seismograph records an indication of the amplitude of earthquake shock waves. The record produced is termed a "seismogram". The distance to the epicenter (where the earthquake originates) can be calculated from a seismogram, since it records the time of arrival of at least two distinct types of waves which emanate from each shock, and which travel at known speeds.

The many types of seismographs cover a wide range of sensitivity from relatively insensitive (strong-motion) to very sensitive instruments. In its elemental form, a seismograph consists of a heavy pendulum (which remains relatively at rest) and a pendulum support (which moves with the Earth). The pendulum of a seismograph is generally restrained so that it is affected by shaking in only one direction. Thus, three components are required to obtain an accurate record at a particular location -- one each for north-south, east-west and vertical motion. From the seismograms of such a station, the full amplitude along the line of action of the quake can be computed.

Measurement Scales

Earthquakes can be evaluated in terms of either effect or energy. The first measurement (intensity) is based

on personal observation -- the second (magnitude), on seismograms. The two measurements are completely separate in intent and result. While an earthquake can have only one magnitude, it can have several intensities -- depending upon the distance from the epicenter and the foundation conditions of a particular area.

Intensity. Firsthand personal observations and experiences at specific points during a quake are much more meaningful to a layman than instrument recordings. A common scale used to relate these observations and experiences is based on a I to XII range. For instance, a shock of intensity I is hardly noticed by an experienced observer; intensity V is felt by nearly everyone awake; intensity VIII causes general fright (bordering on panic) and considerable damage; and, intensity XII destroys nearly all works of man, causes waves to be seen on the ground surface, and throws objects up into the air.

Magnitude. The Richter Magnitude Scale, first published in 1935, gives an index of the energy released by an earthquake at its epicenter -- based upon the maximum amplitude of earthquake waves recorded by a standard seismograph at a distance of about 62 miles (100 kilometers). Since most seismograph stations are bound to be located at a distance other than the arbitrary 62 miles, records of several stations are compared and conversion tables are used to arrive at a final figure.

The Richter Scale has no fixed maximum; however, observations have placed the largest known earthquakes at 8.8 to 8.9. Because the scale is aimed at covering an enormous range of energy levels, an increase of one whole number indicates a 32-fold increase in energy release. Thus, a magnitude 8 earthquake does not generate double the energy of a magnitude 4 shock, but about a million times the energy.

A History of California Earthquakes

The first recorded earthquake in California was felt in 1769 when the Spanish explorer, Gaspar de Portola, was encamped on the Santa Ana River near the present town of Olive in Orange County. Men and horses were reported to have been knocked to the ground, and the river thrown out of its channel.

Seismological measurements began in 1887 at the Lick Observatory under the direction of E. S. Holden, then president of the University of California. Holden also made a compilation of California earthquakes, using eyewitness accounts for much of his data, to cover the years between 1769 and 1897. So many were reported for 1812 the year has since been referred to as the "year of earthquakes".

California has had several "monster" earthquakes during recorded history -- the Fort Tejon in 1857 with estimated magnitude 7.8 and maximum intensity X; the Owens Valley (the largest) in 1872 with estimated magnitude 8.3 and maximum intensity XI - XII; and, the San Francisco in 1906 with magnitude 8.3 and maximum intensity X - XI. Some experts believe the the shocks of 1812 (near Santa Barbara) and 1839 (near San Francisco) were also in this category, but historical records are not adequate to definitely establish their size. During the last 50 years, only the Arvin-Tehachapi Earthquake in 1952 has even approached these in size (magnitude 7.7 and maximum intensity X - XI). However, the last 50 years have also produced 33 earthquakes registering over magnitude 6 in California, and 21 more in adjacent areas of Baja California and Nevada.

California Fault Systems

Not until after the San Francisco Earthquake of 1906, which caused a 21-foot horizontal displacement that was visible on the land surface for 190 miles, caused the destruction of most of San Francisco, and killed approximately 600 people, was the great San Andreas Fault identified and named. Since that time, hundreds of faults have been identified in California, the most important of which are shown on Figure 1.

The faults in California exhibit distinct variations in direction and movement. The San Andreas and related faults are arranged in a northwest-southeast direction. Another group -- dominated by the Garlock Fault -- runs predominantly southwest-northeast. The San Andreas Fault system is an example of right-lateral movement. (If one stands on either side of the fault line and looks across it, the movement of the opposite side is always to the observer's right.)

The San Andreas Fault is the most dominant fault in California today, and extends some 650 miles from San Gorgonio Pass in Southern California, along the Coast Range section of Central California, to the ocean near Point Arena on the Mendocino County coast. Its movement has caused two

CALIFORNIA
STATE WATER PROJECT
AND
ACTIVE FAULTS
LEGEND
ACTIVE FAULT
(dashed where location is approximate or concealed)
UPPER FEATHER RIVER RESERVOIRS
PORT SAGE FLT
MOHAWK VALLEY FAULT
UPPER EEL RIVER DEVELOPMENT
OROVILLE DAM & RESERVOIR
SACRAMENTO
FEATHER R.
SAN
NORTH BAY AQUEDUCT
RIVER
PERIPHERAL CANAL
BETHANY RESERVOIR
CALAVERAS
HAYWARD
FAULT
SOUTH BAY AQUEDUCT
ANDREAS
FAULT
ZONE
SAN LUIS DAM & RESERVOIR
CALIFORNIA AQUEDUCT
SIERRA
NEVADA
FAULT ZONE
FAULT
NACIMIENTO
FAULT
ZONE
COASTAL BRANCH
WHITE WOLF FAULT
GARLOCK
FAULT ZONE
PYRAMID RESERVOIR
HELENDALE
MANIX FLT
NEWBERRY FAULT
BIG PINE FAULT
CEDAR SPRINGS LAKE FAULT
SANTA YNEZ FAULT
CASTAIC RESERVOIR
SAN
WEST BRANCH
PERRIS RESERVOIR
MILL CREEK-MISSION CREEK FAULT
NEWPORT
INGLEWOOD FT
ELSINORE
SAN JACINTO FAULT ZONE
ANDREAS FAULT ZONE
AQUA CALIENTE FAULT ZONE
IMPERIAL FLT
SAN CLEMENTE FAULT
N

of the greatest earthquakes in California's history (the San Francisco and the Fort Tejon). Like all major faults, the San Andreas is not a single break in the rock, but a system made up of several parallel lines of activity.

The Garlock Fault is the second largest fault system in California. Starting from an intersection at almost right angles to the San Andreas Fault west of the Tehachapi Mountains, the Garlock may be traced eastward for 150 miles to Death Valley. Strangely enough, there has not been a single great earthquake during recorded history that can be blamed on the Garlock Fault.

The White Wolf Fault was considered a short, relatively insignificant fault until 1952, when it unexpectedly generated the greatest earthquake to hit California since 1906. Its known length is only 34 miles at the southern edge of the San Joaquin Valley. The fault was first traced in the early 1900's, but had always been presumed inactive. In 1952, it suddenly and unpredictably caused the Arvin-Tehachapi Earthquake in Kern County -- one of the largest in California's history.

Proximity to the State Water Project

No water development of the size of the State Water Project is known to have been constructed anywhere, let alone in such a seismically active environment. All of the Project's aqueducts will either cross or parallel active faults, as indicated on Figure 1.

The 444-mile-long California Aqueduct parallels the San Andreas Fault for most of its length. In the southern San Joaquin Valley, it will cross the White Wolf Fault. Within the Tehachapi division, the Aqueduct will cross the Garlock Fault. In the Mojave division, the Aqueduct will cross the San Andreas Fault twice near Palmdale. In the Santa Ana division, the Aqueduct will cross the San Andreas Fault again in Devil Canyon, and the San Jacinto Fault a few miles further south. The West Branch will cross the San Andreas Fault at Quail Lake. The Coastal Branch will cross the San Andreas Fault (near Cholame) and the Nacimiento Fault.

The North Bay Aqueduct will traverse several small faults north of the San Francisco Bay area. The South Bay Aqueduct crosses two very active faults, the Calaveras and the Hayward.

Potential Consequences

Project facilities will contain about 7 million acre-feet of water -- more than 7,000 times that loosed by the Baldwin Hills Reservoir failure in 1964. In addition to posing a threat to public safety, fault movements could tax the reliability of the Project in meeting on-schedule water deliveries.

The Project's aqueducts are susceptible to earthquake damage at each fault crossing. A recurrence of the 1857 Fort Tejon Earthquake, for example, might rupture the ground for hundreds of miles along the San Andreas Fault and break the California Aqueduct at Devil Canyon, Quail Lake, Palmdale, and Cholame. Such an earthquake could also break both the Los Angeles Aqueduct and the Colorado River Aqueduct, thereby severing all of the Southern California metropolitan area's imported supply.

The California Aqueduct is also susceptible to landslides which could be activated by relatively small quakes throughout most of its length. Relatively low intensity (VI) shaking at a considerable distance from the 1964 Alaska epicenter triggered large slides which caused catastrophic destruction.

Even in the absence of accompanying catastrophic or small earthquakes, the slow but relentless movement of crustal blocks threatens eventual disruption or damage of project facilities.

Because of the relatively low canal gradients of the California Aqueduct (averaging about a foot drop in every five miles of canal length), and because of the vertical design of power turbines and pumps, the State Water Project is sensitive to regional tilt. The tectonic movement of the Earth's crust could modify canal gradients and conveyance capacities of canal sections. Tilting of the Earth's crust in the vicinity of the Project's pumping and power recovery plants could result in increased wear and shortened lives of motor and generator bearings. Since these large units must be secured by a substantial concrete base, the reinstallation of a motor or generator on its foundation would take at least six months. Of course, a much longer repair time would be required if damage were sufficient to require the manufacture of a new unit.

The Plan for Protecting Project Facilities

The costs of constructing a 100 percent earthquake-resistant State Water Project would probably not be economically justified. Instead, the Department's plan is to design those project facilities whose failure would endanger life and property (such as dams and reservoirs) to withstand catastrophic damage from major earthquakes and fault movements. Project conveyance facilities (such as canals, tunnels, and pipelines) are being designed to resist reasonable amounts of fault movement and shaking by minor quakes -- and to be capable of being rapidly repaired if ruptured or blocked by major quakes.

The general elements of the Department's plan concerning the design of project conveyance facilities are:

1. Structures (check gates, pumping plants, and power recovery plants), excavations, and embankments will be designed to preclude catastrophic failure in the event of any reasonably expected earthquake.

2. In the proximity of active faults and where geology permits, the aqueduct alignment will be located on or in hard rock rather than in loose alluvial soils, since shock waves cause less damage to structures and works located on a firm foundation.

3. Crossings of active faults will be made at right angles and at the ground surface. Tunnel crossings of active faults will be avoided.

4. Canal sections, or pipelines, at fault crossings will be designed to withstand reasonable amounts of expected fault movement.

5. Check gates will be installed in canal sections immediately upstream from fault crossings, and will be automatically controlled so that flows can be stopped immediately in the event the downstream sections are ruptured by an earthquake. Such close control is attainable under the adopted "constant volume" mode of aqueduct operation.

6. All canals, pipelines, and tunnels will be served by solid access routes, so that heavy earth-moving equipment can be rushed to the scene of a break immediately after an earthquake.

Notwithstanding the precautions being taken in the design and location of project facilities, the Department's overall plan for continued safe and reliable project operation includes a continuing research program concerning the seismic and tectonic characteristics of the Earth's crust -- where occupied by project facilities.

The program's ultimate objectives are to determine exactly where faults lie in relation to project facilities and the definite extent of their spheres of influence; how active they are or are likely to be; and, if possible, when the consequences will be felt -- be it earthquake or imperceptible movement. As the development of such information continues after the Project has been constructed, advance plans for the rapid location and correction of earthquake damage can be perfected, and replacement and repair schedules developed for optimum economy and reliability.

The Program

The Department initiated a "Fault Strain Investigation" program in 1959 to supplement information being developed by various organizations -- such as the University of California, the U. S. Coast and Geodetic Survey, the U. S. Geological Survey, and the California Institute of Technology. Federal-state cooperative programs for earthquake engineering and additional geodetic control began in July 1963. Today, all of the Department's seismic and geodetic activities are included in the "Earthquake Engineering Program".

The present scope of the Earthquake Engineering Program has developed on the broad basis that every reasonable effort be made to ensure a safe and reliable project -- in view of man's rather limited knowledge in this field. Certain program activities pertain solely to the State Water Project. Other program activities advance the science as a whole and have application to additional situations and facilities.

A portion of the Program's costs are funded by federal contributions. In some previous years, supplemental financing has been obtained from the State General Fund, in view of statewide interest and widespread application of program findings. However, the availability of general funds to support part of the activities has been, and will continue to be, a problem. To date, the majority of the Program's costs are being financed by project funds and included in those reimbursable costs repaid by the Project's water supply contractors. While the contractors recognize the desirability and usefulness of the Program's activities, they contend that the General Fund should bear a proper share of these costs.

The Department has recently completed a reassessment of the activities and financing of the Earthquake Engineering Program as part of the general project cost review. (The reassessment was referred to in Chapter II, on page 7.)

This section describes the present activities of the Program as it relates to fault movements and earthquakes. Certain of these activities may be discontinued in the future, because of a possible lack of funds.

Program activities are periodically reviewed by the Department's Consulting Board for Earthquake Analysis[85/] -- a panel of eminently qualified authorities -- and conducted with the following technical objectives in mind:

1. Warn of the increased probability of hazard or damage to the State Water Project by measuring, in the vicinity of project facilities:

   a. fault movements

   b. regional tilting of the Earth's crust

   c. earthquakes, and general pheonomena preceding them.

85/ *Dr. Clarence Allen, Chairman-Geologist-specialist in earthquake faulting - Interim Head, Seismological Laboratory, California Institute of Technology.*
Dr. George Housner - Structural Engineer - specialist in methods for earthquake resistant design - Professor, California Institute of Technology.
Dr. H. Bolton Seed - Civil Engineer - specialist in response of soils and embankment structures to earthquakes - Professor, University of California, Berkeley.
Dr. James Sherard - Civil Engineer - specialist in the design of embankment dams - of Woodward, Clyde and Sherard Associates.
Mr. Nathan Whitman and Dr. Hugo Benioff were original members of the Board. Mr. Whitman, who died in 1966, was a structural engineer and specialist in design of of hydraulic structures with the firm of Whitman, Atkinson and Associates. Dr. Benioff was Chairman of the Board until the fall of 1965, when he retired. He is a seismologist, specialist in earthquake strain accumulation and instrumentation, and Professor Emeritus of the California Institute of Technology.

2. Evaluate expected earthquake ground motion at project facility sites.

3. Develop design procedures which utilize information concerning earthquake ground motion.

Measurement Activities

To date, the major emphasis of the Earthquake Engineering Program has been on the collection of vitally needed data -- much of which is the first of its kind ever to be collected.

Fault Movement. Through use of a geodimeter -- a precise distance-measuring device -- 128 eight-to-twenty-mile-long base lines have been established, criss-crossing active faults between San Francisco and Indio, California. These lines are periodically surveyed to determine the rate and direction of differential horizontal movements of the crust on opposite sides of faults. Most of the geodimeter lines have been surveyed seven times over an eight-year period.

The San Andreas Fault moved an average of more than two inches annually in the vicinity of San Bernardino, after about a six-year period of inactivity in that area. In the vicinity of the Garlock intersection and northward through the Carizzo Plain, the San Andreas continues to be relatively quiet. Here movement begins increasing toward Hollister, where the average rate is about 1.5 inches annually. North of Hollister in the San Francisco Bay area, this movement is distributed among the Hayward, Calaveras and San Andreas Faults.

Studies have determined that the rate of fault movement changes prior to many earthquakes near the geodimeter lines. In several instances, the direction of movement apparently reversed prior to an earthquake. This phenomena may be caused by "sticking" of the main fault and transfer of movement to smaller branches. The Department's geodimeter activities are becoming internationally recognized for their potential as a basis for predicting earthquakes.

The geodimeter measurements encompass the movement occurring within about 10 miles of a major fault -- but do not differentiate between deformation within that 10-mile band and the fault movement itself.

Recent local investigations of displacement in old structures built across active faults indicate that much of the movement measured by geodimeters could be occurring within a hundred feet of the fault trace itself.

Geodimeter measurements are supplemented by conventional surveys of closed geodetic figures at specific locations where project aqueducts will cross active faults. This work is conducted by the U. S. Coast and Geodetic Survey as a part of the federal-state cooperative cost-sharing program. These conventional surveys are designed to help quantitatively distinguish between fault slip and regional distortion or bending of the foundation rocks. The data obtained from the surveys are used in the design of aqueduct sections at major fault crossings.

Crustal Tilting. Six continuously recording tiltmeters have been installed in field locations at project plant sites. They are of a mercury liquid level type and can measure movements as small as 4 millionths of an inch difference in vertical movement, from one side of a 100-foot level foundation to the other.

These tiltmeters were developed for the Department to provide needed knowledge of tilting at plant sites in a few months, as compared with several years under conventional survey methods. The first tiltmeter was installed in September 1964 at the crest of Wheeler Ridge near the Wind Gap Pumping Plant site. (Another instrument of a slightly different type, operated cooperatively with the U. S. Geological Survey, was operated at the base of Wheeler Ridge.) Two more were installed later at the Badger Hills and Tehachapi Pumping Plant sites. Tiltmeter installations at the sites of Oso and Pearblossom Pumping Plants, and Devil Canyon Powerplant and Cedar Springs Dam site (to check possible activity of a fracture zone) were completed in June 1966.

Specifications for pump bearing dimensions were increased for the Wheeler Ridge Pumping Plant, at the base of Wheeler Ridge, on the basis of measured tilting. Except for the measurements at the base of Wheeler Ridge (which apparently are not representative of the foundation conditions at the upslope Wind Gap Pumping Plant site), indications to date are that tilting will not be great enough to require pumping plant design changes.

Seismic. A seismograph station will be located at each of the larger project dams. These stations will locate, accurately, local seismicity occurring both before and after

construction. As a part of a completed network, these stations will monitor seismic activity at remote facilities and along the Project's several hundred miles of aqueduct.

Four permanent stations of the network are now operating, at Oroville Dam, Jamestown, San Luis Dam, and Cedar Springs Dam site. Located in an abandoned mine high in the Sierras to the east of the project, Jamestown is the most sensitive station in Northern California and is operated in cooperation with the University of California. Its sensitivity is such that it monitors small earthquakes over the entire length of the State Water Project. The other stations are operated cooperatively with the U. S. Coast and Geodetic Survey. An unusually large number of small shocks have been recorded at the Cedar Springs Station -- over 450 small quakes occurring within a 31-mile radius during the first year of operation. These data have been considered in making decisions concerning the final configuration of the Cedar Springs Dam.

Thirty-four special strong-motion seismographs of the Department's network have been installed prior to the construction of certain project facilities, to provide ground motion data upon which to base design. The balance of the network will be installed as facilities are completed to provide engineering data on structural response during large earthquakes. The U. S. Coast and Geodetic Survey cooperates in this portion of the program.

Two mobile seismic laboratories are operated at project sites, also in cooperation with the U. S. Coast and Geodetic Survey. One of the laboratories is stationed at the site itself, while the other is stationed at a nearby hard rock area. Several seismic occurrences are recorded and certain design ratios determined. These ratios provide designers with an estimate of ground motion to be expected at the particular site as compared with a hard rock site.

Another program activity associated with seismic measurements involves the development and installation of recording instruments to measure earthquake-generated waves in reservoirs, and the determination of problems that might be caused by unusually high waves (or "seiches"). At present, the prototype instrument is installed at a nonproject reservoir, to test its reliability, since none of the major project reservoirs have been completed.

Earthquake Hazard Evaluation

Hazard evaluations of 26 project construction sites have been made. These evaluations contributed to the

Department's decision to delete Airpoint reservoir (originally contemplated for construction on the South Bay Aqueduct) from the Project, and to reduce the size of Cedar Springs Lake (from 200,000 acre-feet to 78,000 acre-feet). Each evaluation contains an appraisal of known faults, seismicity, history of damage, relative sensitivity of the area to earthquake damage based on historical records, and an estimate of the maximum ground motion to be expected at specific project sites based upon general foundation material and distance from major faults.

Development of Design Procedures

Earthquake engineering is in its infancy, both as an art and a science. Most structural designs are based upon empirical static values which assume a steady application of an earthquake force in addition to expected normal loads. The acute need for much more knowledge of actual earthquake motions, and of reactions of structures to such motions, is widely acknowledged by design engineers.

The core of this portion of the present Earthquake Engineering Program is a series of studies being conducted for the Department by the University of California. These studies include:

1. Analysis of the response and deformation of embankments to earthquake ground motions by the method of analytical mechanics.

2. Investigation of the seismic conditions likely to produce liquefaction of soils.

3. Investigation of the stress-strain and strength characteristics of soils under cyclic loading conditions for use in response and design analysis.

4. Development of design procedures for evaluating the stability of embankments.

At least two of these have already yielded major results being incorporated into the State Water Project. One is failure criteria for saturated sands based on the number of earthquake pulsations, the amount of overburden, pore pressures, degree of saturation, degrees of compaction, and composition of the sand. These new criteria, at times, yield results quite contrary to those indicated by conventional methods.

Another major advance is a computer program designed to provide the distribution of internal stresses in embankments when two components of expected earthquake motion can be provided. Even in its present preliminary form, it is a highly significant tool in the design engineers' repertoire and is being used in the design of project dams south of the Tehachapis.

Results of the Program

To date, some of the specific accomplishments of the Earthquake Engineering Program are:

1. Tilting rates at project pumping plant sites have been determined by specially developed tiltmeters -- and by analysis of old geodetic surveys, where available. Changes in the design of Wheeler Ridge Pumping Plant have resulted.

2. The rate of movement of the San Andreas fault has been established. This rate has been shown to differ from place to place, where the aqueduct crosses or parallels it, and to change prior to earthquakes. Special designs have been incorporated for aqueduct fault crossings to minimize secondary hazard from damage and to facilitate repair.

3. Hazard reports, which include a history of seismicity and earthquake damage, have been prepared for 26 project facility sites. These reports have contributed to decisions to change or delete some of the facilities.

4. The first state network of strong-motion seismographs has been established for the Project. These have provided the first information concerning accelerations at an earthquake source (the largest acceleration recorded in the United States) and the first instrumental data concerning the decrease in acceleration away from an earthquake fault.

5. Mobile seismograph laboratories have measured the difference in ground response to earthquakes at project sites to provide better estimates of earthquake loadings on project structures.

6. New design criteria have been developed for embankment structures and are being used for project dams in Southern California.

The integrity of the State Water Project must be ensured, not only from a monetary standpoint and from the standpoint of its delivery obligations, but also from potential hazards to adjacent populations.

How well the Department will carry out this responsibility over the long life of the Project will depend upon the success of its Earthquake Engineering Program; upon the continued application of information developed thereby in the construction, operation, and maintenance of project facilities; and upon the Earth itself.

CHAPTER IV. PROJECT CONSTRUCTION ACTIVITIES

The past 12 months have seen a steady southward march in construction of the State Water Project. Coordinated efforts in design, right-of-way acquisition, and relocation activities have been essential in the initiation of construction from the high Sierras of Plumas County in the north to Castaic Dam in the south.

This chapter summarizes the progress in design, right-of-way acquisition, and relocation activities during calendar year 1966. The status of actual construction is summarized as of about April 1, 1967.

Design

During calendar year 1966, the Department completed plans and specifications for 49 construction and procurement contracts which were subsequently awarded for the Project. Work was well advanced on 75 additional contracts, scheduled for advertising in 1967.

Completed plans and specifications of special interest include those for the Sacramento Control System. This center will have the capability to control the South Bay Aqueduct remotely, and to provide a model program for the eventual control system of the California Aqueduct. This year also marked completion of design for another unique project-related feature: the largest rockfill testing machine in the United States. The machine will be capable of exerting a four-million pound axial load on samples as large as three feet in diameter and seven and one-half feet in length.

Plans and specifications were completed for the Oroville Powerplant completion contract, for the Feather River Fish Hatchery, the Oroville Operation and Maintenance Center, the Oroville-Thermalito Bus Line, and the Bidwell and Parish Camp Saddle Dams. Design work on Phase I of the North Bay Aqueduct was completed this year and, in the South Bay Aqueduct, plans and specifications were initiated for the Del Valle Pumping Plant and the Del Valle Branch Pipeline.

Along the California Aqueduct, the Department's major design effort is now centered on facilities located in the South San Joaquin division and southward. Design of the South San Joaquin division is scheduled for completion in 1968. Major design work has already been completed in the North San Joaquin division -- except for Clifton Court Forebay.

Land Acquisitions and Relocations

Approximately $38.4 million was expended in calendar year 1966 for acquisition of lands and rights-of-way necessary for construction of the State Water Project -- 36 percent of the $105 million estimated to be the total requirement for project facilities with established construction schedules.

The upsurge of expenditures in the past year was caused by two large purchases: the Pacific Gas and Electric Company's Big Bend Powerplant, for $25.0 million; and the Georgia-Pacific Corporation's Feather River Railway, for $1.5 million.

Expenditures for lands and rights-of-way, from inception of the program through December 31, 1966, amounted to $62.2 million -- approximately 59 percent of the total requirement.

During 1966, title was taken to 537 parcels involving 16,255 acres, as shown in the following tabulation:

Project facilities with established schedules	Estimated total parcels required	Parcels acquired during 1966	Parcels acquired through 1966
Upper Feather Area	25	1	19
Oroville Area	924	130	741
North Bay Aqueduct	163	0	0
South Bay Aqueduct	209	18	118
California Aqueduct:			
North San Joaquin division	202	20	135
San Luis division	23	3	19
South San Joaquin division	612	96	377
Tehachapi division	28	0	1
Mojave division	1,349	157	284
Santa Ana division	501	48	264
West Branch	240	45	79
Coastal Branch	351	19	19
TOTALS, Scheduled Facilities	4,627	537	2,056

Meanwhile, the Department initiated studies to determine right-of-way requirements for the Delta Facilities and the San Joaquin Drainage Facilities. Construction of these two facilities may ultimately involve the acquisition of approximately 600 parcels.

Ninety-five condemnation resolutions, covering 412 individual ownerships, were presented to the California Water Commission during 1966. The Commission postponed action on only two items: the Cayucos nuclear site and the Clifton Court Forebay. To meet construction deadlines, orders for possession were obtained on 47 parcels.

In 1966, 119 agreements covering 149 relocations were executed in the amount of $8 million. The agreements provided for relocation or modification of oil, gas, and water pipelines; transmission, power, and communication lines; railroads; state highways; and county roads. Expenditure commitments for relocations have now reached $29.7 million, or about 54 percent of the $55 million total estimated relocation expenditures for scheduled project facilities. With the addition of relocation expenses included in construction contracts, the predicted total rises to $139.2 million, of which $100.8 million -- or 72 percent -- has been committed.

Construction

A generalized construction schedule for the State Water Project is shown on Figure 2. Definite schedules have not yet been established for the Delta Facilities, the San Joaquin Drainage Facilities, the Upper Eel River Development, Dixie Refuge and Abbey Bridge Dams and reservoirs, the North Bay Aqueduct east of Cordelia Pumping Plant, or the Coastal Branch from Devil's Den Pumping Plant to its terminus.

Four hundred and eighty contracts worth an estimated $1,665,000,000 are required for construction of facilities with established schedules. This figure includes the Bureau of Reclamation's current program for the joint-use facilities of the San Luis division.

The following sections briefly describe the status of construction activities as of April 1, 1967, for project facilities having established construction schedules. Project facilities are portrayed on Plate I, and concisely described in Appendix C. Table 1 shows the current status of contracts.

Upper Feather Area

Frenchman Dam was completed in 1961, and Antelope Dam, in 1964.

Grizzly Valley Dam embankment was completed in 1966 and water storage began at Lake Davis, the largest of the five

reservoirs contemplated in the Upper Feather Area. Some of the reservoir clearing, general cleanup, and miscellaneous minor items remain to be completed during 1967.

Construction schedules have not been established for Abbey Bridge and Dixie Refuge Dams.

Oroville Area

Construction on the Oroville Dam is about 86 percent complete. The Dam will contain about 80,000,000 cubic yards of fill. By April 1967, more than 69 million cubic yards had been placed. At the current rate of placement (about two million cubic yards each month) completion of the embankment is expected by November 15, 1967.

The clearing of timber and underbrush from the Oroville reservoir site is about 85 percent complete.

Construction of the Oroville spillway, located in a saddle on the right abutment of Oroville Dam, began in mid-1965 and is about 70 percent complete.

The underground Oroville Powerplant is expected to be completed by the spring of 1969. Excavation was completed early in 1967 for the large machine hall, and installation of equipment is under way.

Construction has started on the two auxiliary earthfill dams located at low points on the periphery of Oroville reservoir, and completion is expected this fall.

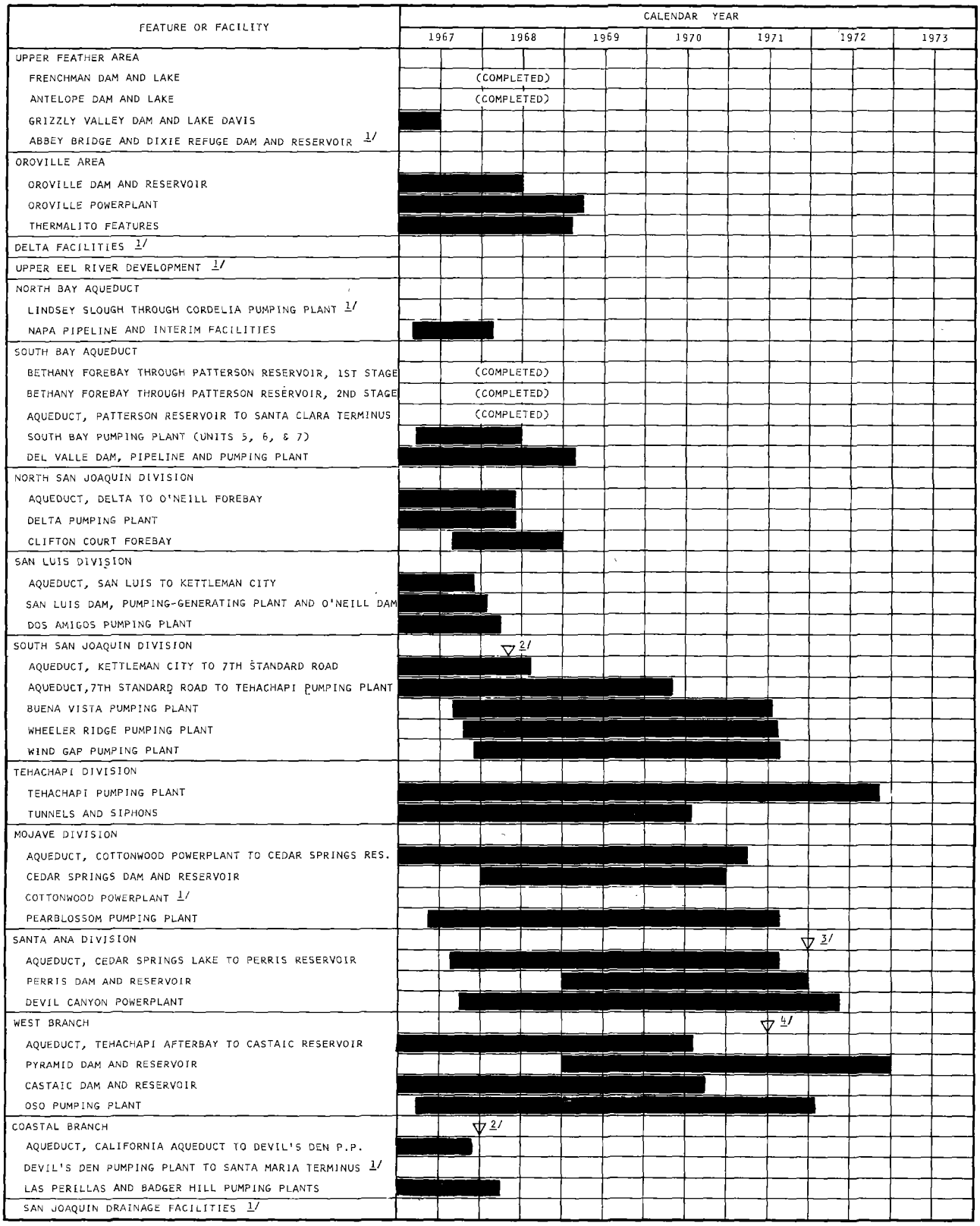
All of the Thermalito features are now under construction. The Thermalito Diversion Dam, located on the Feather River immediately northeast of the City of Oroville, is nearing completion. Thermalito Powerplant is about 80 percent complete. Thermalito Forebay, Afterbay, and Power Canal are about 65 percent complete.

Construction of the Feather River Fish Hatchery on the right bank of the Feather River began in 1966, and is now about 50 percent complete.

That portion of the Oroville-Quincy Road relocation being constructed under Butte County administration is about 75 percent complete. Construction of the B. Abbott Goldberg Bridge over the South Fork of the Feather River is about 90 percent complete, and the connecting Oroville-Feather Falls Road relocation is about 85 percent complete.

FIGURE 2

STATE WATER PROJECT
GENERALIZED CONSTRUCTION SCHEDULE



1/ CONSTRUCTION NOT YET SCHEDULED
2/ DELIVERIES TO DEVILS DEN PUMPING PLANT, JANUARY 1968, AND TO 7TH STANDARD ROAD, MAY 1968
3/ DELIVERIES FROM PERRIS RESERVOIR, JANUARY 1972.
4/ DELIVERIES FROM CASTAIC RESERVOIR, JULY 1971.

North Bay Aqueduct

Construction is scheduled to start in 1967 on the Phase I facilities of the North Bay Aqueduct: an interim pumping plant; a 24-inch, half-mile pipeline; a 36-inch, four-mile pipeline; and, the Napa turnout reservoir. When completed in 1968, Phase I will convey a water supply from the Bureau of Reclamation's Solano Project terminal reservoir to the turnout reservoir at the west end of Jameson Canyon in the Napa Valley. Project water will not be delivered until Phase II facilities are completed, about 1980.

South Bay Aqueduct

The main line of the South Bay Aqueduct was completed in 1965. In 1966, the relocation of the county road around Del Valle reservoir was completed, and the Del Valle Dam construction contract was awarded. The construction contract for Del Valle Pumping Plant, which will pump water either from the main line into Del Valle reservoir or vice versa, and the connecting two-mile Del Valle Pipeline, will be advertised in mid-1967. The Del Valle features are estimated to be completed in early 1969.

A contract for the remaining pumps, motors, valves, and their installation in the South Bay Pumping Plant will be awarded in 1967.

Fabrication and installation of the South Bay Aqueduct Control System Model is under way. When the model is operationally available in late 1967, the entire length of the South Bay Aqueduct can be monitored and computer-controlled from both the Delta O. & M. Center and the Sacramento Control Center. The model will provide design information for the control system to be used on the California Aqueduct.

California Aqueduct

The description of construction activities on the California Aqueduct has been subdivided according to divisions and branches: the North San Joaquin, San Luis, South San Joaquin, Tehachapi, Mojave, and Santa Ana divisions of the 444-mile "main line"; and the West and Coastal Branches.

North San Joaquin Division. Construction of Clifton Court Forebay is presently scheduled to begin during the summer of 1967, to become operational by late 1968, and to be

completed by the summer of 1969. Water will be supplied to the Delta Pumping Plant directly from Italian Slough in 1967 and 1968. The Forebay will provide regulatory storage capacity to permit offpeak pumping by the Delta Pumping Plant.

The Delta Operation and Maintenance Center and the intake channel between Clifton Court Forebay and the Delta Pumping Plant have both been completed, with the exception of construction on the Fish Protective Facility -- which began May 26, 1966, and is now about 40 percent complete.

The initial construction stage of Bethany reservoir was completed in 1961 to permit service to the South Bay Aqueduct from the Bureau of Reclamation's Delta-Mendota Canal. The second construction stage began in May 1966, and is scheduled for completion in November 1967. Under the second stage, dikes are being constructed along the aqueduct alignment south of the existing dam. The reservoir created thereby will be joined to the existing reservoir by an interconnecting channel.

The Delta Pumping Plant and discharge lines contract was completed in August 1966. Work on the Delta Pumping Plant completion contract (an amalgamation of many procurement contracts) began in February 1966. The first two of 11 pump units are scheduled for operation by mid-summer 1967, and will pump project water to Bethany reservoir to supply the South Bay Aqueduct. The next three units are scheduled to be operational in early 1968, when the initial delivery of water is scheduled down the California Aqueduct to Kern County. Two more units will be installed later in 1968; the final four units, by 1973.

All 65 miles of concrete-lined canal in the North San Joaquin division are under construction. Four contracts are involved. Construction is scheduled to accommodate project water deliveries to the South Bay Aqueduct during July 1967, and to O'Neill Forebay by November 1967. Completion of all canal construction is presently scheduled for June 1968.

San Luis Division. The contract covering the construction of San Luis Dam, San Luis Pumping-Generating Plant, and O'Neill Dam is 95 percent complete. San Luis Dam will require 77,000,000 cubic yards of embankment, 76,600,000 cubic yards of which were in place by April 1967.

The San Luis Pumping-Generating Plant structure is complete. The first two of eight reversible units will be operating in the spring of 1967. The remaining six units

will be individually placed into service at 90-day intervals thereafter. The entire plant is to be completed by January 1968.

The 17 miles of concrete-lined canal between O'Neill Forebay and Dos Amigos Pumping Plant have been completed, and all other canal reaches are under construction.

The Dos Amigos Pumping Plant structure is complete. The first of six pump units is to be operational in the spring of 1967, and the final unit early in 1968.

Los Banos Creek Detention Dam was completed in January 1966, and Little Panoche Creek Detention Dam in September 1966.

South San Joaquin Division. The first two construction contract reaches of the South San Joaquin division, comprising 45 miles of canal from Kettleman City to 7th Standard Road, will be completed in August 1968. The contract for construction of the canal from 7th Standard Road to Tupman was awarded in March 1967. The contract for the canal from Tupman to Buena Vista Pumping Plant will be awarded in June 1967. For all three pumping plants of the South San Joaquin division -- Buena Vista, Wheeler Ridge, and Wind Gap -- intake channel and plant bowl excavation will be completed during the summer of 1967; pump units will be advertised for bids during 1967; and construction will commence in the latter part of 1967.

All major contracts covering the construction of preconsolidation ponds in the South San Joaquin division have been completed.

Tehachapi Division. The Tehachapi Pumping Plant will be a "U-shaped" plant that will ultimately contain 14 pump units. Excavation for the pumping plant site and for the discharge lines is under way. The contract for the first seven pump units and the initial contract on the pumping plant structure were advertised in April 1967.

Construction of the Carley V. Porter Tunnel is scheduled for completion in 1969. Both the north and south portal excavations have been completed, and tunnel boring is in progress from both portals. Construction on Tehachapi Tunnels 1, 2, and 3, Pastoria Access Road, and Pastoria fill began in November 1966. The other features in the Tehachapi division are scheduled to be operational in 1971.

Completed excavation of Buena Vista Pumping Plant Intake Channel and Bowl. Spill basin is in the foreground. (South San Joaquin Division)

Mojave Division. The Neenach embankment has been completed. The Cottonwood Powerplant site development contract is under way. The construction will begin on the first aqueduct contract, Cottonwood to Fairmont, by September 1967. Construction of all features of the Mojave division are scheduled so that water deliveries may be made through Cedar Springs Lake in 1972.

Santa Ana Division. Construction on the San Bernardino Tunnel and intake tower will commence in 1967. The Devil Canyon Powerplant site development is scheduled to start in 1968. Construction of Perris Dam is expected to commence in early 1969.

West Branch. Construction began on the Angeles Tunnel in August 1966, and on the Quail embankment, in 1967. Work is under way on the Pyramid Powerplant site development and penstock tunnels. Construction is scheduled to start on the Oso Pumping Plant site development in October 1967, and on the Peace Valley Pipeline, in early 1968.

Construction under component contracts for Castaic Dam and reservoir is progressing on schedule. Phase I of the Lake Hughes Road relocation was completed in May 1966. Construction began on the Castaic diversion tunnel in April 1966, and is scheduled for completion in September 1967. The tunnel will divert the flow of two creeks around the damsite, where construction commenced in May 1967.

Castaic Powerplant will be constructed by the City of Los Angeles Department of Water and Power.

Coastal Branch. The first phase of the Coastal Branch construction will permit water deliveries from the main California Aqueduct, through Las Perillas and Badger Hill Pumping Plants, to the site of Devil's Den Pumping Plant -- a distance of approximately 15 miles.

Construction of the first phase began in 1966, to assure project water deliveries to agricultural areas in the vicinity of Devil's Den in 1968. Construction of the Las Perillas and Badger Hill Pumping Plants began in September 1966. Canal construction is expected to be completed in November 1967.

CHAPTER V. PROJECT GENERAL OPERATION ACTIVITIES

This chapter is a progress report on the Department's activities between about April 1, 1966, and April 1, 1967, preparatory to full-scale project operations. These activities involved securing and defining project water rights; negotiating operational agreements with project participants; negotiating amendments to existing contracts, as well as additional contracts for the sale of project water; negotiating contracts for the sale of project power and for the purchase of power for project pumping; planning the support for direct project operations activities; and, developing automated project cost allocation procedures.

Water Rights Administration

Water rights activities during the past year included proceedings to obtain permits already under application before the State Water Rights Board, and negotiations on agreements to define existing rights.

Processing of Project Applications

The State Water Rights Board conducted a hearing on the eight state applications for diversions from the Feather River at Oroville and from the Sacramento-San Joaquin Delta -- a process which involved 36 days of testimony from July 26, to November 22, 1966, and produced a transcript of more than 10,349 pages. Another hearing, on two applications, was conducted December 1, 1966, to secure water rights for Grizzly Valley Dam and Lake Davis.

Proceedings were initiated early in 1967 to obtain permits for the contemplated operation of Abbey Bridge Dam and reservoir.

Diversions from the Feather River and the Sacramento-San Joaquin Delta. Previous bulletins in this series presented descriptions of the Department's water rights applications for project diversions of unappropriated water from the Feather River at Oroville and from the Sacramento-San Joaquin Delta.

Prior to, and during, the presentation of testimony and evidence at the 1966 hearing, comprehensive water rights studies and evaluations were made to determine the relationship between the State's applications and both the prior and junior

vested rights. These studies were prepared in collaboration with the Bureau of Reclamation.

The Department also prepared and presented a comprehensive operation study of projected conditions. These studies demonstrated that the State Water Project and the federal Central Valley Project could be operated without interfering with any prior vested rights claimed by protestants. However, the complex operation study is relevant only to the State Water Project and does not determine the rights of other water users.

Many of the protestants, meanwhile, presented stipulations attesting to the fact that the Department was making every effort to resolve their protests.

Testimony developed during the 1966 hearing pointed out the need for a more comprehensive water rights study reflecting the effects of additional or contemplated projects on the availability of unappropriated water in the Delta, and in tributary streams to the Delta, and on salinity control. Such a study is being developed by the Department. Furthermore, while the Bureau of Reclamation did collaborate with the Department in the projection of the effect of future upstream uses upon the Delta supply, it did not necessarily concur in the conclusions of the Department's operation study -- and proceeded to prepare its own version of such a study.

At the conclusion of the 1966 hearing, the Board stated that additional testimony relative to: (1) the Department's applications, (2) the Bureau's coordinated operation study of state and federal developments, and (3) any agreements reached between participants, would be received as evidence during the intervening period -- December 1966 through July 1967.

(The hearing was reconvened on April 18, 1967 for two days. At that time the Bureau of Reclamation presented the results of its operation study which generally supported the Department's study as to available future inflows to the Delta. As a result, the Bureau stated its general support of the Department's applications and its belief that the issuance of permits would be appropriate.)

The issuance of permits covering project diversions from the Feather River and the Delta is anticipated before the fall of 1967, subject to appropriate conditions and with jurisdiction reserved in some areas.

Grizzly Valley Dam and Lake Davis. A public hearing was held before the State Water Rights Board on December 1, 1966, in Quincy, California, covering the Department's Applications 16950 and 21443 for Grizzly Valley Dam and Lake Davis.

Agreements with all protestants, including several private individuals, the Joint Water Districts Board, and the Pacific Gas and Electric Company, were executed prior to the hearing.

Verbal permission to store water in Lake Davis was granted at the close of the one-day hearing and Permits 15254 and 15255 were issued by the State Water Rights Board on January 5, 1967. Timely negotiation of settlement agreements with the protestants, together with daily consideration and action by the State Water Rights Board, enabled the Department to close the Grizzly Valley Dam outlet in time to store the unusually high runoff of the 1966-67 winter season. The Department had anticipated that five years would be required to fill Lake Davis, but now estimates that the Lake will be more than three-quarters full by July 1967.

Abbey Bridge Dam and Reservoir. On March 20, 1967, the State Water Rights Board was requested to assign Applications 16954 and 22709 to the Department. These applications pertain to Abbey Bridge Dam and reservoir -- the fourth of five project facilities to be constructed in the Upper Feather Area. Though no construction schedule has been firmly established, the facility could be completed as early as November 1969. Requesting application assignment at this time allows an ample period in which to obtain permits before reservoir operation begins.

Negotiation of Water Rights Agreements

The Department has expanded its negotiation activities in an effort to complete agreements which would define the water rights of protestants to the pending water rights applications, as well as all other water users holding water rights on the Feather River and in the Delta.

Feather River Service Area. The Pacific Gas and Electric Company, diverting through the Western Canal, and the Joint Water Districts, diverting through the Sutter-Butte Canal, have first priority appropriative rights to Feather River flows below Oroville -- and account for approximately 93 percent of the present Feather River flows used for irrigation.

Negotiation of agreements with the two agencies is substantially complete. The agreements will define the entitlement to natural flows of the Feather River for each agency. The Pacific Gas and Electric Company agreement will also define the entitlement to water released from its upstream storage facilities.

Negotiations are progressing satisfactorily with all other water users along the Feather River, with the exception of the Sutter Extension Water District. A controversy has developed concerning the District's water rights. Formal action by the State Water Rights Board will be required before final solution can be achieved.

Delta Service Area. Negotiations with the Sacramento River and Delta Water Association and the San Joaquin Water Rights Committee resulted in the establishment of the "Delta Water Quality Criteria" in November 1965. These two organizations represent the Delta Water Users in Sacramento, Solano, Yolo, and San Joaquin Counties, and the eastern portion of Contra Costa County. Representatives of these Delta organizations, the Bureau of Reclamation, and the State, are drafting a contract incorporating these established criteria. Local interests are continuing their efforts to obtain legislation authorizing the formation of a Delta-wide district to execute a contract with the Bureau and the State.

Negotiations are well under way with representatives of municipal and industrial water users in the Contra Costa portion of the Western Delta. Water entitlement agreements with the municipal water interests should be completed by July 1967. A water entitlement agreement was executed with the Contra Costa County Water District on April 21, 1967, as recorded in Chapter II. Due to the complicated nature of the problem, negotiations with the industrial interests will require considerable time and no target date is available.

Thus far, negotiations with Contra Costa County recreational interests and the northern Contra Costa County agricultural interests have not been successful. These interests, through the Contra Costa County Water Agency, have been pressing for more stringent water quality control than that set forth in the "Delta Water Quality Criteria". Discussion of the problems and possible solutions for agricultural water users in the vicinity of Dutch Slough have been initiated, but final resolution is not expected for some time.

California Aqueduct, West Branch. An agreement was signed November 1, 1966, between the Department and the Newhall Land and Farming Company, with regard to riparian water rights in the area of the Castaic Dam and reservoir site. The agreement obviated the need for a hearing, which had been scheduled for November 4, 1966, before the State Water Rights Board.

The large landholding company alleged that the State has an obligation to replace the subsurface storage capacity existing in the alluvium underlying the Castaic reservoir area. According to the Company, the alluvium regulates the underflow of Castaic Creek which the Company diverts from the downstream channel. Since the Department proposes to install a cutoff wall at the damsite, the Company contended that the Department should ensure the continuance of the natural regimen of the Creek, and that compensating releases should be made from Castaic reservoir at rates within the percolation capability of the downstream channel.

The signed agreement provides that the Department will release the natural flow of Castaic Creek at rates which will preserve the underflow that would have been derived from the absorptive capacity of the alluvium of Castaic Creek and its tributaries in the reservoir area. The amount of water thus regulated shall not exceed the volume of ground water storage which has been historically used downstream. Any water temporarily stored in Castaic reservoir to meet percolation requirements will be released at rates so as to cause no surface flows in Castaic Creek at a point approximately one-quarter mile above its junction with the Santa Clara River.

The Department established the "Coordinating Committee on Castaic Reservoir Downstream Releases" on January 4, 1967, to insure that the agreement's administration will be acceptable to downstream water supply contractors and to riparian interests along Castaic Creek and the Santa Clara River. Committee members include representatives of The Metropolitan Water District of Southern California, the Upper Santa Clara Valley Water Agency, the Ventura County Flood Control District, the United Water Conservation District, the Newhall Land and Farming Company, and the County of Los Angeles.

(A similar type of agreement was executed between the State and the United Water Conservation District, on April 14, 1967, concerning the operation of project facilities located on Castaic and Piru Creeks.)

California Aqueduct, Santa Ana Division. Construction of the San Bernardino Tunnel may adversely affect the local water supply of one of the Project's water supply contractors -- the Crestline-Lake Arrowhead Water Agency. Tunnel construction is scheduled to commence in 1967, and project water deliveries, in 1972. During the construction period, seepage draining into partially completed tunnel sections may be of a magnitude which would seriously deplete ground water supplies presently utilized to meet local water needs.

The Department is taking precautions to protect the Agency's local water supply. A program of periodic measurements of flow from ground water springs and a well-monitoring program in the vicinity of the tunnel alignment has been instituted in order that the effects of tunnel construction on the local water supply may be determined. Facilities capable of providing the Agency with a substitute water supply, equivalent to that lost during the tunnel construction period, will be available by the time tunnel construction commences.

Under the Department's plan, wells would be drilled near the confluence of the West Fork of the Mojave River and Deep Creek (with a planned production of about 10 cubic feet per second) and an 8-mile pipeline would be constructed between the wells and the intake of the Agency's proposed distribution system. (These facilities would also provide water required for project construction activities.) The Agency would assume the responsibility for delivering the substitute water supply from that point, thus requiring the Agency to complete portions of its distribution system in advance of the delivery date of project water.

An agreement covering the Agency's early construction of its distribution system, and construction by the Department of the necessary facilities to provide the Agency with a substitute water supply, has been negotiated. Under the proposed agreement, the Agency would be compensated for all additional interest charges incurred by reason of such early construction, and for any modifications to the Agency's system necessitated thereby. (This agreement was executed May 4, 1967.)

Water Contract Administration

Contract administration activities between April 1, 1966, and April 1, 1967, included continuing negotiations to commit the remaining 0.2 percent of the 4,230,000 acre-feet of minimum project yield, execution of contract amendments, discussions to settle certain disputes regarding the Department's calculation of water charges, actions permitting the

location and construction of agency turnouts, and preparations for initiating the Surplus Water Contracting Program.

Contract Negotiations

As of April 1, 1967, contracts with 30 agencies were in effect calling for maximum deliveries of 4,221,400 acre-feet annually from the State Water Project. This number will increase to 31 in the near future with the expected signing of a long-term contract with Kings County for 4,000 acre-feet maximum annual entitlement -- to be used for recreational purposes. The location of these agencies, and their respective maximum annual entitlements, are shown on Figure 3. Agency data is shown on Table 2, and entitlement distribution, on Table 3.

The Last Chance Creek Water District in Plumas County, also shown on Figure 3, is currently being supplied project water under an annual interim contract -- and negotiations are continuing toward execution of a long-term contract. However, the amount of any long-term water supply would be provided over and above the minimum project yield -- since the District is located in an "area of origin".

The remaining 4,600 acre-feet of the minimum project yield had initially been allocated to the Big Bear Municipal Water District. However, the District was unable to complete the necessary agreements for the exchange of project water with water from Big Bear Lake. The District was notified that it could no longer be considered a potential contractor, by the Department's letter dated November 17, 1966.

The Department is currently negotiating with Riverside County interests and with the City of Needles concerning the disposition of the remaining 4,600 acre-feet. Both of these potential contracts would be contingent upon agreements with The Metropolitan Water District of Southern California for the exchange of project water with Colorado River water.

Contract Amendment Negotiations

The following six contract amendments were executed between April 1, 1966, and April 1, 1967, bringing the total to 58:

1. Amendment 3 to the Mojave Water Agency contract, executed June 21, 1966, provides for the delivery of project water to the Agency at a continuous rate of annual flow, thereby eliminating peaking service.

2. Amendment 2 to the Napa County Flood Control and Water Conservation District contract, executed August 25, 1966, specifies that the interim pumping plant and conveyance facilities are project facilities, and provides that interim water shall, with certain exceptions, be considered as project water.

3. Amendment 2 to the Kern County Water Agency contract, executed October 10, 1966, reduces the Agency's annual entitlement during the initial year of water delivery from 87,000 to 46,600 acre-feet.

4. Amendment 5 to The Metropolitan Water District of Southern California contract, executed October 10, 1966, provides for possible future enlargement of Perris reservoir up to a capacity of 500,000 acre-feet.

5. Amendment 6 to the Metropolitan contract, executed October 10, 1966, provides for excess capacity of 787 cubic feet per second in the San Bernardino Tunnel.

6. Amendment 3 to the Antelope Valley-East Kern Water Agency contract, executed February 16, 1967, provides for the future reinstatement of peaking service, and extends aqueduct service to the Pearblossom Pumping Plant.

Seven additional contract amendments were under negotiation at the end of the period covered by this report.

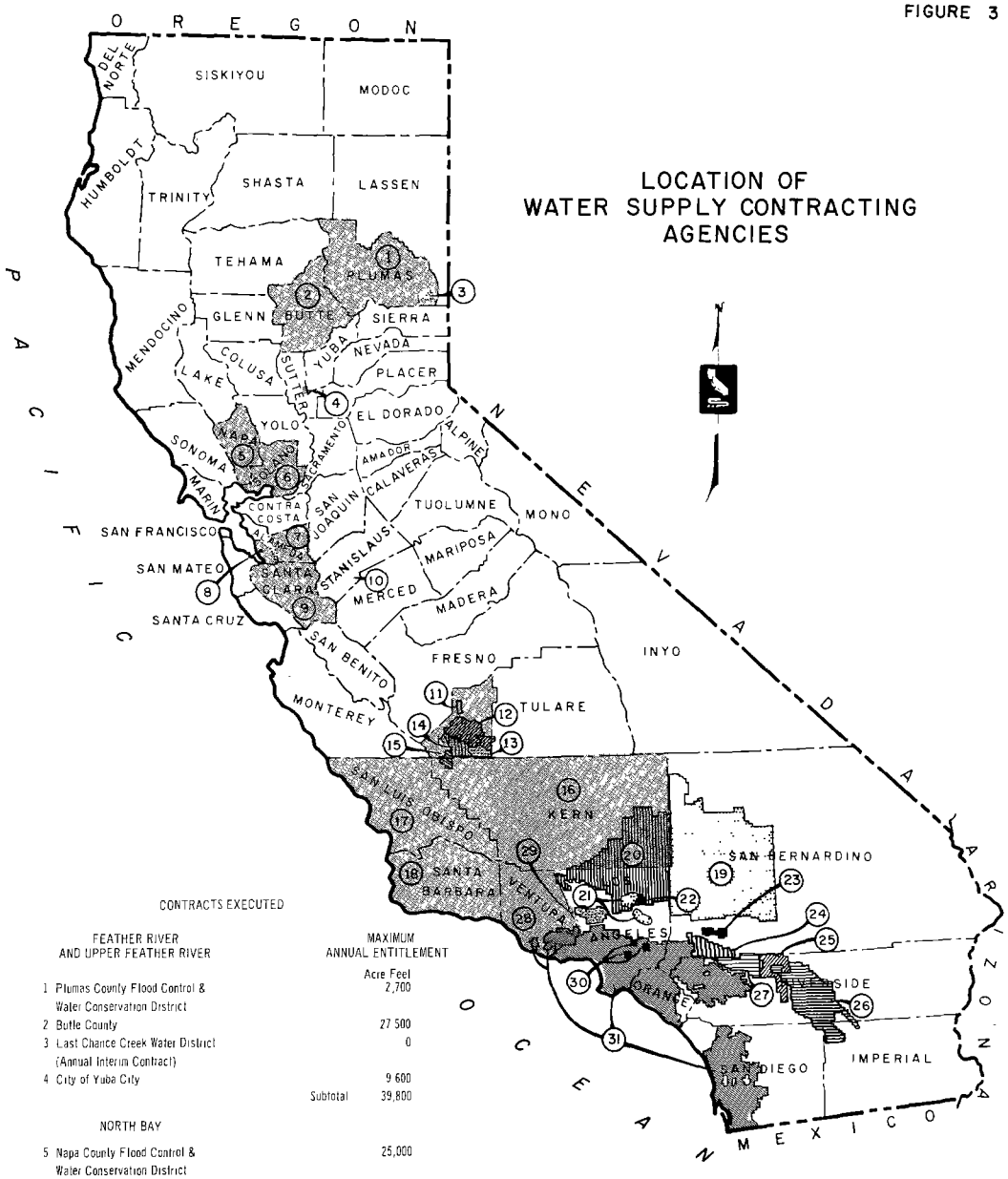
Settlements Concerning Charges to Water Contractors

Due to certain deficiencies in the original provisions, and to some misunderstandings during negotiations between the Department and the agencies, nearly all agency payments made to the State have been accompanied by notices of contest regarding the accuracy of charges, and by requests for the retroactive adjustment of such charges -- all as provided for in the contracts.

Some agencies were uncertain as to whether they should, after filing such notices, proceed with claims against the State to prevent expiration of the statute of limitations. Since it would be undesirable to require the agencies to proceed with claims merely to protect a legal position, the Department has periodically extended the time in which agencies can file notices of contest on statements previously submitted, and to pursue other remedies available to them. The current extension is to August 1, 1967.

FIGURE 3

LOCATION OF WATER SUPPLY CONTRACTING AGENCIES



CONTRACTS EXECUTED

	MAXIMUM ANNUAL ENTITLEMENT
FEATHER RIVER AND UPPER FEATHER RIVER	Acre Feet
1 Plumas County Flood Control & Water Conservation District	2,700
2 Butte County	27 500
3 Last Chance Creek Water District (Annual Interim Contract)	0
4 City of Yuba City	9 600
Subtotal	39,800
NORTH BAY	
5 Napa County Flood Control & Water Conservation District	25,000
6 Solano County Flood Control & Water Conservation District	42,000
Subtotal	67,000
SOUTH BAY	
7 Alameda County Flood Control & Water Conservation District Zone 7	46 000
8 Alameda County Water District	42 000
9 Santa Clara County Flood Control & Water District	100,000
Subtotal	188,000
SAN JOAQUIN VALLEY	
10 Oak Flat Water District	5,700
11 Empire West Side Irrigation District	3,000
12 Tulare Lake Basin Water Storage District	110,000
13 Hacienda Water District	8,500
14 Dudley Ridge Water District	57,700
15 Devils Den Water District	12,700
16 Kern County Water Agency	1,153,400
Subtotal	1,351,000
CENTRAL COASTAL	
17 San Luis Obispo County Flood Control & Water Conservation District	25,000
18 Santa Barbara County Flood Control & Water Conservation District	57,700
Subtotal	82 700

SOUTHERN CALIFORNIA	MAXIMUM ANNUAL ENTITLEMENT
	Acre Feet
19 Mojave Water Agency	50,800
20 Antelope Valley-East Kern Water Agency	138,400
21 Palmdale Irrigation District	17,300
22 Littlerock Creek Irrigation District	2,300
23 Crestline Lake Arrowhead Water Agency	5,800
24 San Bernardino Valley Municipal Water District	98,000
25 Desert Water Agency	38,100
26 Coachella Valley County Water District	23,100
27 San Gorgonio Pass Water Agency	17,300
28 Ventura County Flood Control District	20,000
29 Upper Santa Clara Valley Water Agency	41,500
30 San Gabriel Valley Municipal Water District	28,800
31 The Metropolitan Water District of Southern California	2,011,500
Subtotal	2,492,900
Total	4,221 400
CONTRACTS UNDER NEGOTIATION	8,600
Grand Total	4,230,000

The agencies have been auditing records supporting the statements of charges submitted to them by the Department; in most cases, through public accounting firms. The Metropolitan Water District of Southern California has retained the firm of Ernst and Ernst. Twenty-two agencies have retained the firm of Arthur Young and Company. In this common endeavor, the 22 agencies have formed an organization known as the State Water Contractors Audit Committee.

During the past two years, representatives of the Audit Committee, the Metropolitan Water District, and the Department have been systematically reviewing the present procedures for calculating water charges. A working group of accountants, attorneys, and engineers meets monthly to explore the bases for these procedures and to develop mutually agreeable solutions.

Significant progress has been made.

In August 1966, letters were sent to each of the 30 agencies, transmitting copies of the Department's "Report on State Water Project Capital Costs to December 31, 1960" -- detailing the understanding developed concerning the reimbursable magnitude of such costs.

In December 1966, letters were sent to each agency proposing that certain contract interpretations be adopted, to resolve ambiguities regarding the calculation of interest costs included in the water charges.

(In May 1967, letters were sent to each agency proposing that certain additional contract interpretations be adopted concerning the allocation of reimbursable aqueduct reach costs among contracting agencies.)

Discussions and analyses are under way concerning several other aspects basic to the Department's procedures for calculating statements. Eventually all of these procedures are expected to be reviewed, in detail, with contractor representatives and agreement reached in problem areas.

Contractor Turnouts

The tempo of activities concerning the location, design, financing, construction, and operational criteria of delivery structures (turnouts) increased during the reporting period as the initial dates of project water service rapidly approach. Generally, delivery structures will be constructed by the Department, and financed, in advance of construction, by the respective contracting agencies.

Estimates are that some 90 turnouts will be located on the following project facilities:

Project facility	Total number of delivery structures		
	Planned	Under construction	Completed
Oroville Area	2	2	-
North Bay Aqueduct (Phase I)	2	-	-
South Bay Aqueduct	12	-	11
California Aqueduct:			
North San Joaquin division	4	-	-
San Luis division	(served by the federal Central Valley Project)		
South San Joaquin division	41	16	-
Tehachapi division	2	-	-
Mojave division	13	-	-
Santa Ana division	8	-	-
West Branch	4	-	-
Coastal Branch (Phase I)	2	2	-
	90	20	11

By January 1968, deliveries from the main line of the California Aqueduct are scheduled as far downstream as two and one-half miles south of Lost Hills, and from the Coastal Branch, to the Devil's Den Pumping Plant.

This would make project water available at the turnouts of six contracting agencies on the main line of the California Aqueduct -- Oak Flat Water District, Tulare Lake Basin Water Storage District, Empire West Side Irrigation District, Hacienda Water District, Dudley Ridge Water District, and to a member unit of the Kern County Water Agency -- the Lost Hills Water District.

Project water would also be available from the Coastal Branch to Devil's Den Water District and to another member unit of the Kern County Water Agency -- the Berrenda Mesa Water District. By May 1968, deliveries are scheduled to be extended about 10 miles further downstream along the California Aqueduct to a point near 7th Standard Road. This extension would bring project water service to two other member units of the Kern County Water Agency -- the Belridge Water Storage District and the Buena Vista Water Storage District.

Project water is scheduled to be available to all agencies with turnouts north of Buena Vista Pumping Plant by January 1970. Deliveries of water to member units of the Kern County Water Agency south of Buena Vista Pumping Plant are scheduled to commence in 1971.

The construction of 16 turnouts along the California Aqueduct, from Kettleman City to 7th Standard Road, are under way. The contracting agencies, and member units thereof, are at work on distribution systems that will convey project water to places of use.

The Berrenda Mesa and Lost Hills Water Districts and the Belridge Water Storage District are proceeding rapidly with first phase construction of their distribution systems. The Tulare Lake Basin Water Storage District has plans for constructing conduits to connect the California Aqueduct turnouts with its existing distribution system. The Empire West Side Irrigation District and the Hacienda Water District will take water deliveries through these conduits. The Dudley Ridge Water District will start construction soon to connect its turnouts with an existing distribution system covering part of the District. The Devil's Den Water District turnout will connect directly with its existing distribution system.

Surplus Water Contracting Program

The Surplus Water Contracting Program consists of the future provisional sale and delivery of project water quantities over and above the annual entitlements of all long-term water supply contractors. Furthermore, the service of such surplus quantities shall neither impair the Project's capability for, nor increase the costs of, delivering annual entitlements to project water.

The Program is divided into two concurrent procedures provided for in (1) Article 21 of all contracts for a long-term water supply from the Project, and (2) Article 46 (Article 45 in some contracts, and Article 47 in others), providing

preferential sale and delivery of surplus water quantities for agricultural and ground water replenishment use.

In view of the special provisions of the Suppliers Contract concerning the scheduling of power quantities prior to April 1, 1971, and the limitations on the Project's delivery capability which will be especially critical during that period, it is contemplated that the initial contracting program for both Article 21 and "agricultural and ground water replenishment" surplus water would be limited to cover the initial three-year period; January 1, 1968, through December 31, 1970. It is also contemplated that separate standard contract provisions will be drafted covering the two types of surplus water. The Surplus Water Contracting Program would be reviewed prior to December 31, 1970, and a revised program instituted in light of operational experience gained.

Drafts of standard provisions are being prepared and estimates of future quantities of surplus project water are being reanalyzed. The contracting agencies will be given the opportunity to review the initial Surplus Water Contracting Program, including the proposed standard provisions, prior to its implementation in the fall of 1967.

Power Management

This section briefly describes the status of the Power Contracting Program as of April 1, 1967. This program encompasses both the supply and transmission of power needed in the operation of the State Water Project and the sale of power generated at project powerplants.

Power Purchase Contracts

Contract negotiations for the purchase of power required for project operations were essentially completed in October 1966. One of these -- the "Suppliers Contract" -- has been executed and is described in Chapter II. Five other contracts await clearance of related federal contracts by Congressional Committees before they can be signed. Complete discussions of these five power purchase contracts appeared in Bulletin 132-66 (pp. 99-102) and are briefly described in the following paragraphs:

Canadian Entitlement Power Contracts. The State proposes to sign contracts with the Cities of Seattle and

Tacoma, and with the Puget Sound Power and Light Company, for 300,000 kilowatts of firm Canadian Entitlement power through March 31, 1978, and 150,000 kilowatts through March 31, 1983. Cost at the Oregon-California border is estimated to be about $6.86 per kilowatt-year for capacity and 2.56 mills per kilowatt-hour for energy -- exclusive of any taxes which might be levied by the States of Washington, Oregon, Idaho, or Montana, or their subdivisions.

Bonneville Power Administration Contract. A proposed contract to make surplus hydroelectric energy available from the Pacific Northwest, at a cost of 2 mills per kilowatt-hour delivered at the Oregon-California border, has been negotiated with the Bonneville Power Administration.

Intertie Contract. Negotiations have been completed with the "California Power Pool Companies" -- Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas and Electric Company -- for the sale, interchange, and transmission of power over the Pacific Northwest-Pacific Southwest EHV (extra high voltage) Intertie.

Miscellaneous Contracts. Several other contracts were negotiated and/or executed to supply power at 36 delivery points for the operation of canal check structures, turnouts, cathodic protection installations, and construction overlooks.

Power Sales Contracts

The program for sale of project power was devoted to negotiations concerning the long-term disposition of Oroville-Thermalito power and the execution of an agreement covering the interim disposal of such power.

Long-Term Disposition of Oroville-Thermalito Power. Negotiations with the California Power Pool Companies for the long-term sale of power are well advanced. The proposed contract would establish a guaranteed annual payment for agreed-upon capacity and a guaranteed quantity of energy, as required to support the proposed issuance of revenue bonds.

Oroville-Thermalito Letter of Agreement. Disposal of Oroville-Thermalito power which may become available prior to April 1, 1969 (the date when the above proposed long-term

agreement would become effective), was arranged in a letter of agreement signed by the State and the Suppliers on November 18, 1966.

Under the terms of this agreement, the Suppliers will accept interim Oroville-Thermalito energy for delivery to pumping plants, purchase such energy or credit it to the State's account, and allow the State to accumulate excess San Luis or Canadian Entitlement energy for later use.

In exchange for each kilowatt-hour of Oroville-Thermalito energy fed into the Suppliers' transmission facilities near Oroville, the Suppliers will deliver 0.9 of a kilowatt-hour at points on the North San Joaquin division of the California Aqueduct, or 0.8 of a kilowatt-hour at points on the Coastal Branch of the California Aqueduct.

Energy not needed for project use will be credited to the State in an energy adjustment account. Such energy, if not put into the account, may be sold to the Suppliers for 2.59 mills per kilowatt-hour. During 1968, 1969, and 1970, the State's share of San Luis energy and Canadian Entitlement energy, which is in excess of pumping requirements at any time, may be credited to the State for later use within the year.

Planning and Support of Operations

Activities in support of actual operation of project facilities accelerated during the reporting period in view of the impending June 1967 initial operation of the Delta Pumping Plant and the scheduled January 1968 initial operation of a significant portion of the California Aqueduct. In addition to the activation of operation and maintenance forces, an agreement with the Bureau of Reclamation was negotiated concerning the water supply for 1967 -- and negotiations continued with that agency concerning the Department's operation of the joint state-federal San Luis division.

Operation and Maintenance Activation

Preparations continued for the full-scale operation and maintenance of the State Water Project. At the present time, about 200 of the Department's personnel are involved in project operation and maintenance activities, and in the management of these activities. Department studies and those of consultants indicate that this number will increase to about 900 by 1972.

There will eventually be over 50 such new civil service classifications for the operation and maintenance force.

Work continued on the South Bay Aqueduct Control System Model, assisted by the Department's consultants, Daniel, Mann, Johnson and Mendenhall. A number of important advances on the Model were made during 1966. Work was begun by Aetron on installation of field equipment. Philco-Ford Corporation was awarded the contract for the control center equipment. Pacific Telephone began work on the communication facilities. A formal contract was completed with UNIVAC for supplying the 418 Computer System. Department personnel are preparing for computer control and for the test and evaluation of the Model.

Work was continued by Burns and Roe, Inc. (in association with North American Aviation, Inc., and Price Waterhouse and Co.), consultants to the Department, in preparing operation and maintenance manuals; in developing and implementing a training program; in establishing procedures for the large job of property accounting and inventory control; in developing standard operating procedures; in setting forth testing and calibration requirements; in conducting certain operations research studies; in recommending an organization plan for operations and maintenance; and in formulating a project management information system.

Water Supply Arrangements for 1967

Since initial operation of the South Bay Aqueduct in 1962, a water supply has been delivered through the Interim Canal to Bethany reservoir from the federal Delta-Mendota Canal -- under a contract with the Bureau of Reclamation. After the Delta Pumping Plant begins operation, water will be pumped directly from the Delta to Bethany reservoir. However, there may be times during the remainder of 1967, and during 1968, when project pumping capacity would need to be supplemented by the conveyance capacity of the Interim Canal. In this event, the Department would continue to purchase amounts conveyed through the Interim Canal under the present Bureau contract.

Water will not be available in the Delta during summer months until Oroville Dam is capable of storing sufficient water for release to the Delta (subsequent to October 1967). Also, storage of water in Oroville and diversion of water from the Delta cannot commence until water rights permits for the State Water Project are approved.

As a result of discussions concerning the orderly transition from a Bureau to a project water supply, the Bureau of Reclamation set forth a letter proposal[86/] under which the Project could divert an interim 1967 water supply directly through the Delta Pumping Plant. This proposal covers the following points:

1. Diversions by the State Water Project from the Delta during 1967 will be considered to be Central Valley Project water whenever such diversions are made at a time when the following two conditions exist concurrently:

   a. The aggregate net change in storage in all Central Valley Project reservoirs which contribute to Delta inflow indicates a withdrawal.

   b. Delta inflow available for Delta use is approximately equal to Delta requirements.

2. Diversions by the State during 1967 which are made at times other than those covered by (1) above, will be considered to be diversions of surplus Delta inflow.

3. The quantity of water diverted by the State during 1967 under conditions covered by (1) above will be returned to the Central Valley Project on demand during 1968, 1969, or 1970, but with the understanding the Bureau will not call for the water during 1968 unless prior to July 1, 1968, Oroville storage has reached 2,700,000 acre-feet or more.

San Luis Operating Agreement

The December 1961 San Luis Agreement provides for construction of the joint-use facilities of the San Luis division by the Bureau of Reclamation, for the sharing of costs of construction between the Department and the Bureau, and for operation of the joint-use facilities by the Department.

86/ *Letter from R. J. Pafford, Jr., Regional Director, Region 2, Bureau of Reclamation, to William R. Gianelli, Director Department of Water Resources, March 27, 1967.*

Both the Bureau and the Department are working toward formulation of a detailed operation agreement. Negotiations toward this objective have been in progress since the San Luis Agreement was signed. As the negotiations developed, the problem subdivided. It is now probable that two separate agreements will be produced.

The first of these agreements is essentially complete. It concerns operation and maintenance of the joint-use facilities and covers: sharing of such costs, scheduling of water deliveries, operating rules, water quality objectives, cost accounting, and schedules for payments. Execution of this agreement, however, is contingent upon the second agreement.

The second agreement concerns the coordinated operation of the State Water Project and the federal Central Valley Project. Negotiations are actively under way concerning the many, and complex, problems associated with the coordination of these two large projects.

During the reporting period, arrangements were completed relative to the activation of operations and maintenance of the joint-use facilities, with the transfer of responsibility from the Bureau to the Department scheduled for July 1, 1968.

Project Cost Accounting

The Project's water supply contracts require a unique and complex accounting of project costs, in order to properly compute statements of charges thereunder.

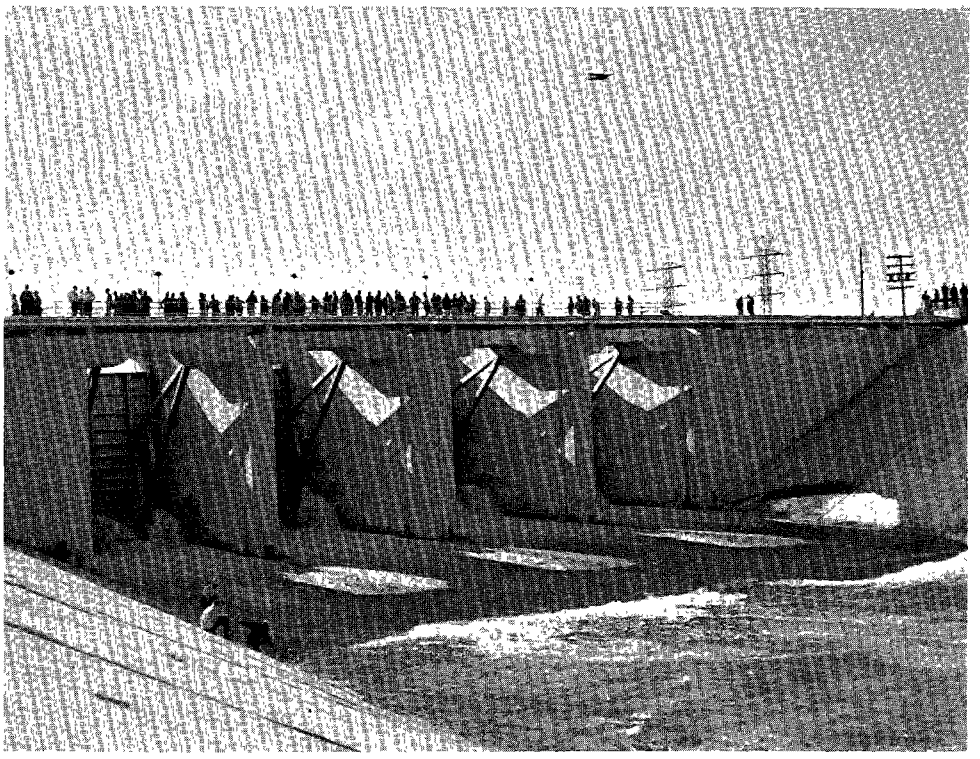
At least five general types of cost allocations are required in administering the payment provisions of water supply contracts -- for distributing:

1. General costs, incurred for the Project as a whole, among facilities and among aqueduct reaches thereof.

2. Joint facility costs, between the United States and the State.

3. State joint facility costs, among reimbursable and nonreimbursable purposes.

4. Reimbursable state facility costs, among the six components of water supply charges.



Opening gates of the San Luis Canal inlet structure to release water from O'Neill Forebay into the first reach of the San Luis Division.
(San Luis Division)

Water from Italian Slough, foreground, has filled the intake channel to Delta Pumping Plant, upper right. *(North San Joaquin Division)*

5. Reimbursable costs, for each aqueduct reach and for each charge component, among water supply contractors.

In recent months, the Department has been engaged in an all-out programming effort so that the entire calculation process required to produce statements of charges from basic accounting records can be accomplished by high-speed electronic computers. Thus, when the accuracy of accounting records has been verified by the agencies, and mutually agreeable procedures established, the actual computation of charges can be rapidly and accurately accomplished. The agencies will be doubly benefitted by reductions in the State's calculation time, as well as in the agencies' audit time, for all charges to be rendered in the future.

Program design and detailed programming began in May 1966, for a Control Data Corporation 3300 system. This new high-speed computer system was acquired and installed in October 1966, to handle the increasing data processing needs of the Department. These new accounting programs are expected to be fully operational in time to prepare those statements of water charges to be furnished to the contracting agencies on or before July 1, 1967.

CHAPTER VI. PROJECTED WATER AND POWER DEMANDS AND SUPPLIES

Described herein are the Department's current estimates of: (1) project water demands for each year of the project repayment period; (2) availability of water in the Sacramento-San Joaquin Delta to supply such demands, the time and need for additional water supplies to be imported from the North Coastal area; (3) pumping power quantities required to divert the estimated supply from the Delta and to convey it to project service areas; and, (4) attendant power quantities generated by project facilities.

This information is basic to the estimates of operating costs and revenues used in the development of plans for financing future project costs, described in Chapter VIII.

Estimates of Project Water Demands

The total annual water demands of the State Water Project, exclusive of surplus water which may be sold to agencies on provisional basis, include:

1. The annual quantities needed during construction or required to bring water surfaces in project facilities to operational levels.

2. The annual entitlements of water supply contractors which, for years of full project development, total the "minimum project yield".

3. The annual quantities consumptively used, or otherwise lost, for the project purposes of recreation and fish and wildlife enhancement.

4. The annual quantities consumed, or otherwise lost, incidental to the normal operation of project facilities.

Quantitative estimates of these demands are described in the following sections, and are summarized in Table 4.

Water Quantities Involved in Construction

Water is used during the construction period for: (1) aqueduct preconsolidation; (2) testing of aqueduct sections and electrical-mechanical equipment; and (3) bringing aqueduct and reservoir water surfaces to operational levels.

The Department is using nonproject water (including ground water from state-owned wells and the supplies of local water agencies and private corporations) for the preconsolidation of aqueduct foundations. Compensation arrangements include payments, in kind, by future deliveries of project water. Such replacement supplies will be derived from surplus water and are not included in Table 4.

Water used for testing purposes will not be consumed, and will be available for bringing water surfaces in downstream facilities to operational levels.

Estimated quantities required to bring water surfaces to operational levels will include water for the initial filling of aqueduct sections, San Luis reservoir, and reservoirs located in Southern California. For Del Valle reservoir on the South Bay Aqueduct, only water sufficient to fill dead storage space would be provided since a relatively high inflow of local water is expected. These estimated annual quantitities are summarized in the following tabulation:

Calendar year	Aqueduct sections	San Luis reservoir	Southern California reservoirs[a/]	Del Valle reservoir	Total
1967	4,000				4,000
1968	91,107	242,000			333,107
1969	6,500	640,000		10,000	656,500
1970	6,800	218,000			224,800
1971	5,000		154,800		159,800
1972	1,000		192,300		193,300
1973			234,300		234,300
1974			80,900		80,900
.					
.					
.					
.					
.					
1980	320				320
Totals	114,727	1,100,000	662,300	10,000	1,887,027

a/ Includes Castaic, Pyramid, Cedar Springs, and Perris reservoirs, based upon criteria established December 1, 1966.

Variable operating costs (primarily the costs of pumping power and energy) associated with transporting water during the construction period will be included in the capital costs of the respective facilities.

Annual Entitlements to Project Water

Table 5 summarizes the future annual entitlements to project water for all contracting agencies, based upon the Table A quantities of each contract (including all amendments executed thereto, through April 1, 1967) and upon the estimated year of initial project water delivery as shown in Article 6(a) of each contract (including all modifications thereof, through notifications by the Department).

All Table A quantities do not constitute entitlements to project water. Deliveries to the three South Bay agencies have been from a water supply purchased from the Bureau of Reclamation's Delta-Mendota Canal. Project water deliveries to the South Bay agencies will not commence until the initial units of the Delta Pumping Plant are operable (currently scheduled for June 1967). It is possible that even during the remainder of 1967, and possibly in 1968, portions of the Table A amounts for these agencies will continue to be supplied from "Bureau" water. (Deliveries to be made to the Napa County Flood Control and Water Conservation District prior to completion of Phase II of the North Bay Aqueduct construction will also not constitute project water. However, these quantities are not included in Table A of that agency's contract.)

All potentital deliveries of project water are not included in Table A quantities. Under the Surplus Water Contracting Program, described in Chapter V, additional deliveries will be sold as long as surplus supplies are available in the Delta, aqueduct capacity required to convey such surplus quantities is not needed for the delivery of Table A quantities, and the reliability and costs of Table A quantities are not adversely affected.

Water Requirements for Recreation and Fish and Wildlife Enhancement

Annual quantities of water to be consumed or otherwise lost in recreational (and fish and wildlife enhancement) developments are estimated to total 45,500 acre-feet annually--for such developments to be located along the California Aqueduct south of Kettleman City. Of this total, 25,500 acre-feet would be consumed in the southern San Joaquin Valley, and 20,000 acre-feet, in Southern California. The quantities of water to be consumed in recreational developments located adjacent to other project facilities would be relatively small, and are ignored herein.

Losses Incidental to Project Operation

Operational losses in the project facilities located below the Delta would average an estimated 260,430 acre-feet annually, by the year 1990. Water surface evaporation losses are estimated largely from evaporation records, and seepage losses, from operational experience of the Bureau of Reclamation.

The following tabulation summarizes the average annual losses included in Table 4 for the major facilities of the State Water Project located below the Delta.

Project facility	Estimated annual operational losses, in acre-feet
Reservoirs:	
Del Valle	3,500
San Luis	34,000[a/]
Pyramid	7,000
Castaic	16,100
Cedar Springs	8,600
Perris	9,800
Subtotal	79,000
Canals:	
North Bay Aqueduct	1,400
South Bay Aqueduct	1,230
California Aqueduct	178,800[a/]
Subtotal	181,430
TOTAL	260,430

a/ Includes only assumed State's share of losses in the San Luis division.

Estimates of Future Water Supplies

A preceding discussion in Chapter V, concerning the 1966 State Water Rights Board hearing on the applications for diversions from the Feather River and the Delta, referred to the Department's comprehensive operation study on the ability of future Delta supplies to meet project demands, and to the Bureau of Reclamation's version of such a study.

Delta Supplies v. Project Demands

The Department's operation study was based upon Delta inflows reflecting increased upstream uses (depletions) estimated for the year 2015.

The study indicated the need for an additional 1,550,000 acre-feet of annual yield by the year 2015, over and above the capability of present and planned future facilities -- exclusive of the Upper Eel River Development -- and assumes development of the required additional yield to be a joint responsibility of the State Water Project and the federal Central Valley Project under the May 16, 1960, sharing agreement.

Although the Department's study reflected the estimated effect of future units of the federal Central Valley Project, and of upstream depletions agreed upon by the Bureau, the Bureau did not necessarily concur in the Department's conclusions.

During the reconvened hearing of the State Water Rights Board, in April 1966, the Bureau presented the results of its version of a coordinated operation study. This study confirmed the Department's estimate of future water supplies to the Delta, but indicated the need for an additional 810,000 acre-feet of annual yield by the year 2015 -- rather than the Department's estimate of 1,550,000 acre-feet annually.

The principal difference between the two operation studies is that the Department's study reflects both a larger Delta diversion for the State Water Project and a larger salinity outflow than is considered in the Bureau's study.

Direct negotiation between the Department and the Bureau is expected to resolve differences in operational criteria. Furthermore, continuation of joint studies with the Bureau is planned, leading to mutually agreeable estimates of future Delta inflows at one or more levels of development other than the year 2015.

For purposes of this bulletin, the Department has made estimates of future Delta inflow for various levels of upstream development -- both prior and subsequent to the year 2015 -- to define the timing and magnitude of project water supplies required in addition to those originating from Delta inflows.

Supply from Additional Conservation Facilities

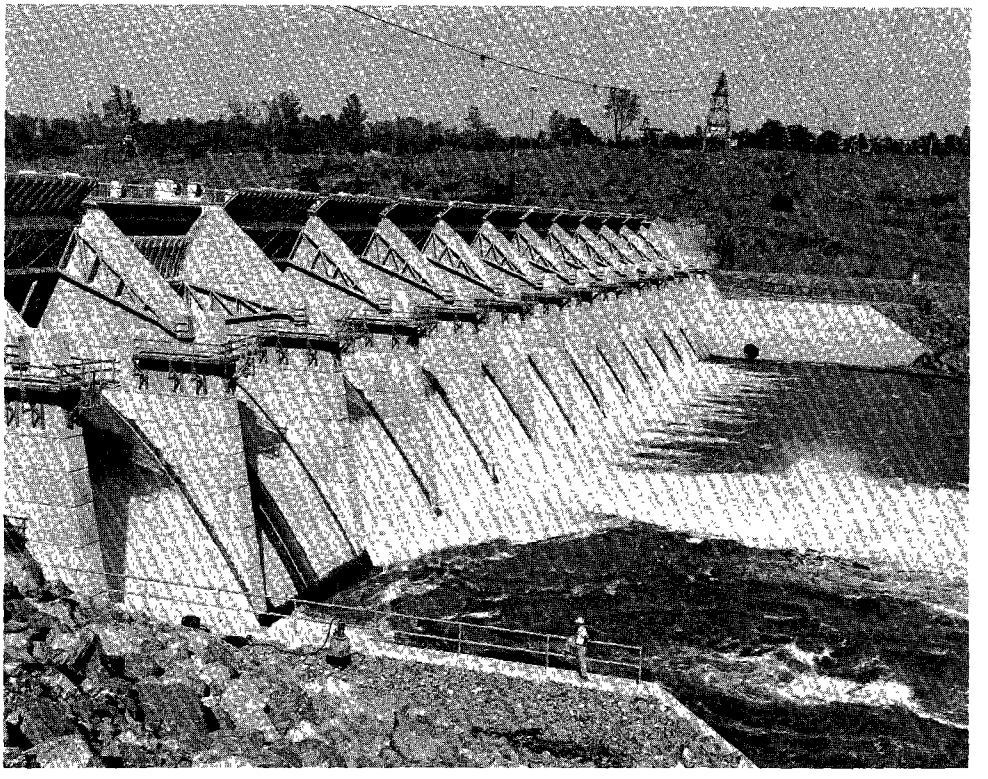
The financial analysis presented in Chapter VIII includes provision for future construction of the Upper Eel River Development as an "additional project conservation facility".

For the purposes of the financial analysis, the size of required additional conservation facilities is based upon conditions projected for the year 2035 -- the assumed last year of repayment of bonds issued under the Burns-Porter Act. The amount of additional annual water supply which the Project would require at that level of development is currently estimated to be 900,000 acre-feet.

Preliminary results for the advanced planning studies for the Upper Eel River Development indicated that a facility sized only to provide 900,000 acre-feet annually of water supply may be less than optimum -- in consideration of the storage development potential on the Middle Fork Eel River and the possibility of associated regulatory storage in the Central Valley. These studies show that an Eel project of increased scale could provide additional water supplies at lesser unit costs and with greater benefits in other categories than a development sized only to meet the requirements for sustaining the required yield of the State Water Project.

The Upper Eel River Development considered herein includes a large Dos Rios reservoir on the Middle Fork of the Eel River, a Grindstone Creek tunnel, and a large Rancheria reservoir on Stony Creek. Operation studies indicate that these facilities could sustain an average yield of 1,770,000 acre-feet per year in the Sacramento-San Joaquin Delta during a repetition of water supply conditions experienced during the 1928-1934 critical period -- or 870,000 acre-feet per year of supplemental water supply, over and above the 900,000 acre-feet per year required to maintain the minimum project yield.

The supplemental water supply developed by such a large-scale Upper Eel River Development could be used to meet one or more of several projected needs. These include possible future contracts for water supply from an expanded State Water Project, or a supplemental project; and, provision of water supplies to offset the Central Valley Project's share of projected depletions, or to meet future water demands on the Central Valley Project. Under the latter two possibilities, the development would probably be operated as a joint-use facility, similar to the San Luis division. The current joint agency planning for the Eel River is directed toward exploring such joint development.



Thermalito Diversion Dam
(Oroville Area)

Louver assemblies for the Delta Fish Protective Facility. (North San Joaquin Division)

Estimates of Project Pumping Power Requirements

Each year of full project operation will require a total of about 2 million kilowatts of power capacity and 13 billion kilowatt-hours of energy for project pumping. Estimated annual project energy requirements of each pumping plant of the State Water Project are shown in Table 6 -- excluding those pump-back requirements for Oroville-Thermalito generation.

Estimated annual power demands and energy requirements for the Delta Pumping Plant and the San Luis Pumping-Generating Plant are based on operation studies referred to in the preceding section. Annual demands of other pumping plants are estimated on the basis of the buildup of water deliveries, operational losses and other allowances, also previously discussed in this chapter.

The energy requirements shown for the San Luis Pumping-Generating Plant are the Department's current estimates of the State's share of the total energy requirements for both the State Water Project and the federal Central Valley Project. Power requirements listed for 1968 and 1971 reflect initial project water deliveries to the San Joaquin Valley and Southern California, respectively.

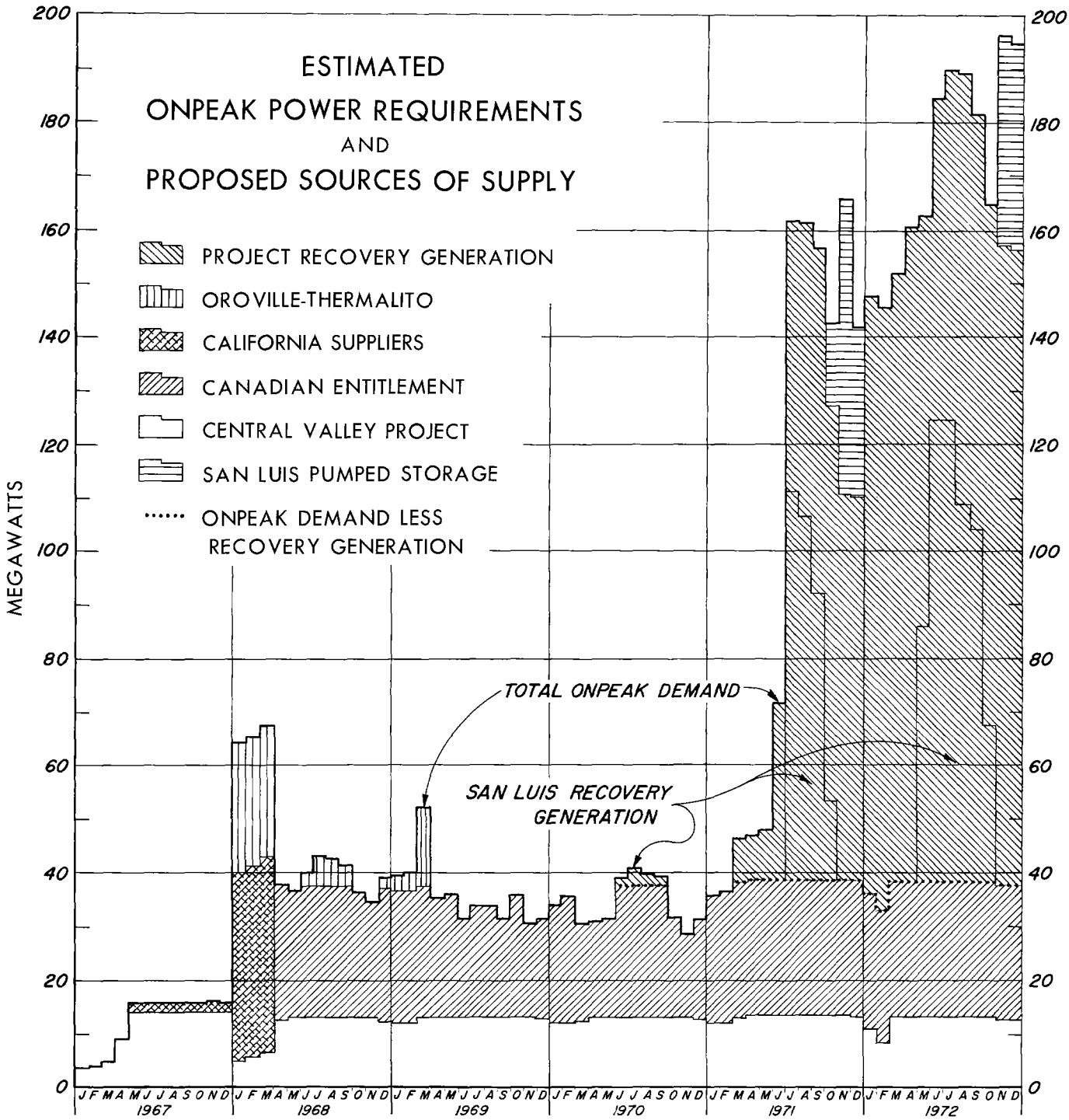
Power to meet project pumping requirements will come from several sources and will be utilized in varying amounts and combinations dependent on availability, cost and need. These sources include: the generation from hydroelectric powerplants located on the California Aqueduct, Canadian Entitlement power, Central Valley Project power, surplus energy from the Bonneville Power Administration, and power from a group of California utilities collectively known as the "Suppliers".

The flexible and varied use of power sources is illustrated on Figure 4. Shown thereon are the Project's estimated monthly onpeak power requirements and contemplated sources of power supply during the six-year period, 1967-1972. The monthly onpeak demand represents the maximum demand created by project pumps during onpeak hours. The different shaded areas depict the contemplated use of power from the various sources.

Estimates of Project Power Production

The primary source of project power production will be Oroville-Thermalito Powerplants. Negotiations are under way to sell the capacity and generation of these two plants, as described in Chapter V.

FIGURE 4


ESTIMATED
ONPEAK POWER REQUIREMENTS
AND
PROPOSED SOURCES OF SUPPLY
PROJECT RECOVERY GENERATION
OROVILLE-THERMALITO
CALIFORNIA SUPPLIERS
CANADIAN ENTITLEMENT
CENTRAL VALLEY PROJECT
SAN LUIS PUMPED STORAGE
ONPEAK DEMAND LESS RECOVERY GENERATION
TOTAL ONPEAK DEMAND
SAN LUIS RECOVERY GENERATION
MEGAWATTS
0
20
40
60
80
100
120
140
160
180
200
J F M A M J J A S O N D
1967
1968
1969
1970
1971
1972

The combined Oroville-Thermalito dependable capacity is estimated to be at least 710,000 kilowatts, with average and minimum (dry year) capacity factors of 42 and 34 percent, respectively. Operation studies indicate that the combined average energy generation, under water supply conditions experienced during the 61-year period of record (1902 through 1962), would have approximated 2,846 million kilowatt-hours annually -- and that the two plants combined would have consumed an average of approximately 469 million kilowatt-hours annually for pump-back operations.

Project power will also be generated in the Cottonwood, Devil Canyon, Pyramid, and San Luis Obispo Powerplants, and will include a share of the San Luis Pumping-Generating Plant production. In addition, a project power supply, equivalent to that which would have been generated in a state-constructed Castaic Powerplant, will be provided by the City of Los Angeles under the Cooperative West Branch Power Development.

Excluding Oroville-Thermalito generation, project power production will be used to help meet the pumping requirements described in the preceding section. The capacities and anticipated annual energy outputs of each project power source will total approximately 690,000 kilowatts of capacity and 3,390 million kilowatt-hours of energy, during years of full project operation, as summarized below:

Project power source	Capacity, in kilowatts	Estimated annual energy generation, in millions of kilowatt-hours
Powerplants:		
Cottonwood	15,000	114
Devil Canyon	117,000	790
Pyramid	150,000	852
San Luis Obispo	5,900	42
San Luis Pumping-Generating Plant:		
Project share	222,000	119
Cooperative Power Development West Branch:		
Replacement, in kind	180,000	1,473
Total	689,900	3,390

Table 7 presents the estimated annual generation to be realized from all project powerplants.

CHAPTER VII. PROJECT DIRECT OPERATIONS AND MAINTENANCE ACTIVITIES

This chapter summarizes the actual operations and maintenance of project facilities during calendar year 1966. Daily operations are recorded in the Department's monthly report, "State Water Project: Operations, Maintenance, Revenues, Expenditures". (Actual project revenues and expenditures for calendar year 1966 are summarized in Appendix A.)

Project facilities in operation during all of 1966 were Frenchman and Antelope Dams and Lakes in the Upper Feather Area, and the main line of the South Bay Aqueduct. Grizzly Valley Dam and Lake Davis, the third facility in the Upper Feather Area, became operational during the year, as did certain joint-use facilities of the California Aqueduct, San Luis division.

The Pacific Gas and Electric Company operated the Big Bend Powerplant for the Department during 1966, and purchased its energy generation. The State had acquired the plant from the Company because of anticipated inundation by Oroville reservoir in the fall of 1967. While the Powerplant is not a project facility, the sale of its energy generation constitutes a significant interim source of project income.

Frenchman Dam and Lake

Frenchman Dam and Lake, with a gross storage capacity of 55,417 acre-feet, is operated by the Department to supply irrigation water to the Last Chance Creek Water District and to enhance recreational opportunities in the vicinity of the Lake and along the downstream channel of Little Last Chance Creek.

Actual operation of recreational developments at Frenchman Lake is conducted by the United States Forest Service, under an agreement with Plumas County. Operating costs are paid from user fees, supplemented by reimbursements from the County.

For the past three years, the Department of Fish and Game has made an annual allotment planting of 150,000 "subcatchable" rainbow trout (ranging in size from three to five inches) as an enhancement to recreational opportunities in the area.

Frenchman Lake received an estimated 360,000 visitor-days of use by fishermen, campers, and other recreationists during the 1966 recreation season, May to November -- 114,000 visitor-days less than in the 1965 recreation season.

Water Operations

During 1966, the water surface was maintained above the minimum recreation pool established for the Lake at an elevation of 5,560 feet above sea level. The 34,000 acre-feet of storage space between the minimum recreation pool and the dam spillway was operated to provide regulated irrigation and fishery releases.

Frenchman Lake contained 47,008 acre-feet of water in storage at the beginning of 1966. Inflow to the Lake totaled 10,494 acre-feet during the year. Total regulated releases for the year amounted to 13,928 acre-feet, with no water wasting over the spillway. Annual evaporation and seepage losses were estimated to be 5,054 acre-feet. Storage at the end of 1966 was 38,520 acre-feet. No unusual water quality conditions were observed during the year.

The fourth annual interim water supply contract with Last Chance Creek Water District was executed March 28, 1966, for deliveries during the 1966 irrigation season. Under this contract, the District paid $14,000 to the State for regulation and delivery of 12,000 acre-feet of water. Actual deliveries to the District totaled 13,015 acre-feet, including 1,015 acre-feet of water purchased under the 1965 contract.

Table 8 presents a summary of the monthly operation of Frenchman Lake for 1966.

General Maintenance

The outlet works were dewatered in September for the first internal inspection of the conduit and valves. These inspections will be conducted at the end of every five-year period of operation. The works were found to be in good condition, with only minor repairs needed on the exterior coating of the outlet conduit and outlet valve.

Frenchman Dam was inspected May 25, 1966, by the Department's Division of Safety of Dams (pursuant to Division 3 of the Water Code) and was deemed to be in satisfactory condition and safe for continued use.

Antelope Dam and Lake

Antelope Lake, with a gross storage capacity of 22,513 acre-feet, is operated by the Department to enhance recreational opportunities in the vicinity of the Lake and along the downstream channel of Indian Creek. Reservoir releases are also made to satisfy downstream water rights entitlements.

Responsibility for the operation of recreational developments at Antelope Lake has been assigned directly to the United States Forest Service. The Department of Fish and Game has enhanced recreational opportunities by planting of an annual allotment of 270,000 rainbow trout fingerlings (two to three inches in length) for the past three years.

Antelope Lake received an estimated 105,000 visitor-days of use by fishermen, campers, and other recreationists during the 1966 recreation season -- 79,200 visitor-days more than in the 1965 season, when recreational developments were only partially complete.

Water Operations

Antelope Lake contained 16,156 acre-feet of water in storage at the beginning of 1966. Inflow to the Lake totaled 17,882 acre-feet during the year. The Lake filled April 14, and 4,734 acre-feet were wasted before spilling ceased on June 3. Regulated releases from the Lake to satisfy downstream water rights entitlements and minimum streamflow requirements totaled 7,613 acre-feet. Annual evaporation and seepage losses were estimated to be 3,115 acre-feet. Storage at the end of 1966 was 18,576 acre-feet.

Water quality investigations were made at Antelope Lake during the fall of 1966. Consistently good mineral quality was noted, and only moderate biological activity was detected.

Table 9 presents a summary of the monthly operation for Antelope Lake for 1966.

General Maintenance

Piezometer readings of the embankment observation wells were made at monthly intervals during 1966.

The Dam was inspected May 24, 1966, by the Department's Division of Safety of Dams, and was deemed to be in satisfactory condition and safe for continued use.

Grizzly Valley Dam and Lake Davis

Lake Davis, with a gross storage capacity of 83,000 acre-feet, will be operated by the Department to enhance recreational opportunities in the vicinity of the Lake and along the downstream channel of Big Grizzly Creek. The Lake will also be operated to satisfy water rights entitlements downstream from the Dam, and to supply project water to the Plumas County Flood Control and Water Conservation District.

Water Operations

Lake Davis began storing water on December 5, 1966, and storage at the end of the year was about 2,000 acre-feet.

Lake Davis will not be open for recreation use during the 1967 season as originally planned. A 1967 budget cut eliminated the possibility of recreational developments in the area before 1968, when appropriations from the General Fund are anticipated. Furthermore, the Department of Fish and Game planted 920,000 rainbow trout fingerlings in the Lake during early 1967, and asked that the area be closed to fishing for the calendar year to permit fish growth.

Project water deliveries to the Plumas County Flood Control and Water Conservation District will not begin until 1968. Article 45(d) of the District's water supply contract provides that water shall be stored in Lake Davis for one full year before project water will be deemed to be available for delivery.

South Bay Aqueduct

The South Bay Aqueduct is operated by the Department to provide water to contracting agencies located in Alameda and Santa Clara Counties. Del Valle reservoir will be operated for flood control, recreation, local water conservation, and regulation of project water deliveries.

Water Operations

The 1966 water supply for the South Bay Aqueduct was purchased from the Bureau of Reclamation under terms of a

contract executed in 1963. A total of 59,599 acre-feet of Bureau water, measured at the turnout from the Delta-Mendota canal, was purchased during 1966.

Deliveries from the South Bay Aqueduct were made to the Alameda County Flood Control and Water Conservation District (Zone 7), Alameda County Water District, and Santa Clara County Flood Control and Water District in the amounts of 5,511, 14,864, and 34,538 acre-feet, respectively. Other deliveries included 209 acre-feet for use by the contractor constructing Bethany Dams, and 154 acre-feet for refilling aqueduct reaches. Water losses amounted to 4,328 acre-feet.

Deliveries to the Alameda County Flood Control and Water Conservation District (Zone 7) were made as follows: 30 acre-feet at Bethany reservoir; 2,441 acre-feet at Altamont turnout; 2,537 acre-feet at Patterson turnout; 363 acre-feet at Wente turnout; and, 140 acre-feet at temporary turnouts for construction contractors.

All deliveries to Alameda County Water District were made at Vallecitos turnout.

Deliveries to Santa Clara County Flood Control and Water District were measured at the aqueduct meter near the Alameda-Santa Clara County line.

Power Operations

The Department continued to purchase power from the Bureau of Reclamation to supply the South Bay pumping requirements. The Pacific Gas and Electric Company receives this power at the Tracy Switchyard and transmits it over their transmission system to the State's plants. There were five unplanned interruptions in power service during the year, resulting in less than two hours' outage of scheduled pumping time.

During 1966, the total energy consumed was 46,020,800 kilowatt hours; the peak power demand was 9,550 kilowatts; and, the total power and energy cost was $189,331, for an average rate of 4.11 mills per kilowatt hour -- down 0.79 mills per kilowatt hour in comparison with the average rate for 1965.

Table 10 summarizes the monthly water and power operations of the South Bay Aqueduct for 1966.

Water Quality

The Department's surveillance of 1966 water quality conditions followed the program described for the South Bay Aqueduct on page 109 of Bulletin 132-66.

Weighted monthly average concentrations of total dissolved solids, total hardness, chlorides and sulfates of water pumped at South Bay Pumping Plant during 1966 are presented in Table 11. The table also includes values for boron and percent sodium derived from monthly random samples at the Plant.

General Maintenance

A landslide occurred August 30, 1966, along a canal section immediately south of the Greenville road crossing in the Livermore Valley. Approximately 3,000 cubic yards of earth slid into the canal, ripping out about 200 feet of concrete-lining and blocking all flow. Emergency repair crews were mobilized and the section cleared and gunited. Operation was resumed on September 7, 1966. The slide caused a 1,600 acre-foot reduction in scheduled deliveries to the Alameda County Water District and the Santa Clara County Flood Control and Water District.

Silt and clam deposits in canal sections within the Livermore Valley were removed by dragline operations during January 1966, and in the Interim Intake canal, during December 1966.

Weekly aerial patrols and daily ground patrols of the South Bay Aqueduct were initiated in October 1966.

Seven applications of copper sulfate were made to control aquatic weeds and algae in the Aqueduct during 1966. A single treatment was made in the Interim Intake canal on May 24, 1966. Other applications were made near the Altamont Turnout on April 25, June 21, July 25, September 13, October 24, and November 14, 1966. A total of 1,406 pounds of copper sulfate was used during the year. The growth of algae and broad-leaf aquatic weeds was controlled. Narrow-leaf aquatic weeds were not affected.

Plant Maintenance

The repairs and modifications on Pumps 1 and 2 at the South Bay Pumping Plant, as described on pages 110 and 111 of Bulletin 132-66, were completed at the manufacturer's

facilities and the units returned to the plant in February and July 1966, respectively.

After a shaft failure on Pump 4 in March 1966, and a subsequent outage for Pump 9 of a similar type, extensive tests were performed on all operating units to determine the cause of these major equipment failures. Following the tests and analyses, several modifications were made to all pump units to improve their reliability. Among these were reinforcement of the elbow sections and thrust plates, and installation of the tie rods on the bowl assemblies to prevent the deflection causing fatigue failures in the shafts.

All pumps have been modified and reinstalled and are operating satisfactorily.

Specifications for furnishing and installing Pumps 5, 6, and 7 call for incorporation of all modifications that had to be made on previously installed units. These three units will add 135 cubic feet per second to the capacity of the South Bay Pumping Plant. This will complete installation of all units for the Pumping Plant, for a total capacity of 330 cubic feet per second.

Maintenance requirements at the Interim Pumping Plant were moderate and normal during 1966.

San Luis Division

O'Neill Dam and Forebay, Los Banos Creek Detention Dam and reservoir, and Little Panoche Creek Detention Dam and reservoir became operational during the year. These features of the San Luis division will be jointly used by the federal Central Valley Project and the State Water Project. They were constructed by the Bureau of Reclamation and will be operated by the Department in accordance with the December 1961 agreement. Until the entire San Luis division attains operational status (scheduled for July 1, 1968), constructed features are being operated by Department personnel under the direction of the Bureau's Project Engineer.

O'Neill Dam and Forebay

O'Neill Forebay has a gross storage capacity of 58,000 acre-feet excluding supplemental storage capacity contained in the aqueduct reach between the Forebay and Dos Amigos Pumping Plant. Project water will enter the Forebay from the California Aqueduct by gravity. Bureau water will

enter the Forebay from the Delta-Mendota Canal by pumping (through the O'Neill Pumping Plant -- a federal-use feature). The Forebay will regulate water pumped and released through the San Luis Pumping-Generating Plant, and will enhance recreational opportunities in the immediate vicinity.

O'Neill Forebay began storing water pumped from the Delta-Mendota Canal in October 1966. At the end of the year, water in storage amounted to 24,841 acre-feet.

Los Banos Creek Detention Dam and Reservoir

The Los Banos Creek detention reservoir is located on the creek in western Merced County, about two miles upstream from the California Aqueduct main line. The reservoir will be operated to enhance recreational opportunities in the immediate vicinity and to control local flooding. Stored water cannot be released into the California Aqueduct.

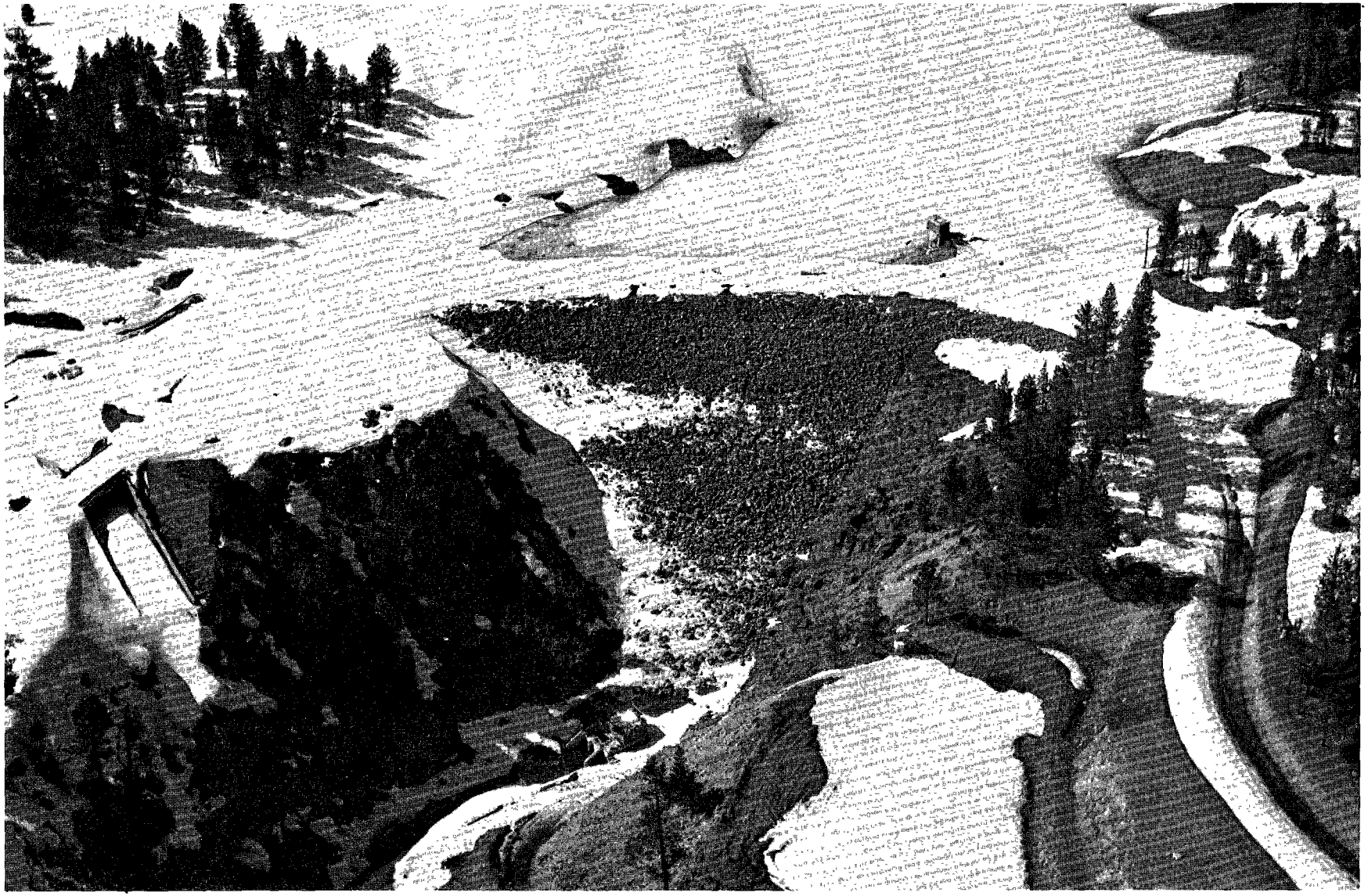
The Federal Government bears 50.2 percent of the construction costs of the feature as an allocation to flood protection of those downstream developments other than the California Aqueduct. The remaining costs of the feature, which are allocable to recreation and protection of the California Aqueduct, are shared in accordance with the 55-45 state-federal ratio.

The reservoir has a gross capacity of 34,562 acre-feet. At the end of 1966, water in storage amounted to 5,980 acre-feet.

Temporary recreational developments at Los Banos Creek detention reservoir commenced operation on April 23, 1966, under the supervision of the Division of Beaches and Parks of the Department of Parks and Recreation. An estimated 17,700 visitor-days of use occurred during the 1966 recreation season. Permanent developments are planned for a later date.

Little Panoche Creek Detention Dam and Reservoir

The Little Panoche Creek detention reservoir is located on the creek in western Fresno County, about three miles upstream from the California Aqueduct main line. The reservoir will be operated to control local flooding. Water released or spilled from the reservoir can either flow into or be siphoned under the California Aqueduct.



Grizzly Valley Dam, completed in 1966. (Upper Feather Area)

The gross capacity of the reservoir is 13,236 acre-feet. At the end of 1966, water in storage amounted to 98 acre-feet.

Big Bend Powerplant

Ownership transfer of the Pacific Gas and Electric Company's Big Bend Powerplant to the State became effective on January 28, 1966, as described on page 19 of Bulletin 132-66. During the remainder of 1966 (January 28 through December 31, 1966), 405,012,048 kilowatt-hours of generation was delivered and sold to the Company at a rate of 2.95 mills per kilowatt-hour. Net revenues accruing to the Project from the sale of this energy (gross revenues less operating costs) amounted to $1,011,216, as shown in the following tabulation:

Quarterly Period	Net Generation a/	Gross Project Revenues	Operating Costs	Net Project Revenues
	(in dollars unless otherwise noted)			
1/28/66-3/31/66	85,737,123	252,925	14,205	238,720
4/1/66-6/30/66	123,078,160	363,081	55,467	307,614
7/1/66-9/30/66	105,998,730	312,696	30,945	281,751
10/1/66-12/31/66	90,198,035	266,084	82,953	183,131
TOTALS	405,012,048	1,194,786	183,570	1,011,216

a/ *In kilowatt-hours.*

The Company installed lightning arrestors on the transmission system at the plant, at the request of the Department. This provided improved protection to plant equipment at a very nominal cost. Maintenance at the plant was routine throughout the year.

CHAPTER VIII. PLANS FOR PROJECT FINANCING

The financial program for the State Water Project is established on the principles of the Burns-Porter Act, which became effective November 8, 1960. The Project's financial program has always recognized that continued increases in water demands would eventually dictate the need for additional financing for future project enlargements envisioned under the Act.

On May 12, 1967, just prior to completion of work on this bulletin, the report of the Water Resources Task Force (described in Chapter II) was submitted to the Governor. This report concluded that within the next six years, through 1972, the State Water Project may require up to $300 million of construction funds additional to the amounts presently available. For the period through completion of project construction in 1985, requirements for additional construction funds could total up to $600 million.

The financial analysis on which this chapter is based indicates that the additional funds required through the end of 1972 total $51 million and through the end of 1985, $147 million. The fundamental reason for the difference in the two figures lies in the assumptions relating to scheduling, cost sharing, etc., on which the two estimates are based. In its report, the Task Force pointed out that any definitive determination of new funding needed to meet State Water Project obligations will involve engineering, legal and policy decisions still to be made. Examples of the types of decisions to be made are determinations of the timing and extent of federal participation in the Peripheral Canal and the Upper Eel Development, decisions as to the timing of construction, scheduling and repayment aspects of the San Joaquin Valley Drain, and possible postponement or elimination of certain features of the Project. Another point of difference in the assumptions underlying the two estimates has to do with the manner in which miscellaneous project receipts would be used. It should be clearly understood, therefore, that the difference in the two estimates does not imply an erroneous approach in either case. Rather, the differences simply are based on the assumptions that were made regarding what is to be built, when it is to be built, and how it is to be financed.

The financial analysis developed in this chapter supports the Task Force's conclusion as to the need for both short-term and long-term supplemental funds. Continued vigilance and analyses will be required to insure that such funds are available, if and when needed.

Capital Expenditures

The total capital cost of the State Water Project is currently estimated to be $2,818 million. Of this total amount, $826 million had been expended through 1966, leaving an estimated

$1,992 million to be incurred during the 1967-1985 period. Estimated future expenditures include allowances for contingencies and construction price escalation. Furthermore, about $529 million of such expenditures are for project facilities which currently do not have established construction schedules and have not been definitely formulated.

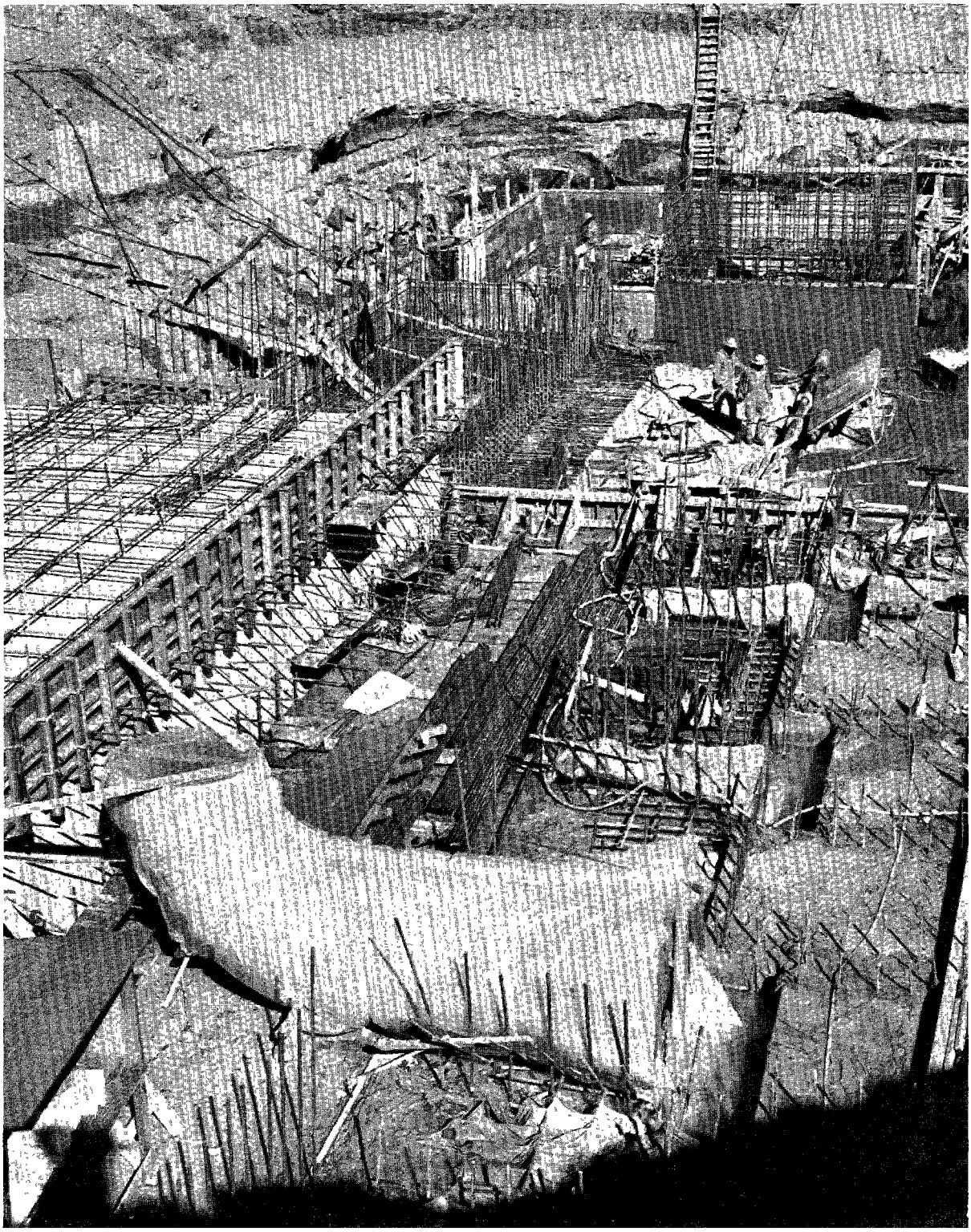
Estimation Bases for Unscheduled Project Facilities

Those facilities of the State Water Project which either have been constructed or have definite construction schedules include Frenchman, Grizzly Valley, and Antelope Dams in the Upper Feather Area; Oroville Dam, the Oroville-Thermalito power facilities, and associated works in the Oroville Area; the North Bay Aqueduct west of Cordelia Pumping Plant (constituting the "Phase I" construction of the Aqueduct); the South Bay Aqueduct; and the California Aqueduct from the Delta to Perris reservoir, together with the San Luis reservoir, the West Branch, and a portion of the Coastal Branch from the main line to the intake of Devil's Den Pumping Plant. These scheduled facilities could physically provide project water service until about 1980, with certain additional expenditures to facilitate the conveyance of water across the Sacramento-San Joaquin Delta.

The remaining project facilities have not been finally located and/or sized, and do not have established construction schedules. All facilities have definite operational objectives, however. These remaining facilities, and the assumptions made for the financial analysis in regard to estimated future construction costs, include:

1. Abbey Bridge and Dixie Refuge Dams and reservoirs in the Upper Feather Area: The estimated future costs of these recreational facilities ($9 million) are based on a 45,000-acre-foot Abbey Bridge reservoir and a 16,000-acre-foot Dixie Refuge reservoir. Construction of Abbey Bridge is assumed to be complete in 1969, and Dixie Refuge, in 1971.

2. The Upper Eel River Development: Cost estimates for the assumed component facilities of the Development are based on sizes which would sustain an additional firm supply in the Sacramento-San Joaquin Delta of about 1,770,000 acre-feet annually. Only a share ($345 million) of the estimated future costs of these facilities is included in the financial analysis. This share is based on the percentage that the estimated additional yield required for the State Water Project -- 900,000 acre-feet annually -- constitutes of the total annual yield capability of the facilities. Construction of these facilities is assumed to be complete in 1985.



Badger Hill Pumping Plant.
The form for one suction intake tube is in place.
(Coastal Branch)

3. The North Bay Aqueduct, east of the Cordelia Pumping Plant (Phase II): The estimated future costs of Phase II of the North Bay Aqueduct ($10 million) are based, generally, on construction of an unlined canal between the Delta and Cordelia Pumping Plant. The acquisition of rights-of-way is assumed to commence in 1967; final design, in 1972; construction, in 1976; and operation, in 1980.

4. The Delta Facilities: The estimated future costs of the Peripheral Canal is assumed to be the State's share of a joint federal-state facility described in the Bureau of Reclamation's preliminary feasibility report ($55 million), less state costs incurred through 1966 ($8 million). Construction of the Canal is assumed to be complete in 1974.

5. California Aqueduct - additional conveyance capacity in the San Luis division: The financial analysis considers that the costs of required additional conveyance capacity in the San Luis division of the California Aqueduct ($20 million) may be approximated by extrapolation, based on capacities, of estimated conveyance costs for the joint-use facilities currently being constructed. Inherent in this procedure is the assumption that the required additional capacity (940 cubic feet per second) would be provided as part of a future transportation facility, located adjacent to the San Luis division, and of approximately the same scale. It is further assumed that this parallel facility would be constructed so as to be operable in 1986, the first year that the present capacity limitation would be felt.

6. California Aqueduct - the Coastal Branch downstream from the intake to the Devil's Den Pumping Plant: Construction of those California Aqueduct reaches required solely to provide service to the Central Coastal area is scheduled to commence in 1976 -- pursuant to the water supply contracts with the San Luis Obispo and Santa Barbara County Flood Control and Water Conservation Districts. However, such construction can be accelerated, deferred, or eliminated under these contracts. The estimated future costs ($60 million) are based on the assumption that these reaches would consist primarily of pipeline, together with three pumping plants and a powerplant.

7. California Aqueduct - Fairmont Buttes Dam and Reservoir: Pursuant to Amendment 3 to the water supply contract with the Antelope Valley-East Kern Water Agency, this project facility would be constructed if determined to be feasible. The facility would restore peaking service to the Agency as a substitute for the regulatory storage formerly associated with the Agency in Cedar Springs Lake. An estimated cost for this facility is not included in the financial analysis since engineering and financial feasibility have not as yet been established.

8. The San Joaquin Drainage Facilities: In view of the Project's obligation under the Burns-Porter Act to provide "facilities for drainage water from the San Joaquin Valley", the estimated future costs of these facilities ($38 million) are based upon the original 1959 estimate which was utilized to develop the amount of the $1,750-million bond authorization under the Act (together with allowances for construction price escalation, planning costs, and general costs). Estimated annual expenditures are scheduled so as to provide initial drainage service in 1976.

Composition of Total Estimated Costs of Project Facilities

The capital costs of project facilities include all direct and allocated indirect expenditures incurred between the date when each was authorized for construction and the date when each attained, or is scheduled to attain, an operational status. (Capital costs also include the costs of constructing or installing supplemental works within the operational period, such as additional siphon barrels, pumping units, etc.) Project capital costs shown in the financial analysis exclude interest charges during the construction and the federal share of expenditures for joint-use facilities constructed by the United States (the San Luis division of the California Aqueduct and, as implied herein, the Delta Facilities and the Upper Eel River Development).

The estimated construction costs reflected in the financial analysis include: (1) all construction costs actually incurred for each respective facility as shown in the Department's accounting records through calendar year 1966; (2) the unpaid amounts of construction contracts in effect at the end of 1966; and, (3) the estimated costs of future work required for completion of the facility -- and associated costs of the Department. The estimated costs of all future work are based

upon state salary scales and construction unit prices prevailing at the end of 1966 -- increased by certain percentages, compounded annually, to the year in which the costs are projected to be incurred. These percentages reflect the inflationary trends experienced since 1960 -- 4 percent for state salaries and 2-1/4 percent for contract pay items. The latter percentage represents the composite for the many types of construction involved.

The composition of project capital costs is shown in Table 12.

Changes in Estimated Capital Costs of Project Facilities

The total estimated capital cost of $2,818 million is about $285 million larger than the total shown in Bulletin 132-66.

About $161 million of this increase is due to the projection of construction price escalation in this year's analyses -- a contingency which never has been included in prior financia analyses in the Bulletin 132 series. The remaining increase, amounting to $124 million, results from changing estimates between the end of December 1965 and the end of December 1966. The estimated costs of facilities comparable with those considered in last year's bulletin would increase about $308 million, primarily due to revised estimation criteria for the Upper Eel River Development. However, about $184 million of this increase was offset by the reformulation of certain project facilities to provide for certain joint ventures and excess capacity agreement entered into during the past year, and to provide for assumed construction of a large joint Upper Eel River Development, with only a share of its costs allocated to the State Water Project. These cost estimate changes are reconciled in Table 13 and are summarized, for each project facility, in the tabulation on the opposite page.

Allocation of Capital Costs Among Project Purposes and Programs

The allocations of actual and projected annual capital costs among purposes of multiple purpose project facilities are shown in Table 15. Project purposes include water supply, power generation, drainage benefits, flood control, recreation, and fish and wildlife enhancement. The percentages of the costs of each multiple-purpose facility allocable to each purpose are developed in the Department's Bulletin 153-67. Also shown in Table 15 are the capital costs of single-purpose project facilities, and land costs for project-associated recreation developments which are financed by project funds. The capital costs shown for project facilities in Table 15 represent the total which would be financed by project funds, except for certain costs which have been credited with income received (such as rights-of-way rentals and sales), under the Department's accounting procedures.

Project facility	Total capital cost as shown in Bulletin 132-66	Major changes in cost estimates: Special allowance for construction price escalation	Based on prevailing construction prices: Due to changes in basic estimates	Due to the reformulation of facilities	Total capital cost as shown in Bulletin 132-67
		(in millions of dollars)			
Facilities with established construction schedules:					
Upper Feather Area (Frenchman, Grizzly Valley, and Antelope)	12	0	0	0	12
Oroville Area	478	+ 1	- 4	0	475
North Bay Aqueduct (Phase I)	4	0	+ 1	0	5
South Bay Aqueduct	59	0	+ 8	0	67
California Aqueduct[a/]	1,436	+ 29	+ 63	+ 50	1,578
Local projects (Davis-Grunsky Program)	131	0	0	0	131
Subtotal	2,120	+ 30	+ 68	+ 50	2,268
Facilities without established construction schedules:					
Upper Feather Area (Abbey Bridge and Dixie Refuge)	10	+ 1	+ 1	- 3	9
Upper Eel River Development	227	+ 110	+230	-219	348
North Bay Aqueduct (Phase II)	7	+ 2	+ 1	0	10
Delta Facilities	55	0	0	0	55[b/]
California Aqueduct[c/]	57	+ 18	+ 7	0	82
San Joaquin Drainage Facilities	54	0	0	- 12	42[d/]
Subtotal	410	+ 131	+239	-234	546
Costs credited with income:	3	0	+ 1	0	4
TOTAL, STATE WATER PROJECT	2,533	+ 161	+308	-184	2,818

a/ Excluding the reaches of the Coastal Branch downstream from the intake of Devil's Den Pumping Plant, and a future conveyance facility adjacent to the San Luis division.

b/ Based upon the State's share of costs of a joint Peripheral Canal, as shown in Bureau of Reclamation's preliminary feasibility report -- without adjustments for construction price escalation.

c/ Including those facilities excluded in (a).

d/ Based upon the Department's 1959 estimate of $24 million -- with adjustments for construction price escalation, planning costs, and general costs.

Table 17 presents the annual capital costs of the Project, further distributed among the following three broad classifications of repayment programs:

State Utility Programs: The capital costs of these programs will be reimbursed directly to the Project by entities which have, or will have, contracted for project services (such as for a water supply, power generation, or drainage benefit). A portion of these reimbursements will be made in advance of construction (such as for requested delivery capability in excess of that which the Project would otherwise provide). However, the major portion of these costs will be amortized and returned to the Project over a 50-year period.

State Nonutility Programs: These programs include the costs of loans and grants to local agencies under the Davis-Grunsky Program, and the costs financed by project funds for recreation and fish and wildlife enhancement.

Under the Burns-Porter Act, $130 million is set aside exclusively for Davis-Grunsky loans and grants. (About $1 million had been expended for such local assistance from funds made available prior to the Burns-Porter Act.) Each Davis-Grunsky loan is specific as to the borrowing agency's loan service and repayment obligation. The total amount of loans to be made under the program, and the amortization schedule on which the State will recover such loans, cannot be determined at this time. For these reasons, no payment of interest or principal on loans made under the Davis-Grunsky Program are included in the financial analysis.

The capital costs financed by project funds which are allocable to recreation and fish and wildlife enhancement will be reimbursed to the Project through continuing appropriations from the State's tideland oil and gas revenues.

Federal Programs: The capital costs of these programs will be reimbursed to the Project as such costs are incurred, or nearly so. The capital costs of federal programs include those project costs allocable to the purpose of flood control (herein considered a federal responsibility).

Capital Costs to be Financed

Table 19 presents the estimated annual capital expenditures for each facility of the State Water Project which have been, and will be financed by project funds. A recapitulation of the values of Table 19 are summarized in the tabulation below. Total annual expenditures are also shown on Figure 5.

Project facilities	Actual through 1966	Projected 1967-1985	Total
	(in millions of dollars)		
Facilities with established construction schedules:			
Upper Feather Area	12	-	12
Oroville Area	351	124	475
North Bay Aqueduct (Phase I)	1	4	5
South Bay Aqueduct	42	25	67
California Aqueduct	377	1,201	1,578
Local Projects (Davis-Grunsky Program)	22	109	131
Subtotal	805	1,463	2,268
Facilities without established construction schedules:			
Upper Feather Area	-	9	9
Upper Eel River Development	3	345	348
North Bay Aqueduct (Phase II)	-	10	10
Delta Facilities	8	47	55
California Aqueduct	2	80	82
San Joaquin Drainage Facilities	4	38	42
Subtotal	17	529	546
Costs credited with income:	4	-	4
TOTAL, STATE WATER PROJECT	826	1,992	2,818

Summary of Financing

The actual and projected funding of capital expenditures is shown below, and on Figure 6.

Source of funds	Actual through 1966	Projected 1967-1985	Total
	(in millions of dollars)		
Burns-Porter Financing:			
General obligation bond proceeds	650	1,100	1,750
California Water Fund	157	227	384
Subtotal	807	1,327	2,134
Revenue Bond Financing	0	210	210
Miscellaneous Receipts[a/]	163	164	327
TOTAL FUNDS AVAILABLE	970	1,701	2,671
Plus (minus) carryover of unused:			
General obligation bond proceeds	(83)	83	0
Miscellaneous Receipts	(61)	61	0
Supplemental Funds Required[b/]	0	147	147
TOTAL CAPITAL EXPENDITURES	826	1,992	2,818

a/ Represents the balance of miscellaneous receipts which would not be applied to payment of general obligation bond service, as developed in the financial analysis.

b/ Assumed in the financial analysis to be derived from a supplemental authorization of general obligation bonds, which would bear the same interest rates and schedules of maturities as those projected under Burns-Porter financing.

ANNUAL CAPITAL EXPENDITURES

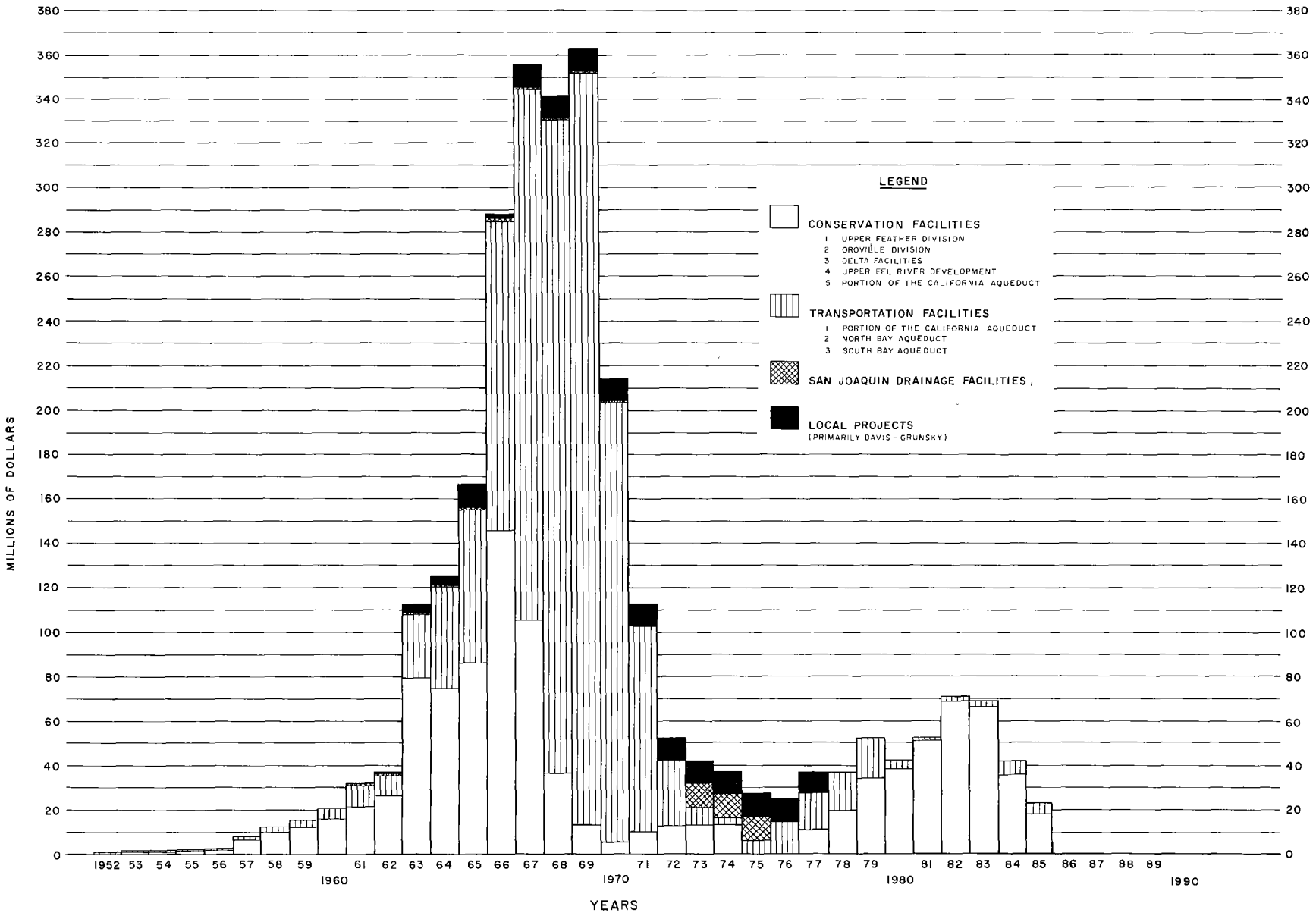


FIGURE 5

Burns-Porter Financing

The funds available to the State under the Burns-Porter Act consist of the proceeds of general obligation bonds (hereafter referred to as "Water Bonds") in the aggregate principal amount of $1,750 million, together with California Water Fund moneys which are derived from payments to the State for oil and gas royalties and bonuses under tideland leases. The Water Bonds are general obligations of the State, and the payment of interest and principal on such bonds are secured by the pledge of the full faith and credit of the State. In addition, the net revenues of the Project, with certain exceptions, are pledged to support the Water Bonds.

The net revenues which are pledged by the Burns-Porter Act to the payment of Water Bonds constitute solely those allocable to the facilities, or portions thereof, constructed out of funds provided by the Act -- i.e., Water Bond proceeds and California Water Fund moneys. Thus, if additional general obligation bonds are issued under a supplemental bond act, to finance the completion of construction, or the enlargement of the Project, they can also be serviced with those net revenues of the Project which are allocated to the facilities, or portion of facilities, financed by such additional bonds.

Accruals to the California Water Fund are limited to $11 million annually from the Long Beach tideland oil and gas revenues, pursuant to Chapter 138 of the California Statutes of 1964. The financial analysis assumes continuing annual accruals to the Fund in the full statutory amount.

Revenue Bond Financing

Funds available to the Department for financing capital expenditures include the proceeds of revenue bonds issuable under the State Central Valley Project Act. Under the California Supreme Court's decision in Warne v. Harkness [60 Cal. 2d 579, 387 P. 2d 377 (1963)], project revenues allocable to the facilities financed by revenue bonds can be separated from those project revenues pledged for Water Bond service, and pledged for the repayment of such revenue bonds.

As negotiations with the potential power purchasers were still in progress at the time of the preparation of the financial analysis, the amount of proceeds from revenue bonds is subject to revision.

FINANCING OF CAPITAL EXPENDITURES

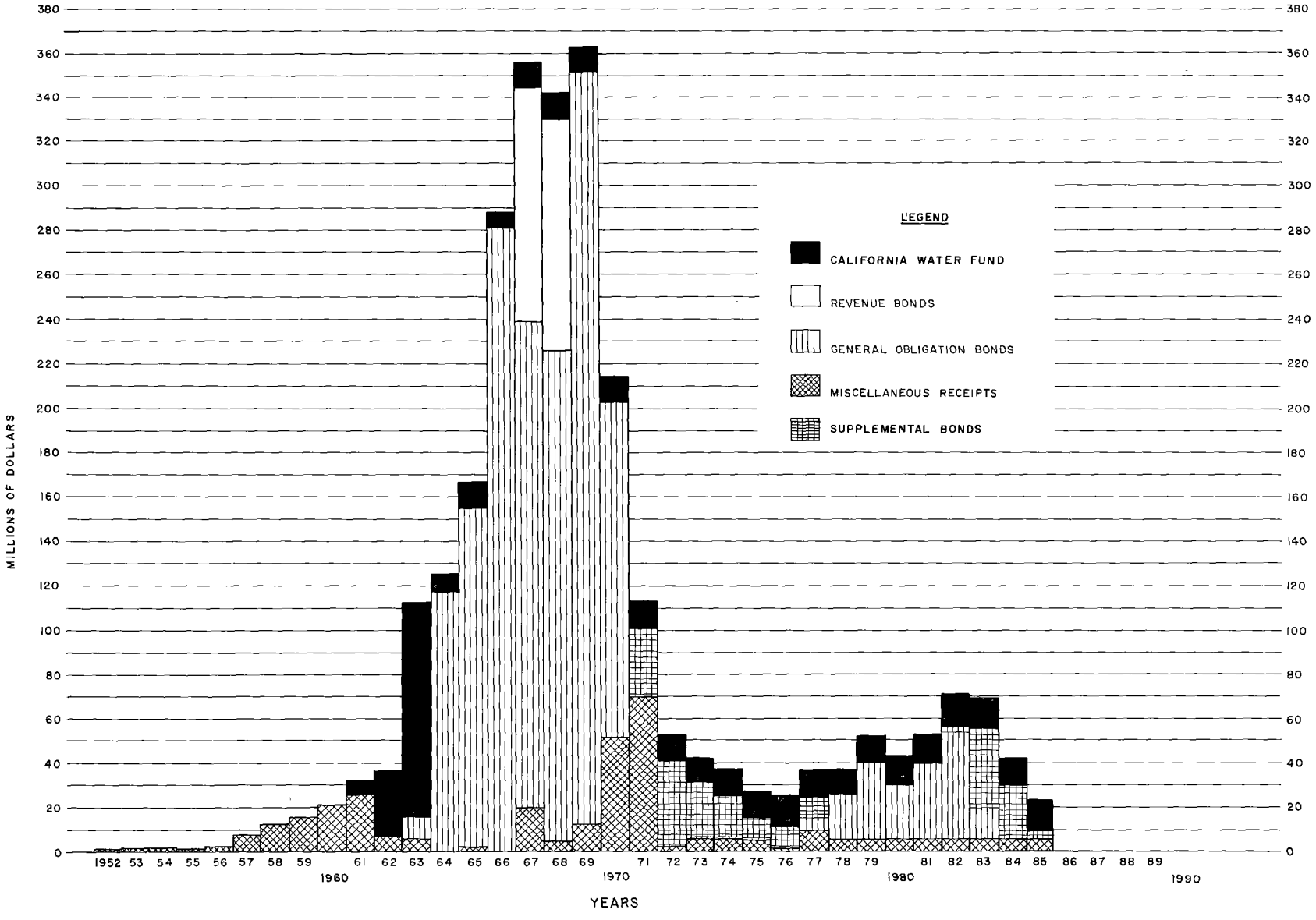


FIGURE 6

The Department estimates that revenue bonds presently proposed to be issued under the financial program will provide proceeds for construction of approximately $210 million, equivalent to the cost of project facilities in the Oroville Area allocable to the purpose of generating 710,000 kilowatts of firm power, and will be secured by the pledge of the revenues from the sale of this power. The assumed figure excludes proceeds to be used for the payment of interest during construction. As required by law, the amount of revenue bond issue will provide for such interest to a date one year following the estimated completion date, for operating expenses during one year following completion, and repayment to the State, with interest, of amounts heretofore appropriated and expended on the facilities.

The issue of revenue bonds for Oroville is assumed to occur in late 1967, for purposes of the financial analysis. The bonds would mature over a period not to exceed 50 years from their date, with fixed retirements in the form of serial maturities and sinking fund payments calculated to produce approximately level annual bond service.

As the revenue bonds presently proposed to be issued under the financial program will be supported by Oroville-Thermalito power revenues, neither the service on these bonds nor the revenues from such sale are shown in the financial analysis.

Miscellaneous Receipts

Most of the remaining moneys required for the construction of the State Water Project are being provided from the following sources: (1) certain state appropriations made available prior to the effective date of the Burns-Porter Act, and future appropriations assumed to be made available in the amount of project funds expended for recreation and fish and wildlife enhancement; (2) federal reimbursements for project costs allocable to flood control; (3) advance payments by water supply contractors for excess delivery capability; (4) payments by the City of Los Angeles Department of Water and Power under the Cooperative West Branch Power Development; (5) proceeds from rights-of-way rentals and from sales of excess project lands; and, (6) interest earnings from the short-term investment of such miscellaneous receipts.

The estimated total amount of miscellaneous receipts available for financing the Project, and the use of such receipts as developed in the financial analysis, is summarized in the following tabulation:

Source of receipts	Actual through 1966	Projected 1967-1985	Total
	(in millions of dollars)		
State Appropriations:			
Appropriations made prior to the Burns-Porter Act	101	0	101
Continuing reimbursements for costs of recreation and fish and wildlife enhancement (through 1985 only)	0	95	95
Subtotal	101	95	196
Federal Flood Control Reimbursements:			
Oroville Dam and reservoir	47	20	67
Del Valle Dam and reservoir	0	7	7
Subtotal	47	27	74
Advance Payments by Water Contractors	9	54	63
Payments by the City of Los Angeles	0	35	35
Rights-of-way rentals and sales	4	0	4
Estimated interest earnings	5	10	15
TOTAL MISCELLANEOUS RECEIPTS	166	221	387
Applied to:			
Capital costs	102	225	327
Bond service	3	57	60
Plus (minus) carryover of unused amounts	61	(61)	0
Total	166	221	387

State Appropriations. About $101 million of capital expenditures were financed by state appropriations made prior to the effective date of the Burns-Porter Act.

In addition to the $11 million annually available to the California Water Fund from tideland oil and gas revenues, appropriations by the State of an additional $5 million annually from such revenues are provided for by Chapter 27 of the California Statutes of 1966, First Extraordinary Session. These appropriations will reimburse project funds expended for multiple-purpose capital costs allocated to the purposes of recreation and fish and wildlife enhancement, and for the purchases of recreation land. These costs are estimated to total $108 million. As shown on Table 20, annual appropriations would extend well beyond the year 1985 (the last year of the Project construction period), and would total $193 million, in order to fully reimburse such costs with appropriate interest. Only $95 million of the total amount is included in the financial analysis since the remaining amount could not be utilized to cover capital expenditures under the existing construction schedule, unless the law is amended to increase the annual appropriation for nonreimbursable costs. Subsequent reimbursements, however, would be available for future enlargements of the Project.

Federal Reimbursements. The estimated costs of Oroville and Del Valle Dams and reservoirs would justify a total federal contribution of about $74 million for flood control benefits. These federal contributions are covered by agreements between the Department and the Corps of Engineers, subject to about a $2-million increase in the present contractual limitation for Del Valle contributions. Actual and projected receipts under these agreements are shown on Table 21.

Advance Payments from Water Contractors. Certain of the Project's water supply contractors, notably, The Metropolitan Water District of Southern California, have requested capacity in the California Aqueduct which would permit water delivery rates exceeding those to be provided under standard contract provisions. The requesting contractors must advance funds, determined by a contractual formula, which would more than cover the estimated additional construction costs involved. The total advances so required are estimated to be $63 million. The amounts by which such advances exceed the actual additional construction costs involved are credited to the annual water charges paid by the requesting contractors. The estimated annual advances, and credits thereon, are summarized in Table 22.

Payments by the City of Los Angeles. In September 1966, a contract was executed between the State and the City of Los Angeles for a cooperative power development on the West Branch of the California Aqueduct. As a result of the contract, those capital costs to be financed by project funds are estimated to increase a net of about $26 million, over and above the cost of those facilities the State would have otherwise constructed, as shown below:

	(in thousands)
Increase due to the State's construction of a 30-foot diameter Angeles Tunnel, in lieu of a 17-foot diameter tunnel	$46,601
Increase due to the State's enlargement or modification of project facilities, other than the Angeles Tunnel	3,590
Decrease due to the City's construction of Castaic Powerplant	(-)23,700
TOTAL ESTIMATED INCREASE IN PROJECT CAPITAL COSTS	$26,491

The indicated cost increase would be more than offset by estimated payments to the State by the City -- $22,532,000 in 1970 and $12,599,000 in 1971, as considered in the financial analysis. (The City may elect to exercise to defer payments under Article 26(a)(i) of the contract. Under the maximum deferral allowable, the City's corresponding payments would be $12,599,000 in 1971, $12,429,000 in 1972, and $12,926,000 in 1973.)

Rights-of-Way Rentals and Sales. Project receipts accrue from the rental of rights-of-way; the sale or other disposal of rights-of-way purchased for features subsequently deleted from the Project and other income (such as from the interim sale of Big Bend Powerplant generation). These receipts are credited to the capital costs of the concerned facility, in accordance with the Department's accounting procedures. However, the required financing for the credited costs has previously been provided. In order to determine the total expenditures financed, the amounts of costs which have been so credited must be added to the capital costs of the project facilities -- and the associated receipts considered as an available source of funds in the financial analysis.

Short-term Interest Earnings. During years of heavy project construction (through 1970) a substantial balance of miscellaneous receipts will be held in reserve. The financial analysis considers that these funds would be invested at a 3.5 percent interest rate. Interest earnings to date have exceeded this assumed rate of return.

Supplemental Funds

The financial analysis indicates that a supplemental source of funds, amounting to $147 million, would be required to finance project capital costs under current estimates.

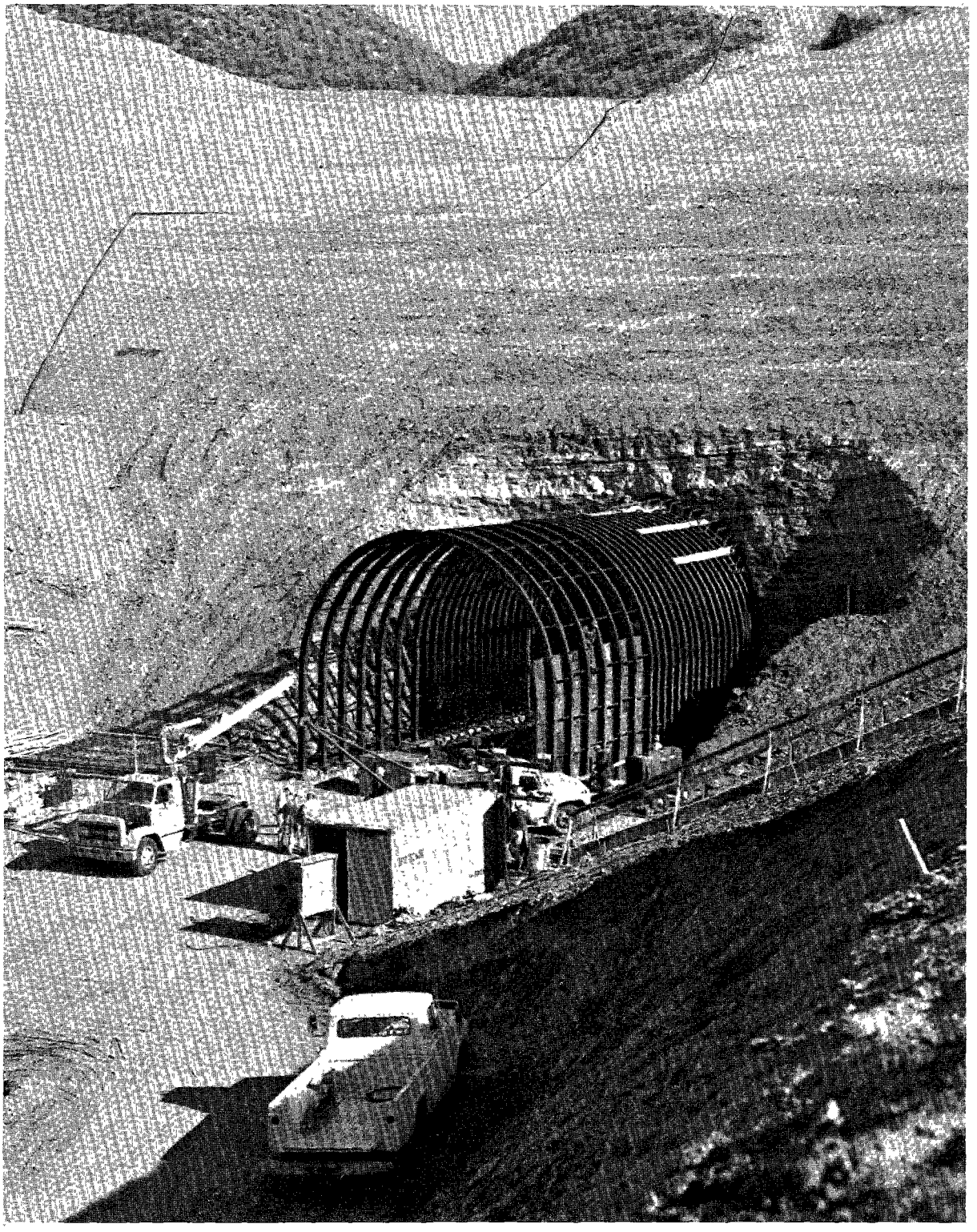
Under the construction schedules reflected in the financial analysis, the need for supplemental funds to complete facilities authorized under the Burns-Porter Act (defined therein as the "State Water Facilities", and including all project facilities except the Upper Eel River Development) would first be experienced in 1971, and would total about $79 million by 1975. Later, commencing in 1983, an additional $68 million would be required to complete the Upper Eel River Development (constituting "additional facilities" under the Act).

The financial analysis assumes that supplemental funds would be derived from a subsequent authorization of additional general obligation bonds, which would bear the same interest rates and schedules of maturities as those projected for future sales of Water Bonds.

Offset Bonds

Under the Burns-Porter Act, as and when California Water Fund moneys are expended for the construction of the "State Water Facilities", the unissued Water Bonds available for construction of such facilities are reduced in the amount of the California Water Fund expenditures. A corresponding amount of Water Bonds is reserved for "additional facilities". The bonds so reserved are frequently referred to as "Offset Bonds". The reservation of Offset Bonds for additional facilities operates at the time the California Water Fund expenditures are made.

The effect of this provision is to limit the total amount of Water Bond proceeds and of California Water Fund moneys for the construction of the State Water Facilities to the sum of (1) $1,750 million, plus (2) the amount of any California Water Fund moneys expended after the provision ceases to operate (i.e., when there are no Water Bonds available to reserve).



South portal of the Castaic Diversion tunnel, showing construction progress on protector. (West Branch)

The effect of the offset provision is illustrated in the values tabulated below, which have been abstracted from the financial analysis. No Water Bonds would be issued for the State Water Facilities after mid-1970, except for $69 million reserved for the then unexpended balance of the $130 million Davis-Grunsky obligation. By mid-1970, about $1,491 million of Water Bond proceeds, and $190 million of California Water Fund moneys, would have been expended for the State Water Facilities. Therefore, by mid-1970, the entire $1,750 million of Water Bonds would have been (1) issued and expended, or (2) reserved -- for either the Davis-Grunsky Program or for additional facilities.

Source	State Water Facilities			Additional facilities (Upper Eel River Development)	Total State Water Project
	Through mid-1970	Mid-1970-1985	Total		
	(in millions of dollars)				
Water Bonds	1,491	69	1,560	190	1,750
California Water Fund	190[a/]	141	331	53	384
Subtotal	1,681	210	1,891	243	2,134
Revenue Bonds	210	0	210	0	210
Miscellaneous Receipts	191	99	290	37	327
Supplemental Funds	0	79	79	68	147
TOTAL	2,082	388	2,470	348	2,818

a/ These expenditures reserve Offset Bonds.

Expenditures for the State Water Facilities subsequent to mid-1970 would be met by one or more of the following possible sources: California Water Fund moneys, miscellaneous receipts, and supplemental funds. All of the $190 million of Offset Bonds, reserved by pre-1970 expenditures from the California Water Fund, would be consumed in financing the Project's share of the Upper Eel River Development.

Water Bond Service

The first issue of securities consisted of the sale of $50 million of bond anticipation notes on November 1, 1963, at an interest cost of 1.965 percent. Since then, $750 million in Water Bonds have been sold as summarized below:

Water Bonds issued to date	Weighted maturities[a]	Total interest cost[b]	Net interest cost[c]
$50,000,000 Bond Anticipation Notes dated December 1, 1963, due June 15, 1964	26,944	531	1.965
$100,000,000 Series "A", dated March 1, 1964, due 1973-2013[d]	3,402,000	119,750	3,520
$50,000,000 Series "B", dated May 1, 1964, due 1974-2014	1,726,000	60,985	3.533
$100,000,000 Series "C", dated November 1, 1964, due 1974-2014	3,452,000	123,764	3.585
$100,000,000 Series "D", dated March 1, 1965, due 1975-2015	3,497,900	122,403	3.499
$100,000,000 Series "E", dated December 1, 1965, due 1975-2015	3,497,900	130,029	3.717
$100,000,000 Series "F", dated July 1, 1966, due 1976-2016	3,497,900	137,359	3.927
$100,000,000 Series "G", dated December 1, 1966, due 1976-2016	3,497,900	143,788	4.110
$100,000,000 Series "H", dated April 1, 1967, due 1977-2017	3,497,900	129,260	3.695
TOTALS through Series "H"	26,096,444	967,869	3.709[e]

a/ In thousands of dollar-years, a unit equivalent to one dollar of principal amount outstanding for one year.

b/ In thousands of dollars.

c/ The total interest cost divided by the total dollar-years, expressed as a percent.

d/ Includes $50 million for retirement of bond anticipation notes.

e/ The current project interest rate, as currently determined by the Department, pursuant to Article 1(r) of the water supply contracts (premiums received to date are not of sufficient magnitude to affect the rate).

Scheduling of Future Water Bond Sales

The financial analysis does not attempt to project precisely the annual issues of Water Bonds. A schedule of bond sales in the quantities required through 1970 will have to be reviewed and revised periodically, in light of market conditions, and will necessarily vary from the amounts shown in the financial analysis. The individual series will be fitted within the State's overall financial requirements in a planned marketing procedure.

Water Bonds are sold in advance of actual construction in order to maintain a prudent level of working capital, and to conform with the overall marketing procedure of the State. The short-term investment of unexpended bond proceeds has produced interest income more than offsetting the interest cost of such advanced sales.

Pattern of Water Bond Service

The Burns-Porter Act provides that each issue of Water Bonds must commence to mature not later than 10 years after issuance, with a final maturity not later than 50 years after issuance. A bond service pattern which is considered appropriate to the future revenue pattern is obtained by providing no maturities for the first nine years after issuance, and with maturities scheduled so as to produce approximately level annual service for the years thereafter.

Payment of Water Bond Service

The financial analysis assumes that future Water Bond issues will be sold at a net interest cost of 3.75 percent. The financial analysis demonstrates that projected net operating revenues, together with certain miscellaneous receipts, are sufficient to cover all projected general obligation bond service, at all times. Thus, while the State General Fund guarantees the payment of Water Bond service, the financial program is designed to be independent of general tax supported moneys. Over the life of the bonds, the financial analysis also shows a substantial remainder of net operating revenues, after providing for bond service and for reimbursement of the California Water Fund, as summarized on the opposite page.

Period	Net operating revenues	*plus:* Certain miscellaneous receipts[a/]	*deduct:* Water Bond service	Balance of net operating revenues: Paid to California Water Fund	Balance of net operating revenues: Available for future construction[b/]
	(in millions of dollars)				
7 years 1960-66	34	3	37	0	0
4 years 1967-70	123	45	168	0	0
10 years 1971-80	699	12	701	10	0
10 years 1981-90	928	0	879	49	0
10 years 1991-2000	998	0	908	90	0
10 years 2001-10	998	0	907	91	0
10 years 2011-20	859	0	635	144	80
10 years 2021-30	418	0	128	0	290
4 years 2031-34	153	0	12	0	141
TOTALS	5,210	60	4,375	384	511

a/ The miscellaneous receipts shown are the amounts required, together with net operating revenues, to cover annual bond service. The balance of miscellaneous receipts are applied to capital costs.

b/ Under the Burns-Porter Act, any revenues remaining after reimbursement of the California Water Fund are available for construction of additional facilities.

Annual net operating revenues, and the application thereof, are shown graphically on Figure 7.

Project Net Operating Revenues

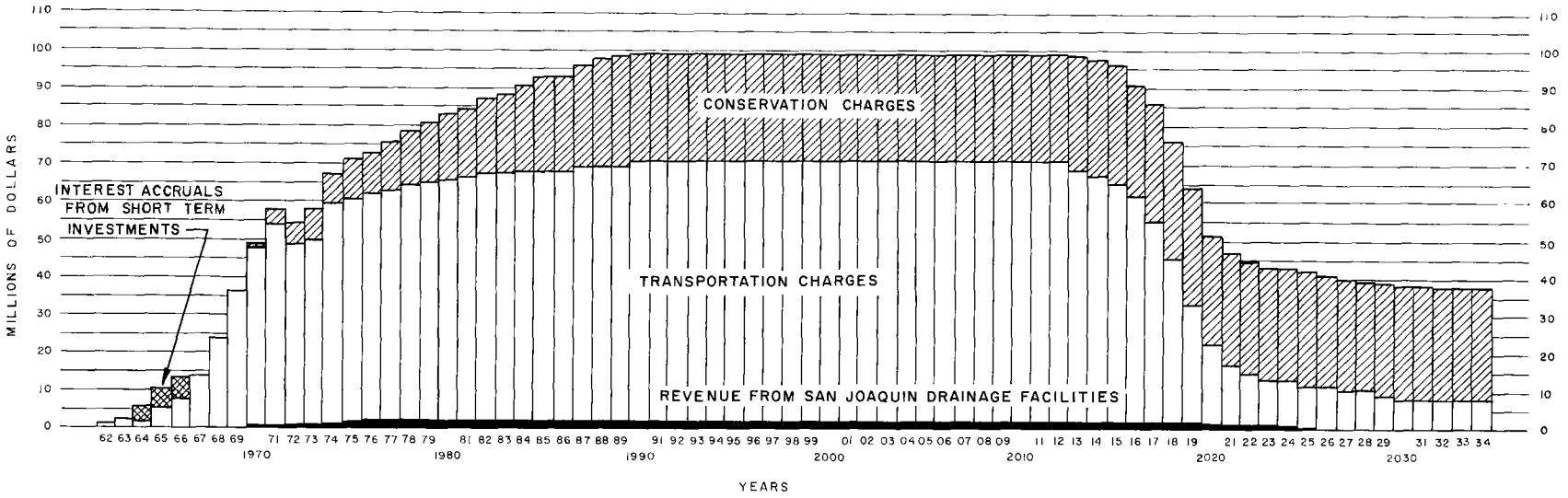
Under the State's administrative policy, the charges assessed for project service will amortize, with interest, all reimbursable costs of associated project facilities. The weighted average net interest cost on issued Water Bonds, including bond anticipation notes, is taken as the appropriate rate of interest to be reimbursed to the State (known as the "project interest rate"). The estimated operating revenues to be derived from charges assessed for project services are shown in the tabulation below, together with current estimates of annual operating expenses and resulting net operating revenues.

Period	Operating revenues	*deduct:* Operating costs	Net operating revenues
	(in millions of dollars)		
7 years, 1960-1966	36	2	34
4 years, 1967-1970	184	61	123
10 years, 1971-1980	1,131	432	699
10 years, 1981-1990	1,498	570	928
10 years, 1991-2000	1,615	617	998
10 years, 2001-2010	1,615	617	998
10 years, 2011-2020	1,475	616	859
10 years, 2021-2030	1,035	617	418
4 years, 2031-2034	400	247	153
TOTALS	9,007	3,795	5,210

Operating Costs

All actual and estimated operation, maintenance, power, and replacement expenses are summarized for the State Water Project in Table 14. Such costs incurred for facilities prior to transfer from a construction to an operational status are considered to be "preoperating expenses", and are included in the capital costs of the respective facilities. Such costs incurred for facilities subsequent to transfer from a construction to an operational status are considered to be annual operating costs.

NET OPERATING REVENUES



APPLICATION OF NET OPERATING REVENUES

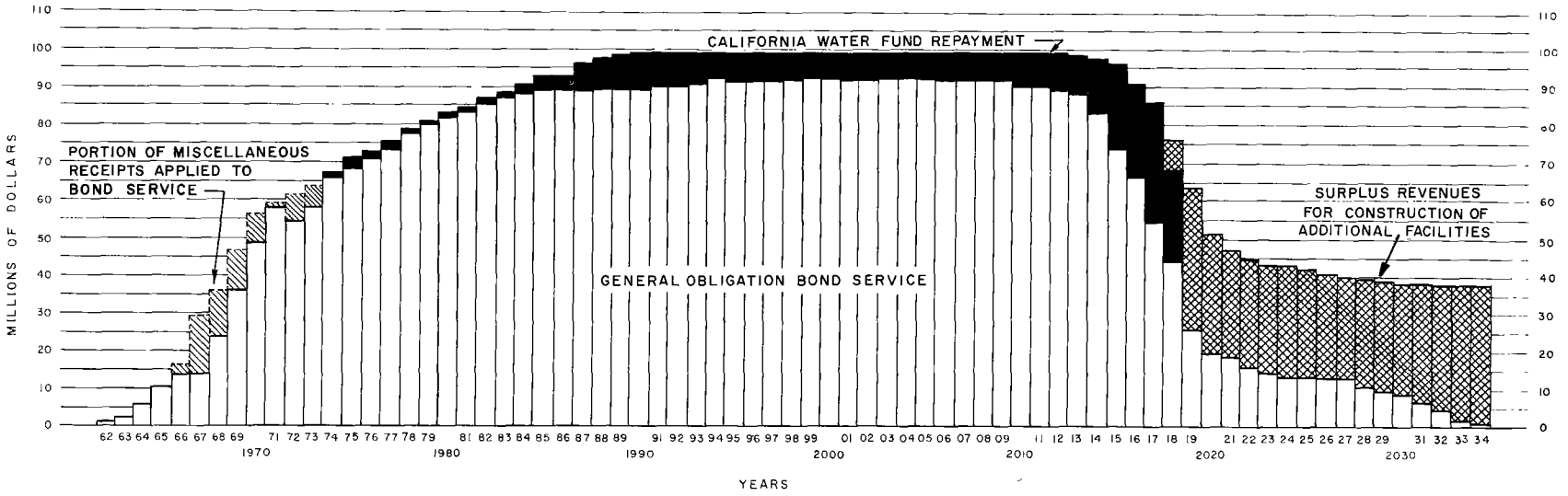


FIGURE 7

The classification of actual and projected operating costs of the State Water Project into the two component categories of minimum and variable costs, and the allocation of such costs among project purposes, is shown on Table 16. (Variable operating costs are those which vary in amounts which are dependent upon the quantities of water being delivered -- minimum operating costs are those which do not so vary.) The items of costs included in the minimum and variable categories of operating costs are described in Appendix B. Also shown in that appendix are the detailed bases for allocating annual variable operating costs among project purposes.

Table 18 presents the distribution of estimated operating costs among State Utility, State Nonutility, and Federal Programs. Included in the latter program is the Federal Government's share of annual operating costs for the joint San Luis division, and for Oroville and Del Valle reservoirs allocable to flood control. The federal share of operating costs for the Delta Facilities and for, possibly, the Upper Eel River Development, are not shown since the operating agency is currently undetermined.

The financial analysis assumes that state appropriations will be made from the General Fund, pursuant to the Davis-Dolwig Act, for the operating costs allocable to recreation and fish and wildlife enhancement.

Operating Revenues

The calculation of future project revenues assumes the continuation of the present project interest rate of 3.709 percent -- the net interest cost of Water Bond sales to date. The projected service on future bond sales assumes an interest cost of 3.75 percent which, if weighted with sales to date, would indicate a project interest rate by the end of the construction period of about 3.73 percent.

There is another consideration reflected in the financial analysis which tends to slightly understate operating revenues in relation to bond service.

For the detailed water supply contractor repayment tables developed in Appendix B, the assumption was made that the project repayment period would extend to the year 2035, fifty years after the last year of construction shown in this bulletin. This assumption recognizes the difficulty of accurately predicting when the last year of repayment of Water Bonds will occur. This assumption also ties the term of repayment to the provisions of the water supply contracts, whereby allocated annual capital costs shall be repaid in not more

than 50 equal annual installments of principal and interest, commencing in the year following the year in which incurred. If, under future financial analyses, it is determined that the last payment on Water Bonds will occur prior to 2035, the amortization period for reimbursable capital costs to be incurred during the later years of the project construction period will be adjusted accordingly.

The total operating revenues estimated to be realized from State Utility Programs are summarized in Table 23 and include those under existing and assumed water supply, power, and drainage contracts.

Water Supply and Oroville-Thermalito Power. Reimbursable costs of project facilities will be returned to the State, with interest, through payments of two separate water charges under the provisions of the Project's water supply contracts: (1) the Delta Water Charge, which will return costs of project conservation facilities allocated to water supply and power generation, less Oroville-Thermalito power revenues; and, (2) the Transportation Charge, which will return costs of project transportation facilities allocated to water supply. (Project conservation facilities develop the minimum project yield from available water resources and project transportation facilities convey the yield to areas of use.)

Contracts, either executed or under negotiation, cover over 99 percent of the total capital costs of State Utility Programs allocable to water supply. When project water deliveries buildup to the minimum project yield of 4,230,000 acre-feet annually (in about 1990), the percentage breakdown of operating revenues among the principal water supply contracts of the Project is expected to be as follows:

Water supply contractor	Project conservation facilities	Project transportation facilities
	(in percent)	
The Metropolitan Water District of Southern California	47	63
Kern County Water Agency	27	10
Antelope Valley-East Kern Water Agency	3	5
San Bernardino Valley Municipal Water District	2	4
Other water supply contractors[a/]	20	17
Future contractor (South Bay Area)	1	1
	100	100

a/ Includes agencies with which current negotiations are expected to result in executed contracts.

The annual revenues estimated to be realized under a future contract covering the sale of power and net energy generation of the Oroville-Thermalito power facilities and the costs allocable to such generation, are reflected in the determination of Delta Water Charges. Negotiations are currently under way for the sale of the entire output of the Oroville-Thermalito power facilities, under a long-term contract.

The water supply contracts provide for three components of the Delta Water Charge, and for the determination of these components as the product of a rate applied to annual entitlements (for the capital cost and minimum operaating cost components) and to actual project water deliveries (for the variable operating cost component). The contracts also provide that through December 31, 1969, the total rate shall be $3.50 per acre-foot, without regard to components. The computation of each component rate of the Charge, to be applied each year thereafter, is specified by formula. The current computation of component rates, to be applied after 1969, is summarized on the opposite page.

Estimated annual payments of the Transportation Charge by water supply contractors are shown in detail, in Appendix B. That appendix performs the following functions:

1. It shows annual capital, minimum operating, and variable operating costs allocated to water supply for each reach of the project transportation facilities.

2. It sets forth the detailed criteria and factors utilized to distribute these costs among water supply contractors.

3. It performs the above distribution.

4. It compiles comprehensive repayment schedules pursuant to the applicable standard and special provisions of each water supply contract in accordance with the project costs and other conditions set forth in this bulletin, including the current project interest rate of 3.709 percent per annum, without regard to actual prior payments made. Adjustments for actual payments are contained in the data accompanying the statements of charges to each contractor.

Item	Capital cost component	Operation, maintenance, power, and replacement components: Minimum	Operation, maintenance, power, and replacement components: Variable	Total, Delta Water Charge
Present worth of costs, power revenues and charges at 3.709 percent interest (in millions of dollars):				
Total cost of project conservation facilities under State Utility Programs allocated to water supply and to Oroville-Thermalito power for the entire project repayment period.[a]	879.34[b]	60.48	2.34	942.16
Oroville-Thermalito power revenues for the entire project repayment period.[a]	-407.07	-0.00	-0.00	-407.07
Delta Water Charges through 1969 ($3.50 per acre-foot applied to present worths of entitlements through 1969).	- 1.66	-0.00	-0.00	- 1.66
Net Values	470.61	60.48	2.34	533.43
Present worth of annual entitlements from 1970 through remainder of project repayment period[a] (in millions of acre-feet).	67.76	67.76	67.76	67.76
Rates to be applied after 1969 (above net values divided by present worth of remaining entitlements, in dollars per acre-foot).	6.95	0.89	0.03	7.87

a/ Considering the project repayment period to end in calendar year 2035.

b/ Including a net credit of $4,850,000 applied December 31, 1960, for settlement of the magnitude of project capital costs incurred prior to that date, pursuant to the Department's August 1966 proposal to the water supply contractors.

Table 23 summarizes the annual values of actual or estimated project revenues from payments of the Transportation Charge. That summary corresponds with the data developed in Appendix B, except that actual payments received through calendar year 1966, and payments to be received under outstanding statements for 1967 (billed in June 1966) and for 1968 (billed in June 1967), are shown for those years.

Drainage Revenues. The repayment structure of the drainage program of the State Utility has not as yet been established. Negotiations are not under way and appear unlikely until after a master drainage district has been formed in the San Joaquin Valley. The financial analysis assumes that:

1. A repayment contract would be executed in 1970.

2. The repayment provisions of the contract, or contracts, would correspond with those set forth in Article 24(c) of water supply contracts for the amortization of allocated capital costs, whereby each year's capital cost is repaid to the State in 50 equal annual installments of principal and interest at the project interest rate.

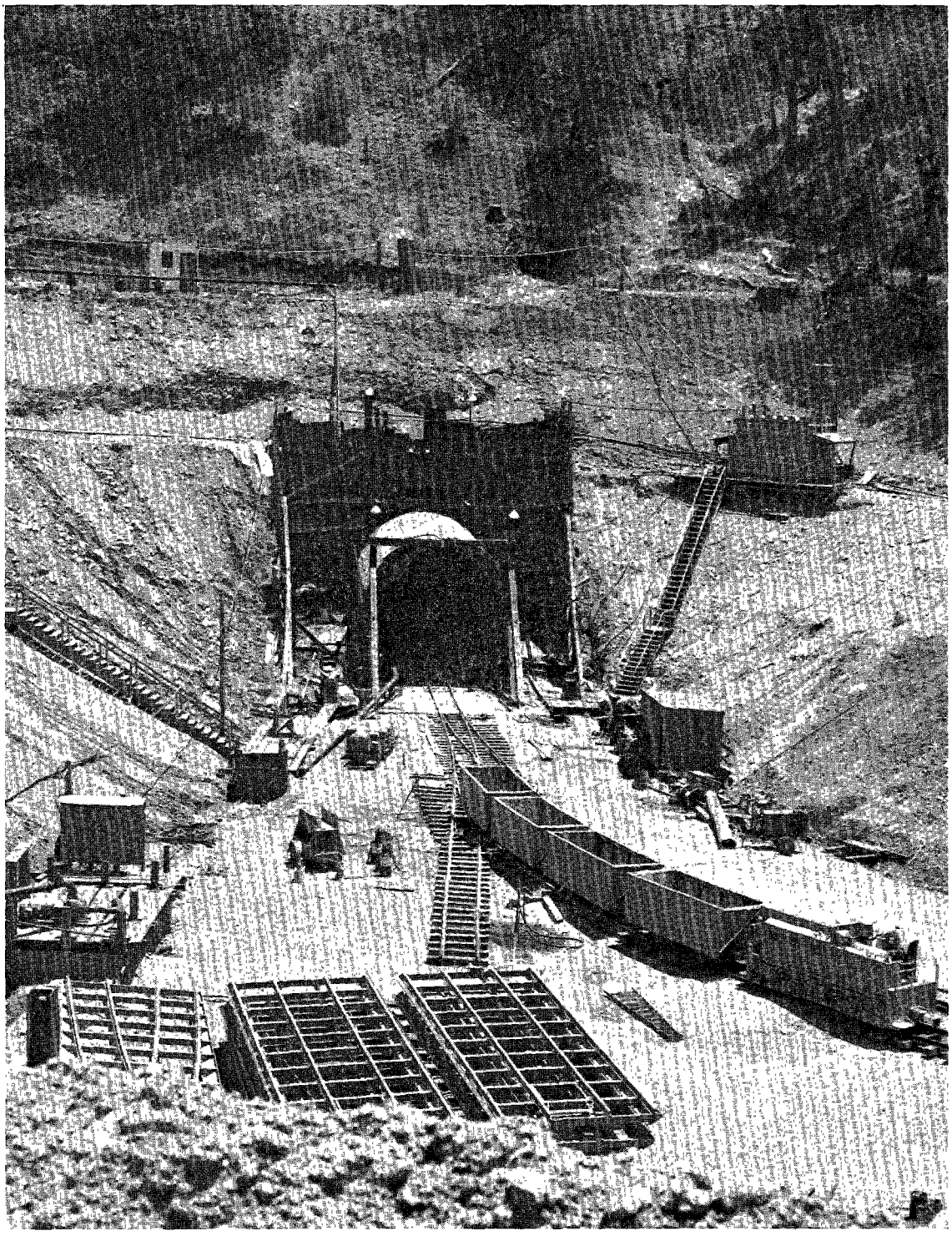
3. The first payment by the district would commence in 1971.

Only the repayment of those capital funds reserved for the facilities are included for the project drainage revenues shown in Table 23. Total drainage revenues would, of course, include those covering annual operating costs as such costs would be incurred.

Adjustments to Net Operating Revenues

The total estimated revenues remaining after defraying the operating costs included in the State Utility Programs are shown in Table 24. These net operating revenues must be further reduced for certain considerations to derive the revenues available for coverage of annual service on the general obligation bonds.

The estimated net credits from advances to be made by water supply contractors for excess capacity, over and above the allocated costs of such capacity, are herein applied to the capital cost components which would otherwise be required from the contractors under the Transportation Charge. The amounts and the timing of application of these credits are shown by the negative values in the last column of Table 22.



North Portal of Carley V. Porter Tunnel
(Tehachapi Division)

The financial program uses $210,000,000 of revenue bond proceeds for the construction of the Oroville-Thermalito power facilities, to be covered by a contract, or contracts, for the sale of at least 710,000 kilowatts dependable capacity of Oroville-Thermalito power. All of the net operating revenues associated with the Oroville-Thermalito power are herein deducted from the net operating revenues of the Project, to compute the portion available for coverage of general obligation bond service.

The operating costs of federal programs allocated to flood control will be recovered by the State on a capitalized basis. These potential receipts are treated in the financial program as being available for financing construction costs and for coverage of general obligation bond service. Therefore, the annual operating costs covered by such receipts must be paid from project operating revenues.

Financial Analysis

The foregoing sections of this chapter have described the criteria and assumptions basic to the current financial analysis for the State Water Project, and have summarized its results.

The actual financial analysis is presented in Table 25. Estimated miscellaneous receipts are analyzed in Table 26, and Offset Bonds, in Table 27.

Annual service on actual and projected issues of Water Bonds, and on issues of an assumed supplemental general obligation bond authorization, is summarized in Table 28.

Table 29 sets forth the maturities and coupon rates of outstanding Water Bond issues, and Table 30 sets forth the redemption provisions thereof. Although the Burns-Porter Act does not provide for refunding, Water Bonds could be refunded under a supplemental bond act.

TABLES

1 thru 30

TABLE 1

CONSTRUCTION CONTRACTS AS OF APRIL 1, 1967

(in thousands of dollars)

Area	Cost of Contracts Completed	Estimated Cost of Contracts in Progress	Estimated Costs of Contracts not yet Started	Estimated Total Cost for Area	Percent Complete of Estimated Area Total
	(1)	(2)	(3)	(4)	(5)
Administered by Department of Water Resources					
Upper Feather Area	5,908	1,833	8,878	16,619	36
Oroville Area	69,490	260,959	3,002	333,451	21
North Bay Aqueduct	0	999	7,514	8,513	0
South Bay Aqueduct	24,187	17,903	3,246	45,336	53
North San Joaquin division	21,916	60,370	11,199	93,485	23
South San Joaquin division	9,494	54,753	114,011	178,258	5
Tehachapi division	3,534	104,058	70,286	177,878	2
Mojave division	325	2,183	117,045	119,553	-
Santa Ana division	0	0	134,257	134,257	0
West Branch	1,028	104,543	171,032	276,603	-
Coastal Branch	139	7,352	40,319	47,810	-
Subtotal	136,021	614,953	680,789	1,431,763	10
Administered by U. S. Bureau of Reclamation					
San Luis division	66,240	163,597	3,246	233,083	28
TOTAL	202,261	778,550	684,035	1,664,846	12

These figures do not include the cost of the Upper Eel River Development, the Peripheral Canal, the future parallel San Luis canal, and the San Joaquin Drainage Facilities.

TABLE 2

GENERAL DATA RELATING TO WATER SUPPLY CONTRACTORS

AGENCY	LOCATION (County)	OFFICE (City)	PREDOMINANT TYPE OF WATER SERVICE	MAXIMUM ANNUAL ENTITLEMENT (Acre-feet)	DATE EXECUTED	GROSS AREA AS OF JULY 1, 1966 (Acres)	ASSESSED VALUATION (1965-66)	ESTIMATED POPULATION (July 1, 1965)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Feather River Area								
City of Yuba City	Sutter	Yuba City	Urban	8,300 1,300	Dec. 30, 1963 Sep. 28, 1964	2 900	39 239,000	1,400
County of Butte	Butte	Oroville	Urban	27,500	Dec. 26, 1963	1,075 600	231 362,000	99,700
Plumas County Flood Control and Water Conservation District	Plumas	Quincy	Urban	2,700	Dec. 26, 1963	1.636,000[1]	79 890 000[1]	16,200[1]
North Bay Area								
Napa County Flood Control and Water Conservation District	Napa	Napa	Urban	25,000	Dec 19, 196.	505,800	119 697,700	80,000
Solano County Flood Control and Water Conservation District	Solano	Fairfield	Urban	42,000	Dec 26, 1963	589,400	241 241,30.	164,800
South Bay Area								
Alameda County Flood Control and Water Conservation District, Zone 7	Alameda	Hayward	Urban	40,000 6,000	Nov. 20, 1961 Dec 30, 1963	272,00.	87,514,400	58,000
Alameda County Water District	Alameda	Fremont	Urban	42,000	Nov 29, 1961	60.100	215,876,50.	110,000
Santa Clara County Flood Control and Water District	Santa Clara	San Jose	Urban	88,000 12,000	Nov 20, 1961 Dec. 30, 1963	848.90.	2.091,477,200	919,900
San Joaquin Valley								
Devil's Den Water District	Kings & Kern	Fresno	Agricultural	11,000 1,700	Dec 20, 1963 Sep. 28, 1964	8,700	199,000	Less than 100
Dudley Ridge Water District	Kings	Corcoran	Agricultural	50,000 7,700	Dec. 13, 1963 Sep 28, 1964	29 900	302,000	Less than 50
Empire West Side Irrigation District	Kings	Lemoore	Agricultural	3,000	Dec. 30, 1963	7,700	772,000	Less than 100
Hacienda Water District	Kings	Corcoran	Agricultural	8,500	Dec 20, 1963	15,30.	181,000	Less than 50
Kern County Water Agency	Kern	Bakersfield	Agricultural	1,000,000 153,400	Nov 15, 1963 Sep 28, 1964	379 300[2]	792,282,700[2]	309,30.[2]
Oak Flat Water District	Stanislaus	Westley	Agricultural	5,700	Mar. 23, 1965	2,200	149,60.	Less than 50
Tulare Lake Basin Water Storage District	Kings & Tulare	Corcoran	Agricultural	90,000 20,000	Dec. 20, 1963 Dec 30, 1963	193,00.	8 670,000	Less than 50
Central Coastal Area								
San Luis Obispo County Flood Control and Water Conservation District	San Luis Obispo	San Luis Obispo	Urban	25,000	Feb. 26, 1963	2,122,200	236,883,500	103,000
Santa Barbara County Flood Control and Water Conservation District	Santa Barbara	Santa Barbara	Urban	50,000 7,700	Feb 26, 1963 Jan 26, 1965	1,752,30.	554,649,300	247,400
Southern California								
Antelope Valley-East Kern Water Agency	Los Angeles, Kern & Ventura	Lancaster	Urban	120,000 18,400	Sep. 20, 1962 Sep 22, 1964	1,524,900	165,075,30.	84,000
Coachella Valley County Water District	Riverside, Imperial & San Diego	Coachella	Urban	20,000 3,100	Mar. 29, 1963 Sep 28, 1964	620,40.	182,364,70.	58,000
Crestline-Lake Arrowhead Water Agency	San Bernardino	Crestline	Urban	5,000 800	Jun 22, 1963 Sep. 28, 1964	45,80.	27,550,20.	9,200
Desert Water Agency	Riverside	Palm Springs	Urban	33,000 5,100	Oct 17, 1962 Oct. 2, 1964	163,30.	113,951,000	25,400
Littlerock Creek Irrigation District	Los Angeles	Littlerock	Urban	2,000 300	Jun. 22, 1963 Sep 28, 1964	11,300	3 962 500	1,400
Mojave Water Agency	San Bernardino	Victorville	Urban	44,000 6,800	Jun. 22, 1963 Sep 28, 1964	3,157,100	184,620,600	82,000
Palmdale Irrigation District	Los Angeles	Palmdale	Urban	15,000 2,300	Feb. 2, 1963 Sep. 28, 1964	73,70.	21 165,200	20,000
San Bernardino Valley Municipal Water District	San Bernardino	San Bernardino	Urban	85,000 13,000	Dec. 30, 1960 Sep 28, 1964	146 70.	463 00/,800	325,000
San Gabriel Valley Municipal Water District	Los Angeles	Alhambra	Urban	25,000 3,800	Nov. 3, 1962 Sep. 28, 1964	16 000	271 047,700	153,400
San Gorgonio Pass Water Agency	Riverside	Beaumont	Urban	15,000 2,300	Nov. 16, 1962 Jan 19, 1965	140,6..	44 415 100	28,400
The Metropolitan Water District of Southern California	Los Angeles, San Diego, Riverside, San Bernardino, Orange, & Ventura	Los Angeles	Urban	1,500,000 500,000 11,500	Nov. 4, 1960 Sep. 28, 1964 Aug. 4, 1965	2,890 300	19,143 157,900	9,776,000
Upper Santa Clara Valley Water Agency	Los Angeles	Newhall	Urban	23,000 3,500 15,000	Apr. 30, 1963 Dec. 22, 1964 Jan. 24, 1966	97.900	72,080 700	33,300
Ventura County Flood Control District	Ventura	Ventura	Urban	20,000	Dec. 2, 1963	959,600[3] [4]	543,391,900[4]	158,000[4]
Contracts Under Negotiation								
Kings County	Kings	Hanford	Recreation	4,000		893,000	144,593 000	68,000
Future Southern California Contractors			Urban	4,600				
TOTALS FOR AGENCY AREAS				4,230,000		24,180,900	26,079,570,700	12,932,100
Percent of State Total in Agency Areas						24%	61%	67%
TOTALS FOR STATE						101,314,000	42,522,366,363	19,195,000

1/ Excluding Last Chance Creek Water District
2/ The following values have been deleted from the Kern County Water Agency Area, 850,720 acres, Population, 25,000, Assessed Valuations, $43,118,300, as they have been included in the Antelope Valley-East Kern Water Agency service area
3/ 6,000 acres of Ventura County Flood Control District have been annexed to the Antelope Valley-East Kern Water Agency service area
4/ The following values have been deleted from the Ventura County Flood Control District. Area, 212,000 acres, Population, 160,000, Assessed Valuation, $241,027,000, as they have been included in The Metropolitan Water District of Southern California service area

TABLE 3

DISTRIBUTION OF MINIMUM PROJECT YIELD

(in acre-feet)

AREA	MAXIMUM ANNUAL ENTITLEMENTS				
	BULLETIN NO. 132-63 (Assumed)	BULLETIN NO. 132-64 (Assumed)	BULLETIN NO. 132-65 (Actual)	BULLETIN NO. 132-66 (Actual)	THIS ANALYSIS (Actual)
	(1)	(2)	(3)	(4)	(5)
Feather River	275,000	38,500	39,800	39,800	39,800
North Bay	150,000	73,000	67,000	67,000	67,000
South Bay	210,000	194,000	188,000	188,000	188,000
San Joaquin Valley	1,475,000	1,362,500	1,345,300	1,355,000	1,355,000[1/]
Central Coastal	75,000	75,000	82,700	82,700	82,700
Southern California	1,800,000	2,257,000	2,477,900	2,497,500	2,497,500[1/]
TOTAL DISTRIBUTED	3,985,000	4,000,000	4,200,700	4,230,000	4,230,000
Unassigned	15,000	0	29,300	0	0
TOTAL, MINIMUM PROJECT YIELD	4,000,000	4,000,000	4,230,000	4,230,000	4,230,000

1/ Includes 4,000 acre-feet for the San Joaquin Valley and 4,600 acre-feet for Southern California under contracts currently being negotiated.

TABLE 4

PROJECT WATER DEMANDS AT THE DELTA

(in acre-feet)

CALENDAR YEAR	ANNUAL ENTITLEMENTS TO PROJECT WATER					CONSTRUCTION WATER[1]	OPERATIONAL LOSSES[2]	RECREATION WATER[3]	TOTAL DEMANDS AT THE DELTA
	FEATHER RIVER AREA	NORTH BAY AQUEDUCT	SOUTH BAY AQUEDUCT	CALIFORNIA AQUEDUCT	TOTAL				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1962	0	0	8,906	0	8,906	0	0	0	8,906
63	0	0	12,645	0	12,645	0	0	0	12,645
64	0	0	20,911	0	20,911	0	0	0	20,911
65	0	0	34,026	0	34,026	0	0	0	34,026
66	0	0	54,913	0	54,913	0	0	0	54,913
67	0	0	83,634	0	83,634	4,000	700	0	88,334
68	550	0	110,500	96,900	207,950	333,107	150,230	0	691,287
69	620	0	112,300	152,200	265,120	656,500	153,730	0	1,075,350
1970	700	0	114,200	208,000	322,900	224,800	174,542	0	722,242
71	890	0	116,200	331,100	448,190	159,800	210,860	9,500	828,350
72	970	0	118,300	810,211	929,481	192,300	254,530	29,500	1,405,811
73	1,100	0	120,400	972,659	1,094,159	234,300	256,830	29,500	1,614,789
74	1,230	0	122,400	1,133,426	1,257,056	80,900	256,830	29,500	1,624,286
75	1,610	0	124,500	1,296,276	1,422,386	0	256,830	29,500	1,708,716
76	1,990	0	126,500	1,471,722	1,600,212	0	256,830	29,500	1,886,542
77	2,420	0	128,600	1,648,261	1,779,281	0	256,830	29,500	2,065,611
78	2,850	0	130,700	1,824,300	1,957,850	0	256,830	29,500	2,244,180
79	3,280	0	132,700	1,998,383	2,134,363	0	256,830	29,500	2,420,693
1980	4,710	19,250	134,800	2,177,627	2,336,387	320	260,430	45,500	2,642,637
81	10,390	21,750	137,000	2,361,926	2,531,066	0	260,430	45,500	2,836,996
82	12,270	24,400	139,200	2,544,267	2,720,127	0	260,430	45,500	3,026,067
83	14,200	27,050	141,400	2,732,018	2,914,668	0	260,430	45,500	3,220,598
84	16,130	29,600	143,600	2,917,459	3,106,789	0	260,430	45,500	3,412,719
85	19,060	32,750	145,800	3,106,710	3,304,320	0	260,430	45,500	3,610,250
86	22,190	36,500	148,100	3,296,769	3,503,559	0	260,430	45,500	3,809,489
87	25,370	41,250	150,300	3,493,803	3,710,723	0	260,430	45,500	4,016,653
88	29,560	49,500	152,500	3,689,327	3,920,887	0	260,430	45,500	4,226,817
89	33,850	58,250	156,700	3,826,048	4,074,848	0	260,430	45,500	4,380,778
1990	38,140	67,000	160,900	3,922,098	4,188,138	0	260,430	45,500	4,494,068
91	38,180	67,000	166,400	3,935,200	4,206,780	0	260,430	45,500	4,512,710
92	38,220	67,000	171,900	3,935,200	4,212,320	0	260,430	45,500	4,518,250
93	38,260	67,000	177,400	3,935,200	4,217,860	0	260,430	45,500	4,523,790
94	38,300	67,000	182,000	3,935,200	4,222,500	0	260,430	45,500	4,528,430
95	38,350	67,000	184,000	3,935,200	4,224,550	0	260,430	45,500	4,530,480
96	38,400	67,000	186,000	3,935,200	4,226,600	0	260,430	45,500	4,532,530
97	38,450	67,000	188,000	3,935,200	4,228,650	0	260,430	45,500	4,534,580
98	38,500	67,000	188,000	3,935,200	4,228,700	0	260,430	45,500	4,534,630
99	38,550	67,000	188,000	3,935,200	4,228,750	0	260,430	45,000	4,534,680
2000	38,610	67,000	188,000	3,935,200	4,228,810	0	260,430	45,500	4,534,740
01	38,670	67,000	188,000	3,935,200	4,228,870	0	260,430	45,500	4,534,800
02	38,730	67,000	188,000	3,935,200	4,228,930	0	260,430	45,500	4,534,860
03	38,790	67,000	188,000	3,935,200	4,228,990	0	260,430	45,500	4,534,920
04	38,850	67,000	188,000	3,935,200	4,229,050	0	260,430	45,500	4,534,980
05	38,910	67,000	188,000	3,935,200	4,229,110	0	260,430	45,500	4,535,040
06	38,980	67,000	188,000	3,935,200	4,229,180	0	260,430	45,500	4,535,110
07	39,050	67,000	188,000	3,935,200	4,229,250	0	260,430	45,500	4,535,180
08	39,120	67,000	188,000	3,935,200	4,229,320	0	260,430	45,500	4,535,250
09	39,190	67,000	188,000	3,935,200	4,229,390	0	260,430	45,500	4,535,320
2010	39,260	67,000	188,000	3,935,200	4,229,460	0	260,430	45,500	4,535,390
11	39,340	67,000	188,000	3,935,200	4,229,540	0	260,430	45,500	4,535,470
12	39,420	67,000	188,000	3,935,200	4,229,620	0	260,430	45,500	4,535,550
13	39,510	67,000	188,000	3,935,200	4,229,710	0	260,430	45,500	4,535,640
14	39,600	67,000	188,000	3,935,200	4,229,800	0	260,430	45,500	4,535,730
15	39,700	67,000	188,000	3,935,200	4,229,900	0	260,430	45,500	4,535,830
2016[4]	39,800	67,000	188,000	3,935,200	4,230,000	0	260,430	45,500	4,535,930

1/ Water for the initial filling of all facilities below the Delta.
2/ Water to compensate for operation losses.
3/ Deliveries for specific recreation usage.
4/ And each year thereafter for the remainder of the project repayment period.

TABLE 5

ANNUAL ENTITLEMENTS TO PROJECT WATER[1/]

(in acre-feet)

CALENDAR YEAR	FEATHER RIVER AREA				NORTH BAY AREA			SOUTH BAY AREA[2/]			
	CITY OF YUBA CITY	COUNTY OF BUTTE	PLUMAS COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	TOTAL	NAPA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT[3/]	SOLANO COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	TOTAL	ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT ZONE 7	ALAMEDA COUNTY WATER DISTRICT	SANTA CLARA COUNTY FLOOD CONTROL AND WATER DISTRICT	TOTAL
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1962	0	0	0	0	0	0	0	494	8,412	0	8,906
63	0	0	0	0	0	0	0	1,731	10,914	0	12,645
64	0	0	0	0	0	0	0	1,673	19,238	0	20,911
65	0	0	0	0	0	0	0	2,605	16,407	15,014	34,026
66	0	0	0	0	0	0	0	5,511	14,864	34,538	54,913
67	0	0	0	0	0	0	0	6,400	24,234	53,000	83,634
68	0	300	250	550	0	0	0	7,500	15,000	88,000	110,500
69	0	350	270	620	0	0	0	8,800	15,500	88,000	112,300
1970	0	400	300	700	0	0	0	10,000	16,200	88,000	114,200
71	0	450	440	890	0	0	0	11,200	17,000	88,000	116,200
72	0	500	470	970	0	0	0	12,400	17,900	88,000	118,300
73	0	600	500	1,100	0	0	0	13,600	18,800	88,000	120,400
74	0	700	530	1,230	0	0	0	14,800	19,600	88,000	122,400
75	0	1,050	560	1,610	0	0	0	16,000	20,500	88,000	124,500
76	0	1,400	590	1,990	0	0	0	17,200	21,300	88,000	126,500
77	0	1,800	620	2,420	0	0	0	18,400	22,200	88,000	128,600
78	0	2,200	650	2,850	0	0	0	19,600	23,100	88,000	130,700
79	0	2,600	680	3,280	0	0	0	20,800	23,900	88,000	132,700
1980	0	4,000	710	4,710	12,500	6,750	19,250	22,000	24,800	88,000	134,800
81	4,200	5,450	740	10,390	13,750	8,000	21,750	23,000	26,000	88,000	137,000
82	4,600	6,900	770	12,270	15,000	9,400	24,400	24,000	27,200	88,000	139,200
83	5,050	8,350	800	14,200	16,250	10,800	27,050	25,000	28,400	88,000	141,400
84	5,500	9,800	830	16,130	17,500	12,100	29,600	26,000	29,600	88,000	143,600
85	5,950	12,250	860	19,060	18,750	14,000	32,750	27,000	30,800	88,000	145,800
86	6,600	14,700	890	22,190	20,000	16,500	36,500	28,000	32,100	88,000	148,100
87	7,300	17,150	920	25,370	21,250	20,000	41,250	29,000	33,300	88,000	150,300
88	8,000	20,600	960	29,560	22,500	27,000	49,500	30,000	34,500	88,000	152,500
89	8,800	24,050	1,000	33,850	23,750	34,500	58,250	31,000	35,700	90,000	156,700
1990	9,600	27,500	1,040	38,140	25,000	42,000	67,000	32,000	36,900	92,000	160,900
91	9,600	27,500	1,080	38,180	25,000	42,000	67,000	34,000	38,400	94,000	166,400
92	9,600	27,500	1,120	38,220	25,000	42,000	67,000	36,000	39,900	96,000	171,900
93	9,600	27,500	1,160	38,260	25,000	42,000	67,000	38,000	41,400	98,000	177,400
94	9,600	27,500	1,200	38,300	25,000	42,000	67,000	40,000	42,000	100,000	182,000
95	9,600	27,500	1,250	38,350	25,000	42,000	67,000	42,000	42,000	100,000	184,000
96	9,600	27,500	1,300	38,400	25,000	42,000	67,000	44,000	42,000	100,000	186,000
97	9,600	27,500	1,350	38,450	25,000	42,000	67,000	46,000	42,000	100,000	188,000
98	9,600	27,500	1,400	38,500	25,000	42,000	67,000	46,000	42,000	100,000	188,000
99	9,600	27,500	1,450	38,550	25,000	42,000	67,000	46,000	42,000	100,000	188,000
2000	9,600	27,500	1,510	38,610	25,000	42,000	67,000	46,000	42,000	100,000	188,000
01	9,600	27,500	1,570	38,670	25,000	42,000	67,000	46,000	42,000	100,000	188,000
02	9,600	27,500	1,630	38,730	25,000	42,000	67,000	46,000	42,000	100,000	188,000
03	9,600	27,500	1,690	38,790	25,000	42,000	67,000	46,000	42,000	100,000	188,000
04	9,600	27,500	1,750	38,850	25,000	42,000	67,000	46,000	42,000	100,000	188,000
05	9,600	27,500	1,810	38,910	25,000	42,000	67,000	46,000	42,000	100,000	188,000
06	9,600	27,500	1,880	38,980	25,000	42,000	67,000	46,000	42,000	100,000	188,000
07	9,600	27,500	1,950	39,050	25,000	42,000	67,000	46,000	42,000	100,000	188,000
08	9,600	27,500	2,020	39,120	25,000	42,000	67,000	46,000	42,000	100,000	188,000
09	9,600	27,500	2,090	39,190	25,000	42,000	67,000	46,000	42,000	100,000	188,000
2010	9,600	27,500	2,160	39,260	25,000	42,000	67,000	46,000	42,000	100,000	188,000
11	9,600	27,500	2,240	39,340	25,000	42,000	67,000	46,000	42,000	100,000	188,000
12	9,600	27,500	2,320	39,420	25,000	42,000	67,000	46,000	42,000	100,000	188,000
13	9,600	27,500	2,410	39,510	25,000	42,000	67,000	46,000	42,000	100,000	188,000
14	9,600	27,500	2,500	39,600	25,000	42,000	67,000	46,000	42,000	100,000	188,000
15	9,600	27,500	2,600	39,700	25,000	42,000	67,000	46,000	42,000	100,000	188,000
2015[4/]	9,600	27,500	2,700	39,800	25,000	42,000	67,000	46,000	42,000	100,000	188,000

1/ From Tables A and Articles 6(a) of executed and proposed water supply contracts as of April 1, 1967.

2/ It is currently estimated that the entitlements shown for the South Bay area will be supplied by nonproject water through 1967. Actual delivery quantities are shown for 1962 thru 1966. Quantities shown for 1967 are those requested by the contractors and approved by the Department pursuant to Article 12(a) of water supply contracts.

3/ Districts' Table A quantities exclude those during the period 1968 thru 1979 which are assumed to be supplied by nonproject water

4/ And each year thereafter for the remainder of the project repayment period.

TABLE 5 (Continued)

ANNUAL ENTITLEMENTS TO PROJECT WATER[1/]

(in acre-feet)

CALENDAR YEAR	SAN JOAQUIN VALLEY AREA									CENTRAL COASTAL AREA		
	DEVIL'S DEN WATER DISTRICT	DUDLEY RIDGE WATER DISTRICT	EMPIRE WEST SIDE IRRIGATION DISTRICT	HACIENDA WATER DISTRICT	KERN COUNTY WATER AGENCY	KINGS COUNTY (Assumed)	OAK FLAT WATER DISTRICT	TULARE LAKE BASIN WATER STORAGE DISTRICT	TOTAL	SAN LUIS OBISPO COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	SANTA BARBARA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	TOTAL
	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
1962	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0
68	3,700	11,500	3,000	1,300	46,600	1,600	2,300	26,900	96,900	0	0	0
69	4,700	13,600	3,000	1,600	95,700	1,800	2,500	29,300	152,200	0	0	0
1970	5,700	15,700	3,000	2,000	145,100	2,100	2,600	31,800	208,000	0	0	0
71	6,700	17,900	3,000	2,300	190,300	2,300	2,800	34,200	259,500	0	0	0
72	7,700	20,000	3,000	2,600	270,700	2,600	2,900	36,700	346,200	0	0	0
73	8,700	22,000	3,000	2,900	310,500	2,800	3,100	39,100	392,100	0	0	0
74	9,700	24,100	3,000	3,300	347,000	3,000	3,200	43,000	436,300	0	0	0
75	10,700	26,200	3,000	3,600	385,500	3,300	3,400	46,900	482,600	0	0	0
76	11,700	28,300	3,000	3,900	432,800	3,500	3,500	50,800	537,500	0	0	0
77	12,700	30,400	3,000	4,200	483,600	3,800	3,700	54,800	596,200	0	0	0
78	12,700	32,500	3,000	4,600	534,300	4,000	3,900	58,700	653,700	0	0	0
79	12,700	34,600	3,000	4,900	583,900	4,000	4,000	62,600	709,700	0	0	0
1980	12,700	36,700	3,000	5,200	634,500	4,000	4,200	66,500	766,800	1,000	1,200	2,200
81	12,700	38,800	3,000	5,600	691,400	4,000	4,300	70,400	830,200	1,000	2,300	3,300
82	12,700	41,000	3,000	5,900	745,300	4,000	4,500	74,300	890,700	2,000	4,600	6,600
83	12,700	42,900	3,000	6,200	805,100	4,000	4,600	78,200	956,700	3,000	6,900	9,900
84	12,700	45,100	3,000	6,500	860,600	4,000	4,800	82,100	1,018,800	4,500	10,400	14,900
85	12,700	47,200	3,000	6,900	915,000	4,000	4,900	86,000	1,079,700	7,500	17,300	24,800
86	12,700	49,300	3,000	7,200	968,200	4,000	5,100	90,000	1,139,500	10,000	23,100	33,100
87	12,700	51,400	3,000	7,500	1,023,500	4,000	5,200	93,900	1,201,200	12,500	28,800	41,300
88	12,700	53,500	3,000	7,800	1,074,600	4,000	5,400	97,800	1,258,800	15,500	35,800	51,300
89	12,700	55,600	3,000	8,200	1,112,300	4,000	5,600	101,700	1,303,100	20,000	46,100	66,100
1990	12,700	57,700	3,000	8,500	1,153,400	4,000	5,700	110,000	1,355,000	25,000	57,700	82,700
91	12,700	57,700	3,000	8,500	1,153,400	4,000	5,700	110,000	1,355,000	25,000	57,700	82,700
92	12,700	57,700	3,000	8,500	1,153,400	4,000	5,700	110,000	1,355,000	25,000	57,700	82,700
93	12,700	57,700	3,000	8,500	1,153,400	4,000	5,700	110,000	1,355,000	25,000	57,700	82,700
94	12,700	57,700	3,000	8,500	1,153,400	4,000	5,700	110,000	1,355,000	25,000	57,700	82,700
95	12,700	57,700	3,000	8,500	1,153,400	4,000	5,700	110,000	1,355,000	25,000	57,700	82,700
96	12,700	57,700	3,000	8,500	1,153,400	4,000	5,700	110,000	1,355,000	25,000	57,700	82,700
97	12,700	57,700	3,000	8,500	1,153,400	4,000	5,700	110,000	1,355,000	25,000	57,700	82,700
98	12,700	57,700	3,000	8,500	1,153,400	4,000	5,700	110,000	1,355,000	25,000	57,700	82,700
99	12,700	57,700	3,000	8,500	1,153,400	4,000	5,700	110,000	1,355,000	25,000	57,700	82,700
2000	12,700	57,700	3,000	8,500	1,153,400	4,000	5,700	110,000	1,355,000	25,000	57,700	82,700
01	12,700	57,700	3,000	8,500	1,153,400	4,000	5,700	110,000	1,355,000	25,000	57,700	82,700
02	12,700	57,700	3,000	8,500	1,153,400	4,000	5,700	110,000	1,355,000	25,000	57,700	82,700
03	12,700	57,700	3,000	8,500	1,153,400	4,000	5,700	110,000	1,355,000	25,000	57,700	82,700
04	12,700	57,700	3,000	8,500	1,153,400	4,000	5,700	110,000	1,355,000	25,000	57,700	82,700
05	12,700	57,700	3,000	8,500	1,153,400	4,000	5,700	110,000	1,355,000	25,000	57,700	82,700
06	12,700	57,700	3,000	8,500	1,153,400	4,000	5,700	110,000	1,355,000	25,000	57,700	82,700
07	12,700	57,700	3,000	8,500	1,153,400	4,000	5,700	110,000	1,355,000	25,000	57,700	82,700
08	12,700	57,700	3,000	8,500	1,153,400	4,000	5,700	110,000	1,355,000	25,000	57,700	82,700
09	12,700	57,700	3,000	8,500	1,153,400	4,000	5,700	110,000	1,355,000	25,000	57,700	82,700
2010	12,700	57,700	3,000	8,500	1,153,400	4,000	5,700	110,000	1,355,000	25,000	57,700	82,700
11	12,700	57,700	3,000	8,500	1,153,400	4,000	5,700	110,000	1,355,000	25,000	57,700	82,700
12	12,700	57,700	3,000	8,500	1,153,400	4,000	5,700	110,000	1,355,000	25,000	57,700	82,700
13	12,700	57,700	3,000	8,500	1,153,400	4,000	5,700	110,000	1,355,000	25,000	57,700	82,700
14	12,700	57,700	3,000	8,500	1,153,400	4,000	5,700	110,000	1,355,000	25,000	57,700	82,700
15	12,700	57,700	3,000	8,500	1,153,400	4,000	5,700	110,000	1,355,000	25,000	57,700	82,700
2016[2/]	12,700	57,700	3,000	8,500	1,153,400	4,000	5,700	110,000	1,355,000	25,000	57,700	82,700

1/ From Tables A and Articles 6(a) of executed and proposed water supply contracts as of April 1, 1967.
2/ And each year thereafter for the remainder of the project repayment period.

TABLE 5 (Continued)

TABLE 5 (Continued)

ANNUAL ENTITLEMENTS TO PROJECT WATER[1/]

(In acre-feet)

CALENDAR YEAR	SOUTHERN CALIFORNIA AREA															TOTAL STATE WATER PROJECT
	ANTELOPE VALLEY-EAST KERN WATER AGENCY	COACHELLA VALLEY COUNTY WATER DISTRICT	CRESTLINE-LAKE ARROWHEAD WATER AGENCY	DESERT WATER AGENCY	FUTURE CONTRACTOR SOUTHERN CALIFORNIA	LITTLEROCK CREEK IRRIGATION DISTRICT	MOJAVE WATER AGENCY	PALMDALE IRRIGATION DISTRICT	SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	SAN GORGONIO PASS WATER AGENCY	THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	UPPER SANTA CLARA VALLEY WATER AGENCY	VENTURA COUNTY FLOOD CONTROL DISTRICT	TOTAL	
	(24)	(25)	(26)	(27)	(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	0	0	0	8,906
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12,645
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20,911
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34,026
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54,913
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	83,634
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	207,950
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	265,120
1970	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	322,900
71	0	0	0	0	0	0	0	0	0	0	0	70,000	1,600	0	71,600	448,190
72	20,000	5,200	580	8,000	4,600	170	8,400	1,620	45,541	10,600	1,000	354,600	3,700	0	464,011	929,481
73	25,000	5,800	870	9,000	4,600	290	10,700	2,940	47,559	11,500	1,700	454,900	5,700	0	580,559	1,094,159
74	30,000	6,400	1,160	10,000	4,600	400	13,100	4,260	49,806	12,300	2,400	555,200	7,500	0	697,126	1,257,056
75	35,000	7,000	1,450	11,000	4,600	520	15,400	5,580	51,826	13,100	3,100	655,600	9,500	0	813,676	1,422,386
76	44,000	7,600	1,740	12,000	4,600	640	17,800	6,900	53,842	14,000	3,800	755,900	11,400	0	934,222	1,600,212
77	50,000	8,421	2,030	13,000	4,600	730	20,200	8,220	55,860	14,800	4,500	856,300	13,400	0	1,052,061	1,779,281
78	57,000	9,242	2,320	14,000	4,600	920	22,500	9,340	57,878	15,700	5,200	956,600	15,300	0	1,170,600	1,957,850
79	63,000	10,063	2,610	15,000	4,600	1,040	24,900	10,260	60,010	16,600	5,900	1,057,000	17,700	0	1,288,683	2,134,363
1980	69,200	10,884	2,900	17,000	4,600	1,150	27,200	11,180	61,913	17,400	6,800	1,157,300	20,100	1,000	1,408,627	2,336,387
81	75,000	12,105	3,190	19,000	4,600	1,270	29,600	11,700	64,161	18,300	7,800	1,257,600	22,100	2,000	1,528,426	2,531,066
82	81,300	13,326	3,480	21,000	4,600	1,380	31,900	12,320	64,161	19,100	8,800	1,358,000	24,600	3,000	1,646,967	2,720,137
83	87,700	14,547	3,770	23,000	4,600	1,500	34,300	12,940	64,161	19,900	9,800	1,458,300	26,900	4,000	1,765,418	2,914,668
84	94,000	15,768	4,060	25,000	4,600	1,610	36,700	13,560	64,161	20,700	10,800	1,558,700	29,100	5,000	1,883,759	3,106,789
85	100,400	16,989	4,350	27,000	4,600	1,730	39,000	14,180	64,161	21,800	11,800	1,659,300	30,900	6,000	2,002,210	3,304,320
86	106,700	18,210	4,640	29,000	4,600	1,840	41,400	14,800	66,179	23,200	12,900	1,759,800	32,900	8,000	2,124,169	3,503,559
87	113,000	19,431	4,930	31,500	4,600	1,960	43,700	15,420	72,462	24,600	14,000	1,860,400	35,300	10,000	2,251,303	3,710,723
88	119,400	20,652	5,220	34,000	4,600	2,070	46,000	16,040	78,745	26,000	15,100	1,961,000	37,400	13,000	2,379,227	3,920,887
89	125,700	21,873	5,510	36,500	4,600	2,190	48,500	16,660	84,915	27,400	16,200	2,011,500	39,300	16,000	2,456,848	4,074,848
1990	132,100	23,100	5,800	38,100	4,600	2,300	50,800	17,300	91,198	28,800	17,300	2,011,500	41,500	20,000	2,484,398	4,188,138
91	138,400	23,100	5,800	38,100	4,600	2,300	50,800	17,300	98,000	28,800	17,300	2,011,500	41,500	20,000	2,497,500	4,206,780
92	138,400	23,100	5,800	38,100	4,600	2,300	50,800	17,300	98,000	28,800	17,300	2,011,500	41,500	20,000	2,497,500	4,212,320
93	138,400	23,100	5,800	38,100	4,600	2,300	50,800	17,300	98,000	28,800	17,300	2,011,500	41,500	20,000	2,497,500	4,217,860
94	138,400	23,100	5,800	38,100	4,600	2,300	50,800	17,300	98,000	28,800	17,300	2,011,500	41,500	20,000	2,497,500	4,222,500
95	138,400	23,100	5,800	38,100	4,600	2,300	50,800	17,300	98,000	28,800	17,300	2,011,500	41,500	20,000	2,497,500	4,224,550
96	138,400	23,100	5,800	38,100	4,600	2,300	50,800	17,300	98,000	28,800	17,300	2,011,500	41,500	20,000	2,497,500	4,226,600
97	138,400	23,100	5,800	38,100	4,600	2,300	50,800	17,300	98,000	28,800	17,300	2,011,500	41,500	20,000	2,497,500	4,228,650
98	138,400	23,100	5,800	38,100	4,600	2,300	50,800	17,300	98,000	28,800	17,300	2,011,500	41,500	20,000	2,497,500	4,228,700
99	138,400	23,100	5,800	38,100	4,600	2,300	50,800	17,300	98,000	28,800	17,300	2,011,500	41,500	20,000	2,497,500	4,228,750
2000	138,400	23,100	5,800	38,100	4,600	2,300	50,800	17,300	98,000	28,800	17,300	2,011,500	41,500	20,000	2,497,500	4,228,810
01	138,400	23,100	5,800	38,100	4,600	2,300	50,800	17,300	98,000	28,800	17,300	2,011,500	41,500	20,000	2,497,500	4,228,870
02	138,400	23,100	5,800	38,100	4,600	2,300	50,800	17,300	98,000	28,800	17,300	2,011,500	41,500	20,000	2,497,500	4,228,930
03	138,400	23,100	5,800	38,100	4,600	2,300	50,800	17,300	98,000	28,800	17,300	2,011,500	41,500	20,000	2,497,500	4,228,990
04	138,400	23,100	5,800	38,100	4,600	2,300	50,800	17,300	98,000	28,800	17,300	2,011,500	41,500	20,000	2,497,500	4,229,050
05	138,400	23,100	5,800	38,100	4,600	2,300	50,800	17,300	98,000	28,800	17,300	2,011,500	41,500	20,000	2,497,500	4,229,110
06	138,400	23,100	5,800	38,100	4,600	2,300	50,800	17,300	98,000	28,800	17,300	2,011,500	41,500	20,000	2,497,500	4,229,180
07	138,400	23,100	5,800	38,100	4,600	2,300	50,800	17,300	98,000	28,800	17,300	2,011,500	41,500	20,000	2,497,500	4,229,250
08	138,400	23,100	5,800	38,100	4,600	2,300	50,800	17,300	98,000	28,800	17,300	2,011,500	41,500	20,000	2,497,500	4,229,320
09	138,400	23,100	5,800	38,100	4,600	2,300	50,800	17,300	98,000	28,800	17,300	2,011,500	41,500	20,000	2,497,500	4,229,390
2010	138,400	23,100	5,800	38,100	4,600	2,300	50,800	17,300	98,000	28,800	17,300	2,011,500	41,500	20,000	2,497,500	4,229,460
11	138,400	23,100	5,800	38,100	4,600	2,300	50,800	17,300	98,000	28,800	17,300	2,011,500	41,500	20,000	2,497,500	4,229,540
12	138,400	23,100	5,800	38,100	4,600	2,300	50,800	17,300	98,000	28,800	17,300	2,011,500	41,500	20,000	2,497,500	4,229,620
13	138,400	23,100	5,800	38,100	4,600	2,300	50,800	17,300	98,000	28,800	17,300	2,011,500	41,500	20,000	2,497,500	4,229,710
14	138,400	23,100	5,800	38,100	4,600	2,300	50,800	17,300	98,000	28,800	17,300	2,011,500	41,500	20,000	2,497,500	4,229,800
15	138,400	23,100	5,800	38,100	4,600	2,300	50,800	17,300	98,000	28,800	17,300	2,011,500	41,500	20,000	2,497,500	4,229,900
2016[2/]	138,400	23,100	5,800	38,100	4,600	2,300	50,800	17,300	98,000	28,800	17,300	2,011,500	41,500	20,000	2,497,500	4,230,000

1/ From Tables A and Articles 6(a) of executed and proposed water supply contracts as of April 1, 1967.
2/ And each year thereafter for the remainder of the project repayment period.

TABLE 6

ESTIMATED ANNUAL PROJECT ENERGY REQUIREMENTS FOR PUMPING

(in millions of kilowatt-hours)

CALENDAR YEAR	NORTH BAY AQUEDUCT		PERIPHERAL CANAL PUMPING PLANT	SOUTH BAY AQUEDUCT PUMPING PLANTS	CALIFORNIA AQUEDUCT											TOTAL
	CALHOUN PUMPING PLANT	CORDELIA PUMPING PLANT			DELTA PUMPING PLANT	SAN LUIS PUMPING-GENERATING PLANT	DOS AMIGOS PUMPING PLANT	BUENA VISTA PUMPING	WHEELER RIDGE PUMPING	WIND GAP PUMPING PLANT	TEHACHAPI PUMPING PLANT	PEARBLOSSOM PUMPING PLANT	OSO PUMPING PLANT	LAS PERILLAS & BADGER HILL PUMPING PLANT	DEVIL'S DEN, SAWTOOTH, & POLONIO PUMPING PLANTS	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1962	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	7
63	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	10
64	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	19
65	0	0	0	28	0	0	0	0	0	0	0	0	0	0	0	28
66	0	0	0	46	0	0	0	0	0	0	0	0	0	0	0	46
67	0	0	0	36	21	0	0	0	0	0	0	0	0	0	0	57
68	0	3	0	107	211	91	42	0	0	0	0	0	0	9	0	463
69	0	3	0	116	358	256	55	1	0	0	0	0	0	13	0	802
1970	0	3	0	110	330	213	82	9	7	8	2	0	0	14	0	778
71	0	3	0	110	313	144	146	82	83	174	634	20	66	14	0	1,789
72	0	4	0	103	344	133	208	206	220	473	1,760	235	104	16	0	3,806
73	0	4	0	105	431	133	245	254	273	586	2,160	165	177	18	0	4,551
74	0	5	0	106	664	170	232	224	240	512	1,879	172	140	22	0	4,366
75	0	5	15	108	606	79	259	254	273	583	2,146	198	159	24	0	4,709
76	0	6	14	109	536	53	291	288	310	663	2,451	222	182	27	0	5,152
77	0	6	15	111	584	86	321	321	344	736	2,730	245	203	30	0	5,732
78	0	7	14	112	661	135	351	354	379	812	3,012	269	225	30	0	6,361
79	0	8	18	113	708	156	380	386	415	889	3,292	293	246	31	1	6,936
1980	1	10	18	116	782	184	414	420	451	968	3,577	317	267	35	11	7,571
81	2	11	28	117	851	203	445	453	487	1,045	3,861	357	283	37	13	8,193
82	2	11	30	119	889	209	476	487	522	1,121	4,143	399	297	39	21	8,765
83	2	12	32	121	949	216	511	525	562	1,209	4,424	440	312	42	27	9,384
84	2	13	36	123	998	216	543	559	598	1,286	4,706	481	327	45	37	9 970
85	2	14	39	124	1,064	225	575	592	633	1,362	4,986	522	341	49	61	10,589
86	2	15	49	126	1,331	189	607	627	670	1,441	5,276	561	358	53	77	11,382
87	2	16	43	128	1,199	77	641	663	708	1,523	5,578	567	389	56	94	11,684
88	3	17	43	130	1,222	83	674	699	746	1,605	5,880	584	415	60	117	12,278
89	3	18	45	133	1,266	115	670	722	770	1,656	6,065	600	428	65	148	12,704
1990	3	19	46	136	1,282	151	714	732	780	1,675	6,131	603	433	72	183	12,960
91	3	19	48	140	1,313	153	716	735	783	1,684	6,162	609	433	72	183	13,053
92	3	19	48	142	1,313	153	716	735	783	1,684	6,162	609	433	72	183	13,055
93	3	19	48	146	1,314	153	716	735	783	1,684	6,162	609	433	72	183	13,060
94	3	19	48	151	1,316	153	716	735	783	1,684	6,162	609	433	72	183	13,067
95	3	19	48	152	1,316	153	716	735	783	1,684	6,162	609	433	72	183	13,068
96	3	19	48	154	1,317	153	716	735	783	1,684	6,162	609	433	72	183	13,071
97	3	19	48	155	1,317	153	716	735	783	1,684	6,162	609	433	72	183	13,072
98	3	19	48	155	1,317	153	716	735	783	1,684	6,162	609	433	72	183	13,072
99	3	19	48	155	1,317	153	716	735	783	1,684	6,162	609	433	72	183	13,072
2000 1/	3	19	48	155	1,317	153	716	735	783	1,684	6,162	609	433	72	183	13,072

1/ And each year thereafter for the remainder of the project repayment period.

TABLE 6

TABLE 7

ESTIMATED ANNUAL PROJECT ENERGY GENERATION

(in millions of kilowatt-hours)

CALENDAR YEAR	AQUEDUCT POWERPLANTS						OROVILLE-THERMALITO POWERPLANTS		
	COTTONWOOD POWERPLANT	PYRAMID AND CASTAIC POWERPLANTS	SAN LUIS PUMPING-GENERATING PLANT	DEVIL CANYON POWERPLANT	SAN LUIS OBISPO POWERPLANT	TOTAL	GENERATION	PUMPBACK	NET GENERATION
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1967	0	0	0	0	0	0	0	0	0
68	0	0	20	0	0	20	566	42	524
69	0	0	35	0	0	35	2,119	469	1,650
1970	0	0	44	0	0	44	2,846	469	2,377
71	0	274	88	0	0	362	2,846	469	2,377
72	24	464	154	258	0	900	2,846	469	2,377
73	19	701	160	194	0	1,074	2,846	469	2,377
74	26	738	0	208	0	972	2,846	469	2,377
75	29	851	8	239	0	1,127	2,846	469	2,377
76	32	973	34	271	0	1,310	2,846	469	2,377
77	35	1,091	74	303	0	1,503	2,846	469	2,377
78	42	1,207	96	335	0	1,680	2,846	469	2,377
79	45	1,325	116	367	0	1,853	2,846	469	2,377
1980	55	1,443	132	399	1	2,030	2,846	469	2,377
81	60	1,524	137	459	2	2,182	2,846	469	2,377
82	73	1,604	147	517	4	2,345	2,846	469	2,377
83	77	1,683	161	574	5	2,500	2,846	469	2,377
84	88	1,763	166	632	8	2,657	2,846	469	2,377
85	96	1,841	170	690	13	2,810	2,846	469	2,377
86	103	1,928	0	746	17	2,794	2,846	469	2,377
87	104	2,086	42	755	21	3,008	2,846	469	2,377
88	108	2,235	76	764	26	3,209	2,846	469	2,377
89	111	2,310	97	773	33	3,324	2,846	469	2,377
1990	112	2,325	119	782	42	3,380	2,846	469	2,377
91	114	2,325	119	790	42	3,390	2,846	469	2,377
92	114	2,325	119	790	42	3,390	2,846	469	2,377
93	114	2,325	119	790	42	3,390	2,846	469	2,377
94	114	2,325	119	790	42	3,390	2,846	469	2,377
95	114	2,325	119	790	42	3,390	2,846	469	2,377
96	114	2,325	119	790	42	3,390	2,846	469	2,377
97	114	2,325	119	790	42	3,390	2,846	469	2,377
98	114	2,325	119	790	42	3,390	2,846	469	2,377
99	114	2,325	119	790	42	3,390	2,846	469	2,377
2000 1/	114	2,325	119	790	42	3,390	2,846	469	2,377

1/ And each year thereafter for the remainder of the project repayment period.

TABLE 8

FRENCHMAN LAKE MONTHLY OPERATION

(in acre-feet unless otherwise indicated)

	RESERVOIR STORAGE			OUTFLOW				INFLOW	RELEASES	
MONTH	WATER SURFACE ELEVATION, IN FEET	END OF MONTH STORAGE	MONTHLY STORAGE CHANGE	REGULATED RELEASE	SPILL	ESTIMATED EVAPORATION AND SEEPAGE	TOTAL GROSS OUTFLOW	COMPUTED OR ESTIMATED	WATER RIGHT ENTITLEMENT OR CONTRACT RELEASES[1]	PROJECT WATER[2]
1966	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Jan.	5,582.73	47,480	+ 472	123	0	100	223	695	0	123
Feb.	5,583.07	47,969	+ 489	111	0	111	222	711	0	111
Mar.	5,584.75	50,433	+2,464	123	0	184	307	2,771	0	123
Apr.	5,584.86	50,596	+ 163	2,031	0	293	2,324	2,487	2,011	20
May	5,582.54	47,208	-3,388	3,779	0	698	4,477	1,089	3,779	0
Jun.	5,579.99	43,644	-3,564	2,905	0	761	3,666	102	2,902	3
Jul.	5,577.17	39,900	-3,744	2,986	0	840	3,826	82	2,928	58
Aug.	5,575.49	37,767	-2,133	1,398	0	831	2,229	96	1,395	3
Sep.	5,575.05	37,220	- 547	106	0	553	659	112	0	106
Oct.	5,574.67	36,752	- 468	124	0	353	477	9	0	124
Nov.	5,575.11	37,294	+ 542	119	0	198	317	859	0	119
Dec.	5,576.09	38,520	+1,226	123	0	132	255	1,481	0	123
Total	-	-	-8,488	13,928	0	5,054	18,982	10,494	13,015	913

1/ Releases under the interim contract with the Last Chance Water District.
2/ Releases required specifically for steamflow maintenance.

TABLE 9

ANTELOPE LAKE MONTHLY OPERATION

(in acre-feet unless otherwise indicated)

	RESERVOIR STORAGE			OUTFLOW				INFLOW	RELEASES	
MONTH	WATER SURFACE ELEVATION IN FEET	END OF MONTH STORAGE	MONTHLY STORAGE CHANGE	REGULATED RELEASE	SPILL	ESTIMATED EVAPORATION AND SEEPAGE	TOTAL GROSS OUTFLOW	COMPUTED OR ESTIMATED	WATER RIGHT ENTITLEMENT OR CONTRACT RELEASE1/	PROJECT WATER2/
1966	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Jan.	4,995.18	16,673	+ 517	615	0	54	669	1,186	0	615
Feb.	4,995.64	17,034	+ 361	555	0	60	615	976	0	555
Mar.	4,998.63	19,497	+2,463	615	0	102	717	3,180	0	615
Apr.	5,002.61	23,085	+3,588	928	2,316	181	3,425	7,013	0	928
May	5,002.09	22,597	- 488	119	2,412	445	2,976	2,488	0	119
Jun.	5,000.74	21,357	-1,240	1,182	6	502	1,690	450	311	871
Jul.	4,999.61	20,348	-1,009	623	0	507	1,130	121	121	502
Aug.	4,998.37	19,275	-1,073	615	0	504	1,119	46	46	569
Sep.	4,997.42	18,476	- 799	537	0	308	845	46	46	491
Oct.	4,996.42	17,658	- 818	614	0	235	849	31	0	614
Nov.	4,996.81	17,974	+ 316	595	0	130	725	1,041	0	595
Dec.	4,997.54	18,576	+ 602	615	0	87	702	1,304	0	615
Total	-	-	+2,420	7,613	4,734	3,115	15,462	17,882	524	7,089

1/ Releases required to satisfy water rights entitlements in Indian Valley.

2/ Releases required specifically for streamflow maintenance.

TABLE 10

SOUTH BAY AQUEDUCT MONTHLY OPERATION

(All figures in acre-feet unless otherwise indicated)

MONTH	SUPPLY FROM DELTA-MENDOTA CANAL	DELTA-MENDOTA CANAL TO SOUTH BAY PUMPING PLANT					AMOUNT PUMPED AT SOUTH BAY PUMPING PLANT	SOUTH BAY PUMPING PLANT TO TERMINUS				ELECTRICAL ENERGY CONSUMPTION (in kilowatt hours)
		STORAGE CHANGES		LOSSES[1]	DELIVERIES			STORAGE CHANGES		LOSSES[1]	DELIVERIES	
		BETHANY RESERVOIR	AQUEDUCT		CONSTRUCTION CONTRACTORS	WATER SUPPLY CONTRACTORS		PATTERSON RESERVOIR	AQUEDUCT		WATER SUPPLY CONTRACTORS	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1966												
January	0	- 52	0	0	0	0	52	-17	0	- 7	76	139,200
February	1,453	149	31	52	0	1	1,220	22	123	9	1,066	710,400
March	3,153	- 43	0	213	0	1	2,982	0	0	73	2,909	2,451,200
April	5,181	6	0	198	0	1	4,976	0	0	145	4,831	3,920,000
May	7,173	- 7	0	246	0	6	6,928	0	0	125	6,803	5,265,600
June	6,968	- 24	0	386	0	1	6,605	0	0	186	6,419	5,798,400
July	7,293	- 24	0	292	0	4	7,021	0	0	103	6,918	5,376,000
August	7,499	- 29	0	400	0	4	7,124	- 8	0	299	6,833	5,929,600
September	5,336	57	0	204	143	9	4,923	- 3	0	225	4,701	4,536,000
October	6,159	- 69	0	296	41	1	5,890	3	0	195	5,692	4,488,000
November	5,098	- 3	0	250	25	1	4,825	0	0	163	4,662	3,868,800
December	4,286	- 7	0	209	0	1	4,083	0	0	110	3,973	3,537,600
TOTAL	59,599	- 46	31	2,746	209	30	56,629	- 3	123	1,626	54,883	46,020,800
1967												
January	5,466	102	0	342	0	0	5,022	0	0	202	4,820	4,697,600
February	551	-107	0	26	0	0	632	0	0	30	602	603,200
TOTAL[2] March thru February	64,163	-148	0	3,062	209	29	61,011	- 8	0	1,856	59,163	50,472,000

MONTH	SUMMARY OF DELIVERIES TO WATER SUPPLY CONTRACTORS BY AQUEDUCT TURNOUT											
	ALAMEDA COUNTY F.C. & W.C.D., ZONE 7						ALAMEDA CO. W.D.		SANTA CLARA CO. F.C. & W.D.		TOTAL	
	BETHANY RESERVOIR	ALTAMONT		PATTERSON	TEMPORARY[3]	WENTE	VALLECITOS		SANTA CLARA METER		MUNICIPAL & INDUSTRIAL	AGRICULTURAL
	MUNICIPAL & INDUSTRIAL	MUNICIPAL & INDUSTRIAL	AGRICULTURAL	MUNICIPAL & INDUSTRIAL	MUNICIPAL & INDUSTRIAL	AGRICULTURAL	MUNICIPAL & INDUSTRIAL	AGRICULTURAL	MUNICIPAL & INDUSTRIAL	AGRICULTURAL		
	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
1966												
January	0	2	0	74	0	0	0	0	0	0	76	0
February	1	2	0	75	0	0	0	0	475	514	553	514
March	1	23	0	111	0	11	57	57	1,272	1,378	1,464	1,446
April	1	127	313	157	0	68	276	276	1,735	1,879	2,296	2,536
May	6	108	230	259	0	65	1,190	1,190	1,805	1,956	3,368	3,441
June	1	65	82	310	0	87	1,072	1,071	1,791	1,941	3,239	3,181
July	4	141	283	392	0	97	1,125	1,125	1,802	1,953	3,464	3,458
August	4	84	125	367	0	35	1,240	1,241	1,796	1,945	3,491	3,346
September	9	104	215	303	0	0	653	652	1,332	1,442	2,401	2,309
October	1	33	21	208	100	0	895	895	1,699	1,841	2,936	2,757
November	1	72	202	130	17	0	588	589	1,471	1,593	2,279	2,384
December	1	54	159	151	19	0	336	336	1,401	1,517	1,962	2,012
TOTAL	30	815	1,630	2,537	136	363	7,432	7,432	16,579	17,959	27,529	27,384
1967												
January	0	31	83	121	12	0	731	730	1,494	1,618	2,389	2,431
February	0	23	52	108	11	18	0	0	187	203	329	273
TOTAL[2] March thru February	29	865	1,765	2,617	159	381	8,163	8,162	17,785	19,266	29,618	29,574

1/ Includes operational spills, water surface evaporation, and seepage.

2/ Bureau Water Year totals.

3/ Near Del Valle Branch for dam construction.

TABLE 11

WATER QUALITY AT SOUTH BAY PUMPING PLANT

(Parts per million unless otherwise noted)

MONTH	CONSTITUENTS					
	TOTAL DISSOLVED SOLIDS 1/	TOTAL HARDNESS 1/	CHLORIDES 1/	SULFATES 1/	BORON 2/	SODIUM 2/ PERCENT
1966	(1)	(2)	(3)	(4)	(5)	(6)
January	264	106	66	42	0.3	52
February	318	123	83	54	0.3	52
March	396	148	106	72	0.3	52
April	309	120	80	52	0.2	44
May	232	95	58	35	0.2	42
June	178	78	42	23	0.2	42
July	269	107	69	43	0.2	47
August	333	128	88	57	0.2	57
September	351	134	93	61	0.2	55
October	402	150	108	73	0.2	50
November	472	173	129	89	0.3	52
December	432	160	117	80	0.4	52
Annual Average	323	125	85	55	0.2	52

1/ Weighted average computed from daily flow and correlation with electrical conductivity.
2/ Laboratory analysis of monthly random sample.

TABLE 12

COMPOSITION OF PROJECTED ANNUAL CAPITAL COSTS

(in thousands of dollars)

CALENDAR YEAR	PROJECTED ANNUAL EXPENDITURES										TOTAL ACTUAL FROM ACCOUNTING RECORDS[2]
	SURVEYS AND ENGINEERING STUDIES	DESIGN	RIGHTS OF WAY ACQUISITION AND RELOCATIONS	CONSTRUCTION	LOCAL IMPACT AID	PREOPERATING EXPENSE[1]		LOCAL PROJECTS (Davis-Grunsky Program)	STATE PARTICIPATION IN COSTS OF SAN LUIS DIVISION	TOTAL	
						GENERAL	DIRECT				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1952											305
53											720
54											854
55											478
56											1,850
57											7,888
58											12,455
59											14,909
1960											21,010
61											31,631
62											36,464
63											112,583
64											125,543
65											166,468
66											288,052
67	1,489	13,770	30,962	269,764	427	7,414	2,518	10,500	18,795	355,639	
68	1,436	8,600	27,745	283,916	430	3,861	410	10,000	5,177	341,575	
69	1,250	4,187	13,089	328,760	20	3,965	1,237	10,000	100	362,608	
1970	954	1,993	4,735	189,982	0	3,691	2,429	10,000	0	213,784	
71	490	728	1,394	94,761	0	1,517	4,113	10,000	0	113,003	
72	0	823	138	37,728	0	344	2,700	10,000	0	51,733	
73	0	636	173	28,252	0	347	2,813	10,000	0	42,221	
74	0	770	125	25,196	0	353	930	10,000	0	37,374	
75	0	1,335	710	14,690	0	358	0	10,000	0	27,093	
76	0	889	1,277	11,582	0	367	0	10,000	0	24,115	
77	0	3,540	9,525	14,239	0	367	0	9,125	0	36,796	
78	0	3,126	8,000	25,801	0	367	0	0	0	37,294	
79	0	1,711	9,925	39,658	0	367	8	0	0	51,669	
1980	0	1,800	8,375	30,725	0	223	0	0	0	41,123	
81	0	1,726	7,980	42,199	0	223	0	0	0	52,128	
82	0	1,500	8,000	60,807	0	223	0	0	0	70,530	
83	0	100	6,900	61,844	0	223	0	0	0	69,067	
84	0	100	6,800	35,163	0	223	0	0	0	42,286	
85	0	200	6,100	16,337	0	223	0	0	0	22,860	
86	0	0	0	0	0	0	0	0	0	0	
87	0	0	0	0	0	0	0	0	0	0	
88	0	0	0	0	0	0	0	0	0	0	
89	0	0	0	0	0	0	0	0	0	0	
1990	0	0	0	0	0	0	0	0	0	0	
Totals	5,619	47,534	151,953	1,611,404	877	24,656	17,158	109,625[3]	24,072	1,992,898	821,210
										GRAND TOTAL	2,814,108

1/ Annual operating costs incurred for each facility prior to the conversion from construction to an operational status.
2/ Preliminary, subject to adjustment pending policy decisions.
3/ Balance of the $130,000,000 reserved under the Burns-Porter Act.

TABLE 12

TABLE 13

GENERAL RECONCILIATION OF CAPITAL COST CHANGES

(in millions of dollars)

PROJECT FACILITIES	BULLETIN NO. 132-66	BULLETIN NO 132-67	CHANGE	CHANGE IN COST ITEMS: ALLOWANCE FOR CONSTRUCTION PRICE ESCALATION 1/	DESIGN AND CONSTRUCTION 2/ FEATURE	DESIGN AND CONSTRUCTION 2/ CHANGE	RIGHT OF WAY 3/	PREOPERATING COSTS 4/
UPPER FEATHER AREA								
Frenchman Dam and Lake	3.2	3.3	+ 0.1				+ 0.1	
Grizzly Valley Dam and Lake Davis	4.1	4.4	+ 0.3		Dam	+ 0.4	- 0.1	
Antelope Dam and Lake	4.5	4.6	+ 0.1		Dam	+ 0.1		
Dixie Refuge Dam and reservoir	4.7	4.3	- 0.4	+ 0.6	Dam (+ 0.2) Deletion of Access Road (- 1.2)	- 1.0		
Abbey Bridge Dam and reservoir	5.3	4.8	- 0.5	+ 0.2	Dam (+ 0.3) Deletion of Access Road (- 1.0)	- 0.7		
SUBTOTAL, Upper Feather Area	21.8	21.4	- 0.4	+ 0.8		- 1.2	0.0	
OROVILLE AREA								
Oroville Dam and reservoir	307.6	303.5	- 4.1	+ 0.2	Dam	- 0.1	- 4.2	
Oroville-Thermalito Power Facilities	170.9	171.3	+ 0.4	+ 0.6	Thermalito Forebay and Afterbay (+ 0.2) Thermalito Diversion Dam (- 1.6) Thermalito Power Canal (+ 2.7) Oroville Power Plant (+ 1.3) Thermalito Power Plant (- 0.2) Monitor and Control System (- 0.9)	+ 2.1	- 2.5	+ 0.2
SUBTOTAL, Oroville Area	478.5	474.8	- 3.7	+ 0.8		+ 2.0	- 6.7	+ 0.2
DELTA FACILITIES	55.1	55.4	+ 0.3					+ 0.3
UPPER EEL RIVER DEVELOPMENT	226.5	348.4	+ 121.9	+ 110.0	Dams and Tunnels	+ 11.9		
NORTH BAY AQUEDUCT	10.5	15.2	+ 4.7	+ 2.3	Calhoun Pumping Plant (- 0.1) Aqueduct (+ 0.5) Monitor and Control System (+ 0.1)	+ 0.5	+ 1.7	+ 0.2
SOUTH BAY AQUEDUCT	59.4	66.7	+ 7.3	+ 0.3	Del Valle Dam (+ 4.5) Monitor and Control System (+ 0.4)	+ 4.9	+ 2.1	
SUBTOTAL	351.5	485.7	+ 134.2	+ 112.6		+ 17.3	+ 3.8	+ 0.5
CALIFORNIA AQUEDUCT								
North San Joaquin Division	134.8	160.9	+ 26.1	+ 1.3	Change order for slide protection (+ 11.0) Future Pump Units (+ 9.0) Aqueduct (+ 2.9) Monitor and Control System (- 2.6)	+ 20.3	+ 4.4	+ 0.1
San Luis Division	190.0	197.4	+ 7.4	+ 6.4	San Luis Dam (- 3.8) San Luis Pump-Generating Plant (+ 1.4) Dos Amigos Pumping Plant (- 0.6) O'Neil Forebay (- 0.7) Aqueduct (+ 5.8) Monitor and Control System (- 1.6)	+ 1.9	- 0.3	- 0.6
South San Joaquin Division	252.3	259.6	+ 7.3	+ 4.3	Wheeler Ridge Pumping Plant (+ 2.1) Windgap Pumping Plant (+ 4.8) O & M Centers (+ 2.3) Aqueduct (- 5.6) Monitor and Control System (+ 0.4)	+ 4.0	- 2.0	+ 1.0
Tehachapi Division	234.9	237.4	+ 2.5	+ 4.9	Tehachapi Pumping Plant (+ 8.2) Tehachapi O & M Center (- 1.3) Aqueduct (- 7.4) Monitor and Control System (- 2.0)	- 1.5	+ 0.4	- 1.3
Mojave Division	194.4	207.9	+ 13.5	+ 5.9	Cottonwood Pumping Plant (- 1.3) Pearblossom Pumping Plant (+ 1.4) O & M Centers (+ 0.6) Aqueduct (- 5.8) Cedar Springs Dam (- 4.4) Monitor and Control System (- 0.8)	- 10.3	+ 17.4	+ 0.5
Santa Ana Division	144.5	184.5	+ 40.0	+ 7.0	Devil Canyon Power Plant (- 4.0) Perris Dam (+ 12.8) Aqueduct (+ 15.4) Monitor and Control System (- 0.2)	+ 32.0	+ 1.2	- 0.2
West Branch	284.5	335.3	+ 50.8	+ 5.7	Oso Pumping Plant (+ 4.8) Pyramid Powerplant (+ 3.3) Castaic Powerplant 5/ (- 22.5) Aqueduct (+ 55.2) Pyramid Dam (+ 0.5) Castaic Dam (- 11.2) Monitor and Control System (- 1.0)	+ 29.1	+ 15.7	+ 0.3
Coastal Branch	56.5	75.2	+ 18.7	+ 11.6	Las Perillas and Badger Hill Pumping Plant (+ 1.6) San Luis Obispo Powerplant (+ 4.8) Aqueduct (- 3.6) Monitor and Control System (+ 1.7)	+ 4.5	+ 2.3	+ 0.3
SUBTOTAL, California Aqueduct	1,491.9	1,658.2	+ 166.3	+ 47.1		+ 80.0	+ 39.1	+ 0.1
LOCAL PROJECTS (DAVIS-GRUNSKY PROGRAM)	131.4	131.4						
SAN JOAQUIN DRAINAGE FACILITY	53.9	42.2	- 11.7		Change in facility	- 11.7		
UNALLOCATED COSTS	1.4	0.4	- 1.0		Actual costs of deleted features of North Bay and South Bay Aqueducts have been excluded as Project costs.	- 1.0		
SUBTOTAL	186.7	174.0	- 12.7			- 12.7		
TOTAL CAPITAL EXPENDITURES FINANCED	2,530.4	2,814.1	+ 283.7	+ 161.3		+ 85.4	+ 36.2	+ 0.8

1/ Allowance for construction price escalation not included in Bulletin 132-66.
2/ Current estimate of design and construction costs based on more recent contracts and experience has resulted in the changes in this item.
3/ Current estimate based on actual appraisals has generally increased the right of way costs over those estimates utilized in Bulletin No. 132-65.
4/ In general these are increased cost estimates for planning for operation and maintenance, for power programs, and for costs for pumping reservoir fill water.
5/ To be constructed by the City of Los Angeles.

TABLE 14

COMPOSITION OF PROJECTED ANNUAL OPERATING COSTS

(in thousands of dollars)

CALENDAR YEAR	PROJECTED ANNUAL EXPENDITURES								LESS, PREOPERATING EXPENSES[6]	TOTAL PROJECTED ANNUAL OPERATING COSTS	TOTAL ACTUAL, FROM ACCOUNTING RECORDS[7]
	GENERAL OPERATING EXPENSES[1]	SALARIES AND EXPENSES[2]		EQUIPMENT, MATERIALS, AND SUPPLIES[3]	POWER AND ENERGY[4]		DEPOSITS TO REPLACEMENT RESERVES[5]	TOTAL			
		OPERATING PERSONNEL	MAINTENANCE PERSONNEL		PUMPING PLANTS	RECOVERY PLANTS					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1962											132
63											224
64											237
65											520
66											626
67	8,501	1,297	1,015	617	383	0	62	11,875	9,932	1,943	0
68	8,421	1,800	2,226	690	2,070	- 60	547	15,694	4,271	11,423	0
69	8,706	1,872	3,230	821	3,006	- 105	612	18,142	5,202	12,940	0
1970	8,472	2,488	4,490	974	3,269	- 209	618	20,102	6,120	13,982	0
71	8,671	2,985	5,726	1,192	7,818	- 2,101	824	25,115	5,630	19,485	0
72	8,592	2,889	6,244	1,235	14,243	- 4,073	1,221	30,351	3,044	27,307	0
73	8,651	2,831	6,336	1,236	16,566	- 4,732	1,295	32,183	3,160	29,023	0
74	8,779	2,831	6,293	1,241	17,371	- 5,537	1,343	32,321	1,283	31,038	0
75	8,872	2,968	6,595	1,318	17,264	- 4,815	1,343	33,545	358	33,187	0
76	8,770	2,968	6,806	1,318	18,343	- 5,407	1,343	34,141	367	33,774	0
77	8,770	2,968	6,804	1,318	20,254	- 6,080	1,380	35,414	367	35,047	0
78	8,770	2,968	6,804	1,318	22,553	- 6,703	1,380	37,090	367	36,723	0
79	8,770	2,968	6,808	1,316	24,853	- 7,611	1,380	38,484	375	38,109	0
1980	8,770	3,013	6,954	1,329	26,334	- 7,614	1,414	40,200	223	39,977	0
81	8,770	3,013	6,960	1,329	28,392	- 8,214	1,414	41,664	223	41,441	0
82	8,770	3,013	6,960	1,329	29,790	- 8,423	1,414	42,853	223	42,630	0
83	8,770	3,013	6,961	1,329	30,748	- 8,153	1,414	44,082	223	43,859	0
84	8,770	3,013	6,961	1,329	30,787	- 8,338	1,414	43,936	223	43,713	0
85	8,770	3,013	6,960	1,331	32,903	- 9,767	1,414	44,624	223	44,401	0
86	8,770	3,234	7,458	1,457	36,027	-10,555	1,414	47,805	0	47,805	0
87	8,770	3,234	7,458	1,457	36,263	-10,822	1,414	47,774	0	47,774	0
88	8,770	3,234	7,458	1,457	37,525	-10,500	1,414	49,358	0	49,358	0
89	8,770	3,234	7,374	1,457	39,080	-10,996	1,414	50,333	0	50,333	0
1990	8,770	3,234	7,459	1,457	39,519	-10,935	1,414	50,918	0	50,918	0
91	8,770	3,234	7,457	1,457	39,377	-10,724	1,414	50,985	0	50,985	0
92	8,770	3,234	7,458	1,457	39,379	-10,724	1,414	50,988	0	50,988	0
93	8,770	3,234	7,459	1,457	39,384	-10,724	1,414	50,994	0	50,994	0
94	8,770	3,234	7,459	1,457	39,390	-10,724	1,414	51,000	0	51,000	0
95	8,770	3,234	7,458	1,457	39,391	-10,724	1,414	51,000	0	51,000	0
96	8,770	3,234	7,459	1,457	39,394	-10,724	1,414	51,004	0	51,004	0
97	8,770	3,234	7,459	1,457	39,395	-10,724	1,414	51,005	0	51,005	0
98	8,770	3,234	7,459	1,457	39,395	-10,724	1,414	51,005	0	51,005	0
99	8,770	3,234	7,459	1,457	39,395	-10,724	1,414	51,005	0	51,005	0
2000[8]	8,770	3,234	7,459	1,457	39,395	-10,724	1,414	51,005	0	51,005	0

1/ Includes the costs of project-wide programs for contract negotiation and administration, operation and maintenance management, and research and development. Also included in this column is a miscellaneous cost of about $209,000 annually for insurance required under revenue bond financing and for administrative costs of the Federal Power Commission license of the Oroville-Thermalito power facilities.

2/ Includes the direct costs of salaries and expenses, including general administrative and indirect costs of the Department.

3/ Includes the costs of materials, supplies, and equipment rental for electrical-mechanical plants, reservoirs, and aqueduct reaches.

4/ Does not include power and energy requirements or production by power features of the Oroville division or for the federal share of power and pumping plant features of the San Luis division.

5/ Based on sinking funds earning 3.5 percent per annum.

6/ These costs of an operational nature, which occur during the construction periods of the respective facilities, are transferred to the capital costs category as shown in Columns 6 and 7 of Table 12, and are deducted herein from the annual operating costs of the Project.

7/ Preliminary, subject to adjustment pending accounting, engineering, and legal decisions.

8/ And each year thereafter for the remainder of the project repayment period.

TABLE 14

TABLE 15

ACTUAL AND PROJECTED CAPITAL COSTS OF FACILITIES BY PROJECT PURPOSES

(in thousands of dollars)

CALENDAR YEAR	UNSPECIFIED PURPOSES		SAN JOAQUIN DRAINAGE FACILITY, DRAINAGE BENEFIT (100.0%)	UPPER FEATHER AREA (PROJECT CONSERVATION FACILITIES)									
				FRENCHMAN DAM AND LAKE			GRIZZLY VALLEY DAM AND LAKE DAVIS						
				MULTIPLE-PURPOSE[3]				MULTIPLE-PURPOSE[3]					
	LOCAL PROJECTS[1] (DAVIS-GRUNSKY PROGRAM)	UNALLOCATED COSTS[2]		R&F&WE[4] (50.0%)	WATER SUPPLY (50.0%)	TOTAL	SPECIFIC WATER SUPPLY (GRIZZLY VALLEY PIPELINE)	R&F&WE[4] (94.9%)	WATER SUPPLY (5.1%)	TOTAL	ANTELOPE DAM AND LAKE R&F&WE[4] (100%)	REMAINING UNITS, ALL ASSUMED R&F&WE 4/, 5/, 6/	TOTAL
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1952	0	15	0	0	0	0	0	0	0	0	0	0	0
53	0	18	0	0	0	0	0	0	0	0	0	0	0
54	0	50	0	0	0	0	0	0	0	0	0	0	0
55	0	47	0	0	0	0	0	0	0	0	0	0	0
56	0	10	0	0	0	0	0	0	0	0	0	0	0
57	0	24	0	1	2	3	0	2	0	2	3	4	12
58	0	51	0	109	110	219	0	3	0	3	2	5	229
59	17	38	0	264	264	528	0	13	1	14	30	83	655
1960	87	-62	51	496	496	992	0	14	1	15	34	97	1,138
61	511	53	416	408	408	816	0	2	0	2	197	6	1,021
62	634	104	449	219	220	439	0	115	6	121	934	11	1,505
63	3,739	73	443	65	65	130	0	176	10	186	2,543	9	2,868
64	4,226	15	536	7	7	14	9	520	27	556	451	31	1,052
65	10,852	6	844	5	5	10	4	1,075	57	1,136	260	54	1,460
66	1,732	0	1,593	13	14	27	1	1,672	91	1,764	37	94	1,922
67	10,500	0	1,042	37	37	74	0	510	27	537	82	487	1,180
68	10,000	0	988	1	1	2	0	51	3	54	5	1,854	1,915
69	10,000	0	813	1	1	2	0	26	1	27	2	2,655	2,686
1970	10,000	0	472	0	0	0	0	0	0	0	0	626	626
71	10,000	0	275	0	0	0	0	0	0	0	0	2,438	2,438
72	10,000	0	271	0	0	0	0	0	0	0	0	694	694
73	10,000	0	11,074	0	0	0	0	0	0	0	0	0	0
74	10,000	0	11,379	0	0	0	0	0	0	0	0	0	0
75	10,000	0	11,583	0	0	0	0	0	0	0	0	0	0
76	10,000	0	0	0	0	0	0	0	0	0	0	0	0
77	9,125	0	0	0	0	0	0	0	0	0	0	0	0
78	0	0	0	0	0	0	0	0	0	0	0	0	0
79	0	0	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0	0	0
81	0	0	0	0	0	0	0	0	0	0	0	0	0
82	0	0	0	0	0	0	0	0	0	0	0	0	0
83	0	0	0	0	0	0	0	0	0	0	0	0	0
84	0	0	0	0	0	0	0	0	0	0	0	0	0
85	0	0	0	0	0	0	0	0	0	0	0	0	0
86	0	0	0	0	0	0	0	0	0	0	0	0	0
87	0	0	0	0	0	0	0	0	0	0	0	0	0
88	0	0	0	0	0	0	0	0	0	0	0	0	0
89	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	131,423	442	42,229	1,626	1,630	3,256	14	4,179	224	4,417	4,580	9,148	21,401

Footnotes on sheet 5.

TABLE 15 (Continued)

ACTUAL AND PROJECTED CAPITAL COSTS OF FACILITIES BY PROJECT PURPOSE

(in thousands of dollars)

CALENDAR YEAR	OROVILLE AREA (PROJECT CONSERVATION FACILITIES)								DELTA FACILITIES[6] (PROJECT CONSERVATION FACILITIES)				UPPER EEL RIVER DEVELOPMENT, ALL ASSUMED WATER SUPPLY[5]
	SPECIFIC			MULTIPLE-PURPOSE[3]				TOTAL	SPECIFIC	MULTIPLE-PURPOSE		TOTAL	
	R&F&WE[4]	POWER GENERATION[7]	WATER SUPPLY	WATER SUPPLY (54.0%)	POWER GENERATION (24.7%)	FLOOD CONTROL (21.3%)	TOTAL		WATER SUPPLY	R&F&WE[4] (32.9%)	WATER SUPPLY (67.1%)		
	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)
1952	0	25	0	78	36	31	145	170	0	0	0	0	0
53	0	57	0	134	62	53	249	306	0	0	0	0	0
54	0	50	0	134	62	53	249	299	0	0	0	0	0
55	0	40	0	81	37	32	150	190	0	0	0	0	0
56	0	152	0	678	312	266	1,256	1,408	0	0	0	0	0
57	0	213	0	3,313	1,521	1,300	6,134	6,347	0	0	0	0	0
58	0	165	16	5,094	2,339	2,000	9,433	9,614	0	0	0	0	0
59	0	397	22	5,441	2,499	2,136	10,076	10,495	0	0	0	0	0
1960	0	608	27	6,773	3,110	2,659	12,542	13,177	7	22	46	75	0
61	0	1,209	48	9,400	4,317	3,690	17,407	18,664	31	154	315	500	0
62	0	2,738	33	9,903	4,548	3,884	18,335	21,106	130	223	454	807	0
63	0	5,669	6	23,390	10,742	9,173	43,305	48,980	108	442	902	1,452	0
64	30	17,228	3	18,316	8,412	7,182	33,910	51,171	79	494	1,008	1,581	166
65	68	25,359	0	17,897	8,211	7,011	33,119	58,546	37	515	1,050	1,602	848
66	10	43,114	22	36,601	16,786	14,349	67,736	110,882	30	732	1,493	2,255	1,461
67	0	47,834	0	21,701	9,926	8,560	40,187	88,021	0	400	816	1,216	904
68	0	21,225	0	3,961	1,812	1,563	7,336	28,561	0	625	1,275	1,900	913
69	0	3,740	0	465	213	183	861	4,601	0	790	1,610	2,400	930
1970	0	451	0	304	139	120	563	1,014	0	296	604	900	953
71	0	952	0	100	46	40	186	1,138	0	1,546	3,154	4,700	701
72	0	44	0	12	6	5	23	67	0	3,586	7,314	10,900	208
73	0	0	0	0	0	0	0	0	0	4,047	8,253	12,300	210
74	0	0	0	0	0	0	0	0	0	4,209	8,583	12,792	214
75	0	0	0	0	0	0	0	0	0	0	0	0	218
76	0	0	0	0	0	0	0	0	0	0	0	0	223
77	0	0	0	0	0	0	0	0	0	0	0	0	10,723
78	0	0	0	0	0	0	0	0	0	0	0	0	20,123
79	0	0	0	0	0	0	0	0	0	0	0	0	34,223
1980	0	0	0	0	0	0	0	0	0	0	0	0	38,523
81	0	0	0	0	0	0	0	0	0	0	0	0	51,723
82	0	0	0	0	0	0	0	0	0	0	0	0	68,623
83	0	0	0	0	0	0	0	0	0	0	0	0	65,223
84	0	0	0	0	0	0	0	0	0	0	0	0	34,423
85	0	0	0	0	0	0	0	0	0	0	0	0	16,823
86	0	0	0	0	0	0	0	0	0	0	0	0	0
87	0	0	0	0	0	0	0	0	0	0	0	0	0
88	0	0	0	0	0	0	0	0	0	0	0	0	0
89	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	108	171,270	177	163,776	75,136	64,290	303,202	474,757	422	18,081	36,877	55,380	348,356

Footnotes on sheet 5.

TABLE 15 (Continued)

ACTUAL AND PROJECTED CAPITAL COSTS OF FACILITIES BY PROJECT PURPOSE

(in thousands of dollars)

CALENDAR YEAR	CALIFORNIA AQUEDUCT													NORTH BAY AQUEDUCT, ALL ASSUMED WATER SUPPLY
	PROJECT CONSERVATION FACILITIES						PROJECT TRANSPORTATION FACILITIES						TOTAL	
	SPECIFIC		MULTIPLE-PURPOSE[3]			TOTAL	SPECIFIC		MULTIPLE-PURPOSE[3]			TOTAL		
	R&F&WE[4]	WATER SUPPLY	R&F&WE[4] (8.7%)	WATER SUPPLY (91.3%)	TOTAL		R&F&WE[4]	WATER SUPPLY	R&F&WE[4] (3.0%)	WATER SUPPLY (97.0%)	TOTAL			
	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
1952	0	0	1	6	7	7	0	0	3	109	112	112	119	0
53	0	0	2	19	21	21	0	0	11	361	372	372	393	0
54	0	0	2	26	28	28	0	0	14	454	468	468	496	0
55	0	0	1	13	14	14	0	0	6	209	215	215	229	0
56	0	0	6	68	74	74	0	0	7	232	239	239	313	0
57	0	0	10	107	117	117	0	0	17	549	566	566	683	27
58	0	0	13	140	153	153	0	0	42	1,370	1,412	1,412	1,565	50
59	0	0	52	540	592	592	0	43	65	2,107	2,172	2,215	2,807	30
1960	0	0	153	1,605	1,758	1,758	0	123	82	2,656	2,738	2,861	4,619	27
61	0	8	79	825	904	912	0	116	155	5,022	5,177	5,293	6,205	48
62	0	31	263	2,757	3,020	3,051	0	298	160	5,175	5,335	5,633	8,684	10
63	0	44	2,345	24,615	26,960	27,004	0	443	647	20,928	21,575	22,018	49,022	18
64	2	34	1,814	19,040	20,854	20,890	0	666	1,035	33,478	34,513	35,179	56,069	78
65	90	19	2,011	21,110	23,121	23,230	291	947	1,875	60,639	62,514	63,752	86,982	222
66	-17	26	2,509	26,329	28,838	28,847	130	2,665	3,845	124,321	128,166	130,961	159,808	520
67	0	0	1,259	13,203	14,462	14,462	0	7,761	6,416	207,390	213,806	221,567	236,029	2,581
68	0	0	257	2,687	2,944	2,944	0	1,206	8,516	275,314	283,830	285,036	287,980	501
69	0	0	89	942	1,031	1,031	0	555	10,147	328,134	338,281	338,836	339,867	322
1970	0	0	33	346	379	379	0	414	5,954	192,554	198,508	198,922	199,301	303
71	0	0	55	573	628	628	0	708	2,764	89,341	92,105	92,813	93,441	237
72	0	0	50	528	578	578	0	1,715	812	26,145	26,957	28,672	29,250	50
73	0	0	31	321	352	352	0	582	213	6,968	7,181	7,763	8,115	44
74	0	0	0	5	5	5	0	987	55	1,891	1,946	2,933	2,938	45
75	0	0	0	5	5	5	0	2,889	66	2,131	2,197	5,086	5,091	195
76	0	0	0	0	0	0	0	9,208	123	3,965	4,088	13,296	13,296	596
77	0	0	0	0	0	0	0	15,833	0	0	0	15,833	15,833	1,115
78	0	0	0	0	0	0	0	14,909	0	0	0	14,909	14,909	2,262
79	0	0	0	0	0	0	0	11,871	0	0	0	11,871	11,871	5,575
1980	0	0	0	0	0	0	0	2,290	0	0	0	2,290	2,290	310
81	0	0	0	0	0	0	0	356	0	0	0	356	356	49
82	0	0	23	241	264	264	0	0	48	1,567	1,615	1,615	1,879	28
83	0	0	47	493	540	540	0	0	99	3,205	3,304	3,304	3,844	0
84	0	0	96	1,009	1,105	1,105	0	0	203	6,555	6,758	6,758	7,863	0
85	0	0	74	775	849	849	0	0	155	5,033	5,188	5,188	6,037	0
86	0	0	0	0	0	0	0	0	0	0	0	0	0	0
87	0	0	0	0	0	0	0	0	0	0	0	0	0	0
88	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	75	162	11,275	118,328	129,603	129,840	421	76,585	43,535	1,407,803	1,451,338	1,528,344	1,658,184	15,243

Footnotes on sheet 5.

TABLE 15 (Continued)

TABLE 15 (Continued)

ACTUAL AND PROJECTED CAPITAL COSTS OF FACILITIES BY PROJECT PURPOSE

(in thousands of dollars)

CALENDAR YEAR	SOUTH BAY AQUEDUCT (PROJECT TRANSPORATION FACILITIES)						TOTAL BY PURPOSE, STATE WATER PROJECT							
	SPECIFIC WATER SUPPLY	MULTIPLE-PURPOSE[3]				TOTAL	UNSPECIFIED [9]	DRAINAGE BENEFIT [10]	RECREATION AND FISH AND WILDLIFE ENHANCEMENT [11]	FLOOD CONTROL [12]	OROVILLE POWER [13]	WATER SUPPLY		TOTAL
		R&F&WE[4] (51.0%)	WATER SUPPLY (27.5%)	FLOOD CONTROL (21.5%)	TOTAL							PROJECT CONSERVATION FACILITIES[14]	PROJECT TRANSPORTATION FACILITIES[15]	
	(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)	(49)	(50)	(51)	(52)	(53)	(54)
1952	1	0	0	0	0	1	15	0	4	31	61	84	110	305[16]
53	2	1	0	0	1	3	18	0	14	53	119	153	363	720[16]
54	7	1	1	0	2	9	50	0	17	53	112	160	462	854[16]
55	9	1	1	1	3	12	47	0	8	33	77	94	219	478[16]
56	87	16	9	7	32	119	10	0	29	273	464	746	328	1,850[16]
57	703	47	25	20	92	795	24	0	84	1,320	1,734	3,422	1,304	7,888[16]
58	884	32	17	13	62	946	51	0	206	2,013	2,504	5,360	2,321	12,455[16]
59	812	28	16	11	55	867	55	0	535	2,147	2,896	6,268	3,008	14,909[16]
1960	1,703	99	54	42	195	1,898	25	51	997	2,701	3,718	8,955	4,563	21,010[16]
61	3,983	117	63	50	230	4,213	564	416	1,118	3,740	5,526	11,035	9,232	31,631[16]
62	3,051	58	31	25	114	3,165	738	449	1,983	3,909	7,286	13,534	8,565	36,464[16]
63	5,418	291	157	122	570	5,988	3,812	443	6,518	9,295	16,411	49,140	26,964	112,583[16]
64	9,817	424	229	179	832	10,649	4,241	536	4,808	7,361	25,640	38,680	44,277	125,543[16]
65	3,521	808	436	342	1,585	5,106	10,858	844	7,052	7,352	33,570	41,023	65,769	166,468[16]
66	1,922	3,038	1,638	1,281	5,957	7,879	1,732	1,593	12,063	15,630	59,900	66,067	131,067	288,052
67	1,704	6,356	3,427	2,679	12,462	14,166	10,500	1,042	15,547	11,239	57,760	36,688	222,863	355,639
68	2,325	3,311	1,785	1,396	6,492	8,817	10,000	988	14,620	2,959	23,037	8,840	281,131	341,575
69	517	241	130	101	472	989	0	813	13,951	284	3,953	3,949	329,658	362,608
1970	175	20	11	9	40	215	0	472	6,929	129	590	2,207	193,457	213,784
71	73	0	0	0	0	73	0	275	6,803	40	998	4,528	90,359	113,003
72	293	0	0	0	0	293	0	271	5,142	5	50	8,062	28,203	51,733
73	478	0	0	0	0	478	0	11,074	4,291	0	0	8,784	8,072	42,221
74	6	0	0	0	0	6	0	11,379	4,264	0	0	8,802	2,929	37,374
75	6	0	0	0	0	6	0	11,583	66	0	0	223	5,221	27,093
76	0	0	0	0	0	0	10,000	0	123	0	0	223	13,769	24,115
77	0	0	0	0	0	0	9,125	0	0	0	0	10,723	16,948	36,796
78	0	0	0	0	0	0	0	0	0	0	0	20,123	17,171	37,294
79	0	0	0	0	0	0	0	0	0	0	0	34,223	17,446	51,669
1980	0	0	0	0	0	0	0	0	0	0	0	38,523	2,600	41,123
81	0	0	0	0	0	0	0	0	0	0	0	51,723	405	52,128
82	0	0	0	0	0	0	0	0	71	0	0	68,864	1,595	70,530
83	0	0	0	0	0	0	0	0	146	0	0	65,716	3,205	69,067
84	0	0	0	0	0	0	0	0	299	0	0	35,432	6,555	42,286
85	0	0	0	0	0	0	0	0	229	0	0	17,598	5,033	22,860
86	0	0	0	0	0	0	0	0	0	0	0	0	0	0
87	0	0	0	0	0	0	0	0	0	0	0	0	0	0
88	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	37,497	14,889	8,030	6,277	29,196	66,693	131,865	42,229	107,917	70,567	246,406	669,952	1,545,172	2,814,108

Footnotes on sheet 5.

TABLE 15 (Continued)

ACTUAL AND PROJECTED CAPITAL COSTS OF FACILITIES BY PROJECT PURPOSE

1/ Projects financed under the Davis-Grunsky Program may be constructed for a number of purposes as set forth in Water Code Section 12880. The allocation of the future costs of the program among purposes can not be projected at this time.

2/ Includes general project costs to be reallocated to project facilities.

3/ Multiple-purpose costs allocated to project purposes as determined by the percentages contained in Bulletin 153-67. In the case of allocations determined by the Federal Government (Oroville and Del Valle Dams and reservoirs), the percentages reported in Bulletin 153-67 have been converted to percentages applicable only to the costs accounted for by the State.

4/ "R&F&WE" represents the abbreviation of the terms "Recreation and Fish and Wildlife Enhancement". These project purposes were considered as one in Bulletin 153-67. Costs of R&F&WE shown consist of allocated multiple-purpose costs and certain specific costs. The latter includes costs of recreation lands purchased concurrently with project lands pursuant to Water Code Section 346.

5/ In order to present a complete tabulation, the costs of those facilities not covered in Bulletin 153-67 are herein shown allocated to the primary purposes for which the facilities will be constructed

6/ Includes the costs of Dixie Refuge and Abbey Bridge Dams and reservoirs

7/ Consists of the costs of the Oroville-Thermalito power facilities.

8/ Based upon the State's share of costs for the Peripheral Canal, as shown in a preliminary feasibility report by the Bureau of Reclamation, dated April 1966.

9/ The total of Columns 1 and 2.

10/ The same as Column 3.

11/ The total of Columns 4, 8, 11, 12, 14, 23, 27, 29, 33, 35, and 42.

12/ The total of Columns 19 and 44

13/ The total of Columns 15 and 18.

14/ The total of Columns 5, 9, 16, 17, 22, 24, 26, 28, and 30

15/ The total of Columns 7, 34, 36, 40, 41, and 43.

16/ Actual costs; all others projected herein.

TABLE 15 (Continued)

TABLE 16

ACTUAL AND PROJECTED OPERATING COSTS OF FACILITIES BY PROJECT PURPOSE AND BY CATEGORY[1/]

(in thousands of dollars)

CALENDAR YEAR	UPPER FEATHER AREA (PROJECT CONSERVATION FACILITIES)							OROVILLE AREA (PROJECT CONSERVATION FACILITIES)					
	FRENCHMAN UNIT MULTIPLE-PURPOSE[2/]			GRIZZLY VALLEY UNIT MULTIPLE-PURPOSE[2/]			REMAINING UNITS, ALL SPECIFIC R&F&WE[3/] (MINIMUM)	SPECIFIC POWER GENERATION	MULTIPLE-PURPOSE[2/]				TOTAL (MINIMUM)
	R&F&WE[3/] (50.0%)	WATER SUPPLY (50.0%)	TOTAL (MINIMUM)	R&F&WE[3/] (91.2%)	WATER SUPPLY (8.8%)	TOTAL (MINIMUM)			WATER SUPPLY (42.5%)	POWER GENERATION (41.0%)	FLOOD CONTROL (16.5%)	TOTAL	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1962	5	5	10	0	0	0	0	0	0	0	0	0	0
63	14	0	14	0	0	0	0	0	0	0	0	0	0
64	7	-6	1	0	0	0	0	0	0	0	0	0	0
65	13	0	13	0	0	0	16	0	0	0	0	0	0
66	28	14	42	0	0	0	9	0	0	0	0	0	0
67	20	19	39	23	2	25	26	0	0	0	0	0	0
68	15	15	30	27	3	30	30	2,230	166	160	65	391	2,621
69	15	16	31	28	3	31	31	2,586	217	209	84	510	3,096
1970	15	16	31	27	3	30	60	2,543	215	207	84	506	3,049
71	15	16	31	28	3	31	60	2,515	213	205	83	501	3,016
72	15	16	31	28	3	31	90	2,503	210	202	81	493	2,996
73	15	16	31	28	3	31	90	2,522	210	203	81	494	3,016
74	15	16	31	28	3	31	91	2,535	211	204	82	497	3,032
75	15	16	31	28	3	31	93	2,544	212	205	82	499	3,043
76	15	16	31	28	3	31	93	2,557	214	206	83	503	3,060
77	15	16	31	28	3	31	93	2,557	214	206	83	503	3,060
78	15	16	31	28	3	31	93	2,557	214	206	83	503	3,060
79	15	16	31	28	3	31	93	2,557	214	206	83	503	3,060
1980	15	16	31	28	3	31	93	2,557	214	206	83	503	3,060
81	15	16	31	28	3	31	93	2,557	214	206	83	503	3,060
82	15	16	31	28	3	31	93	2,557	214	206	83	503	3,060
83	15	16	31	28	3	31	93	2,557	214	206	83	503	3,060
84	15	16	31	28	3	31	93	2,557	214	206	83	503	3,060
85	15	16	31	28	3	31	93	2,557	214	206	83	503	3,060
86	15	16	31	28	3	31	93	2,557	214	206	83	503	3,060
87	15	16	31	28	3	31	93	2,557	214	206	83	503	3,060
88	15	16	31	28	3	31	93	2,557	214	206	83	503	3,060
89	15	16	31	28	3	31	93	2,557	214	206	83	503	3,060
1990	15	16	31	28	3	31	93	2,557	214	206	83	503	3,060
91	15	16	31	28	3	31	93	2,557	214	206	83	503	3,060
92	15	16	31	28	3	31	93	2,557	214	206	83	503	3,060
93	15	16	31	28	3	31	93	2,557	214	206	83	503	3,060
94	15	16	31	28	3	31	93	2,557	214	206	83	503	3,060
95	15	16	31	28	3	31	93	2,557	214	206	83	503	3,060
96	15	16	31	28	3	31	93	2,557	214	206	83	503	3,060
97	15	16	31	28	3	31	93	2,557	214	206	83	503	3,060
98	15	16	31	28	3	31	93	2,557	214	206	83	503	3,060
99	15	16	31	28	3	31	93	2,557	214	206	83	503	3,060
2000[17/]	15	16	31	28	3	31	93	2,557	214	206	83	503	3,060

Footnotes on Sheet 5.

TABLE 16 (Continued)

ACTUAL AND PROJECTED OPERATING COSTS OF FACILITIES BY PROJECT PURPOSE AND BY CATEGORY[1/]

(in thousands of dollars)

CALENDAR YEAR	DELTA FACILITIES (PROJECT CONSERVATION FACILITIES)				UPPER EEL RIVER DEVELOPMENT SPECIFIC WATER SUPPLY (MINIMUM)	CALIFORNIA AQUEDUCT							
	MINIMUM		VARIABLE, WATER SUPPLY[4/]	TOTAL		PROJECT CONSERVATION FACILITIES				PROJECT TRANSPORTATION FACILITIES			
						MULTIPLE-PURPOSE (MINIMUM)[2/]		VARIABLE WATER SUPPLY[5/]	TOTAL	SPECIFIC WATER SUPPLY[6/]		MULTIPLE-PURPOSE (MINIMUM)[2/]	
	R&F&WE[3/] (82.1%)	WATER SUPPLY (17.9%)				R&F&WE[3/] (5.6%)	WATER SUPPLY (94.4%)			MINIMUM	VARIABLE	R&F&WE[3/] (7.1%)	WATER SUPPLY (92.9%)
	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)
1962	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	11	214	8	233	0	0	68	893
68	0	0	0	0	0	65	1,691	438	2,194	99	56	285	4,769
69	0	0	0	0	0	67	1,804	893	2,764	120	88	302	5,039
1970	0	0	0	0	0	69	1,836	774	2,679	118	92	354	5,739
71	0	0	0	0	0	71	1,859	62	1,992	138	107	638	10,500
72	0	0	0	0	0	70	1,840	-172	1,738	139	97	963	13,705
73	0	0	0	0	0	70	1,919	-179	1,810	138	107	968	13,755
74	0	0	0	0	0	71	2,036	702	2,809	140	163	978	13,877
75	429	94	85	608	0	71	1,978	409	2,458	141	171	979	13,913
76	429	94	82	605	0	70	1,931	205	2,206	142	187	978	13,902
77	429	94	81	604	0	70	1,934	99	2,103	141	185	977	13,890
78	429	94	74	597	0	70	1,995	63	2,128	141	181	978	13,907
79	429	94	87	610	0	70	2,008	- 33	2,045	141	184	978	13,910
1980	429	94	85	608	0	70	2,071	0	2,141	442	256	978	13,884
81	429	94	127	650	0	70	2,100	38	2,208	429	273	978	13,874
82	429	94	128	651	0	70	2,108	- 17	2,161	408	300	978	13,850
83	429	94	129	652	0	70	2,131	10	2,211	398	311	973	13,827
84	429	94	135	658	0	70	2,106	- 71	2,105	397	361	969	13,760
85	429	94	144	667	0	70	2,152	-137	2,085	383	413	970	13,752
86	429	94	176	699	1,068	70	2,314	466	2,850	389	491	972	13,780
87	429	94	149	672	1,068	70	2,184	145	2,399	387	541	968	13,729
88	429	94	146	669	1,068	70	2,157	12	2,239	385	569	967	13,719
89	429	94	147	670	1,068	70	2,197	- 74	2,193	384	673	968	13,721
1990	429	94	150	673	1,068	70	2,219	-138	2,151	383	758	969	13,723
91	429	94	156	679	1,068	70	2,208	-112	2,166	382	752	967	13,715
92	429	94	156	679	1,068	70	2,208	-112	2,166	382	752	967	13,714
93	429	94	156	679	1,068	70	2,208	-112	2,166	382	752	967	13,714
94	429	94	156	679	1,068	70	2,208	-112	2,166	382	752	967	13,714
95	429	94	156	679	1,068	70	2,208	-112	2,166	382	752	967	13,714
96	429	94	156	679	1,068	70	2,209	-112	2,167	382	752	967	13,714
97	429	94	156	679	1,068	70	2,209	-112	2,167	382	752	967	13,714
98	429	94	156	679	1,068	70	2,209	-112	2,167	382	752	967	13,714
99	429	94	156	679	1,068	70	2,209	-112	2,167	382	752	967	13,714
2000[7/]	429	94	156	679	1,068	70	2,209	-112	2,167	382	752	967	13,714

Footnotes on Sheet 5.

TABLE 16 (Continued)

TABLE 16 (Continued)

ACTUAL AND PROJECTED OPERATING COSTS OF FACILITIES BY PROJECT PURPOSE AND BY CATEGORY[1/]

(in thousands of dollars)

CALENDAR YEAR	CALIFORNIA AQUEDUCT (CONTINUED)				NORTH BAY AQUEDUCT (PROJECT TRANSPORTATION FACILITIES)			SOUTH BAY AQUEDUCT (PROJECT TRANSPORTATION FACILITIES)					
	PROJECT TRANSPORTATION FACILITIES (CONT'D)				SPECIFIC WATER SUPPLY			SPECIFIC WATER SUPPLY[8/]		MULTIPLE-PURPOSE (MINIMUM)[2/]			
	MULTIPLE-PURPOSE (VARIABLE)[7/]												
	R&F&WE[3/]	WATER SUPPLY	TOTAL	TOTAL	MINIMUM	VARIABLE	TOTAL	MINIMUM	VARIABLE	R&F&WE[3/] (39.5%)	WATER SUPPLY (34.9%)	FLOOD CONTROL (25.6%)	TOTAL
	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)
1962	0	0	0	0	0	0	0	82	40	0	0	0	122
63	0	0	0	0	0	0	0	149	61	0	0	0	210
64	0	0	0	0	0	0	0	156	80	0	0	0	236
65	0	0	0	0	0	0	0	336	155	0	0	0	491
66	0	0	0	0	0	0	0	369	206	0	0	0	575
67	0	56	1,017	1,250	0	0	0	296	307	0	0	0	603
68	0	450	5,659	7,853	32	14	46	284	529	0	0	0	813
69	0	549	6,098	8,862	31	14	45	313	515	6	6	4	844
1970	0	893	7,196	9,875	31	15	46	313	562	6	6	4	891
71	27	1,950	13,360	15,352	31	18	49	314	616	6	6	4	946
72	301	6,357	21,562	23,300	31	19	50	301	492	6	6	4	809
73	302	7,908	23,178	24,988	31	20	51	302	498	6	6	4	816
74	296	8,591	24,045	26,854	31	31	62	308	613	6	6	4	937
75	300	10,412	25,916	28,374	31	34	65	310	616	6	6	4	942
76	286	11,236	26,731	28,937	31	36	67	311	623	6	6	4	950
77	283	12,653	28,129	30,232	31	37	68	310	602	6	6	4	928
78	287	14,334	29,828	31,956	31	36	67	308	564	6	6	4	888
79	289	15,789	31,291	33,336	31	38	69	308	555	6	6	4	879
1980	305	17,075	32,940	35,081	163	59	222	307	528	6	6	4	851
81	304	18,447	34,305	36,513	163	61	224	306	517	6	6	4	839
82	296	19,719	35,551	37,712	163	63	226	305	505	6	6	4	826
83	292	20,949	36,750	38,961	162	65	227	304	484	6	6	4	804
84	272	20,978	36,737	38,842	162	64	226	303	453	6	6	4	772
85	267	21,641	37,431	39,516	162	66	228	303	456	6	6	4	775
86	276	23,057	38,965	41,815	162	71	233	303	456	6	6	4	775
87	261	23,538	39,424	41,823	162	71	233	302	445	6	6	4	763
88	261	25,281	41,182	43,421	162	72	234	301	434	6	6	4	751
89	262	26,183	42,191	44,384	162	76	238	301	441	6	6	4	758
1990	262	26,712	42,807	44,958	162	77	239	301	448	6	6	4	765
91	261	26,767	42,844	45,010	162	77	239	301	457	6	6	4	774
92	261	26,769	42,845	45,011	162	77	239	301	459	6	6	4	776
93	261	26,771	42,847	45,013	162	77	239	300	464	6	6	4	780
94	261	26,773	42,849	45,015	162	77	239	300	468	6	6	4	784
95	261	26,773	42,849	45,015	162	77	239	300	468	6	6	4	784
96	261	26,773	42,849	45,016	162	77	239	300	471	6	6	4	787
97	261	26,773	42,849	45,016	162	77	239	300	472	6	6	4	788
98	261	26,773	42,849	45,016	162	77	239	300	472	6	6	4	788
99	261	26,773	42,849	45,016	162	77	239	300	472	6	6	4	788
2000[17/]	261	26,773	42,849	45,016	162	77	239	300	472	6	6	4	788

Footnotes on Sheet 5.

TABLE 16 (Continued)

ACTUAL AND PROJECTED OPERATING COSTS OF FACILITIES BY PROJECT PURPOSE AND BY CATEGORY[1]

(in thousands of dollars)

CALENDAR YEAR	TOTAL BY PURPOSE AND BY CATEGORY, STATE WATER PROJECT												
	RECREATION AND FISH AND WILDLIFE ENHANCEMENT[3]			FLOOD CONTROL[11] (MINIMUM)	OROVILLE POWER[12] (MINIMUM)	WATER SUPPLY						TOTAL	TOTAL ALL PURPOSES
						PROJECT CONSERVATION FACILITIES			PROJECT TRANSPORTATION FACILITIES				
	MINIMUM[9]	VARIABLE[10]	TOTAL			MINIMUM[13]	VARIABLE[14]	TOTAL	MINIMUM[15]	VARIABLE[16]	TOTAL		
	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)	(49)	(50)	(51)	(52)
1962	5	0	5	0	0	5	0	5	82	40	122	127	132[18]
63	14	0	14	0	0	0	0	0	149	61	210	210	224[18]
64	7	0	7	0	0	-6	0	-6	156	80	236	230	237[18]
65	29	0	29	0	0	0	0	0	336	155	491	491	520[18]
66	37	0	37	0	0	14	0	14	369	206	575	589	626[18]
67	148	0	148	0	0	235	8	243	1,189	363	1,552	1,795	1,943
68	422	0	422	65	2,390	1,875	438	2,313	5,184	1,049	6,233	8,546	11,423
69	449	0	449	88	2,795	2,040	893	2,933	5,509	1,166	6,675	9,608	12,940
1970	531	0	531	88	2,750	2,070	774	2,844	6,207	1,562	7,769	10,613	13,982
71	818	27	845	87	2,720	2,091	62	2,153	10,989	2,691	13,680	15,833	19,485
72	1,172	301	1,473	85	2,705	2,069	-172	1,897	14,182	6,965	21,147	23,044	27,307
73	1,177	302	1,479	85	2,725	2,148	-179	1,969	14,232	8,533	22,765	24,734	29,023
74	1,189	296	1,485	86	2,739	2,266	702	2,968	14,362	9,398	23,760	26,728	31,038
75	1,621	300	1,921	86	2,749	2,303	494	2,797	14,401	11,233	25,634	28,431	33,187
76	1,619	286	1,905	87	2,763	2,258	287	2,545	14,392	12,082	26,474	29,019	33,774
77	1,618	283	1,901	87	2,763	2,261	180	2,441	14,378	13,477	27,855	30,296	35,047
78	1,619	287	1,906	87	2,763	2,322	137	2,459	14,393	15,115	29,508	31,967	36,723
79	1,619	289	1,908	87	2,763	2,335	54	2,389	14,396	16,566	30,962	33,351	38,109
1980	1,619	305	1,924	87	2,763	2,398	85	2,483	14,802	17,918	32,720	35,203	39,977
81	1,619	304	1,923	87	2,763	2,427	165	2,592	14,778	19,298	34,076	36,668	41,441
82	1,619	296	1,915	87	2,763	2,435	111	2,546	14,732	20,587	35,319	37,865	42,630
83	1,614	292	1,906	87	2,763	2,458	139	2,597	14,697	21,809	36,506	39,103	43,859
84	1,610	272	1,882	87	2,763	2,433	64	2,497	14,628	21,856	36,484	38,981	43,713
85	1,611	267	1,878	87	2,763	2,479	7	2,486	14,611	22,576	37,187	39,673	44,401
86	1,613	276	1,889	87	2,763	3,709	642	4,351	14,640	24,075	38,715	43,066	47,805
87	1,609	261	1,870	87	2,763	3,579	294	3,873	14,586	24,595	39,181	43,054	47,774
88	1,608	261	1,869	87	2,763	3,552	158	3,710	14,573	26,356	40,929	44,639	49,358
89	1,609	262	1,871	87	2,763	3,592	73	3,665	14,574	27,373	41,947	45,612	50,333
1990	1,610	262	1,872	87	2,763	3,614	12	3,626	14,575	27,995	42,570	46,196	50,918
91	1,608	261	1,869	87	2,763	3,603	44	3,647	14,566	28,053	42,619	46,266	50,985
92	1,608	261	1,869	87	2,763	3,603	44	3,647	14,565	28,057	42,622	46,269	50,988
93	1,608	261	1,869	87	2,763	3,603	44	3,647	14,564	28,064	42,628	46,275	50,994
94	1,608	261	1,869	87	2,763	3,603	44	3,647	14,564	28,070	42,634	46,281	51,000
95	1,608	261	1,869	87	2,763	3,603	44	3,647	14,564	28,070	42,634	46,281	51,000
96	1,608	261	1,869	87	2,763	3,604	44	3,648	14,564	28,073	42,637	46,285	51,004
97	1,608	261	1,869	87	2,763	3,604	44	3,648	14,564	28,074	42,638	46,286	51,005
98	1,608	261	1,869	87	2,763	3,604	44	3,648	14,564	28,074	42,638	46,286	51,005
99	1,608	261	1,869	87	2,763	3,604	44	3,648	14,564	28,074	42,638	46,286	51,005
2000[17]	1,608	261	1,869	87	2,763	3,604	44	3,648	14,564	28,074	42,638	46,286	51,005

Footnotes on Sheet 5.

TABLE 16 (Continued)

TABLE 16 (Continued)

ACTUAL AND PROJECTED OPERATING COSTS OF FACILITIES BY PROJECT PURPOSE AND BY CATEGORY 1/

1/ The operating costs of facilities involving the purpose of water supply are shown in this table by the two respective categories defined in the "Standard Provisions for Water Supply Contract":

Minimum operation, maintenance, power and replacement costs: those incurred irrespective of the amount of project water delivered to water supply contractors.

Variable operation, maintenance, power and replacement costs: those incurred in an amount which is dependent upon and varies with the amount delivered to water supply contractors.

Note that operating costs of Local Projects (the Davis-Grunsky Program) and of specific recreation and fish and wildlife enhancement features are not included in this table since these costs are not accounted for by the Department.

2/ Based upon the percentages determined in Bulletin 153-67, "Allocations of Costs Among Purposes of the State Water Project", and summarized on page 19 therein, applied to the currently estimated minimum operating costs of features jointly used by project purposes.

3/ "R&F&WE" represents the abbreviation of the purposes of "Recreation and Fish and Wildlife Enhancement", considered as one purpose in the allocations determined in Bulletin 153-67.

4/ Includes primarily the costs of electrical power and energy required for pumping project water at the head of the Peripheral Canal.

5/ Includes primarily the net costs of electrical power and energy required for pumping project water through the San Luis Pumping-Generating Plant and the share of the power and energy required for the Delta Pumping Plant which is allocated to conservation.

6/ Consists of the operating costs of the Coastal Branch, California Aqueduct

7/ The percentages determined in Bulletin 153-67 for operating costs apply only to those of the minimum category. The variable operating costs of features jointly used by project purposes are allocated annually among purposes in proportion to the annual deliveries to each respective purpose.

8/ Consists of the operating costs of the entire South Bay Aqueduct, except those of Del Valle Dam and reservoir.

9/ The total of Columns 1, 4, 7, 14, 19, 25, and 36.

10/ Equal to Column 27.

11/ The total of Columns 11 and 38.

12/ The total of Columns 8 and 10.

13/ The total of Columns 2, 5, 9, 15, 18, and 20.

14/ The total of Columns 16 and 21.

15/ The total of Columns 23, 26, 31, 34, and 37.

16/ The total of Columns 24, 28, 32, and 35.

17/ And each year thereafter for the remainder of the project repayment period.

18/ Actual costs; all others projected herein.

TABLE 16 (Continued)

TABLE 17

ACTUAL AND PROJECTED CAPITAL COSTS BY PROGRAMS

(in thousands of dollars)

CALENDAR YEAR	STATE UTILITY PROGRAMS					STATE NONUTILITY PROGRAMS				FEDERAL PROGRAMS	TOTAL, ALL PROGRAMS
	OROVILLE POWER	WATER SUPPLY		DRAINAGE	TOTAL	UNSPECIFIED PURPOSES		RECREATION AND FISH AND WILDLIFE ENHANCEMENT	TOTAL	FLOOD CONTROL	
		PROJECT CONSERVATION FACILITIES	PROJECT TRANSPORTATION FACILITIES			LOCAL PROJECTS (DAVIS-GRUNSKY PROGRAMS)	UNALLOCATED COSTS				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1952	61	84	110	0	255	0	15	4	19	31	305 1/
53	119	153	363	0	635	0	18	14	32	53	720 1/
54	112	160	462	0	734	0	50	17	67	53	854 1/
55	77	94	219	0	390	0	47	8	55	33	478 1/
56	464	746	328	0	1,538	0	10	29	39	273	1,850 1/
57	1,734	3,422	1,304	0	6,460	0	24	84	108	1,320	7,888 1/
58	2,504	5,360	2,321	0	10,185	0	51	206	257	2,013	12,455 1/
59	2,896	6,268	3,008	0	12,172	17	38	535	589	2,147	14,909 1/
1960	3,718	8,955	4,563	51	17,287	87	-62	997	1,022	2,701	21,010 1/
61	5,526	11,035	9,232	416	26,209	511	53	1,118	1,682	3,740	31,631 1/
62	7,286	13,534	8,565	449	29,834	634	104	1,983	2,721	3,909	36,464 1/
63	16,411	49,140	26,964	443	92,958	3,739	73	6,518	10,330	9,295	112,583 1/
64	25,640	38,680	44,277	536	109,133	4,226	15	4,808	9,049	7,361	125,543 1/
65	33,570	41,023	65,769	844	141,206	10,852	6	7,052	17,910	7,352	166,468 1/
66	59,900	66,067	131,067	1,593	258,627	1,732	0	12,063	13,795	15,630	288,052 1/
67	57,760	36,688	222,863	1,042	318,353	10,500	0	15,547	26,047	11,239	355,639
68	23,037	8,840	281,131	988	313,996	10,000	0	14,620	24,620	2,959	341,575
69	3,953	3,949	329,658	813	338,373	10,000	0	13,951	23,951	284	362,608
1970	590	2,207	193,457	472	196,726	10,000	0	6,929	16,929	129	213,784
71	998	4,528	90,359	275	96,160	10,000	0	6,803	16,803	40	113,003
72	50	8,062	28,203	271	36,586	10,000	0	5,142	15,142	5	51,733
73	0	8,784	8,072	11,074	27,930	10,000	0	4,291	14,291	0	42,221
74	0	8,802	2,929	11,379	23,110	10,000	0	4,264	14,264	0	37,374
75	0	223	5,221	11,583	17,027	10,000	0	66	10,066	0	27,093
76	0	223	13,769	0	13,992	10,000	0	123	10,123	0	24,115
77	0	10,723	16,948	0	27,671	9,125	0	0	9,125	0	36,796
78	0	20,123	17,171	0	37,294	0	0	0	0	0	37,294
79	0	34,223	17,446	0	51,669	0	0	0	0	0	51,669
1980	0	38,523	2,600	0	41,123	0	0	0	0	0	41,123
81	0	51,723	405	0	52,128	0	0	0	0	0	52,128
82	0	68,864	1,595	0	70,459	0	0	71	71	0	70,530
83	0	65,716	3,205	0	68,921	0	0	146	146	0	69,067
84	0	35,432	6,555	0	41,987	0	0	299	299	0	42,286
85	0	17,598	5,033	0	22,631	0	0	229	229	0	22,860
86	0	0	0	0	0	0	0	0	0	0	0
87	0	0	0	0	0	0	0	0	0	0	0
88	0	0	0	0	0	0	0	0	0	0	0
89	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0
TOTALS	246,406	669,952	1,545,172	42,229	2,503,759	131,423	442	107,917	239,781	70,567	2,814,108

1/ Actual costs; all others projected herein.

TABLE 18

ACTUAL AND PROJECTED OPERATING COSTS BY PROGRAMS

(in thousands of dollars)

CALENDAR YEAR	STATE UTILITY PROGRAMS				STATE NONUTILITY PROGRAMS	FEDERAL PROGRAMS				TOTAL, ALL PROGRAMS
		WATER SUPPLY				WATER SUPPLY				
	OROVILLE POWER	PROJECT CONSERVATION FACILITIES	PROJECT TRANSPORTATION FACILITIES	TOTAL	RECREATION AND FISH AND WILDLIFE ENHANCEMENT	PROJECT CONSERVATION FACILITIES	PROJECT TRANSPORTATION FACILITIES	FLOOD CONTROL	TOTAL	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1962	0	5	122	127	5	0	0	0	0	132 1/
63	0	0	210	210	14	0	0	0	0	224 1/
64	0	-6	236	230	7	0	0	0	0	237 1/
65	0	0	491	491	29	0	0	0	0	520 1/
66	0	14	575	589	37	0	0	0	0	626 1/
67	0	243	1,552	1,795	148	0	0	0	0	1,943
68	2,390	1,804	5,157	9,351	422	509	1,076	65	1,650	11,423
69	2,795	2,415	5,556	10,766	449	518	1,119	88	1,725	12,940
1970	2,750	2,329	6,645	11,724	531	515	1,124	88	1,727	13,982
71	2,720	1,632	12,534	16,886	845	521	1,146	87	1,754	19,485
72	2,705	1,378	20,020	24,103	1,473	519	1,127	85	1,731	27,307
73	2,725	1,448	21,635	25,808	1,479	521	1,130	85	1,736	29,023
74	2,739	2,444	22,614	27,797	1,485	524	1,146	86	1,756	31,038
75	2,749	2,270	24,484	29,503	1,921	527	1,150	86	1,763	33,187
76	2,763	2,014	25,317	30,094	1,905	531	1,157	87	1,775	33,774
77	2,763	1,910	26,700	31,373	1,901	531	1,155	87	1,773	35,047
78	2,763	1,928	28,357	33,048	1,906	531	1,151	87	1,769	36,723
79	2,763	1,858	29,812	34,433	1,908	531	1,150	87	1,768	38,109
1980	2,763	1,952	31,573	36,288	1,924	531	1,147	87	1,765	39,977
81	2,763	2,061	32,930	37,754	1,923	531	1,146	87	1,764	41,441
82	2,763	2,015	34,175	38,953	1,915	531	1,144	87	1,762	42,630
83	2,763	2,066	35,364	40,193	1,906	531	1,142	87	1,760	43,859
84	2,763	1,966	35,346	40,075	1,882	531	1,138	87	1,756	43,713
85	2,763	1,955	36,049	40,767	1,878	531	1,138	87	1,756	44,401
86	2,763	3,820	37,577	44,160	1,889	531	1,138	87	1,756	47,805
87	2,763	3,342	38,044	44,149	1,870	531	1,137	87	1,755	47,774
88	2,763	3,179	39,794	45,736	1,869	531	1,135	87	1,753	49,358
89	2,763	3,134	40,814	46,711	1,871	531	1,133	87	1,751	50,333
1990	2,763	3,095	41,435	47,293	1,872	531	1,135	87	1,753	50,918
91	2,763	3,116	41,485	47,364	1,869	531	1,134	87	1,752	50,985
92	2,763	3,116	41,488	47,367	1,869	531	1,134	87	1,752	50,988
93	2,763	3,116	41,494	47,373	1,869	531	1,134	87	1,752	50,994
94	2,763	3,116	41,500	47,379	1,869	531	1,134	87	1,752	51,000
95	2,763	3,116	41,500	47,379	1,869	531	1,134	87	1,752	51,000
96	2,763	3,117	41,503	47,383	1,869	531	1,134	87	1,752	51,004
97	2,763	3,117	41,504	47,384	1,869	531	1,134	87	1,752	51,005
98	2,763	3,117	41,504	47,384	1,869	531	1,134	87	1,752	51,005
99	2,763	3,117	41,504	47,384	1,869	531	1,134	87	1,752	51,005
2000 2/	2,763	3,117	41,504	47,384	1,869	531	1,134	87	1,752	51,005

1/ Actual costs; all others projected herein.

2/ And each year thereafter for the remainder of the project repayment period.

TABLE 19

SUMMARY OF ANNUAL CAPITAL EXPENDITURES

(in thousands of dollars)

CALENDAR YEAR	LOCAL PROJECTS (DAVIS-GRUNSKY PROGRAMS)	SAN JOAQUIN DRAINAGE FACILITY	UPPER FEATHER AREA	OROVILLE AREA	DELTA FACILITIES	UPPER EEL RIVER DEVELOPMENT	CALIFORNIA AQUEDUCT	NORTH BAY AQUEDUCT	SOUTH BAY AQUEDUCT	UNALLOCATED COSTS	TOTAL	MISCELLANEOUS ADDITIONAL EXPENDITURES 2/	CAPITAL EXPENDITURES COVERED IN FINANCIAL ANALYSIS 3/
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	FROM FUNDS PROVIDED PRIOR TO THE BURNS-PORTER ACT 4/												
1952	0	0	0	170	0	0	119	0	1	15	305	0	305
53	0	0	0	306	0	0	393	0	3	18	720	0	720
54	0	0	0	299	0	0	496	0	9	50	854	0	854
55	0	0	0	190	0	0	229	0	12	47	478	0	478
56	0	0	0	1,408	0	0	313	0	119	10	1,850	0	1,850
57	0	0	12	6,347	0	0	683	27	795	24	7,888	2	7,890
58	0	0	229	9,614	0	0	1,565	50	946	51	12,455	21	12,476
59	17	0	655	10,495	0	0	2,807	30	867	38	14,909	27	14,936
1960	87	51	1,138	13,172	75	0	4,604	27	1,898	-62	20,990	76	21,066
61	445	252	712	16,632	308	0	3,619	45	3,576	53	25,642	197	25,839
62	82	19	114	4,175	203	0	1,725	-1	1,807	1	8,123	339	8,462
63	792	5	- 2	1,468	76	0	3,658	0	892	0	6,889	420	7,309
64	0	19	-22	-908	51	0	-1,056	3	-590	3	-2,500	1,126	-1,374
65	0	14	-19	-357	35	0	492	0	-706	0	- 541	1,475	934
1966	0	0	5	-295	0	0	- 596	-2	- 46	- 1	- 935	686	- 249
Subtotal	1,423	360	2,822	62,716	748	0	19,051	179	9,583	245	97,127	4,369	101,496
	FROM FUNDS PROVIDED SUBSEQUENT TO THE BURNS-PORTER ACT 5/												
1960	0	0	0	5	0	0	15	0	0	0	20	0	20
61	66	164	309	2,032	192	0	2,586	3	637	0	5,989	0	5,989
62	552	430	1,391	16,931	604	0	6,959	11	1,358	105	28,341	0	28,341
63	2,947	438	2,870	47,512	1,376	0	45,364	18	5,096	73	105,694	0	105,694
64	4,226	517	1,074	52,079	1,530	166	57,125	75	11,239	12	128,043	0	128,043
65	10,852	830	1,479	58,903	1,567	848	86,490	222	5,812	6	167,009	0	167,009
66	1,732	1,593	1,917	111,177	2,255	1,461	160,404	522	7,925	1	288,987	0	288,987
67	10,500	1,042	1,180	88,021	1,216	904	236,029	2,581	14,166	0	355,639	0	355,639
68	10,000	988	1,915	28,561	1,900	913	287,960	501	8,817	0	341,575	0	341,575
69	10,000	813	2,686	4,601	2,400	930	339,867	322	989	0	362,608	0	362,608
1970	10,000	472	626	1,014	900	953	199,301	303	215	0	213,784	0	213,784
71	10,000	275	2,438	1,138	4,700	701	93,441	237	73	0	113,003	0	113,003
72	10,000	271	694	67	10,900	208	29,250	50	293	0	51,733	0	51,733
73	10,000	11,074	0	0	12,300	210	8,115	44	478	0	42,221	0	42,221
74	10,000	11,379	0	0	12,792	214	2,938	45	6	0	37,374	0	37,374
75	10,000	11,583	0	0	0	218	5,091	195	6	0	27,093	0	27,093
76	10,000	0	0	0	0	223	13,296	596	0	0	24,115	0	24,115
77	9,125	0	0	0	0	10,723	15,833	1,115	0	0	36,796	0	36,796
78	0	0	0	0	0	20,123	14,909	2,262	0	0	37,294	0	37,294
79	0	0	0	0	0	34,223	11,871	5,575	0	0	51,669	0	51,669
1980	0	0	0	0	0	38,523	2,290	310	0	0	41,123	0	41,123
81	0	0	0	0	0	51,723	356	49	0	0	52,128	0	52,128
82	0	0	0	0	0	68,623	1,879	28	0	0	70,530	0	70,530
83	0	0	0	0	0	65,223	3,844	0	0	0	69,067	0	69,067
84	0	0	0	0	0	34,423	7,863	0	0	0	42,286	0	42,286
85	0	0	0	0	0	16,823	6,037	0	0	0	22,860	0	22,860
86	0	0	0	0	0	0	0	0	0	0	0	0	0
87	0	0	0	0	0	0	0	0	0	0	0	0	0
88	0	0	0	0	0	0	0	0	0	0	0	0	0
89	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal	130,000	41,869	18,579	412,041	54,632	348,356	1,639,133	15,064	57,110	197	2,716,981	0	2,716,981
TOTALS	131,423	42,229	21,401	474,757	55,380	348,356	1,658,184	15,243	66,693	442	2,814,108	4,369	2,818,477

1/ Shown distributed to project purposes in Table 15.

2/ The costs in the upper portion of Column 12, totaling $4,369,000, represent those covered by miscellaneous project receipts, including those from rights-of-way rentals and sales. Such receipts are applied for accounting purposes to reduce the capital costs of the particular facilities from which realized. The costs so credited must, however, be initially financed from other sources.

3/ The financial analysis is described in Chapter VIII.

4/ Includes actual expenditures from the General Fund, California Water Fund, and Local Projects Assistance Fund. Negative amounts reflect accounting adjustments.

5/ Includes actual and projected expenditures from Water Bond proceeds and California Water Fund.

TABLE 20

PROJECTED CAPITAL EXPENDITURES AND RECEIPTS FOR RECREATION AND FISH AND WILDLIFE ENHANCEMENT, STATE NONUTILITY PROGRAMS

(in thousands of dollars)

CALENDAR YEAR	OUTSTANDING BALANCE AT BEGINNING OF YEAR[1]	CAPITAL COSTS OF STATE NONUTILITY PROGRAMS ALLOCATED TO RECREATION AND FISH AND WILDLIFE ENHANCEMENT		OUTSTANDING BALANCE AT END OF YEAR, PRIOR TO INTEREST ACCRUAL[4]	INTEREST ACCRUAL ON AVERAGE BALANCE AT 3.7%
		EXPENDITURES[2]	RECEIPTS[3]		
	(1)	(2)	(3)	(4)	(5)
1952	0	4	0	4	0
53	4	14	0	18	0
54	18	17	0	35	1
55	36	8	0	44	1
56	45	29	0	74	2
57	76	84	0	160	4
58	164	206	0	370	10
59	380	535	0	915	24
1960	938	997	0	1,935	53
61	1,988	1,118	0	3,106	94
62	3,200	1,983	0	5,183	155
63	5,338	6,518	0	11,856	318
64	12,174	4,808	0	16,982	539
65	17,521	7,052	0	24,573	779
66	25,352	12,063	0	37,415	1,161
67	38,576	15,547	5,000	49,123	1,622
68	50,745	14,620	5,000	60,365	2,056
69	62,421	13,951	5,000	71,372	2,475
1970	73,847	6,929	5,000	75,776	2,768
71	78,544	6,803	5,000	80,347	2,939
72	83,286	5,142	5,000	83,428	3,084
73	86,512	4,291	5,000	85,803	3,188
74	88,991	4,264	5,000	88,255	3,279
75	91,534	66	5,000	86,600	3,295
76	89,895	123	5,000	85,018	3,236
77	88,254	0	5,000	83,254	3,173
78	86,427	0	5,000	81,427	3,105
79	84,532	0	5,000	79,532	3,035
1980	82,567	0	5,000	77,567	2,962
81	80,529	0	5,000	75,529	2,887
82	78,416	71	5,000	73,487	2,810
83	76,207	146	5,000	71,443	2,733
84	74,176	299	5,000	69,475	2,658
85	72,133	229	5,000	67,362	2,581
86	69,943	0	5,000	64,943	2,495
87	67,438	0	5,000	62,438	2,403
88	64,841	0	5,000	59,841	2,307
89	62,148	0	5,000	57,148	2,207
1990	59,355	0	5,000	54,355	2,104
91	56,459	0	5,000	51,459	1,996
92	53,455	0	5,000	48,455	1,885
93	50,340	0	5,000	45,340	1,770
94	47,110	0	5,000	42,110	1,651
95	43,761	0	5,000	38,761	1,527
96	40,288	0	5,000	35,288	1,398
97	36,686	0	5,000	31,686	1,265
98	32.951	0	5,000	27,951	1,127
99	29,078	0	5,000	24,078	983
2000	25,061	0	5,000	20,061	835
01	20,896	0	5,000	15,896	681
02	16,577	0	5,000	11,577	521
03	12,098	0	5,000	7,098	355
04	7,453	0	5,000	2,453	183
2005	2,636	0	2,685	0	49
TOTALS	-	107,917	192,685	-	84,769

1/ The total of Columns 4 and 5 for the preceeding year.
2/ From Column 8, Table 17.
3/ As limited to $5,000,000 annually under Assembly Bill No. 12 of the 1966 Legislative Session.
4/ The total of Columns 1 and 2, less Column 3.

ACTUAL AND PROJECTED RECEIPTS, FEDERAL PROGRAMS

(in thousands of dollars)

CALENDAR YEAR	FLOOD CONTROL			WATER SUPPLY			TOTAL RECEIPTS
	OROVILLE DAM AND RESERVOIR[1]	DEL VALLE DAM AND RESERVOIR[2]	TOTAL	SAN LUIS DIVISION[3]			
	CAPITAL AND CAPITALIZED OPERATING COSTS			ANNUAL OPERATING COSTS			
				CONSERVATION	TRANSPORTATION	TOTAL	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1962	13,950	0	13,950	0	0	0	13,950[4]
63	0	0	0	0	0	0	0[4]
64	13,040	0	13,040	0	0	0	13,040[4]
65	8,000	0	8,000	0	0	0	8,000[4]
66	12,405	0	12,405	0	0	0	12,405[4]
67	13,700	2,092	15,792	0	0	0	15,792
68	4,302	2,679	6,981	509	1,076	1,585	8,566
69	1,614	2,172	3,786	518	1,119	1,637	5,423
1970	189	110	299	515	1,124	1,639	1,938
71	124	0	124	521	1,146	1,667	1,791
72	46	0	46	519	1,127	1,646	1,692
73	0	0	0	521	1,130	1,651	1,651
74	0	0	0	524	1,146	1,670	1,670
75	0	0	0	527	1,150	1,677	1,677
76	0	0	0	531	1,157	1,688	1,688
77	0	0	0	531	1,155	1,686	1,686
78	0	0	0	531	1,151	1,682	1,682
79	0	0	0	531	1,150	1,681	1,681
1990	0	0	0	531	1,147	1,678	1,678
81	0	0	0	531	1,146	1,677	1,677
82	0	0	0	531	1,144	1,675	1,675
83	0	0	0	531	1,142	1,673	1,673
84	0	0	0	531	1,138	1,669	1,669
85	0	0	0	531	1,138	1,669	1,669
86	0	0	0	531	1,138	1,669	1,669
87	0	0	0	531	1,137	1,668	1,668
88	0	0	0	531	1,135	1,666	1,666
89	0	0	0	531	1,133	1,664	1,664
1990	0	0	0	531	1,135	1,666	1,666
91	0	0	0	531	1,134	1,665	1,665
92	0	0	0	531	1,134	1,665	1,665
93	0	0	0	531	1,134	1,665	1,665
94	0	0	0	531	1,134	1,665	1,665
95	0	0	0	531	1,134	1,665	1,665
96	0	0	0	531	1,134	1,665	1,665
97	0	0	0	531	1,134	1,665	1,665
98	0	0	0	531	1,134	1,665	1,665
99	0	0	0	531	1,134	1,665	1,665
2000[5]	0	0	0	531	1,134	1,665	1,665
TOTALS	67,370	7,053	74,423	-	-	-	-

1/ Based upon the agreement executed March 8, 1962, whereby the United States shall contribute 22.0 percent of the capital costs of Oroville Dam and reservoir; shown in Column 20 of Table 15.

2/ Based on Column 44 of Table 15, plus $776,000 for capitalized share of annual operating costs.

3/ Based on a proposed agreement whereby the United States would bear 45 percent of the joint operating costs of the San Luis division.

4/ Actual receipts; all others projected herein.

5/ And each year thereafter for the reminder of the project repayment period.

TABLE 22

PROJECTED CAPITAL EXPENDITURES AND RECEIPTS FOR REQUESTED EXCESS DELIVERY CAPABILITIES,[1] STATE UTILITY PROGRAMS

(in thousands of dollars)

CALENDAR YEAR	TOTAL ESTIMATED COSTS				ESTIMATED COSTS WITHOUT EXCESS CAPACITY[3]				INCREMENTAL COSTS FOR EXCESS CAPACITY[4]	REQUIRED ADVANCE OF FUNDS[5]	NET REQUIRED ADVANCE OF FUNDS[6]	REAPPLIED CREDITS TO DISTRICT'S ACCOUNT[7]
	CALIFORNIA AQUEDUCT			TOTAL	CALIFORNIA AQUEDUCT			TOTAL				
	SOUTH SAN JOAQUIN DIVISION	TEHACHAPI DIVISION	SANTA ANA DIVISION[2]		SOUTH SAN JOAQUIN DIVISION	TEHACHAPI DIVISION	SANTA ANA DIVISION[2]					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1952	17	14	11	42	17	14	11	42	0	0	0	0
1953	63	46	37	146	63	46	37	146	0	0	0	0
1954	80	80	42	202	80	80	42	202	0	0	0	0
1955	37	50	16	103	37	50	16	103	0	0	0	0
1956	78	55	16	149	78	55	16	149	0	0	0	0
1957	190	129	40	359	190	129	40	359	0	0	0	0
1958	557	243	84	884	557	243	84	884	0	0	0	0
1959	804	196	101	1,101	804	196	101	1,101	0	0	0	0
1960	801	206	180	1,187	801	206	180	1,187	0	0	0	0
1961	1,212	508	405	2,125	1,212	508	405	2,125	0	0	0	0
1962	1,237	505	154	1,896	1,237	505	154	1,896	0	0	0	0
1963	2,229	1,067	783	4,079	2,229	1,067	783	4,079	0	0	0	0
1964	6,295	2,603	244	9,142	6,295	2,603	244	9,142	0	0	0	0
1965	14,315	5,151	480	19,946	14,129	5,043	480	19,652	294	701	0	0
1966	28,919	18,087	803	47,809	28,622	17,625	666	46,913	896	1,834	9,296	0
1967	35,739	42,721	4,892	83,352	35,335	41,094	2,529	78,958	4,394	7,419	10,578	0
1968	64,964	58,010	15,373	138,347	63,974	55,710	9,198	128,882	9,465	14,638	3,992	0
1969	62,945	50,102	26,161	139,208	61,871	48,069	21,666	131,606	7,602	13,451	13,451	0
1970	25,359	18,014	24,170	67,543	24,966	17,337	22,244	64,547	2,996	3,596	3,596	0
1971	12,753	16,325	15,163	44,241	12,753	16,325	13,422	42,500	1,741	1,345	1,345	326
1972	760	14,534	1,231	16,525	760	14,534	1,231	16,525	0	0	0	9,056
1973	295	1,666	115	2,076	295	1,666	115	2,076	0	0	0	8,831
1974	5	846	5	856	5	846	5	856	0	0	0	0
1975	0	2,168	0	2,168	0	2,168	0	2,168	0	0	0	0
1976	0	4,088	0	4,088	0	4,088	0	4,088	0	0	0	0
TOTALS	259,654	237,414	90,506	587,574	256,310	230,207	73,669	560,186	27,388	42,984	42,258	18,213

1/ Pursuant to Amendments Nos. 2, 4, and 6 to Water Supply Contract between the State of California, Department of Water Resources, and The Metropolitan Water District of Southern California.

2/ Reaches 25 and 28F only.

3/ These estimated capital costs, reduced by those allocable to the nonreimbursable purposes of recreation and fish and wildlife enhancement, are distributed among all water supply contractors utilizing the concerned aqueduct reaches in accordance with Article 24(b) of the "Standard Provisions for Water Supply Contract".

4/ The costs allocated to the Agencies pursuant to Article 24(d) of the "Standard Provisions", constituting the estimated costs shown in Column 4, less the estimated cost had no such excess capacity been provided as shown in Column 8.

5/ Funds bear the same proportion to the total capital costs of the concerned aqueduct reaches, including the costs of providing such excess capacity, as such excess capacity bears to the total capacity of the concerned aqueduct reaches, including such excess capacity. (See Table B-6, Appendix B).

6/ Calculation of Net Required Advance of Funds shown in Table B-6, Appendix B, and included in Miscellaneous Receipts shown in Column 7, Table 26.

7/ These credits shown in Column 3, Table 24, are applied to reduce the capital cost components of the Transportation Charge under Amendment No. 2 for the Metropolitan Water District.

TABLE 23

ACTUAL AND PROJECTED STATE UTILITY REVENUES

(in thousands of dollars)

CALENDAR YEAR	DELTA WATER CHARGES				OROVILLE-THERMALITO POWER REVENUES 5/	TRANSPORTATION CHARGES				DRAINAGE CHARGES				TOTAL STATE UTILITY REVENUES (ADJUSTED) 11/
	CAPITAL COST COMPONENTS		OPERATING COST COMPONENTS 3/	TOTAL (ADJUSTED) 4/		CAPITAL COST COMPONENTS		OPERATING COST COMPONENTS 6/	TOTAL (ADJUSTED) 7/	CAPITAL COST COMPONENTS		OPERATING COST COMPONENTS 9/	TOTAL (ADJUSTED) 10/	
	ACTUAL 1/	ADJUSTED 2/				ACTUAL 6/	ADJUSTED 2/			ACTUAL 8/	ADJUSTED 2/			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1961	0	0	0	0	0	0	0	0	0	0	0	0	0	0 13/
1962	0	0	0	0	0	0	963	60	1,023	0	0	0	0	1,023 13/
1963	0	0	0	0	0	1,927	2,199	116	2,315	0	0	0	0	2,315 13/
1964	0	0	0	0	0	2,471	2,365	186	2,551	0	0	0	0	2,551 13/
1965	0	0	0	0	0	2,258	4,413	430	4,843	0	0	0	0	4,843 13/
1966	0	49	0	49	0	6,569	7,761	474	8,235	0	0	0	0	8,284 13/
1967	99	413	0	413	0	8,953	14,355	841	15,196	0	0	0	0	15,609
1968	728	828	0	828	3,170	19,757	25,067	5,234	30,301	0	0	0	0	34,299
1969	928	1,585	0	1,585	15,174	30,376	37,331	5,524	42,855	0	0	0	0	59,614
1970	2,243	2,678	299	2,977	17,100	44,283	48,093	6,612	54,705	0	196	0	196	74,978
10 Years 1961 - 1970	3,998	5,553	299	5,852	35,444	116,594	142,547	19,477	162,024	0	196	0	196	203,516
1971	3,113	4,784	415	5,199	17,100	51,902	54,085	12,501	66,586	393	399	0	399	89,284
1972	6,455	7,027	862	7,889	17,100	56,868	56,966	19,988	76,954	405	411	0	411	102,354
1973	7,599	8,165	1,015	9,180	17,100	57,664	57,950	21,603	79,553	417	662	0	662	106,495
1974	8,730	9,305	1,165	10,470	17,100	58,236	58,430	22,582	81,012	907	1,159	0	1,159	109,741
1975	9,879	10,496	1,318	11,814	17,100	58,625	59,054	24,452	83,506	1,411	1,668	0	1,668	114,088
1976	11,114	11,736	1,483	13,219	17,100	59,432	59,956	25,285	85,241	1,924	1,924	0	1,924	117,484
1977	12,357	12,977	1,649	14,626	17,100	60,431	60,974	26,668	87,642	1,924	1,924	0	1,924	121,292
1978	13,597	14,210	1,815	16,025	17,100	61,518	62,062	28,325	90,387	1,924	1,924	0	1,924	125,436
1979	14,823	15,525	1,979	17,504	17,100	62,607	63,161	29,780	92,941	1,924	1,924	0	1,924	129,469
1980	16,226	16,903	2,166	19,069	17,100	63,715	63,964	31,541	95,505	1,924	1,924	0	1,924	133,598
10 Years 1971 - 1980	103,893	111,128	13,867	124,995	171,000	590,448	596,602	242,725	839,327	13,153	13,919	0	13,919	1,149,241
1981	17,579	18,235	2,346	20,581	17,100	64,213	64,400	32,898	97,298	1,924	1,924	0	1,924	136,903
1982	18,892	19,567	2,522	22,089	17,100	64,588	64,810	34,143	98,953	1,924	1,924	0	1,924	140,066
1983	20,243	20,910	2,702	23,612	17,100	65,033	65,259	35,332	100,591	1,924	1,924	0	1,924	143,227
1984	21,577	22,263	2,880	25,143	17,100	65,486	65,753	35,314	101,067	1,924	1,924	0	1,924	145,234
1985	22,949	23,641	3,063	26,704	17,100	66,021	66,266	36,017	102,283	1,924	1,924	0	1,924	148,011
1986	24,333	25,052	3,248	28,300	17,100	66,512	66,692	37,545	104,237	1,924	1,924	0	1,924	151,561
1987	25,771	26,501	3,440	29,941	17,100	66,872	67,041	38,012	105,053	1,924	1,924	0	1,924	154,018
1988	27,231	27,766	3,634	31,400	17,100	67,209	67,334	39,762	107,096	1,924	1,924	0	1,924	157,520
1989	28,300	28,694	3,778	32,472	17,100	67,460	67,601	40,782	108,383	1,924	1,924	0	1,924	159,879
1990	29,087	29,152	3,882	33,034	17,100	67,741	67,741	41,403	109,144	1,924	1,924	0	1,924	161,202
10 Years 1981 - 1990	235,962	241,781	31,495	273,276	171,000	661,135	662,897	371,208	1,034,105	19,240	19,240	0	19,240	1,497,621
10 Years 1991 - 2000	293,262	293,338	39,142	332,480	171,000	677,410	677,410	414,678	1,092,088	19,240	19,240	0	19,240	1,614,808
10 Years 2001 - 2010	293,720	293,722	39,205	332,927	171,000	677,410	677,410	414,730	1,092,140	19,240	19,240	0	19,240	1,615,307
10 Years 2011 - 2020	293,770	293,772	39,210	332,982	171,000	562,884	537,567	414,730	952,297	19,240	19,043	0	19,043	1,475,322
10 Years 2021 - 2030	293,780	293,780	39,210	332,990	171,000	115,541	111,114	414,730	525,844	6,083	5,318	0	5,318	1,035,152
4 Years 2031 - 2034	117,512	117,512	15,684	133,196	68,400	32,779	32,616	165,892	198,508	0	0	0	0	400,104
TOTALS	1,635,897	1,650,586	218,112	1,868,698	1,129,844	3,434,201	3,438,163	2,458,170	5,896,333	96,196	96,196	0	96,196	8,991,071

1/ As determined by applying the following unit rates to the annual entitlements shown in Column 5, Table 4; $3.50 per acre-foot for the period 1967 through 1969, and $6.95 per acre-foot for 1970 and each year thereafter.
2/ Since annual service on general obligation bonds is shown on an accrual basis in the financial analysis described in Chapter VIII, project revenues are herein adjusted to a similar accrual basis.
3/ As determined by applying a unit rate of $0.92 per acre-foot to the annual entitlements shown in Column 5, Table 4.
4/ The total of Columns 2 and 3.
5/ The total estimated sales less the costs of energy consumed in the pump-back operation.
6/ The total annual components developed in Appendix B.
7/ The total of Columns 7 and 8.
8/ Repayment of the annual capital costs shown in Column 4, Table 17, in 50 equal annual installments of principal and interest, at the project interest rate of 3.709 percent, and commencing in 1971.
9/ Costs for operation of the San Joaquin Drainage Facility are not financed by the present project.
10/ The total of Columns 11 and 12.
11/ The total of Columns 4, 5, 9, and 13.
12/ In the financial analysis described in Chapter VIII, revenues are considered only through the final repayment of general obligation bonds shown therein. For the purpose of the preparation of relevant revenue tables, it was necessary to assume that the repayment of capital costs would extend for a period of 50 years beyond the completion of construction.
13/ Actual revenues; all others projected herein.

TABLE 24

NET OPERATING REVENUES AVAILABLE FOR COVERAGE OF GENERAL OBLIGATION BOND SERVICE

(in thousands of dollars)

CALENDAR YEAR	STATE UTILITY PROGRAMS				INTEREST INCOME 5/	NET OPERATING REVENUES RESERVED FOR COVERAGE OF REVENUE BONDS 6/	OPERATING COSTS OF FEDERAL PROGRAMS ALLOCATED TO FLOOD CONTROL 7/	AVAILABLE NET OPERATING REVENUES 8/
	TOTAL REVENUES (ADJUSTED) 1/	TOTAL OPERATING COSTS 2/	NET CREDITS FROM ADVANCES FOR REQUESTED EXCESS CAPACITY 3/	TOTAL NET OPERATING REVENUES 4/				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1961	0	0	0	0	0	0	0	0
1962	1,023	127	0	896	41	0	0	937
1963	2,315	210	0	2,105	642	0	0	2,747
1964	2,551	230	0	2,321	4,024	0	0	6,345
1965	4,843	491	0	4,352	6,473	0	0	10,825
1966	8,284	589	0	7,695	6,169	0	0	13,864
1967	15,609	1,795	0	13,814	0	0	0	13,814
1968	34,299	9,351	0	24,948	0	780	65	24,103
1969	59,614	10,766	0	48,848	0	12,379	88	36,381
1970	74,978	11,724	0	63,254	0	14,250	88	48,916
10 Years 1961 - 1970	203,516	35,283	0	168,233	17,349	27,409	241	157,932
1971	89,284	16,886	326	72,072	0	14,280	87	57,705
1972	102,354	24,103	9,056	69,195	0	14,295	85	54,815
1973	106,495	25,808	8,831	71,856	0	14,275	85	57,496
1974	109,741	27,797	0	81,944	0	14,261	86	67,597
1975	114,088	29,503	0	84,585	0	14,251	86	70,248
1976	117,484	30,094	0	87,390	0	14,237	87	73,066
1977	121,292	31,373	0	89,919	0	14,237	87	75,595
1978	125,436	33,048	0	92,388	0	14,237	87	78,064
1979	129,469	34,433	0	95,036	0	14,237	87	80,712
1980	133,598	36,288	0	97,310	0	14,237	87	82,986
10 Years 1971 - 1980	1,149,241	289,333	18,213	841,695	0	142,547	864	698,284
1981	136,903	37,754	0	99,149	0	14,237	87	84,825
1982	140,066	38,953	0	101,113	0	14,237	87	86,789
1983	143,227	40,193	0	103,034	0	14,237	87	88,710
1984	145,234	40,075	0	105,159	0	14,237	87	90,835
1985	148,011	40,767	0	107,244	0	14,237	87	92,920
1986	151,561	44,160	0	107,401	0	14,237	87	93,077
1987	154,018	44,149	0	109,869	0	14,237	87	95,545
1988	157,520	45,736	0	111,784	0	14,237	87	97,460
1989	159,879	46,711	0	113,168	0	14,237	87	98,844
1990	161,202	47,293	0	113,909	0	14,237	87	99,585
10 Years 1981 - 1990	1,497,621	425,791	0	1,071,830	0	142,370	870	928,590
10 Years 1991 - 2000	1,614,808	473,781	0	1,141,027	0	142,370	870	997,787
10 Years 2001 - 2010	1,615,307	473,840	0	1,141,467	0	142,370	870	998,227
10 Years 2011 - 2020	1,475,322	473,840	0	1,001,482	0	142,370	370	858,242
10 Years 2021 - 2030	1,035,152	473,840	0	561,312	0	142,370	870	418,072
4 Years 2031 - 2034	400,104	189,536	0	210,568	0	56,948	348	153,272
TOTALS	8,991,071	2,835,244	18,213	6,137,614	17,349	938,754	5,803	5,210,406

1/ From Column 14, Table 23.

2/ From Column 4, Table 18.

3/ Credits shown in Column 12, Table 22.

4/ Column 1, less Columns 2 and 3.

5/ Represents interest accruals from short term investments of project moneys.

6/ Represents the annual revenues from the sale of 710,000 kilowatts of Oroville-Thermalito power, reduced by associated annual operating costs, which are herein reserved for the coverage of revenue bonds.

7/ From Column 8, Table 18.

8/ The total of Columns 4 and 5, less Columns 6 and 7.

TABLE 25

FINANCIAL ANALYSIS FOR WATER BONDS
JUNE 1967

(in thousands of dollars)

CALENDAR YEAR	TOTAL CAPITAL EXPENDITURES 1/	FINANCING OF CAPITAL EXPENDITURES				GENERAL OBLIGATION BOND SERVICE 5/	NET OPERATING REVENUES 6/	BOND SERVICE IN EXCESS OF NET OPERATING REVENUES 7/	NET OPERATING REVENUES IN EXCESS OF BOND SERVICE	
		GENERAL OBLIGATION BONDS 2/	CALIFORNIA WATER FUND	REVENUE BOND PROCEEDS 3/	MISCELLANEOUS RECEIPTS 4/				PAID TO CALIF. WATER FUND 8/	AVAILABLE FOR CONSTRUCTION 9/
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Prior appropriations	101,496 10/				101,496					
7 years, 1960-1966	724,083	650,000	157,443	0	0	37,259	34,718	2,541	0	0
1967	355,639	136,425	11,000	105,000	19,854	28,810	13,814	14,996	0	0
1968	341,575	221,583	11,000	105,000	3,992	35,997	24,103	11,894	0	0
1969	362,608	338,157	11,000	0	13,451	47,669	36,381	11,288	0	0
1970	213,784	150,442	11,000	0	52,342	55,976	48,916	7,060	0	0
4 years, 1967-1970	1,273,606	846,607	44,000	210,000	89,639	168,452	123,214	45,238	0	0
1971	113,003	32,003	11,000	0	70,000	58,765	57,705	1,060	0	0
1972	51,733	39,960	11,000	0	773	60,620	54,815	5,805	0	0
1973	42,221	26,205	11,000	0	5,016	63,200	57,496	5,704	0	0
1974	37,374	21,274	11,000	0	5,100	66,121	67,597	0	1,476	0
1975	27,093	10,218	12,476	0	4,399	68,145	70,248	0	2,103	0
1976	24,115	10,223	13,103	0	789	70,876	73,066	0	2,190	0
1977	36,796	13,686	13,190	0	9,920	73,561	75,595	0	2,034	0
1978	37,294	19,174	13,034	0	5,086	77,631	78,064	0	433	0
1979	51,669	35,235	11,433	0	5,001	80,255	80,712	0	457	0
1980	41,123	24,666	11,457	0	5,000	81,508	82,986	0	1,478	0
10 years, 1971-1980	462,421	232,644	118,693	0	111,084	700,682	698,284	12,569	10,171	0
1981	52,128	34,650	12,478	0	5,000	82,918	84,825	0	1,907	0
1982	70,530	52,623	12,907	0	5,000	84,951	86,789	0	1,838	0
1983	69,067	51,229	12,838	0	5,000	87,232	88,710	0	1,478	0
1984	42,286	24,808	12,478	0	5,000	88,593	90,835	0	2,242	0
1985	22,860	4,618	13,242	0	5,000	88,965	92,920	0	3,955	0
1986	0	0	0	0	0	88,917	93,077	0	4,160	0
1987	0	0	0	0	0	88,895	95,545	0	6,650	0
1988	0	0	0	0	0	89,364	97,460	0	8,096	0
1989	0	0	0	0	0	89,666	98,844	0	9,178	0
1990	0	0	0	0	0	89,713	99,585	0	9,872	0
10 years, 1981-1990	256,871	167,928	63,943	0	25,000	879,214	928,590	0	49,376	0
10 years, 1991-2000	0	0	0	0	0	907,527	997,787	0	90,260	0
10 years, 2001-2010	0	0	0	0	0	907,426	998,227	0	90,801	0
10 years, 2011-2020	0	0	0	0	0	635,188	858,242	0	143,471	79,583
10 years, 2021-2030	0	0	0	0	0	127,766	418,072	0	0	290,306
4 years, 2031-2034	0	0	0	0	0	11,967	153,272	0	0	141,305
TOTALS	2,818,477	1,897,179	384,079	210,000	327,219	4,375,481	5,210,406	60,348	384,079	511,194

1/ From Column 13, Table 19.

2/ Amounts of bonds issued during the period through 1966 produce a temporary excess of unexpended bond proceeds which are utilized by the end of 1967.

3/ From revenue bonds supported by sale of 710,000 kilowatts of Oroville-Thermalito power. The financing of the project may include the issuance of revenue bonds for certain other purposes as well.

4/ From Column 10, Table 26.

5/ From Column 7, Table 28.

6/ From Column 8, Table 24. Excludes net operating revenues from 710,000 kilowatts of Oroville-Thermalito power, which are assumed herein to be applied to payment of revenue bond service.

7/ See Column 11, Table 26. These deficiencies are covered by miscellaneous receipts.

8/ These amounts represent projected reimbursement of expenditures made from the California Water Fund, shown in Column 3 to be $384,079,000.

9/ These amounts represent those available for future construction under the fourth priority of revenues under the Burns-Porter Act.

10/ Represents expenditures made during the period 1952-1965 from appropriations made prior to the effective date of the Burns-Porter Act (November 8, 1960).

TABLE 26

MISCELLANEOUS RECEIPTS AND THE EXPENDITURES THEREOF

(in thousands of dollars)

CALENDAR YEAR	CUMULATIVE BALANCE AT BEGINNING OF YEAR 1/	MISCELLANEOUS RECEIPTS							CUMULATIVE BALANCE PLUS RECEIPTS 7/	EXPENDITURES		BALANCE AT END OF YEAR, EXCLUDING INTEREST 10/	INTEREST ON AVERAGE BALANCE AT 3.5% 11/
		LEGISLATIVE APPROPRIATIONS 2/	FEDERAL REIMBURSEMENTS 3/		COOPERATIVE POWER DEVELOPMENT	RIGHT OF WAY SALES, ETC. 4/	TOTAL ADVANCES FOR EXCESS CAPACITY 5/	TOTALS 6/		FINANCING OF CAPITAL EXPENDITURES 8/	COVERAGE OF BOND SERVICE 9/		
			OROVILLE DAM AND RESERVOIR	DEL VALLE DAM AND RESERVOIR									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Prior appropriations	-	101,496	0	0	0	0	0	101,496	-	101,496	0	-	0
7 years, 1960-1966	-	0	47,395	0	0	4,369	9,296	61,060	-	0	2,541	-	4,651
1967	63,170	5,000	13,700	2,092	0	0	10,578	31,370	94,540	19,854	14,996	59,690	2,150
1968	61,840	5,000	4,302	2,679	0	0	3,992	15,973	77,813	3,992	11,894	61,927	2,166
1969	64,093	5,000	1,614	2,172	0	0	13,451	22,237	86,330	13,451	11,288	61,591	2,199
1970	63,790	5,000	189	110	22,532	0	23,596	51,427	115,217	52,342	7,060	55,815	2,093
4 years, 1967-1970	-	20,000	19,805	7,053	22,532	0	51,617	121,007	-	89,639	45,238	-	8,608
1971	57,908	5,000	124	0	12,599	0	1,345	19,068	76,976	70,000	1,060	5,916	1,117
1972	7,033	5,000	46	0	0	0	0	5,046	12,079	773	5,805	5,501	219
1973	5,720	5,000	0	0	0	0	0	5,000	10,720	5,016	5,704	0	100
1974	100	5,000	0	0	0	0	0	5,000	5,100	5,100	0	0	2
1975	2	5,000	0	0	0	0	0	5,000	5,002	4,399	0	603	11
1976	614	5,000	0	0	0	0	0	5,000	5,614	789	0	4,825	95
1977	4,920	5,000	0	0	0	0	0	5,000	9,920	9,920	0	0	86
1978	86	5,000	0	0	0	0	0	5,000	5,086	5,086	0	0	1
1979	1	5,000	0	0	0	0	0	5,000	5,001	5,001	0	0	0
1980	0	5,000	0	0	0	0	0	5,000	5,000	5,000	0	0	0
10 years, 1971-1980	-	50,000	170	0	12,599	0	1,345	64,114	-	111,084	12,569	-	1,631
1981	0	5,000	0	0	0	0	0	5,000	5,000	5,000	0	0	0
1982	0	5,000	0	0	0	0	0	5,000	5,000	5,000	0	0	0
1983	0	5,000	0	0	0	0	0	5,000	5,000	5,000	0	0	0
1984	0	5,000	0	0	0	0	0	5,000	5,000	5,000	0	0	0
1985	0	5,000	0	0	0	0	0	5,000	5,000	5,000	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0
10 years, 1981-1990	-	25,000	0	0	0	0	0	25,000	-	25,000	0	-	0
TOTALS	-	196,496	67,370	7,053	35,131	4,369	62,258	372,677	-	327,219	60,348	-	14,890

1/ The total of Columns 12 and 13 for the preceeding year.
2/ Appropriations under the provision of AB 12 for the Capital Costs of multiple-purpose features of the State Water Project allocated to the purposes of recreation and fish and wildlife enhancement and for recreational lands purchased by project funds.
3/ From values shown in Table 21.
4/ From the values shown in the upper portion of Column 12, Table 19.
5/ Values from Column 11, Table 22, plus a $20,000,000 advance payment in 1970 by The Metropolitan Water District of Southern California.
6/ The total of Columns 2 through 7.
7/ The total of Columns 1 and 8.
8/ See Column 5, Table 25.
9/ See Column 8, Table 25.
10/ Column 9, less Columns 10 and 11.
11/ Interest accruals on the average of Columns 1 and 12 at an interest rate of 3.5 percent per annum.

TABLE 27

ANALYSIS OF OFFSET BONDS

(in thousands of dollars)

CALENDAR YEAR	FINANCING OF CAPITAL EXPENDITURES												BALANCE OF UNISSUED OFFSET BONDS 6/
	TOTAL STATE WATER PROJECT				STATE WATER FACILITIES				ADDITIONAL FACILITIES				
	CALIFORNIA WATER FUND 1/	GENERAL OBLIGATION BONDS 2/	ALL OTHER 3/	TOTAL 4/	CALIFORNIA WATER FUND	GENERAL OBLIGATION BONDS	ALL OTHER	TOTAL	CALIFORNIA WATER FUND	GENERAL OBLIGATION BONDS	ALL OTHER	TOTAL 5/	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Prior Appropriations	0	0	101,496	101,496	0	0	101,496	101,496	0	0	0	0	0
7 years, 1960-1966	157,443	566,640	0	724,083	157,443	564,165	0	721,608	0	2,475	0	2,475	-
1967	11,000	219,785	124,854	355,639	11,000	218,881	124,854	354,735	0	904	0	904	165,064
1968	11,000	221,583	108,992	341,575	11,000	220,670	108,992	340,662	0	913	0	913	175,151
1969	11,000	338,157	13,451	362,608	11,000	337,227	13,451	361,678	0	930	0	930	185,221
1970	11,000	150,442	52,342	213,784	11,000	149,439	52,342	212,831	0	953	0	953	184,268
4 years, 1967-1970	44,000	929,967	299,639	1,273,606	44,000	926,267	299,639	1,269,906	0	3,700	0	3,700	-
1971	11,000	32,003	70,000	113,003	11,000	31,302	70,000	112,302	0	701	0	701	183,567
1972	11,000	39,960	773	51,733	11,000	39,752	773	51,525	0	208	0	208	183,359
1973	11,000	26,205	5,016	42,221	11,000	25,995	5,016	42,011	0	210	0	210	183,149
1974	11,000	21,274	5,100	37,374	11,000	21,060	5,100	37,160	0	214	0	214	182,935
1975	12,476	10,218	4,399	27,093	12,476	10,000	4,399	26,875	0	218	0	218	182,717
1976	13,103	10,223	789	24,115	13,103	10,000	789	23,892	0	223	0	223	182,494
1977	13,190	13,686	9,920	36,796	13,190	9,125	3,758	26,073	0	4,561	6,162	10,723	177,933
1978	13,034	19,174	5,086	37,294	13,034	0	4,137	17,171	0	19,174	949	20,123	158,759
1979	11,433	35,235	5,001	51,669	11,433	1,012	5,001	17,446	0	34,223	0	34,223	124,536
1980	11,457	24,666	5,000	41,123	2,600	0	0	2,600	8,857	24,666	5,000	38,523	99,870
10 years, 1971-1980	118,693	232,644	111,084	462,421	109,836	148,246	98,973	357,055	8,857	84,398	12,111	105,366	-
1981	12,478	34,650	5,000	52,128	405	0	0	405	12,073	34,650	5,000	51,723	65,220
1982	12,907	52,623	5,000	70,530	1,907	0	0	1,907	11,000	52,623	5,000	68,623	12,597
1983	12,838	51,229	5,000	69,067	3,844	0	0	3,844	8,994	51,229	5,000	65,223	-38,632
1984	12,478	24,808	5,000	42,286	7,863	0	0	7,863	4,615	24,808	5,000	34,423	-63,440
1985	13,242	4,618	5,000	22,860	6,037	0	0	6,037	7,205	4,618	5,000	16,823	-68,058
1986	0	0	0	0	0	0	0	0	0	0	0	0	-68,058
1987	0	0	0	0	0	0	0	0	0	0	0	0	-68,058
1988	0	0	0	0	0	0	0	0	0	0	0	0	-68,058
1989	0	0	0	0	0	0	0	0	0	0	0	0	-68,058
1990	0	0	0	0	0	0	0	0	0	0	0	0	-68,058
10 years, 1981-1990	63,943	167,928	25,000	256,871	20,056	0	0	20,056	43,887	167,928	25,000	236,815	-
TOTALS	384,079	1,897,179	537,219	2,818,477	331,335	1,638,678	500,108	2,470,121	52,744	258,501	37,111	348,356	-

1/ From Column 3, Table 25.
2/ From Column 2, Table 25, after elimination of temporary excess of unexpended bond proceeds during the period through 1966.
3/ From Columns 4 and 5, Table 25
4/ From Column 1, Table 25.
5/ Costs of Upper Eel River Development as shown in Column 6, Table 19.
6/ Cumulative values of Column 5 less Column 10 through calendar year 1969, less Column 10 in 1970 and each year thereafter. Burns-Porter Bonds amounting to $69,125,000 are reserved in 1970 for Davis-Grunsky expenditures in 1971 through 1977. This reserve, plus the cumulative values of Column 5 through 1969, and Column 6 through 1970, totaling $1,750,000,000 signals the limit for transferring Burns-Porter Bonds to the "Offset" Bond Account.

TABLE 28

SERVICE ON ACTUAL AND PROJECTED GENERAL OBLIGATION BONDS

(in thousands of dollars)

CALENDAR YEAR	BOND SERVICE ON ACTUAL ISSUES THROUGH SERIES "H"[1]			BOND SERVICE ON PROJECTED ISSUES[2]			TOTAL BOND SERVICE
	PRINCIPAL	INTEREST	TOTAL	PRINCIPAL	INTEREST	TOTAL	ACTUAL AND PROJECTED
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1961	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0
64	0	5,507	5,507	0	0	0	5,507
65	0	12,637	12,637	0	0	0	12,637
66	0	19,115	19,115	0	0	0	19,115
67	0	27,863	27,863	0	947	947	28,810
68	0	28,815	28,815	0	7,182	7,182	35,997
69	0	28,815	28,815	0	18,854	18,854	47,669
1970	0	28,815	28,815	0	27,161	27,161	55,976
71	0	28,815	28,815	0	29,950	29,950	58,765
72	400	28,815	29,215	0	31,405	31,405	60,620
73	1,800	28,795	30,595	0	32,605	32,605	63,200
74	3,916	28,706	32,622	0	33,499	33,499	66,121
75	5,583	28,520	34,103	0	34,042	34,042	68,145
76	7,842	28,257	36,099	337	34,440	34,777	70,876
77	8,358	27,885	36,243	2,404	34,914	37,318	73,561
78	9,017	27,489	36,506	5,644	35,481	41,125	77,631
79	9,508	27,062	36,570	7,291	36,394	43,685	80,255
1980	9,817	26,611	36,428	7,915	37,165	45,080	81,508
81	10,100	26,146	36,246	8,642	38,030	46,672	82,918
82	10,550	25,668	36,218	9,273	39,460	48,733	84,951
83	11,117	25,169	36,286	9,887	41,059	50,946	87,232
84	11,600	24,642	36,242	10,427	41,924	52,351	88,593
85	11,983	24,093	36,076	10,991	41,898	52,889	88,965
86	12,317	23,525	35,842	11,612	41,463	53,075	88,917
87	12,700	22,942	35,642	12,312	40,941	53,253	88,895
88	13,433	22,352	35,785	13,193	40,386	53,579	89,364
89	14,067	21,791	35,858	14,015	39,793	53,808	89,666
1990	14,350	21,234	35,584	14,966	39,163	54,129	89,713
91	14,733	20,669	35,402	16,127	38,489	54,616	90,018
92	15,200	20,114	35,314	17,327	37,763	55,090	90,404
93	15,950	19,560	35,510	18,336	36,984	55,320	90,830
94	16,825	18,979	35,804	19,204	36,159	55,363	91,167
95	17,233	18,367	35,600	20,069	35,294	55,363	90,963
96	17,567	17,737	35,304	20,972	34,391	55,363	90,667
97	18,017	17,097	35,114	21,915	33,448	55,363	90,477
98	19,075	16,439	35,514	22,902	32,461	55,363	90,877
99	20,075	15,742	35,817	23,932	31,431	55,363	91,180
2000	20,575	15,006	35,581	25,009	30,354	55,363	90,944
01	21,075	14,247	35,322	26,135	29,228	55,363	90,685
02	21,775	13,468	35,243	27,311	28,052	55,363	90,606
03	22,975	12,663	35,638	28,529	26,834	55,363	91,001
04	24,075	11,812	35,887	29,737	25,626	55,363	91,250
05	24,575	10,917	35,492	30,899	24,464	55,363	90,855
06	25,167	10,002	35,169	32,063	23,300	55,363	90,532
07	26,000	9,064	35,064	33,263	22,100	55,363	90,427
08	27,300	8,095	35,395	34,496	20,867	55,363	90,758
09	28,417	7,075	35,492	35,767	19,596	55,363	90,855
2010	29,083	6,011	35,094	37,080	18,283	55,363	90,457
11	29,800	4,919	34,719	38,439	16,924	55,363	90,082
12	30,417	3,802	34,219	39,845	15,518	55,363	89,582
13	29,750	2,752	32,502	41,296	14,067	55,363	87,865
14	25,800	1,837	27,637	42,767	12,596	55,363	83,000
15	18,108	986	19,094	44,223	11,140	55,363	74,457
16	10,850	391	11,241	45,674	9,689	55,363	66,604
17	1,125	34	1,159	45,420	8,184	53,604	54,763
18	0	0	0	36,307	6,605	42,912	42,912
19	0	0	0	21,317	5,275	26,592	26,592
2020	0	0	0	14,824	4,507	19,331	19,331
21	0	0	0	13,790	3,996	17,786	17,786
22	0	0	0	12,343	3,515	15,858	15,858
23	0	0	0	11,509	3,084	14,593	14,593
24	0	0	0	10,882	2,684	13,566	13,566
25	0	0	0	10,761	2,311	13,072	13,072
26	0	0	0	10,630	1,948	12,578	12,578
27	0	0	0	10,327	1,593	11,920	11,920
28	0	0	0	9,745	1,250	10,995	10,995
29	0	0	0	8,367	927	9,294	9,294
2030	0	0	0	7,447	657	8,104	8,104
31	0	0	0	6,020	412	6,432	6,432
32	0	0	0	3,692	200	3,892	3,892
33	0	0	0	1,358	62	1,420	1,420
34	0	0	0	214	9	223	223
TOTALS	750,000	967,869	1,717,869	1,147,179	1,510,433	2,657,612	4,375,481

1/ Placed on an accrual basis.

2/ All projected issues are assumed at approximately 3.75 percent net interest cost, with amortization commencing in the 10th year of such issues, to produce level annual bond service for the 41-year period beginning with the 10th and ending with the 50th year.

TABLE 29

STATE OF CALIFORNIA WATER BONDS

SCHEDULE OF MATURITIES, AMOUNT AND COUPON

(IN THOUSANDS OF DOLLARS UNLESS OTHERWISE NOTED)

CALENDAR YEAR	SERIES A 1/ MATURITY DATE SEPTEMBER 1		SERIES B MATURITY DATE MAY 1		SERIES C MATURITY DATE NOVEMBER 1		SERIES D MATURITY DATE MARCH 1		SERIES E MATURITY DATE DECEMBER 1		SERIES F MATURITY DATE JULY 1		SERIES G MATURITY DATE DECEMBER 1		SERIES H MATURITY DATE APRIL 1	
	AMOUNT	COUPON(%)	AMOUNT	COUPON(%)	AMOUNT	COUPON(%)	AMOUNT	COUPON(%)	AMOUNT	COUPON(%)	AMOUNT	COUPON(%)	AMOUNT	COUPON(%)	AMOUNT	COUPON(%)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1973	1,200	5.000	0	.000	0	.000	0	.000	0	.000	0	.000	0	.000	0	.000
1974	1,200	5.000	600	5.000	1,200	4.500	0	.000	0	.000	0	.000	0	.000	0	.000
1975	1,200	5.000	600	5.000	1,200	4.500	1,000	4.500	1,000	4.500	0	.000	0	.000	0	.000
1976	1,200	5.000	600	5.000	1,200	4.500	1,000	4.500	1,000	4.500	1,000	5.000	1,000	5.000	0	.000
1977	1,200	5.000	600	5.000	1,200	4.500	1,100	4.500	1,100	4.500	1,000	5.000	1,000	5.000	1,000	4.500
1978	1,500	5.000	600	5.000	1,200	4.500	1,100	4.500	1,100	4.500	1,100	5.000	1,100	5.000	1,000	4.500
1979	1,500	5.000	750	5.000	1,500	4.500	1,200	4.500	1,200	4.500	1,100	5.000	1,100	5.000	1,100	4.500
1980	1,500	5.000	750	5.000	1,500	4.500	1,200	4.500	1,200	4.500	1,200	5.000	1,200	5.000	1,100	4.500
1981	1,500	5.000	750	5.000	1,500	4.500	1,300	4.500	1,300	4.500	1,200	5.000	1,200	5.000	1,200	4.500
1982	1,500	5.000	750	5.000	1,500	4.500	1,400	4.500	1,400	4.500	1,300	5.000	1,300	5.000	1,200	4.500
1983	1,700	5.000	750	5.000	1,500	4.500	1,400	4.500	1,400	4.500	1,400	5.000	1,400	5.000	1,300	4.500
1984	1,700	5.000	850	5.000	1,700	4.500	1,500	4.500	1,500	4.500	1,400	5.000	1,400	5.000	1,400	4.500
1985	1,700	5.000	850	5.000	1,700	4.500	1,600	4.500	1,600	4.500	1,500	5.000	1,500	5.000	1,400	4.500
1986	1,700	5.000	850	5.000	1,700	4.500	1,600	4.500	1,600	4.500	1,600	5.000	1,600	5.000	1,500	4.500
1987	1,700	5.000	850	5.000	1,700	4.500	1,700	4.500	1,700	4.500	1,600	5.000	1,600	5.000	1,600	4.500
1988	2,000	4.000	850	4.750	1,700	3.750	1,800	4.500	1,800	4.500	1,700	5.000	1,700	5.000	1,600	4.500
1989	2,000	3.400	1,000	3.400	2,000	3.400	1,800	3.250	1,800	4.500	1,800	4.200	1,800	5.000	1,700	4.500
1990	2,000	3.400	1,000	3.400	2,000	3.400	1,900	3.400	1,900	4.500	1,800	3.800	1,800	5.000	1,800	4.500
1991	2,000	3.400	1,000	3.500	2,000	3.500	2,000	3.400	2,000	3.600	1,900	3.850	1,900	4.700	1,800	4.500
1992	2,000	3.400	1,000	3.500	2,000	3.500	2,000	3.400	2,000	3.600	2,000	3.850	2,000	4.000	1,900	4.100
1993	2,400	3.500	1,000	3.500	2,000	3.500	2,100	3.400	2,100	3.600	2,000	3.850	2,000	4.000	2,000	3.750
1994	2,400	3.500	1,200	3.500	2,400	3.500	2,200	3.400	2,200	3.625	2,100	3.850	2,100	4.000	2,000	3.750
1995	2,400	3.500	1,200	3.500	2,400	3.550	2,300	3.400	2,300	3.625	2,200	3.850	2,200	4.000	2,100	3.750
1996	2,400	3.500	1,200	3.500	2,400	3.550	2,300	3.400	2,300	3.625	2,300	3.875	2,300	4.000	2,200	3.750
1997	2,400	3.500	1,200	3.500	2,400	3.550	2,400	3.400	2,400	3.625	2,300	3.875	2,300	4.000	2,300	3.625
1998	2,900	3.500	1,200	3.500	2,400	3.550	2,500	3.500	2,500	3.625	2,400	3.875	2,400	4.050	2,300	3.625
1999	2,900	3.500	1,450	3.500	2,900	3.550	2,600	3.500	2,600	3.625	2,500	3.875	2,500	4.050	2,400	3.625
2000	2,900	3.500	1,450	3.600	2,900	3.600	2,700	3.500	2,700	3.700	2,600	3.875	2,600	4.050	2,500	3.625
2001	2,900	3.500	1,450	3.600	2,900	3.600	2,800	3.500	2,800	3.700	2,700	3.900	2,700	4.050	2,600	3.700
2002	2,900	3.500	1,450	3.600	2,900	3.600	2,900	3.500	2,900	3.700	2,800	3.900	2,800	4.050	2,700	3.700
2003	3,500	3.500	1,450	3.600	2,900	3.600	3,000	3.500	3,000	3.750	2,900	3.900	2,900	4.100	2,800	3.700
2004	3,500	3.600	1,750	3.600	3,500	3.625	3,100	3.500	3,100	3.750	3,000	3.900	3,000	4.100	2,900	3.650
2005	3,500	3.600	1,750	3.600	3,500	3.625	3,200	3.500	3,200	3.750	3,100	3.900	3,100	4.100	3,000	3.650
2006	3,500	3.600	1,750	3.625	3,500	3.625	3,300	3.500	3,300	3.750	3,200	3.900	3,200	4.100	3,100	3.700
2007	3,500	3.600	1,750	3.625	3,500	3.625	3,500	3.500	3,500	3.750	3,300	3.900	3,300	4.100	3,200	3.700
2008	4,000	3.625	1,750	3.625	3,500	3.650	3,600	3.500	3,600	3.750	3,500	3.900	3,500	4.100	3,300	3.700
2009	4,000	3.625	2,000	3.625	4,000	3.650	3,700	3.500	3,700	3.750	3,600	3.900	3,600	4.100	3,500	3.700
2010	4,000	3.625	2,000	3.625	4,000	3.650	3,900	3.600	3,900	3.750	3,700	3.900	3,700	4.100	3,600	3.700
2011	4,000	3.625	2,000	3.625	4,000	3.650	4,000	3.600	4,000	3.750	3,900	4.000	3,900	4.100	3,700	3.700
2012	4,000	3.625	2,000	3.625	4,000	3.000	4,100	3.600	4,100	3.750	4,000	4.000	4,000	4.100	3,900	3.700
2013	4,000	.100	2,000	3.625	4,000	3.000	4,300	3.000	4,300	3.750	4,100	4.000	4,100	4.100	4,000	3.700
2014	0	.000	2,000	.050	4,000	3.000	4,400	3.000	4,400	3.000	4,300	3.500	4,300	4.100	4,100	3.700
2015	0	.000	0	.000	0	.000	4,500	3.000	4,500	3.000	4,400	3.500	4,400	3.500	4,300	3.700
2016	0	.000	0	.000	0	.000	0	.000	0	.000	4,500	3.500	4,500	3.500	4,400	3.000
2017	0	.000	0	.000	0	.000	0	.000	0	.000	0	.000	0	.000	4,500	3.000
2018	0	.000	0	.000	0	.000	0	.000	0	.000	0	.000	0	.000	0	.000
2019	0	.000	0	.000	0	.000	0	.000	0	.000	0	.000	0	.000	0	.000
TOTAL	100,000		50,000		100,000		100,000		100,000		100,000		100,000		100,000	
AVERAGE LIFE (YEARS)	34.02		34.52		34.52		34.98		34.98		34.98		34.98		34.98	

1/ Bond anticipation notes dated December 1, 1963, in the amount of $50,000,000 and maturing on June 15, 1964, had a life of 0.27 years.

TABLE 29

TABLE 30

REDEMPTION PREMIUMS
FOR STATE OF CALIFORNIA WATER BONDS

Year of Maturity	Maturity dates for respective Series: Series A, September 1. Series B, May 1. Series C, November 1. Series D, March 1. Series E, December 1. Series F, July 1. Series G, December 1. Series H, April 1.																				
	% premium if redemption occurs during 12-month period ending on maturity date for respective Series in year named below:																				
	1983[1/]	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003[2/]
1984	1/8	0																			
1985	1/4	1/8	0																		
1986	3/8	1/4	1/8	0																	
1987	1/2	3/8	1/4	1/8	0																
1988	5/8	1/2	3/8	1/4	1/8	0															
1989	3/4	5/8	1/2	3/8	1/4	1/8	0														
1990	7/8	3/4	5/8	1/2	3/8	1/4	1/8	0													
1991	1	7/8	3/4	5/8	1/2	3/8	1/4	1/8	0												
1992	1 1/8	1	7/8	3/4	5/8	1/2	3/8	1/4	1/8	0											
1993	1 1/4	1 1/8	1	7/8	3/4	5/8	1/2	3/8	1/4	1/8	0										
1994	1 3/8	1 1/4	1 1/8	1	7/8	3/4	5/8	1/2	3/8	1/4	1/8	0									
1995	1 1/2	1 3/8	1 1/4	1 1/8	1	7/8	3/4	5/8	1/2	3/8	1/4	1/8	0								
1996	1 5/8	1 1/2	1 3/8	1 1/4	1 1/8	1	7/8	3/4	5/8	1/2	3/8	1/4	1/8	0							
1997	1 3/4	1 5/8	1 1/2	1 3/8	1 1/4	1 1/8	1	7/8	3/4	5/8	1/2	3/8	1/4	1/8	0						
1998	1 7/8	1 3/4	1 5/8	1 1/2	1 3/8	1 1/4	1 1/8	1	7/8	3/4	5/8	1/2	3/8	1/4	1/8	0					
1999	2	1 7/8	1 3/4	1 5/8	1 1/2	1 3/8	1 1/4	1 1/8	1	7/8	3/4	5/8	1/2	3/8	1/4	1/8	0				
2000	2 1/8	2	1 7/8	1 3/4	1 5/8	1 1/2	1 3/8	1 1/4	1 1/8	1	7/8	3/4	5/8	1/2	3/8	1/4	1/8	0			
2001	2 1/4	2 1/8	2	1 7/8	1 3/4	1 5/8	1 1/2	1 3/8	1 1/4	1 1/8	1	7/8	3/4	5/8	1/2	3/8	1/4	1/8	0		
2002	2 3/8	2 1/4	2 1/8	2	1 7/8	1 3/4	1 5/8	1 1/2	1 3/8	1 1/4	1 1/8	1	7/8	3/4	5/8	1/2	3/8	1/4	1/8	0	
2003[2/]	2 1/2	2 3/8	2 1/4	2 1/8	2	1 7/8	1 3/4	1 5/8	1 1/2	1 3/8	1 1/4	1 1/8	1	7/8	3/4	5/8	1/2	3/8	1/4	1/8	0

Bonds maturing prior to 1984 are not callable. Bonds of each series maturing in 1984 or later are callable for redemption, in inverse order of maturities, on the 1983 maturity date for the respective series, and on any date thereafter, at premiums of 1/8% for each full 12-month period from the redemption date to the earlier of (1) the maturity date of the bonds being called or (2) the 2003 maturity date for respective series.

1/ Premium shown in this column applies only if called for redemption on the 1983 maturity date for the respective series, since bonds of each series are not callable for redemption prior thereto.

2/ Or later.

APPENDIX A

FINANCIAL STATEMENTS

INTRODUCTION

This appendix to Bulletin 132-67 contains the financial statements of the State Water Resources Development System as of December 31, 1966, and explanatory notes thereto.

Significant changes since the date of the financial statements included in Bulletin 132-66 (December 31, 1965) are summarized below.

There were additional sales of General Obligation Bonds authorized by the Burns-Porter Act totaling $200,000,000. In addition, funds in the amount of $7,000,000 were utilized from the California Water Fund. Advance payments from water service contractors totaled $8,000,000.

The above funds were applied principally to additions for construction of the State Water Project in the amount of $308,000,000. These expenditures also caused a decrease in net current assets of $80,000,000 during 1966.

Revenues in 1966 totaled $33,000,000. This total included $9,000,000 from water service contractors, $17,000,000 from the Federal Government for flood control contributions, and $1,000,000 from rights-of-way rentals and sales.

Interest earnings on investments amounted to $6,000,000 in 1966, and interest charges on water bonds were $19,000,000.

EXHIBIT I

STATE WATER RESOURCES DEVELOPMENT SYSTEM
BALANCE SHEET
DECEMBER 31, 1966

ASSETS		
Property, Plant and Equipment (Note 2):		
Upper Eel River Development	$ 2,485,712	
Upper Feather Division	11,981,377	
Oroville Division	371,448,446	
Delta Facilities	8,315,098	
North Bay Aqueduct	1,031,407	
South Bay Aqueduct	42,368,667	
California Aqueduct	390,967,095	
San Joaquin Drainage Facilities	4,346,232	
Other	1,536,408	
	$834,480,442	
Less: Allowance for Replacements	34,799	
		$834,445,643
Loans Receivable Arising from Davis-Grunsky Local Projects Assistance Program		2,508,450
Working Capital Advance - Equipment		2,472,071
Current Assets (Notes 1 and 3):		
Cash	$ 1,629,604	
Investments	136,035,000	
Accounts Receivable:		
Billed	4,887,731	
Unbilled	403,863	
Accrued Interest Receivable	2,982,925	
		145,939,123
Deferred Charges and Other Assets		315,958
Total Assets		$985,681,245

EXHIBIT I

STATE WATER RESOURCES DEVELOPMENT SYSTEM
BALANCE SHEET
DECEMBER 31, 1966

LIABILITIES		
Capitalization:		
Water Resources Development Bonds (Note 4)	$650,000,000	
Advances from California Water Fund (Note 5)	157,873,315	
Net Grants in Aid of Construction (Note 6)	78,549,875	
		$886,423,190
Accumulated Net Revenues		51,924,497
Commitments (Note 7)		
Current Liabilities:		
Accounts Payable	$ 8,847,069	
Contract Retention	21,856,657	
Due to Other Funds	3,783,317	
Accrued Interest on Water Bonds	4,048,638	
		38,535,681
Reserve for Deferred Accounts Receivable		224,359
Advance Payments from Water Service Contractors		8,573,518
Total Liabilities		$985,681,245

EXHIBIT II

STATE WATER RESOURCES DEVELOPMENT SYSTEM
STATEMENT OF NET REVENUES AND APPLICATION THEREOF (Notes 3 and 5)
CUMULATIVE TO DECEMBER 31, 1966

	PRIOR YEARS (1952-1965)	CURRENT YEAR (1966)	TOTAL THROUGH DECEMBER, 1966
REVENUES:			
Capital Cost Reimbursements	$ 1,064,128	$ 1,862,891	$ 2,927,019
Interest on Capital Costs	5,592,247	4,706,301	10,298,548
Operations and Maintenance	1,534,698	998,857	2,533,555
Enlargement of California Aqueduct	-0-	1,200,604	1,200,604
Delivery Structures	759,086	4,305	763,391
Federal Flood Control Contributions	34,990,000	16,996,534	51,986,534
Interest from Investments	11,424,289	6,029,595	17,453,884
Davis-Grunsky Loan Repayments	147,791	81,811	229,602
Right-of-Way Rentals and Sales	2,231,989	1,449,978	3,681,967
Other	83,265	576	83,841
Total Revenues	$57,827,493	$33,331,452	$91,158,945
EXPENSES:			
Operations and Maintenance	$ 1,489,790	$ 1,008,966	$ 2,498,756
Provision for Replacement	44,908	-10,109	34,799
Water Bond Interest	17,575,173	19,125,720	36,700,893
Total Expenses	$19,109,871	$20,124,577	$39,234,448
NET REVENUES	$38,717,622	$13,206,875	$51,924,497
NET REVENUES USED OR AVAILABLE FOR:			
Construction of Project Facilities from Funds Advanced by Water Contractors	$ 759,086	$ 1,204,909	$ 1,963,995
Reserve for Principal and Interest on Water Bonds	37,958,536	12,001,966	49,960,502
Repayment of California Water Fund	-0-	-0-	-0-
Amount Available for Future Conservation Facilities	-0-	-0-	-0-
NET REVENUES	$38,717,622	$13,206,875	$51,924,497

EXHIBIT III

STATE WATER RESOURCES DEVELOPMENT SYSTEM
STATEMENT OF SOURCE AND APPLICATION OF FUNDS
CUMULATIVE TO DECEMBER 31, 1966

	PRIOR YEARS (1952-1965)	CURRENT YEAR (1966)	TOTAL THROUGH DECEMBER, 1966
SOURCE:			
Net Revenues	$ 38,717,622	$ 13,206,875	$ 51,924,497
Sale of Water Resources Development Bonds	450,000,000	200,000,000	650,000,000
Advances from California Water Fund	150,941,128	6,932,187	157,873,315
Grants in Aid of Construction	95,119,180	1,285,671	96,404,851
Advance Payments from Water Service Contractors	405,967	8,167,551	8,573,518
	$735,183,897	$229,592,284	$964,776,181
APPLICATION:			
Net Additions to Property, Plant and Equipment	$526,259,013	$308,186,630	$834,445,643
Davis-Grunsky Program:			
Loans	2,141,000	380,000	2,521,000
Grants	15,136,739	476,449	15,613,188
Administrative Expenses	1,326,821	914,967	2,241,788
Working Capital Advance - Equipment	-0-	2,472,071	2,472,071
Decrease in Net Current Assets	190,129,584	-82,963,051	107,166,533
Increase in Deferred Charges and Other Assets	190,740	125,218	315,958
	$735,183,897	$229,592,284	$964,776,181

NOTES TO FINANCIAL STATEMENTS

1. Basis of Financial Statements

The accounting and the financial statements of the State Water Resources Development System are based on the principles and requirements of the Burns-Porter Act, the Central Valley Project Act, other provisions of the Water Code, the Standard Provisions for Water Supply Contracts, and other related contracts.

The basic philosophy underlying these legislative acts and contracts is that costs for construction and operation of the system be repaid by the beneficiaries of the System. Further details with regard to requirements for applications of funds and revenues are contained in the footnotes 3, 4 and 8.

2. Property, Plant and Equipment

Property, plant and equipment are recorded at cost, not including interest during construction. For repayment purposes, project costs are distributed to features and reaches of the project and are subsequently allocated among project purposes. Because the factors for calculating certain cost allocations have not been finalized, such allocations are subject to adjustment in future years.

The annual payments from project beneficiaries include charges for current maintenance of the facilities

and for replacement deposits. In that there is adequate provision for maintaining the plant in full operating condition, the accumulated deposits for replacements are shown in the financial statements as a deduction from the property, plant and equipment, in lieu of depreciation charges.

3. Current Assets

Current assets are subject to certain applications according to their source and purpose. An analysis by fund and planned application is presented below.

	Construction	Interest on Bonds	Replacements	Total
California Water Resources Development Bond Fund:				
Bond Proceeds Account	$81,939,733			$ 81,939,733
Revenue Account		$ 2,567,630		2,567,630
Replacement Sinking Fund Account			$34,799	34,799
Central Valley Water Project Construction Fund	8,542,730	52,822,791		61,365,521
Central Valley Water Project Revenue Fund		31,440		31,440
Total	$90,482,463	$55,421,861	$34,799	$145,939,123

Sources, purposes and restrictions applicable to the funds are as follows:

Bond Proceeds Account: Proceeds from sales of general obligation bonds, excluding premium and accrued

interest received on such sales which are applied toward interest payments, are deposited in this account. Expenditures for construction of the State Water Resources Development System are made in part from this account.

Revenue Account: Payments from contracting agencies (other than certain advance payments) and other income received are deposited in this account. Expenditures from this account are subject to the following priorities under the Burns-Porter Act:

1. Operation, Maintenance and Replacement Costs
2. Principal and Interest on General Obligation Bonds
3. Repayments to California Water Fund for Advances (See Note 5)
4. Construction of Additional Facilities

Replacement Sinking Fund Account: Payments received for replacement costs are deposited and accumlated with interest in this account. Expenditures are limited to the acquisition of replacement.

Central Valley Water Project Construction Fund: Federal contributions received as reimbursements for the cost of flood control facilities, State contributions received as reimbursements for the cost of recreation, and certain advance payments from contractors are deposited in this fund. Expenditures for construction and interest on general obligation bonds are made in part from this fund.

Central Valley Water Project Revenue Fund: Property rental income accrued prior to the effective date of the Burns-Porter Act, November 8, 1960, was deposited in this fund.

4. Water Resources Development Bonds

The Burns-Porter Act authorized the issuance of the General Obligation Bonds in the amount of $1,750,000,000 for construction of the State Water Resources Development System which included $130,000,000 for financial assistance to local agencies as provided in the Davis-Grunsky Act. The use of the continuing appropriation of the California Water Fund pursuant to the Burns-Porter Act supplements the bond authorization. To the extent California Water Fund money is used for construction of the State Water Facilities as defined in the Burns-Porter Act in lieu of bond proceeds, an equal amount of bond authorization is set aside to be used only for the construction of facilities additional to the State Water Facilities.

As a result of bonds issued and California Water Fund expenditures, the status of bond authorizations, by purpose, as of December 31, 1966, is summarized below:

	Water Facilities	Davis-Grunsky Projects	Additional Facilities	Total
Bonds Authorized	$1,620,000,000	$130,000,000		$1,750,000,000
Less:				
Bonds Issued	647,514,288		$ 2,485,712	650,000,000
Calif. Water Fund Advances	137,497,339	20,375,976	-157,873,315	
Balance Available	$ 834,988,373	$109,624,024	$ 155,387,603	$1,100,000,000

The General Obligation Bonds outstanding as of December 31, 1966, with their net interest rates and maturity dates are shown below:

Issued	Series	Amount	Net Interest Rates	Maturity Dates
3/1/64	A	$100,000,000	3.520%	9/1/1973-2013
5/1/64	B	50,000,000	3.533%	5/1/1974-2014
11/1/64	C	100,000,000	3.585%	11/1/1974-2014
3/1/65	D	100,000,000	3.499%	3/1/1975-2015
12/1/65	E	100,000,000	3.717%	12/1/1975-2015
7/1/66	F	100,000,000	3.927%	7/1/1976-2016
12/1/66	G	100,000,000	4.110%	12/1/1976-2016
	Total	$650,000,000	3.709%	
Bonds issued after December 31, 1966:				
4/1/67	H	$100,000,000	3.695%	4/1/1977-2017

5. Advances from California Water Fund

Advances from California Water Fund represent expenditures financed from this fund pursuant to the Burns-Porter Act Appropriation, which excludes amounts covered by prior appropriations. Such advances will be repaid from the third priority of system revenues, as shown in Footnote 3. Repayments are not expected to begin until the latter part of the presently programmed construction period.

6. Grants in Aid of Construction

Grants in aid of construction consist of construction expenditures financed from the Investment Fund, Calif-

ornia Water Fund, and General Fund from special appropriations made prior to the effective date of the Burns-Porter Act (November 8, 1960). These amounts are not required to be repaid to the fund from which they were appropriated. Administrative expenses and grants made to agencies under the Davis-Grunsky Local Projects Assistance Program, which totaled $17,854,976 at December 31, 1966, are deducted in the financial statements from grants in aid of construction.

7. Construction Contract Commitments

The Department of Water Resources has entered into long-term construction contract commitments for the State Water Facilities. The uncompleted portion of these commitments was approximately $283,700,000 as of December 31, 1966. In addition, the Department is committed to pay 55% of the San Luis Joint-Use Facilities which are under construction by the Federal Bureau of Reclamation. The State's share of these facilities is estimated at $146,500,000 of which $23,500,000 was uncompleted as of December 31, 1966.

8. Revenues

The State has entered into long-term contracts with 30 water service agencies for a water supply. These contracts provide for payments by the agencies calculated to reimburse the State over the project repayment period for all capital costs of water conservation and transportation facilities, with interest thereon. Annual operation and

maintenance costs of the system are recovered generally as incurred and these annual charges also include provisions for future plant replacements.

Costs allocated to flood control are repaid by the Federal Government. The Davis-Dolwig Act provides for the State to repay the project costs allocated to recreation, and fish and wildlife enhancement. It is expected that provision will be made in the future for repayment of costs incurred for planning and preliminary work in connection with drainage facilities.

SCHEDULE A

STATE WATER RESOURCES DEVELOPMENT SYSTEM
CHANGES IN PROPERTY, PLANT AND EQUIPMENT
FOR THE CALENDAR YEAR ENDED DECEMBER 31, 1966

	BALANCE DECEMBER, 1965	ADDITIONS NET OF INCOME CREDITED TO CONSTRUCTION	RETIREMENTS AND SALES	BALANCE DECEMBER, 1966
Upper Eel River Development	$ 1,178,625	$ 1,307,087	$ 0	$ 2,485,712
Upper Feather Division	10,004,711	1,976,666	0	11,981,377
Oroville Division	249,590,461	121,891,205	-33,220	371,448,446
Delta Facilities	5,493,017	2,822,081	0	8,315,098
North Bay Aqueduct	441,525	589,882	0	1,031,407
South Bay Aqueduct	34,924,171	7,943,910	-499,414	42,368,667
California Aqueduct:				
North San Joaquin Division	47,433,615	45,930,617	-102	93,364,130
San Luis Division	105,513,187	40,463,039	0	145,976,226
South San Joaquin Division	28,169,602	31,046,678	0	59,216,280
Tehachapi Division	11,099,926	22,555,106	0	33,655,032
Mojave Division	9,562,071	8,130,672	-522	17,692,221
Santa Ana Division	6,679,007	1,763,018	0	8,442,025
West Branch, California Aqueduct	10,066,148	18,547,858	-7,336	28,606,670
Coastal Branch, California Aqueduct	1,702,226	2,312,285	0	4,014,511
San Joaquin Drainage Facilities	2,723,566	1,622,666	0	4,346,232
Other	1,722,063	-185,655	0	1,536,408
Sub-Total	$526,303,921	$308,717,115	$-540,594	$834,480,442
Less: Allowance for Replacement	44,908	-10,109		34,799
Total	$526,259,013	$308,727,224	$-540,594	$834,445,643

SCHEDULE A

SCHEDULE B

STATE WATER RESOURCES DEVELOPMENT SYSTEM
COMPOSITION OF PROPERTY, PLANT AND EQUIPMENT
DECEMBER 31, 1966

	RECREATION	FLOOD CONTROL	CONSERVATION (INCLUDING OROVILLE POWER)	TRANSPORTATION	SAN JOAQUIN DRAINAGE FACILITIES	TOTAL INCURRED TO DECEMBER 31, 1966	PROJECTED FUTURE COSTS	TOTAL
Upper Eel River Development	$ 67,372	$	$ 2,418,340	$	$	$ 2,485,712	$ 345,870,643	$ 348,356,355
Upper Feather Division	10,179,614		1,791,195	10,568		11,981,377	9,419,222	21,400,599
Oroville Division	107,452	56,407,517	314,933,477			371,448,446	103,308,436	474,756,882
Delta Facilities	2,631,918		5,683,180			8,315,098	47,064,902	55,380,000
North Bay Aqueduct				1,031,407		1,031,407	14,211,250	15,242,657
South Bay Aqueduct	5,265,138	2,165,382		34,938,147		42,368,667	24,324,182	66,692,849
California Aqueduct:								
North San Joaquin Division	3,972,191		15,127,617	74,264,322		93,364,130	67,577,674	160,941,804
San Luis Division	9,575,193		82,959,606	53,441,427		145,976,226	51,403,485	197,379,711
South San Joaquin Division	1,840,455			57,375,825		59,216,280	200,438,697	259,654,977
Tehachapi Division	1,008,092			32,646,940		33,655,032	203,758,829	237,413,861
Mojave Division	537,631			17,154,590		17,692,221	190,168,809	207,861,030
Santa Ana Division	261,915			8,180,110		8,442,025	176,031,867	184,473,892
West Branch, California Aqueduct	948,080			27,658,590		28,606,670	306,658,933	335,265,603
Coastal Branch, California Aqueduct				4,014,511		4,014,511	71,178,544	75,193,055
San Joaquin Drainage Facilities					4,346,232	4,346,232	37,883,068	42,229,300
Other				1,536,408		1,536,408	-299,236	1,237,172
Sub-Total	$36,395,051	$58,572,899	$422,913,415	$312,252,845	$4,346,232	$834,480,442	$1,848,999,305	$2,683,479,747
Less: Allowance for Replacement				34,799		34,799	91,083,201	91,118,000
Total	$36,395,051	$58,572,899	$422,913,415	$312,218,046	$4,346,232	$834,445,643	$1,757,916,104	$2,592,361,747

SCHEDULE C

STATE WATER RESOURCES DEVELOPMENT SYSTEM
STATEMENT OF ACTUAL AND PROJECTED NET REVENUES AND APPLICATION THEREOF
DECEMBER 31, 1966

(IN THOUSANDS)

	PRIOR YEARS (1952-1965)	CURRENT YEAR (1966)	TOTAL THROUGH 1966	PROJECTED FUTURE (1967-2034)	TOTAL TO END OF PROJECT REPAYMENT PERIOD
REVENUES:					
Capital Cost Reimbursements	$ 1,064	$ 1,863	$ 2,927	$2,471,937	$2,474,864
Interest on Capital Costs	5,592	4,706	10,298	2,719,783	2,730,081
Operations and Maintenance	1,535	999	2,534	3,803,592	3,806,126
Federal Share of Operations and Maintenance and Flood Control	34,990	16,997	51,987	133,979	185,966
Legislative Appropriations for Costs Allocated to Recreation	-0-	-0-	-0-	95,000	95,000
Enlargement of California Aqueduct	-0-	1,201	1,201	22,844	24,045
West Branch Cooperative Development	-0-	-0-	-0-	35,131	35,131
Interest from Investments	11,425	6,029	17,454	14,785	32,239
Other	3,221	1,537	4,758	4,483	9,241
Total Revenues	$57,827	$33,332	$91,159	$9,301,534	$9,392,693
EXPENSES:					
Operations and Maintenance	$ 1,490	$ 1,009	$ 2,499	$2,858,973	$2,861,472
Provision for Replacement	45	-10	35	91,083	91,118
Interest on Bonds Water Bonds	17,575	19,126	36,701	2,441,601	2,478,302
Revenue Bonds	-0-	-0-	-0-	728,754	728,754
Total Expenses	$19,110	$20,125	$39,235	$6,120,411	$6,159,646
NET REVENUES	$38,717	$13,207	$51,924	$3,181,123	$3,233,047
NET REVENUES USED OR AVAILABLE FOR:					
Construction of Project Facilities from Funds Advanced by Water Contractors	$ 759	$ 1,205	$ 1,964	$ 223,759	$ 225,723
Bond Principal Payments Water Bonds	-0-	-0-	-0-	1,897,179	1,897,179
Revenue Bonds	-0-	-0-	-0-	210,000	210,000
Repayment of California Water Fund	-0-	-0-	-0-	384,079	384,079
Amounts Available for Future Conservation Facilities	-0-	-0-	-0-	511,194	511,194
Reserve for Deferred Income (Including Interest on Bonds)	37,958	12,002	49,960	-45,088	4,872
NET REVENUES	$38,717	$13,207	$51,924	$3,181,123	$3,233,047

APPENDIX B

DISTRIBUTION OF COSTS OF THE PROJECT TRANSPORTATION FACILITIES AMONG WATER SUPPLY CONTRACTORS

Introduction

Article 29 of the "Standard Provisions for Water Supply Contract", in describing the annual statements of charges, provides in part 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."

Compliance with this article requires a comprehensive annual review of the water supply aspects of the Project as the basis for the substantiating data. This annual reanalysis is provided for in Article 28 of the standard contract provisions with regard to the project transportation facilities and in Article 22(f) for the project conservation facilities.

This appendix constitutes such an analysis for the purpose of substantiating estimated water charges for 1968. It reflects the State Water Project described in the main text of this bulletin.

Scope of Analysis

The analysis described herein pertains to the project transportation facilities and not to the project conservation facilities. It is contemplated that deliveries of project water, to which the Delta Water Charge applies, will commence in 1967. In accordance with Article 22(f) of the standard contract provisions, the unit Delta Water Charge is fixed at $3.50 per acre-foot through December 31, 1969. Therefore, a document amendatory to Article 22 is not required until July 1, 1969. Based upon the estimated costs of the project conservation facilities presented in the main text of this bulletin, and upon the computations summarized in Chapter VIII thereof, it is indicated that the unit Delta Water Charge would be adjusted upwards to $7.87 per acre-foot, effective January 1, 1970. This rate would apply to all annual entitlements to project water for the remainder of the project repayment period, under current projections.

The analysis reflects the allocation of multiple-purpose costs by the percentages developed in the Department's Bulletin 153-67, "Allocations of Costs Among Purposes of the California State Water Project", December 1966.

The allocation percentages developed in the Bulletin 153 series are to be applied to costs of those features jointly used by project purposes. All features of the North and South Bay Aqueducts are considered to be solely used by the purpose of water supply -- except Del Valle Dam and reservoir, which would be jointly used by water supply, flood control, and recreation. The project transportation facilities of the California Aqueduct would be jointly used by water supply and recreation -- except for the Coastal Branch, which would be solely used for water supply.

Bulletin 153-67 develops two sets of allocation percentages each for Del Valle Dam and reservoir and for the project transportation facilities of the California Aqueduct exclusive of the Coastal Branch -- one set to allocate all capital costs among project purposes, and one set to allocate all minimum operation, maintenance, power, and replacement costs among purposes.

The allocation of annual variable operation, maintenance, power and replacement costs for those features jointly used are allocated among purposes based upon the respective annual amounts of net delivery conveyed through such joint features -- the same procedure whereby reimbursable variable costs are allocated among contractors.

The appendix contains the following information concerning the Project transportation facilities, reflecting conditions as of about April 1, 1967:

1. The estimated capacity and maximum annual conveyance capability of each aqueduct reach and the proportionate use thereof by each water supply contractor.

2. The annual conveyance through each pumping plant and powerplant and the quantities delivered to each contractor from each reach during the period annual entitlements are building up to their maxima.

3. The actual and estimated annual expenditures allocated to the project purpose of water supply for each aqueduct reach and for each category of cost.

4. The proportionate share of such costs to be borne by each contractor.

5. The schedules of annual payments by each contractor over the entire project repayment period, based on the above data, without regard to prior payments made.

The basic tabular material contained in this appendix, and the interrelationships among the various data contained in the tables, are schematically portrayed in Figure B-1. All tables are included at the end of this appendix.

Basis for Maximum Use of Facilities

The major items considered in the determination of maximum use of the project transportation facilities by each water supply contractor include:

1. The maximum annual entitlement of each contractor.

2. The aqueduct reaches into which the facilities are separated.

3. Operational considerations, including the use of aqueduct reaches for project purposes other than water supply, allowances to compensate for water losses and aqueduct outages incidental to operation, and the use of reservoir storage in conjunction with aqueduct capacity in meeting the delivery requirements provided in the water supply contracts.

4. The maximum annual entitlements diverted from or conveyed through each aqueduct reach for each contractor, together with (a) appropriate use of aqueduct and reservoir capacities to provide the specified delivery capabilities, and (b) an appropriate share of allowances for the operational considerations in (3) above.

Maximum Annual Entitlements

A summary of the maximum annual entitlements for each water supply contractor, as of April 1, 1967, is shown in Table B-1. The corresponding annual entitlements for each contractor are discussed in Chapter VI, "Projected Water and Power Demands and Supplies". Maximum annual entitlements also include those under the contract currently being negotiated with Kings County (4,000 acre-feet) and those reserved for future Southern California contractors (4,600 acre-feet), so as to aggregate the minimum project yield of 4,230,000 acre-feet annually.

Aqueduct Reaches

The designations of aqueduct reaches for purposes of the analyses in this bulletin are presented in Table B-2 and are generally shown in Table B-3. The difference between these reaches and those shown in Article 23 of some of the contracts, reflect modifications required under subsequently executed contracts and changes in the locations of major delivery structures requested pursuant to Article 10(a) of the water supply contracts. Reach nomenclature has been revised in certain instances to describe reach termini more accurately and to reflect route modifications under continuing engineering studies.

Reach termini have been selected as those points at which the physical use of project transportation facilities significantly changes for any of the contractors. These points are generally at the locations of (1) aqueduct branch junctions, (2) aqueduct regulatory reservoirs, and (3) major delivery structures for contractors.

Operational Considerations

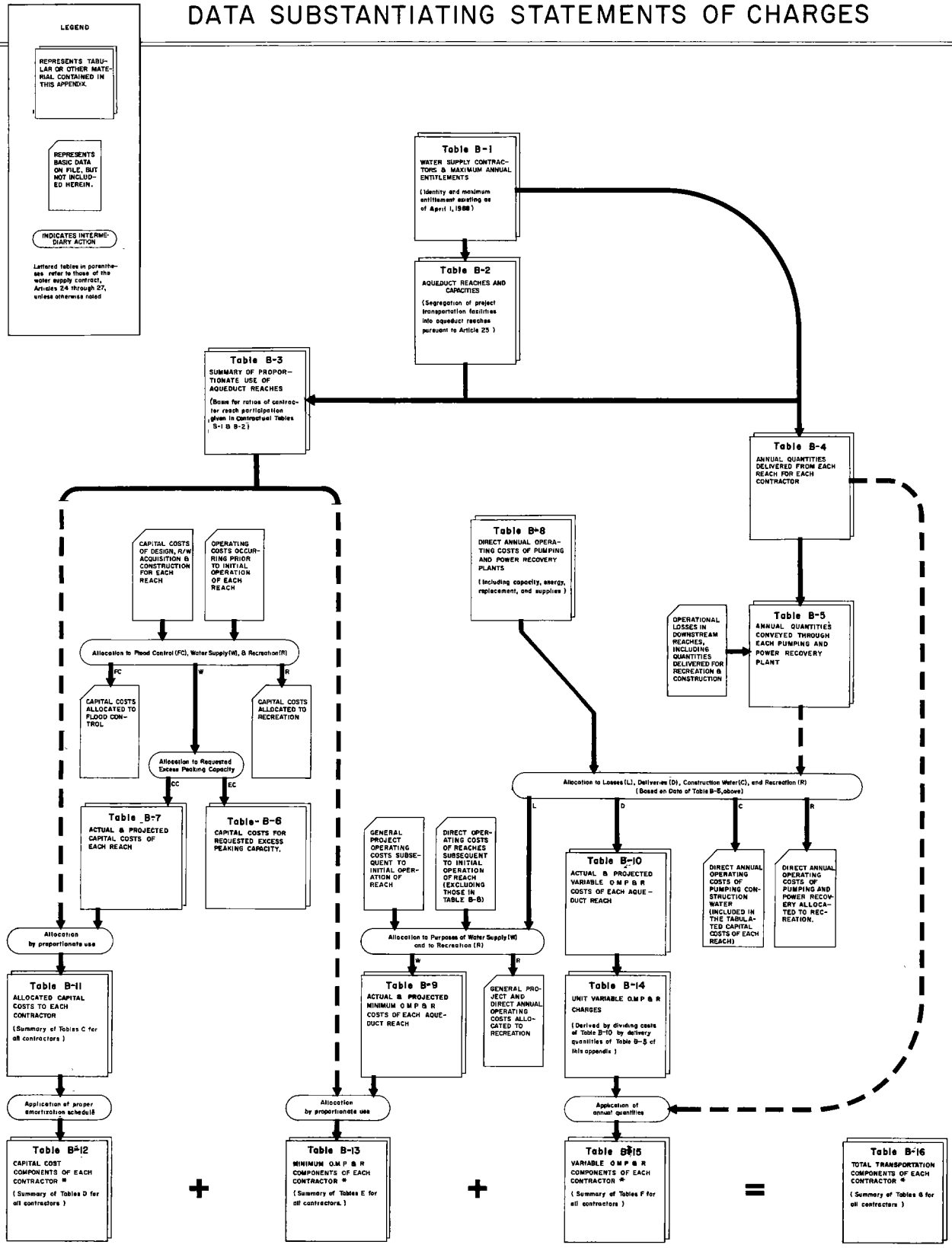
Table B-2 also identifies the contractors to be served directly from each reach, together with the maximum annual entitlements and the maximum monthly delivery capabilities so provided for each contractor; summarizes the total capacity provided in the reach for all water supply contractors; indicates the additional capacity to be included in each reach for project purposes other than water supply and for practical design considerations; and concludes with the total capacity to be included in each reach.

The additional capacity provided in each reach of the project transportation facilities, over-and-above that required for all water supply contractors, is made up of the following components:

1. Capacity required to convey water consumed in specific recreation and fish and wildlife enhancement developments located adjacent to the project transportation facilities. Recreation and fish and wildlife enhancement are the only project purposes, other than water supply, considered in this analysis. The following reach capacities have been provided for the conveyance of water for specific recreation and fish and wildlife enhancement developments adjacent to the California Aqueduct:

Figure B-I

SCHEMATIC RELATIONSHIP OF DATA SUBSTANTIATING STATEMENTS OF CHARGES



*Unadjusted for prior payments, if any

	(cubic feet per second)
Delta to Tupman Road.....	74
Tupman Road to Buena Vista Pumping Plant.....	45
Buena Vista Pumping Plant to Junction, West Branch.....	28
Junction, West Branch to Pearblossom Pumping Plant.....	21
Pearblossom Pumping Plant to Cedar Springs reservoir.....	15
Cedar Springs reservoir to Perris reservoir.....	8
Junction, West Branch to Castaic reservoir.....	7

2. Capacity included due to practical design considerations. The total capacities of California Aqueduct reaches from Kettleman City to the West Branch junction have been increased generally above the theoretical required capacity to the nearest multiple of 50 cubic feet per second. This additional allowance recognizes the practical limitations in estimating accurately coefficients and efficiencies inherently involved in the design procedure. South of the West Branch junction, preliminary capacities have been used, pending establishment of final design capacities.

The total capacities provided in each reach for water supply contractors include those contemplated for agencies with which the State has not executed contracts as of this date; include sufficient capacity to compensate for required operational losses, aqueduct outages, and downstream regulation; and also include capacity requested by certain contractors which would permit maximum monthly deliveries in excess of those provided under the standard contract provisions. The capacity so provided in each reach for each contractor is shown in detail in Table B-3. Each of these considerations is further described in the following sections.

Future Contractors. In addition to Kings County, which is currently negotiating for a project water supply, two instances of excess capacity are included in this analysis for the purpose of making project water available, in the future, to agencies which currently do not have a contract with the State. These instances occur:

1. In the reaches of the South Bay Aqueduct, to and including Del Valle reservoir, where an agency could obtain a supply of 22,000 acre-feet annually, and in varying amounts in reaches downstream therefrom.

2. In the reaches of the California Aqueduct, from the Delta through Devil Canyon Powerplant, where capacity has been provided to make available 4,600 acre-feet annually to future Southern California contractors.

The costs of the project transportation facilities associated with the above instances are determined under Article 24(b)(2) of the standard contract provisions.

Capacity Provided for Delivery of Entitlements. Under the general plan of project operations, annual entitlements destined for delivery in the respective project service areas will be conveyed on the following bases:

1. For contractors within the San Joaquin Valley -- on a varied monthly schedule corresponding to the monthly demand for project water.

2. For contractors within the South Bay, Central Coastal, and Southern California areas (other than those served by Cedar Springs reservoir) -- on a uniform flow, regulated to the monthly demand in storage capacity located within the respective service areas.

3. For those contractors in the Southern California area whose deliveries were formerly to be regulated entirely by Cedar Springs reservoir -- partially on a uniform flow, regulated to monthly demands in the reduced-size Cedar Springs reservoir, and partially on a varied monthly schedule, regulated by upstream reservoirs.

As indicated in (3) above, the recent reduction in the planned size of Cedar Springs reservoir has decreased terminal storage capacity below that required to regulate deliveries. In this analysis, upstream conveyance capacity has been increased by 100 cubic feet per second to provide conveyance of regulated flows in the aqueduct to offset the loss in terminal storage. The additional conveyance capacity was derived from several sources: (1) 100 cubic feet per second in the reaches from the Delta to O'Neill Forebay were transferred from the purpose of conservation to the

purpose of transportation, (2) the design capacity of the Project's share of a future parallel conveyance facility in the reaches, O'Neill Forebay to Kettleman City, was increased 100 cubic feet per second, (3) 50 cubic feet per second from Metropolitan Water District's 238 cubic feet per second excess capacity in the reaches, Kettleman City to the West Branch junction, was assumed transferred to future use for delivery of entitlements, (4) 50 cubic feet per second of capacity, reserved for a proposed powerplant, in the reaches from Kettleman City to Tehachapi Pumping Plant was transferred to use for delivery of entitlements, (5) the Tehachapi division design capacity was increased by 50 cubic feet per second, and (6) the preliminary design capacity from the West Branch junction to Cedar Springs reservoir was increased by 100 cubic feet per second.

In May 1967, letters were sent to each contracting agency proposing certain contract interpretations regarding the calculation of proportionate use ratios pursuant to Article 24(b) for operational considerations not adequately covered therein. These interpretations are applied in this analysis and are briefly described -- together with the operational considerations involved -- in the following paragraphs:

Reservoirs. The dual storage-conveyance use of certain reservoirs located on the project transportation facilities was not specifically recognized in the provisions of Article 24(b).

Proportionate use of storage by a contractor shall be based solely upon capacities provided in the reservoir for each respective contractor. In those situations where the reservoir forms a portion of the main line of the aqueduct conveyance, the use of the reservoir for those entitlements conveyed "from or through" the reach, shall be taken as a proportionate share (based on conveyance capacities) of the estimated costs of the least expensive alternative means of conveying water through the terrain occupied by the reservoir, less a proportionate share of the estimated savings to be realized from construction of a joint storage-conveyance facility.

Pyramid, Castaic, and Cedar Springs reservoirs form a portion of the main line of the California Aqueduct. Preliminary estimates of the comparable capital costs of these reservoirs and of the least expensive alternative means (alternative pipelines) for conveying water through the terrain to be occupied by the reservoirs are shown in the following tabulation, together with the development of pertinent ratios:

Facility	Pyramid	Castaic	Cedar Springs
	(in thousands of dollars)		
Dam and Reservoir:			
Capital costs	30,680	120,170	41,256
Present worth of capital costs 1/	27,633	115,522	39,033
Alternative Pipeline:			
Capital costs	9,140	16,389	5,896
Present worth of capital costs 1/	7,622	15,240	5,287
Portion (ratio) of actual reimbursable costs of the dam and reservoir to be allocated among contractors:			
Using reservoir for storage	$\frac{27,633}{27,633 + 7,622} = 0.78380372$	$\frac{115,522}{115,522 + 15,240} = 0.88345238$	$\frac{39,033}{39,033 + 5,287} = 0.88070848$
Using reservoir for conveyance	$1.00000000 - 0.78380372 = 0.21619628$	$1.00000000 - 0.88345238 = 0.11654762$	$1.00000000 - 0.88070848 = 0.11929152$

1/ Present worths in 1967 at 3.7 percent interest.

Compensating Capacity for Operational Losses. The additional capacity provided in each aqueduct reach to compensate for water losses due to evaporation, leakage, seepage, or other causes, also includes the additional capacity required to compensate for losses occurring in downstream reaches. The estimated magnitude of these operational losses is described in Chapter VI, "Projected Water and Power Demands and Supplies", and is shown distributed among contractors in Column 5 of Table B-3.

For purposes of apportioning the costs of such capacity among contractors, the determination of the entitlement ratio [Article 24(b)(2)(i)] shall be on the basis that the maximum annual entitlements to be delivered from or through the reach for each contractor shall include the contractor's share of the annual water quantity lost in downstream aqueduct reaches -- and that the capacity ratio (ii) shall be determined accordingly.

Compensating Capacity for Scheduled Outages. The additional capacity for scheduled outages for purposes of necessary investigation, inspection, maintenance, repair and replacement is provided only in those reaches wherein the project entitlements will be conveyed at uniform flow (to contractors in the Central Coastal area and to certain contractors in Southern California) in the amount of seven and one-half percent (7½%) of such uniform flow. Emergency storage in these two service areas could sustain the use of project water during outages, and this storage could be replenished through the additional conveyance capacity provided. However, this type of additional capacity would not benefit contractors located in the South Bay area and in the San Joaquin Valley, since emergency storage capacity is not associated with the use of project water in those areas. This "reserve" capacity is shown distributed among contractors in Column 6 of Table B-3.

For purposes of apportioning the costs of such capacity among contractors, only the capacity ratio [Article 24(b)(2)(ii)] will be the basis for apportionment.

Compensating Capacity for Downstream Regulation. The situation exists in the South Bay and Southern California areas whereby a contractor's point of delivery from the aqueduct may be located upstream from regulation reservoirs. The varied monthly quantities desired by the contractor may be physically obtained from the uniform flow in the aqueduct, provided that the total flow is at least equal to the contractor's desired maximum rate of delivery. At such time, the contractor would be permitted to appropriate all, or a portion of, the uniform flow destined for downstream contractors, and the demands of downstream contractors would be simultaneously met by downstream reservoir releases. The appropriated flow would be returned during months of minimum delivery to the contractor, and would be conveyed to the downstream reservoir in additional capacity provided for that purpose. Such "compensating regulation" capacity is shown distributed among contractors in Column 7 of Table B-3.

For purposes of apportioning the costs thereof among contractors, such capacity shall have an associated portion of the contractor's maximum annual entitlement -- the interpretation in determining the entitlement ratio [Article 24(b)(2)(i)] shall be that if the upstream contractor is served "from or through" downstream reaches, then, as a corollary, a portion of such contractor's maximum annual entitlement must also be said to be delivered "from or through" such reaches.

Figure B-2 graphically illustrates the use of reservoir storage in conjunction with aqueduct capacity to provide maximum delivery rates, and the extent that additional capacity for scheduled outages (reserve capacity) is included in the project transportation facilities.

Capacity Provided for Requested Excess Peaking. Pursuant to Amendment No. 2 to its contract, The Metropolitan Water District of Southern California has requested excess capacity in the amount of 238 cubic feet per second in the reaches from Kettleman City to the West Branch junction, and 809 cubic feet per second in the reaches of the West Branch, exclusive of reservoirs. Also, by Amendment No. 6, Metropolitan requested 787 cubic feet per second excess capacity in the reach from Cedar Springs reservoir to the South Portal of the San Bernardino Tunnel.

This analysis assumes proposed Amendment No. 7 to Metropolitan's contract to be effective.

Proposed Amendment No. 7 would alleviate complex allocation problems brought about by power developments on the West Branch. Under the proposal, Metropolitan would release all of its West Branch excess capacity to basic transportation capacity of the Project -- to be considered as additional capacity for operational flexibility. (However, Metropolitan would also agree to advance certain funds, if and when needed, so that the Project's financial program will not be adversely affected.) Under Amendment No. 7, Metropolitan would also release 50 of its 238 cubic foot per second excess capacity north of the West Branch junction -- to be used for basic conveyance capacity for project flows formerly regulated by Cedar Springs reservoir.

The requested excess capacity included in the project transportation facilities of this analysis consists of 188 cubic feet per second in the reaches from Kettleman City to the West Branch junction, and 787 cubic feet per second in the reach from Cedar Springs reservoir to the South Portal of the San Bernardino Tunnel. All of this excess capacity has been provided at the request of Metropolitan.

Metropolitan has also requested the provision for future enlargement of Perris reservoir, pursuant to Amendment No. 5. The reimbursable costs of that reservoir would be allocated, in total, to Metropolitan. The provision for future enlargement of the reservoir will affect the reimbursable costs of the reaches between the Devil Canyon Powerplant and the reservoir -- however, the conveyance capacity of these reaches will not necessarily be increased thereby. Amendment No. 5 specifically provides that all such cost increases shall be allocated to Metropolitan, and repaid under the provisions of Article 24(c).

In this analysis, the estimated additional costs which would be solely borne by Metropolitan for the above considerations in the reach from Devil Canyon Powerplant to Warm Creek, would be as follows:

1969	$1,536,000
1970	2,142,000
1971	31,000
TOTAL	$3,709,000

Maximum Use of Aqueduct Reaches by Contractors

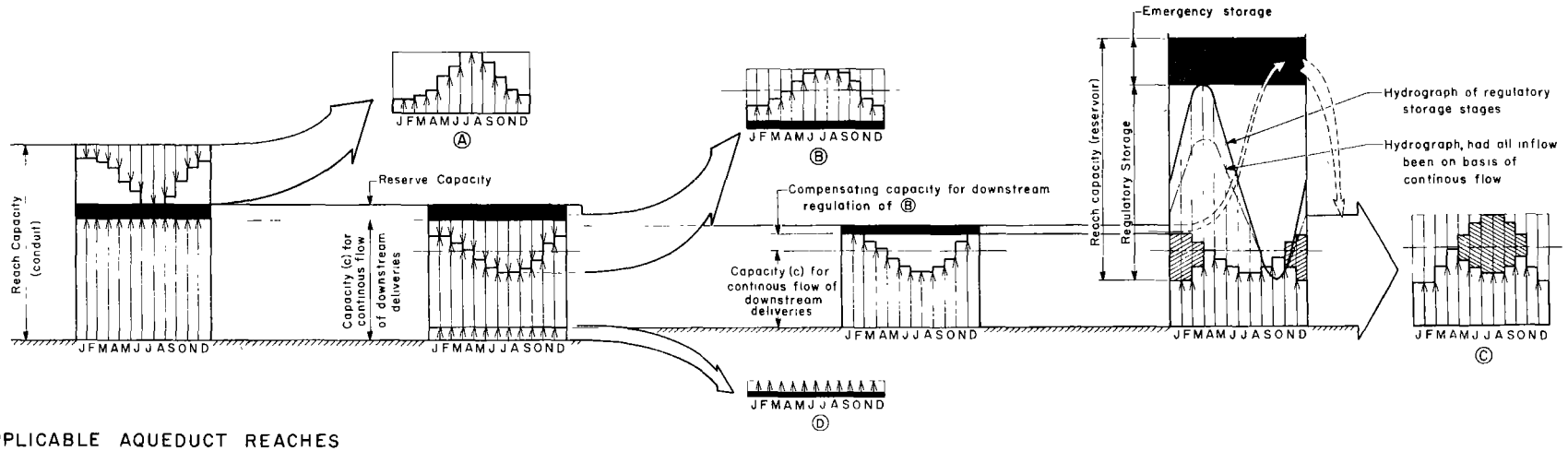
The data and computations determining the proportionate use of each aqueduct reach, by each water supply contractor, are summarized in Table B-3.

The proportionate use factors for distributing capital costs among contractors are different for certain aqueduct reaches from those for distributing minimum operation, maintenance, power and replacement costs. These dual allocation criteria pertain to those reaches in which requested excess capacity will be included.

Pursuant to Article 24(d) of the standard contract provisions, the capital costs borne by a contractor for requested excess capacity will be the additional capital costs of the aqueduct reaches caused by including such capacity, commonly referred to as the "incremental costs". Therefore, the inclusion of requested excess capacity does not affect the allocation of capital costs among water supply contractors.

Amendment No. 2 of the Metropolitan Water District's contract provides that all of the minimum operation, maintenance, power, and replacement costs of aqueduct reaches containing requested excess capacity shall be allocated among contractors by the Proportionate Use of Facilities method specified in Article 25 of the contracts, based upon total reach capacities, including such excess capacity, and upon the maximum annual entitlements conveyed thereby.

In Table B-3, the maximum use of aqueduct reaches for distributing capital costs among contractors is shown in Column 8, and for distributing minimum operation, maintenance, power, and replacement costs, in Column 12. The capacities of Column 12 include requested excesses, while those of Column 8 do not.



APPLICABLE AQUEDUCT REACHES

REACHES OF THE CALIFORNIA AQUEDUCT THROUGH THE SAN JOAQUIN VALLEY AND NORTH BAY AQUEDUCT.	INTER-BASIN REACHES, SUCH AS THOSE IMMEDIATELY BELOW THE TEHACHAPI, SOUTH BAY* & DEVIL'S DEN PUMPING PLANTS.	SUBSEQUENT REACHES ABOVE AQUEDUCT REGULATION RESERVOIRS.	REGULATION RESERVOIRS, SUCH AS CEDAR SPRINGS, PYRAMID, CASTAIC, DEL VALLE, AND PERRIS.	SUBSEQUENT REACHES BELOW AQUEDUCT REGULATION RESERVOIRS.

TYPE OF DELIVERY	APPLICABLE CONTRACTORS
Ⓐ	ALL SAN JOAQUIN VALLEY & NORTH BAY AQUEDUCT CONTRACTORS
Ⓑ	ALAMEDA COUNTY F C. & W.C. D (a portion of) 1/ COACHELLA VALLEY COUNTY W D. 2/ DESERT WATER AGENCY 2/
Ⓒ	ALAMEDA COUNTY W. D 1/ ALAMEDA COUNTY F. C & W.C D. (a portion of) 1/ CRESTLINE-LAKE ARROWHEAD W. A 2/ SAN BERNARDINO VALLEY M. W D. 2/ SAN GABRIEL VALLEY M. W D 2/ SAN GORGONIO PASS W. A. 2/ SANTA CLARA COUNTY F C & W C. D 1/ THE METROPOLITAN W. D OF S. C 2/ UPPER SANTA CLARA VALLEY W. A VENTURA COUNTY F C. D.
Ⓓ	ANTELOPE VALLEY, EAST KERN W.A LITTLEROCK CREEK I. D. MOJAVE WATER AGENCY PALMDALE I. D SAN LUIS OBISPO COUNTY F C. & W. C. D. SANTA BARBARA COUNTY F. C & W.C D

WATER QUANTITY LEGEND

- MAXIMUM ANNUAL ENTITLEMENT SHOWN BY APPROXIMATE MONTHLY DISTRIBUTION AS REACH CONVEYANCE OR AS TURNOUT DELIVERY
- DELIVERY CAPABILITY OF RESERVE CAPACITY, TO REPLENISH EMERGENCY STORAGE IN THE AQUEDUCT, OR IN THE CONTRACTOR'S DISTRIBUTION SYSTEM
- WATER QUANTITIES ENTERING REGULATORY STORAGE
- WATER QUANTITIES RELEASED FROM REGULATORY STORAGE

Note Water quantities lost due to evaporation and seepage, and additional capacity to compensate for such losses, are not presented However, their characteristics would correspond with delivery types Ⓐ, Ⓑ, and Ⓒ for the appropriate reaches

1/ With the exception that emergency storage is not considered for the reaches of the South Bay Aqueduct.

2/ Partial regulation by Cedar Springs reservoir is supplemented by upstream regulation and aqueduct conveyance capacity as for type Ⓐ deliveries.

SCHEMATIC DIAGRAM

OPERATIONAL CONSIDERATIONS ASSOCIATED WITH PROPORTIONATE USE OF PROJECT TRANSPORTATION FACILITIES

FIGURE B-2

Basis for Variable Annual Use of Facilities

The annual water quantities conveyed through each electromechanical plant of the project transportation facilities form the basis for cost allocations involving the annual use of facilities, including:

1. The allocations of the annual operating costs of electromechanical plants (exclusive of salaries of operation and maintenance personnel) between those associated with the conveyance of operational losses (included in the minimum operation and maintenance category) and those associated with the conveyance of water delivered (included in the variable operation and maintenance category).

2. The allocation of operating costs included in the variable category among project purposes.

3. The distribution of the variable operating costs allocated to water supply among water supply contractors and, in certain instances, to the capital costs of facilities.

The annual water quantities estimated to be conveyed through the project transportation facilities include actual deliveries to, and future entitlements for, water supply contractors; deliveries to specific recreation and fish and wildlife enhancement developments adjacent to the facilities; water losses incidental to the operation of facilities; and water utilized for construction purposes. These items are discussed in Chapter VII, "Projected Water and Power Demands and Supplies".

Annual Reach Deliveries for Each Water Supply Contractor

The annual deliveries at each major delivery structure are used to estimate charges under the variable operation, maintenance, power, and replacement components for future years of the project repayment period. These estimated charges are set forth in Table F of the water supply contracts in compliance with Article 26(c) of the contracts. Long-term requests by the contractors for the annual quantities to be delivered through each turnout are not specifically required by the standard provisions. Therefore, it has been necessary for the Department to assume the annual quantities to be desired at each location for those contractors served by more than one such structure. Table B-4 presents these assumed annual deliveries for each contractor from each aqueduct reach.

Table B-5 presents a summary of the annual quantities conveyed through each pumping or power recovery plant of the project transportation facilities. The values shown are divided into the following four categories with respect to usage in downstream reaches:

1. Water utilized for construction purposes including the initial filling of reservoir storage.

2. Water delivered to water supply contractors.

3. Water delivered to recreation and fish and wildlife enhancement developments.

4. Water losses incidental to the operation of downstream facilities.

The deliveries to water supply contractors conveyed through each plant represent the cumulative values of Table B-4 proceeding upstream from the end of each aqueduct or branch of an aqueduct.

Reach Costs by Category

Chapter VIII, "Plans for Project Financing" develops the actual and projected costs of the project transportation facilities allocated to water supply, which are included in State Utility Programs. Tables 17 and 18 summarize these annual capital and operating costs, respectively. This section describes the distribution of these costs among aqueduct reaches and the further subdivision of annual operating costs into the minimum and variable categories.

Capital Costs

The capital costs of the project transportation facilities which are reimbursable by water supply contractors are of two types: (1) those associated with requested excess capacity and borne by the contractors requesting such capacity; and, (2) those proportionately distributed among all water supply contractors.

The estimated annual amounts of capital costs allocated to excess capacity, together with the annual amounts of advances required, are developed in Table B-6 for each aqueduct reach with excess capacity.

The remaining annual capital costs which are proportionately borne by all water supply contractors are shown for each aqueduct reach in Table B-7.

Annual Operation and Maintenance Costs

The annual operation and maintenance costs of project transportation facilities are divided into two categories:

1. Minimum Costs, including those items which are incurred irrespective of the actual amount of water delivered during a particular year.

2. Variable Costs, including those items which vary with, or are dependent upon, annual water deliveries.

The annual operating costs of pumping and power recovery plants constitute the major portion of the annual operation and maintenance costs of the project transportation facilities and warrant special discussion. Furthermore, these particular costs are allocated annually between the minimum and variable categories. Estimated direct operating costs associated with pumping and power recovery plants, exclusive of salaries of operating and maintenance personnel, are presented in Table B-8. These costs are allocated between the minimum and variable categories in proportion to annual amounts conveyed through each plant for downstream losses or deliveries, respectively, as shown by the data in Table B-5.

The costs included in the minimum operation and maintenance category which are allocated to water supply are summarized in Table B-9 for each reach of the project transportation facilities. In addition to the operating costs associated with the conveyance of losses, these costs include:

1. Salaries of operation and maintenance personnel associated with pumping and power recovery plants.

2. Direct annual operation and maintenance costs of the remaining features of reaches of the project transportation facilities.

3. General project operation and maintenance costs, allocated among reaches in proportion to the annual values of (1) and (2) above, under conditions of full project development.

The allocation percentages applicable to the project purpose of water supply, developed in Bulletin No. 153-67, have been applied to the totals of the above-itemized costs in determining the values of Table B-9.

The total operation and maintenance costs included in the variable category for all project purposes are shown by aqueduct reach in Table B-10.

Costs Allocated to Water Supply Contractors

The accumulation by category, of the annual reach costs allocated to each contractor, forms the basis for the annual components of the Transportation Charge for the respective contractors.

Allocated Capital Costs

Table B-11 summarizes for each water supply contracting agency its total annual share of reach capital costs, as presented in Table B-7, which is allocated by the average proportionate use of facilities ratios for each reach, as presented in Table B-3.

Capital Cost Components

Table B-12 presents the amortization schedule for each water supply contractor corresponding to the allocated capital costs of Table B-11.

The current project interest rate, derived in Chapter VIII, "Plans for Project Financing", is 3.709 percent per annum. The annual payments in Table B-12 reflect the application of this rate throughout the project repayment period.

Criteria as to the types of repayment schedules used for each water supply contractor, under the payment provisions of its contract, are summarized in the tabulation on page 211.

In this bulletin, as compared to previous issues, two variations in procedures were employed in the application of the project interest rate when computing the capital cost component. These procedures concern: (1) the amount of interest to be capitalized and added to allocated costs up to the time the amortization period for such cases begins; and (2) interest charges during the amortization period. The procedures used herein are those proposed by the Department in December 1966.

The first procedure is based on the assumption that when costs are capitalized, interest will commence to accrue in the middle of the year in which costs are incurred, and that the amortization period will commence on December 31 of that year. In the previous procedures used by the Department, all costs incurred within a year, and the beginning of the amortization period for such costs, were assumed to be effective on July 1 of that year.

Actual payments of the capital cost component (i.e., payments during the amortization period) are made semiannually on January 1 and July 1, in accordance with Article 29(f) of the water supply contract.

The second procedure is based on the assumption that the payments during the amortization period could be computed as a single payment made on January 1 of each year -- and with interest charged on the July installment thereof. In the previous method used by the Department, payments were computed on the assumption of a single payment on July 1, without interest credit for the January 1 installment.

Minimum Operation, Maintenance, Power and Replacement Components

Table B-13 summarizes, for each water supply contractor, its annual share of total minimum operation and maintenance costs. These values are derived from data presented in Table B-9 by application of the average proportionate use of facilities ratios for each reach presented in Table B-3.

Variable Operation, Maintenance, Power and Replacement Components

Article 26(a) of the standard contract provisions indicates the manner in which the variable operation and maintenance component is to be computed for each contractor. This is as shown on page 212.

WATER SUPPLY CONTRACTOR	SCHEDULE TYPE NO.	WATER SUPPLY CONTRACTOR	SCHEDULE TYPE NO.
Alameda County Flood Control and Water Conservation District, Zone 7	2	Napa County Flood Control and Water Conservation District	7
Alameda County Water District	1	Oak Flat Water District	10
Antelope Valley-East Kern Water Agency	1	Palmdale Irrigation District	4
County of Butte	11	Plumas County Flood Control and Water Conservation District	11
City of Yuba City	11	San Bernardino Valley Municipal Water District	1
Coachella Valley County Water District	4	San Gabriel Valley Municipal Water District	3
Crestline-Lake Arrowhead Water Agency	4	San Gorgonio Pass Water Agency	3
Desert Water Agency	3	San Luis Obispo County Flood Control and Water Conservation District	5
Devil's Den Water District	10	Santa Barbara County Flood Control and Water Conservation District	5
Dudley Ridge Water District	10	Santa Clara County Flood Control and Water District	1
Empire West Side Irrigation District	10	Solano County Flood Control and Water Conservation District	9
Hacienda Water District	10	Tulare Lake Basin Water Storage District	10
Kern County Water Agency:		Upper Santa Clara Valley Water Agency	4
Agricultural Use	10	Ventura County Flood Control District	4
Municipal Use	6		
Kings County (assumed)	8		
Littlerock Creek Irrigation District	4		
The Metropolitan Water District of Southern California	1		
Mojave Water Agency	4		

Type No.	Description
1.	Repayment of allocated capital costs in 50 equal annual installments, with initial payment due in calendar year 1963.
2.	Repayment of allocated capital costs in 50 equal annual installments, with initial payment due in calendar year 1963 and with principal payments on each annual capital cost prior to 1971 delayed until calendar year 1972, except payments for 1963.
3.	Repayment of allocated capital costs in 50 equal annual installments, with initial payment due in calendar year 1963 but deferred and added to the 1964 payment with accrued interest.
4.	Repayment of allocated capital costs in 50 equal annual installments, with initial payment due in calendar year 1964.
5.	Repayment of allocated capital costs in 50 equal annual installments, with initial payment due in calendar year 1964, except that all principal and interest payments for costs of the "Coastal Stub" are assumed deferred until 1976.
6.	Repayment of allocated capital costs in 50 equal annual installments, with initial payment due in calendar year 1965.
7.	Repayment of allocated capital costs in 50 equal annual intallments, with initial payment due in calendar year 1966.
8.	Repayment of allocated capital costs in 50 equal annual installments, with initial payment due in calendar year 1968.
9.	Repayment of allocated capital costs in 50 equal annual installments, with initial payment due in calendar year 1968.
10.	Repayment of allocated capital costs on the basis of an equivalent unit rate applied to annual entitlements within the project repayment period.
11.	Payments on the Delta Water Charge only. (Plumas County Flood Control and Water Conservation District may eventually be assessed a Transportation Charge.)

1. An annual unit charge per acre-foot of deliveries from or through each reach is determined. This is to recover the estimated variable operation, maintenance, power and replacement costs for each year applicable to each reach.

2. The total charge to any contractor for a given reach is obtained by multiplying the unit charge associated with that reach by the quantity of water delivered from or through the reach to the contractor.

The annual unit charges referred to in (1) above are presented in Table B-14. Data in that table have been computed by dividing the annual reach costs in the variable category, shown in Table B-10, by the total annual quantities delivered from or through the reach as shown in Table B-5. The unit variable charges presented in Table B-14 have been accumulated, from the Delta through the particular pumping and power recovery plant listed in the headings of the table, to facilitate their usage.

The annual total component of each water supply contractor is obtained by multiplying the appropriate reach deliveries of Table B-4 by the unit charges of Table B-14. The resulting variable operating components are summarized in Table B-15.

Total Annual Transportation Charges

Table B-16 presents the estimated total annual Transportation Charges for the entire project repayment period for each water supply contractor. Table B-16 constitutes the sum of the computed values shown in Table B-12, B-13, and B-15. These total charges are as calculated on the date of this bulletin. They do not include adjustments for overpayments or underpayments by water supply contractors who have made, or are under obligation to make, payments through the current calendar year. As indicated in the introduction to this appendix, these adjustments will be set forth in separate attachments to the individual statements of charges for each contractor.

TABLES TO APPENDIX B

B-1 thru B-16

TABLE B-1

MAXIMUM ANNUAL ENTITLEMENTS

PROJECT SERVICE AREA AND WATER SUPPLY CONTRACTOR	MAXIMUM ANNUAL ENTITLEMENT, IN ACRE-FEET
FEATHER RIVER AREA	
City of Yuba City (CYC)	9,600
County of Butte (CB)	27,500
Plumas County Flood Control and Water Conservation District (PCFC&WCD)	2,700
Total	39,800
NORTH BAY AREA	
Napa County Flood Control and Water Conservation District (NCFC&WCD)	25,000
Solano County Flood Control and Water Conservation District (SCFC&WCD)	42,000
Total	67,000
SOUTH BAY AREA	
Alameda County Flood Control and Water Conservation District, Zone 7 (ACFC&WCD)	46,000
Alameda County Water District (ACWD)	42,000
Santa Clara County Flood Control and Water District (SCCFC&WD)	100,000
Total	188,000
SAN JOAQUIN VALLEY AREA	
Devil's Den Water District (DDWD)	12,700
Dudley Ridge Water District (DRWD)	57,700
Empire West Side Irrigation District (EWSID)	3,000
Hacienda Water District (HWD)	8,500
Kern County Water Agency (KCWA)	1,153,400
Kings County* (KC)	4,000
Oak Flat Water District (OFWD)	5,700
Tulare Lake Basin Water Storage District (TLBWSD)	110,000
Total	1,355,000
CENTRAL COASTAL AREA	
San Luis Obispo County Flood Control and Water Conservation District (SLOCFC&WCD)	25,000
Santa Barbara County Flood Control and Water Conservation District (SBCFC&WCD)	57,700
Total	82,700
SOUTHERN CALIFORNIA AREA	
Antelope Valley-East Kern Water Agency (AVEKWA)	138,400
Coachella Valley County Water District (CVCWD)	23,100
Crestline-Lake Arrowhead Water Agency (CLAWA)	5,800
Desert Water Agency (DWA)	38,100
Future Contractor, Southern California* (FCSC)	4,600
Littlerock Creek Irrigation District (LCID)	2,300
Mojave Water Agency (MWA)	50,800
Palmdale Irrigation District (PID)	17,300
San Bernardino Valley Municipal Water District (SBVMWD)	98,000
San Gabriel Valley Municipal Water District (SGVMWD)	28,800
San Gorgonio Pass Water Agency (SGPWA)	17,300
The Metropolitan Water District of Southern California (MWD-SC)	2,011,500
Upper Santa Clara Valley Water Agency (USCVWA)	41,500
Ventura County Flood Control District (VCFCD)	20,000
Total	2,497,500
GRAND TOTAL	4,230,000

* Water supply contracts were being negotiated for the indicated maximum annual entitlements as of April 1, 1967.

TABLE B-2

PROJECT TRANSPORTATION FACILITIES, REACH DELIVERY CAPABILITIES AND CAPACITIES

(in cubic feet per second, unless otherwise noted)

REACH NUMBER	REACH DESCRIPTION	WATER SUPPLY CONTRACTORS SERVED FROM REACH	MAXIMUM DELIVERIES FROM REACH		TOTAL CAPACITY PROVIDED FOR WATER SUPPLY CONTRACTORS[1]	ADDITIONAL CAPACITY[2]	TOTAL REACH CAPACITY
			ANNUAL ENTITLEMENTS, IN ACRE-FEET	MONTHLY, IN PERCENT OF ANNUAL			
			(1)	(2)	(3)	(4)	(5)
	NORTH BAY AQUEDUCT						
1	Lindsey Slough to Suisun City	-	-	-	117	0	117
2	Suisun City to Cordelia Pumping Plant	Solano County Flood Control and Water Conservation District	37,800	11	115	0	115
3	Cordelia Pumping Plant to Napa turnout reservoir	Napa County Flood Control and Water Conservation District	25,000	11	46	0	46
	SOUTH BAY AQUEDUCT						
1	Bethany reservoir to Altamont turnout	-	-	-	300	0	300
2	Altamont turnout thru Patterson Reservoir	Alameda County Flood Control and Water Conservation District, Zone 7	17,000	11	300	0	300
4	Patterson Reservoir to Del Valle junction	-	-	-	300	0	300
5	Del Valle junction thru Del Valle reservoir	Future Contractor - South Bay	12,000[4]	11	30,000 AF	0	30,000 AF
6	Del Valle junction to South Livermore turnout	Alameda County Flood Control and Water Conservation District, Zone 7	29,000	11	332	31	363
7	South Livermore turnout to Vallecitos turnout	Alameda County Water District	37,000	11[3]	279	26	305
8	Vallecitos turnout to Alameda-Bayside turnout	Alameda County Water District Future Contractor - South Bay	5,000[4] 25,000[4]	11[3] 11	246	9	255
9	Alameda-Bayside turnout to Santa Clara terminal facilities	Santa Clara County Flood Control and Water District	100,000	11	184	0	184
	CALIFORNIA AQUEDUCT						
1	Delta thru Bethany reservoir	-	-	-	8,432	74	10,300[5]
2A	Bethany reservoir to Orestimba Creek	Oak Flat Water District	5,700	18	8,131	74	10,000[5]
2B	Orestimba Creek to O'Neill Forebay	-	-	-	8,077	74	10,000[5]
3	O'Neill Forebay to Dos Amigos Pumping Plant	-	-	-	8,065	74	8,139[6]
4	Dos Amigos Pumping Plant to Panoche Creek	-	-	-	8,053	74	8,127[6]
5	Panoche Creek to Five Points	-	-	-	8,037	74	8,111[6]
6	Five Points to Arroyo Pasajero	-	-	-	8,013	74	8,087[6]
7	Arroyo Pasajero to Kettleman City	-	-	-	8,003	74	8,077[6]
8A	Kettleman City to State Route 41	Empire West Side Irrigation District Kings County Tulare Lake Basin Water Storage District	3,000 4,000 61,050	18 11 18	8,177	74	8,251[6]
8B	State Route 41 to Avenal Gap	Dudley Ridge Water District Hacienda Water District Tulare Lake Basin Water Storage District	57,700 8,500 48,950	18 18 18	7,977	123	8,100

Footnotes shown on Sheet 3.

TABLE B-2 (Continued)

PROJECT TRANSPORTATION FACILITIES, REACH DELIVERY CAPABILITIES AND CAPACITIES

(In cubic feet per second, unless otherwise noted)

REACH NUMBER	REACH DESCRIPTION	WATER SUPPLY CONTRACTORS SERVED FROM REACH	MAXIMUM DELIVERIES FROM REACH		TOTAL CAPACITY PROVIDED FOR WATER SUPPLY CONTRACTORS[1]	ADDITIONAL CAPACITY[2]	TOTAL REACH CAPACITY
			ANNUAL ENTITLEMENTS, IN ACRE-FEET	MONTHLY, IN PERCENT OF ANNUAL			
			(1)	(2)	(3)	(4)	(5)
	CALIFORNIA AQUEDUCT (Continued)						
9	Avenal Gap to Twisselman Road	Kern County Water Agency - Agriculture	46,900	18	7,188	112	7,300
10A	Twisselman Road to Lost Hills	Kern County Water Agency - Agriculture	265,800	18	7,038	112	7,150
11B	Lost Hills to 7th Standard Road	Kern County Water Agency - Agriculture	126,300	18	6,234	116	6,350
12D	7th Standard Road to Elk Hills Road	Kern County Water Agency - Agriculture	3,700	18	5,851	99	5,950
12E	Elk Hills Road to Tupman Road	Kern County Water Agency - Agriculture Kern County Water Agency - M. & I.	130,800 77,400	18 11	5,830	120	5,950
13B	Tupman Road to Buena Vista Pumping Plant	Kern County Water Agency - Agriculture Kern County Water Agency - M. & I.	86,800 25,200	18 11	5,293	57	5,350
14A	Buena Vista Pumping Plant to Santiago Creek	Kern County Water Agency - Agriculture	37,500	18	4,979	71	5,050
14B	Santiago Creek to Old River Road	Kern County Water Agency - Agriculture	60,700	18	4,859	41	4,900
14C	Old River Road to Wheeler Ridge Pumping Plant	Kern County Water Agency - Agriculture	32,500	18	4,672	28	4,700
15A	Wheeler Ridge Pumping Plant to Wind Gap Pumping Plant	Kern County Water Agency - Agriculture	70,000	18	4,570	30	4,600
16A	Wind Gap Pumping Plant to Tehachapi Pumping Plant	Kern County Water Agency - Agriculture Kern County Water Agency - M. & I.	74,100 12,000	18 11	4,360	40	4,400
17C	Tehachapi Pumping Plant to Beartrap access structure	Kern County Water Agency - M. & I.	5,000	11	4,108	42	4,150
17D	Beartrap access structure to junction, West Branch, California Aqueduct	-	-	-	4,099	51	4,150
18A	Junction, West Branch, California Aqueduct thru Cottonwood Powerplant	-	-	-	1,617	25	1,642
19	Cottonwood Powerplant to Fairmont	Antelope Valley-East Kern Water Agency	74,400	8-1/3	1,616	25	1,641
20A	Fairmont to 70th Street West	Antelope Valley-East Kern Water Agency	43,800	8-1/3	1,499	26	1,525
20B	70th Street West to Palmdale	Palmdale Irrigation District	17,300	8-1/3	1,428	32	1,460
21	Palmdale to Littlerock Creek	Littlerock Creek Irrigation District Antelope Valley-East Kern Water Agency	2,300 10,100	8-1/3 8-1/3	1,397	27	1,424
22A	Littlerock Creek to Pearblossom Pumping Plant	Antelope Valley-East Kern Water Agency	10,100	8-1/3	1,376	27	1,403
22C	Pearblossom Pumping Plant to Antelope siphon	Coachella Valley County Water District Desert Water Agency Mojave Water Agency	23,100 38,100 50,800	11 11 8-1/3	1,360	21	1,381
23A	Antelope siphon to Cedar Springs Lake	-	-	-	1,268	15	1,284
24	Cedar Springs Dam and Lake	Crestline-Lake Arrowhead Water Agency	5,800	11	72,640 AF	-	72,640 AF
25	Cedar Springs Lake to South Portal, San Bernardino Tunnel	San Gorgonio Pass Water Agency	17,300	11	1,990	24	2,014

Footnotes shown on Sheet 3

TABLE B-2 (Continued)

TABLE B-2 (Continued)

PROJECT TRANSPORTATION FACILITIES, REACH DELIVERY CAPABILITIES AND CAPACITIES

(in cubic feet per second, unless otherwise noted)

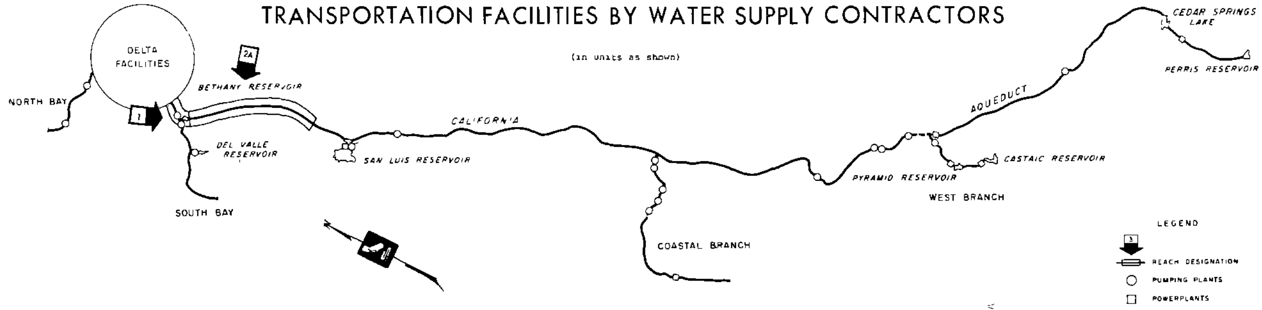
REACH NUMBER	REACH DESCRIPTION	WATER SUPPLY CONTRACTORS SERVED FROM REACH	MAXIMUM DELIVERIES FROM REACH		TOTAL CAPACITY PROVIDED FOR WATER SUPPLY CONTRACTORS 1/	ADDITIONAL CAPACITY 2/	TOTAL REACH CAPACITY
			ANNUAL ENTITLEMENTS, IN ACRE-FEET	MONTHLY, IN PERCENT OF ANNUAL			
			(1)	(2)	(3)	(4)	(5)
	CALIFORNIA AQUEDUCT (Continued)						
26A	South Portal, San Bernardino Tunnel thru Devil Canyon Powerplant	The Metropolitan Water District of Southern California	284,000	11	1,172	9	1,181
		San Gabriel Valley Municipal Water District	28,800	10			
		Future Contractor - Southern California	4,600	11			
28D	Devil Canyon Powerplant to Warm Creek	San Bernardino Valley Municipal Water District	98,000	11	598	17	615
28E	Warm Creek to Perris reservoir	-	-	-	419	9	428
28F	Perris Dam and reservoir	The Metropolitan Water District of Southern California	272,500	11	99,000 AF	-	99,000 AF
	WEST BRANCH						
29A	Junction, West Branch, California Aqueduct thru Oso Pumping Plant	-	-	-	3,102	12	3,114
29B	Oso Pumping Plant to State Route 138	-	-	-	3,101	12	3,113
29C	State Route 138 thru Pyramid Powerplant	-	-	-	3,097	8	3,105
29D	Pyramid Dam and reservoir	-	-	-	130,100 AF	-	130,100 AF
29E	Pyramid reservoir thru Castaic Powerplant	-	-	-	3,085	7	3,092
30	Castaic Dam and reservoir	The Metropolitan Water District of Southern California	1,455,000	11	334,000 AF	-	334,000 AF
		Upper Santa Clara Valley Water Agency	41,500	11			
		Ventura County Flood Control District	20,000	11			
	COASTAL BRANCH						
31A	Avenal Gap to Devil's Den Pumping Plant	Devil's Den Water District	12,700	18	449	1	450
		Kern County Water Agency - Agriculture	105,100	18 7/			
33A	Devil's Den Pumping Plant thru San Luis Obispo Powerplant	San Luis Obispo County Flood Control and Water Conservation District	10,000	8-1/3	126	0	126
34	San Luis Obispo Powerplant to Arroyo Grande	San Luis Obispo County Flood Control and Water Conservation District	5,000	8-1/3	110	0	110
35	Arroyo Grande to Santa Maria terminus	San Luis Obispo County Flood Control and Water Conservation District	10,000	8-1/3	102	0	102
		Santa Barbara County Flood Control and Water Conservation District	57,700	8-1/3			

1/ For detailed break-down of capacities provided for water supply contractors, see Table B-3.
2/ Additional capacity includes that provided for practical design considerations and for project purposes other than water supply.
3/ Maximum monthly delivery in percent of annual entitlement is 11 percent with 16 cfs (5,000 AF) delivered in Reach No. 8 and the balance in Reach No. 7.
4/ Maximum annual entitlement of a future contractor is considered for allocation purposes to be 25,000 AF in Reach No. 8; 10,000 AF in Reach Nos. 6 and 7; and 22,000 AF in Reach Nos. 1, 2, 4, and 5 of the South Bay Aqueduct.
5/ Total reach capacities for both project conservation facilities and project transportation facilities. Required capacities for project transportation facilities are 8,506 cubic feet per second in Reach No. 1, 8,205 cubic feet per second in Reach No. 2A, and 8,151 cubic feet per second in Reach No. 2B
6/ Total reach capacities required for the State Water Project; not the State's share of design capacities of reaches currently under construction.
7/ Water will be delivered through available capacity at less than 18 percent of maximum annual entitlement.

TABLE B-2 (Continued)

TABLE B-3
REACH SUMMARY OF PROPORTIONATE USE OF PROJECT TRANSPORTATION FACILITIES BY WATER SUPPLY CONTRACTORS

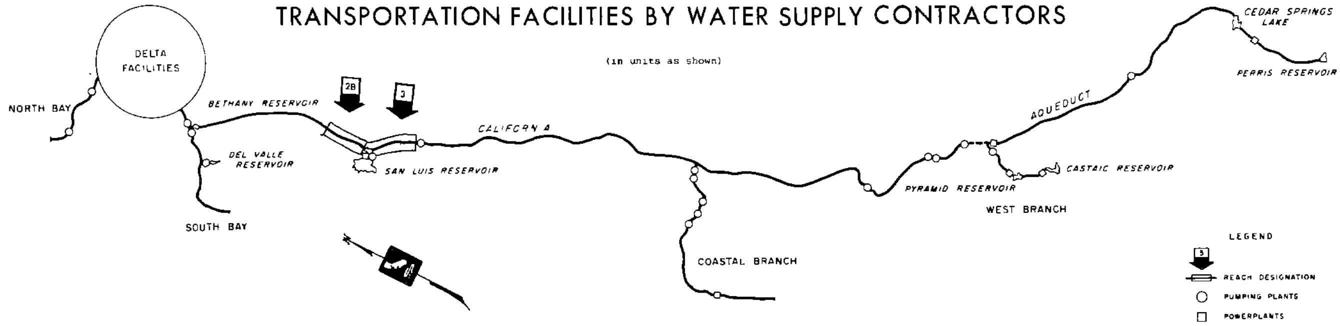
(in units as shown)



WATER SUPPLY CONTRACTOR	MEASURE OF USE		MAXIMUM ANNUAL ENTITLEMENTS DELIVERED FROM REACH	ESTIMATED OPERATIONAL LOSSES WITHIN REACH	CAPACITY PROVIDED IN REACH: FOR DELIVERY OF ENTITLEMENTS	FOR COMPENSATION OF: OPERATIONAL LOSSES	SCHEDULED OUTAGES	DOWNSTREAM REGULATION	SUBTOTAL	PROPORTIONATE USE FOR ALLOCATION OF CAPITAL COSTS: RATIOS OF TOTAL REACH USE	AVERAGE OF RATIOS	CAPACITY PROVIDED IN REACH: FOR REQUESTED EXCESS PEAKING	TOTAL FOR WATER SUPPLY CONTRACTORS	PROPORTIONATE USE FOR ALLOCATION OF MINIMUM OMP&R COSTS: RATIOS OF TOTAL REACH USE	AVERAGE OF RATIOS
	(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
REACH 1 – DELTA THRU BETHANY RESERVOIR															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY,	AF	0	295.5	2011500.0	132659.6	0	0	2144159.6	.49251058			2144159.6	.49251058	
	CAPACITY,	CFS	0	.48637	2863.07637	208.78743	184.61850	0	3256.48230	.38619722	.43935390	0	3256.48230	.38619722	.43935390
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY	AF	0	14.5	98000.0	7200.4	0	0	105200.4	.02416439			105200.4	.02416439	
	CAPACITY,	CFS	0	.02387	164.57133	11.66066	.73472	0	176.96671	.02098708	.02257574	0	176.96671	.02098708	.02257574
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY,	AF	0	4.3	28800.0	2116.4	0	0	30916.4	.00710146			30916.4	.00710146	
	CAPACITY,	CFS	0	.00708	45.15128	3.42742	1.26003	0	49.83873	.00591054	.00650600	0	49.83873	.00591054	.00650600
FUTURE CONTRACTOR-SOUTHERN CALIFORNIA	QUANTITY	AF	0	.7	4600.0	337.8	0	0	4937.8	.00113421			4937.8	.00113421	
	CAPACITY	CFS	0	.00115	7.72965	.54703	.03290	0	8.30958	.00098546	.00105983	0	8.30958	.00098546	.00105983
SAN GORGONIO PASS WATER AGENCY	QUANTITY	AF	0	2.6	17300.0	1271.5	0	0	18571.5	.00426585			18571.5	.00426585	
	CAPACITY	CFS	0	.00428	29.05110	2.05912	.12996	0	31.24018	.00370488	.00398536	0	31.24018	.00370488	.00398536
CRESTLINE LAKE ARROWHEAD WATER AGENCY	QUANTITY,	AF	0	.9	5800.0	425.9	0	0	6225.9	.00143008			6225.9	.00143008	
	CAPACITY	CFS	0	.00146	9.73527	.68974	.04500	0	10.47001	.00124167	.00133588	0	10.47001	.00124167	.00133588
MOJAVE WATER AGENCY	QUANTITY	AF	0	7.5	50800.0	3289.7	0	0	54089.7	.01242433			54089.7	.01242433	
	CAPACITY	CFS	0	.01234	70.16895	5.41464	5.26267	0	80.84626	.00958783	.01100608	0	80.84626	.00958783	.01100608
DESERT WATER AGENCY	QUANTITY	AF	0	5.6	38100.0	2467.3	0	0	40567.3	.00931825			40567.3	.00931825	
	CAPACITY	CFS	0	.00922	63.98093	4.06100	.25674	0	68.29867	.00809977	.00870901	0	68.29867	.00809977	.00870901
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY,	AF	0	3.4	23100.0	1495.8	0	0	24595.8	.00564962			24595.8	.00564962	
	CAPACITY	CFS	0	.00560	38.78637	2.46201	.15736	0	41.40574	.00491045	.00528003	0	41.40574	.00491045	.00528003
ANTELOPE VALLEY-EAST KERN WATER AGENCY	QUANTITY	AF	0	19.9	138400.0	6169.5	0	0	144569.5	.03320742			144569.5	.03320742	
	CAPACITY	CFS	0	.03275	191.16895	10.15457	14.33767	0	215.66119	.02557599	.02939170	0	215.66119	.02557599	.02939170
LITTLEROCK CREEK IRRIGATION DISTRICT	QUANTITY	AF	0	.3	2300.0	119.0	0	0	2419.0	.00055564			2419.0	.00055564	
	CAPACITY	CFS	0	.00049	3.17694	.19587	.23827	0	3.61108	.00042825	.00049195	0	3.61108	.00042825	.00049195
PALMDALE IRRIGATION DISTRICT	QUANTITY	AF	0	2.5	17300.0	857.4	0	0	18157.4	.00417073			18157.4	.00417073	
	CAPACITY,	CFS	0	.00411	23.89612	1.41124	1.79221	0	27.09957	.00321383	.00369228	0	27.09957	.00321383	.00369228
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY	AF	0	2.9	20000.0	1116.7	0	0	21116.7	.00485048			21116.7	.00485048	
	CAPACITY	CFS	0	.00477	27.62557	1.75740	2.10347	0	31.48644	.00373408	.00429228	0	31.48644	.00373408	.00429228
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY	AF	0	6.0	41500.0	2317.5	0	0	43817.5	.01006482			43817.5	.01006482	
	CAPACITY	CFS	0	.00988	57.32306	3.64716	4.36471	0	65.33493	.00774829	.00890656	0	65.33493	.00774829	.00890656
KERN COUNTY WATER AGENCY – MUNICIPAL & INDUSTRIAL	QUANTITY	AF	0	17.0	119600.0	3600.6	0	0	123200.6	.02829901			123200.6	.02829901	
	CAPACITY	CFS	0	.02798	218.06521	5.92634	0	0	223.99155	.02656391	.02743146	0	223.99155	.02656391	.02743146
KERN COUNTY WATER AGENCY – AGRICULTURAL	QUANTITY	AF	0	146.5	1033800.0	29515.6	0	0	1063315.6	.24424217			1063315.6	.24424217	
	CAPACITY	CFS	0	.24113	3058.92860	48.58062	0	0	3107.50922	.36853000	.30638608	0	3107.50922	.36853000	.30638608
SANTA BARBARA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY	AF	0	8.4	57700.0	3384.8	0	0	61084.8	.01403110			61084.8	.01403110	
	CAPACITY	CFS	0	.01383	79.69977	5.24045	6.10693	0	91.04715	.01079759	.01241434	0	91.04715	.01079759	.01241434
SAN LUIS OBISPO COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY	AF	0	3.6	25000.0	1165.2	0	0	26165.2	.00601011			26165.2	.00601011	
	CAPACITY,	CFS	0	.00593	34.53197	1.85155	2.61585	0	38.99937	.00462507	.00531759	0	38.99937	.00462507	.00531759
DEVIL'S DEN WATER DISTRICT	QUANTITY	AF	0	1.8	12700.0	351.3	0	0	13051.3	.00299787			13051.3	.00299787	
	CAPACITY	CFS	0	.00296	37.89123	.57823	0	0	38.46946	.00456222	.00378005	0	38.46946	.00456222	.00378005
DUDLEY RIDGE WATER DISTRICT	QUANTITY,	AF	0	8.1	57700.0	1190.4	0	0	58890.4	.01352705			58890.4	.01352705	
	CAPACITY	CFS	0	.01333	172.15151	1.95932	0	0	174.11083	.02064839	.01708772	0	174.11083	.02064839	.01708772
TULARE LAKE BASIN WATER STORAGE DISTRICT	QUANTITY,	AF	0	15.5	110000.0	2176.9	0	0	112176.9	.02576688			112176.9	.02576688	
	CAPACITY	CFS	0	.02551	328.19179	3.58302	0	0	331.77481	.03934629	.03255659	0	331.77481	.03934629	.03255659
HACIENDA WATER DISTRICT	QUANTITY	AF	0	1.2	8500.0	175.3	0	0	8675.3	.00199270			8675.3	.00199270	
	CAPACITY	CFS	0	.00198	25.36027	.28854	0	0	25.64881	.00304178	.00251724	0	25.64881	.00304178	.00251724
EMPIRE WEST SIDE IRRIGATION	QUANTITY	AF	0	.4	3000.0	57.2	0	0	3057.2	.00070223			3057.2	.00070223	
	CAPACITY	CFS	0	.00066	8.95069	.09415	0	0	9.04484	.00107266	.00088745	0	9.04484	.00107266	.00088745
KINGS COUNTY	QUANTITY	AF	0	.6	4000.0	76.6	0	0	4076.6	.00093639			4076.6	.00093639	
	CAPACITY	CFS	0	.00099	7.29315	.12607	0	0	7.41922	.00087987	.00090813	0	7.41922	.00087987	.00090813
OAK FLAT WATER DISTRICT	QUANTITY	AF	0	.8	5700.0	32.1	0	0	5732.1	.00131666			5732.1	.00131666	
	CAPACITY	CFS	0	.00132	17.00630	.05284	0	0	17.05914	.00202310	.00166988	0	17.05914	.00202310	.00166988
SANTA CLARA COUNTY FLOOD CONTROL AND WATER DISTRICT	QUANTITY	AF	0	14.0	100000.0	1735.6	0	0	101735.6	.02336853			101735.6	.02336853	
	CAPACITY,	CFS	0	.02304	149.02297	2.40105	1.70237	0	153.12639	.01815978	.02076415	0	153.12639	.01815978	.02076415
ALAMEDA COUNTY WATER DISTRICT	QUANTITY	AF	0	5.9	42000.0	718.4	0	0	42718.4	.00981236			42718.4	.00981236	
	CAPACITY	CFS	0	.00971	62.60515	.99388	.71499	0	64.31402	.00762722	.00871979	0	64.31402	.00762722	.00871979
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT ZONE 7	QUANTITY	AF	0	6.4	46000.0	724.6	0	0	46724.6	.01073258			46724.6	.01073258	
	CAPACITY	CFS	0	.01053	68.55218	1.00256	.78308	0	70.33782	.00834160	.00953709	0	70.33782	.00834160	.00953709
FUTURE CONTRACTOR – SOUTH BAY	QUANTITY	AF	0	3.2	22000.0	1580.9	0	0	23580.9	.00541650			23580.9	.00541650	
	CAPACITY	CFS	0	.00527	9.71128	2.18452	.37452	0	12.27032	.00145518	.00343584	0	12.27032	.00145518	.00343584
TOTAL	QUANTITY	AF	0	600.0	4145200.0	208330.0	0	0	4353530.0	1.00000000			4353530.0	1.00000000	
	CAPACITY	CFS	0	.98756	7873.40396	331.13843	227.63195	0	8432.17434	1.00000000	1.00000000	0	8432.17434	1.00000000	1.00000000
REACH 2A – BETHANY RESERVOIR TO ORESTIMBA CREEK															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY,	AF	0	11708.3	2011500.0	132364.1	0	0	2143864.1	.51806682			2143864.1	.51806682	
	CAPACITY,	CFS	0	19.27106	2863.07637	208.30106	184.61850	0	3255.99593	.40043305	.45924993	0	3255.99593	.40043305	.45924993
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY	AF	0	574.4	98000.0	7185.9	0	0	105185.9	.02541827			105185.9	.02541827	
	CAPACITY	CFS	0	.94542	164.57133	11.63679	.73472	0	176.94284	.02176101	.02358964	0	176.94284	.02176101	.02358964
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY	AF	0	168.8	28800.0	2112.1	0	0	30912.1	.00746994			30912.1	.00746994	
	CAPACITY	CFS	0	.27783	45.15128	3.42034	1.26003	0	49.83165	.00612846	.00679920	0	49.83165	.00612846	.00679920
FUTURE CONTRACTOR SOUTHERN CALIFORNIA	QUANTITY	AF	0	27.0	4600.0	337.1	0	0	4937.1	.00119306			4937.1	.00119306	
	CAPACITY	CFS	0	.04444	7.72965	.54588	.03290	0	8.30843	.00102180	.00110743	0	8.30843	.00102180	.00110743
SAN GORGONIO PASS WATER AGENCY	QUANTITY	AF	0	101.4	17300.0	1268.9	0	0	18568.9	.00448719			18568.9	.00448719	
	CAPACITY	CFS	0	.16690	29.05110	2.05484	.12996	0	31.23590	.00384149	.00416434	0	31.23590	.00384149	.00416434
CRESTLINE LAKE ARROWHEAD WATER AGENCY	QUANTITY	AF	0	34.0	5800.0	425.0	0	0	6225.0	.00150428			6225.0	.00150428	
	CAPACITY	CFS	0	.05596	9.73527	.68826	.04500	0	10.46853	.00128745	.00139587	0	10.46853	.00128745	.00139587
MOJAVE WATER AGENCY	QUANTITY	AF	0	295.4	50800.0	3282.2	0	0	54082.2	.01306902			54082.2	.01306902	
	CAPACITY	CFS	0	.48621	70.16895	5.40230	5.26267	0	80.83392	.00994122	.01150512	0	80.83392	.00994122	.01150512
DESERT WATER AGENCY	QUANTITY	AF	0	221.5	38100.0	2461.7	0	0	40561.7	.00980177			40561.7	.00980177	
	CAPACITY,	CFS	0	.36457	63.98093	4.05178	.25674	0	68.28945	.00839846	.00910012	0	68.28945	.00839846	.00910012
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY	AF	0	134.3	23100.0	1492.4	0	0	24592.4	.00594278			24592.4	.00594278	
	CAPACITY	CFS	0	.22105	38.78637	2.45641	.15736	0	41.40014	.00509153	.00551715	0	41.40014	.00509153	.00551715
ANTELOPE VALLEY EAST KERN WATER AGENCY	QUANTITY,	AF	0	789.4	138400.0	6149.6	0	0	144549.6	.03493055			144549.6	.03493055	
	CAPACITY,	CFS	0	1.29930	191.16895	10.12182	14.33767	0	215.62844	.02651869	.03072462	0	215.62844	.02651869	.03072462
LITTLEROCK CREEK IRRIGATION DISTRICT	QUANTITY,	AF	0	13.2	2300.0	118.7	0	0	2418.7	.00058448			2418.7	.00058448	
	CAPACITY,	CFS	0	.02173	3.17694	.19538	.23827	0	3.61059	.00044404	.00051426	0	3.61059	.00044404	.00051426
PALMDALE IRRIGATION DISTRICT	QUANTITY,	AF	0	99.1	17300.0	854.9	0	0	18154.9	.00438715			18154.9	.00438715	
	CAPACITY,	CFS	0	.16311	23.89612	1.40713	1.79221	0	27.09546	.00333229	.00385972	0	27.09546	.00333229	.00385972
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY	AF	0	115.3	20000.0	1113.8	0	0	21113.8	.00510217			21113.8	.00510217	
	CAPACITY,	CFS	0	.18978	27.62557	1.75263	2.10347	0	31.48167	.00387172	.00448695	0	31.48167	.00387172	.00448695
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY	AF	0	239.3	41500.0	2311.5	0	0	43811.5	.01058709			43811.5	.01058709	
	CAPACITY	CFS	0	.39387	57.32306	3.63728	4.36471	0	65.32505	.00803389	.00931049	0	65.32505	.00803389	.00931049
KERN COUNTY WATER AGENCY – MUNICIPAL & INDUSTRIAL	QUANTITY	AF	0	672.7	119600.0	3583.6	0	0	123183.6	.02976744			123183.6	.02976744	
	CAPACITY	CFS	0	1.10722	218.06521	5.89836	0	0	223.96357	.02754377	.02865561	0	223.96357	.02754377	.02865561
KERN COUNTY WATER AGENCY – AGRICULTURAL	QUANTITY,	AF	0	5806.3	1033800.0	29369.1	0	0	1063169.1	.25691583			1063169.1	.25691583	
	CAPACITY,	CFS	0	9.55677	3058.92860	48.33949	0	0	3107.26809	.38214201	.31952892	0	3107.26809	.38214201	.31952892
SANTA BARBARA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY	AF	0	333.6	57700.0	3376.4	0	0	61076.4	.01475917			61076.4	.01475917	
	CAPACITY	CFS	0	.54908	79.69977	5.22662	6.10693	0	91.03332	.01119558	.01297737	0	91.03332	.01119558	.01297737
SAN LUIS OBISPO COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY	AF	0	142.9	25000.0	1161.6	0	0	26161.6	.00632198			26161.6	.00632198	
	CAPACITY	CFS	0	.23520	34.53197	1.84562	2.61585	0	38.99344	.00479554	.00555876	0	38.99344	.00479554	.00555876
DEVIL S DEN WATER DISTRICT	QUANTITY	AF	0	71.3	12700.0	349.5	0	0	13049.5	.00315342			13049.5	.00315342	
	CAPACITY,	CFS	0	.11736	37.89123	.57527	0	0	38.46650	.00473074	.00394208	0	38.46650	.00473074	.00394208
DUDLEY RIDGE WATER DISTRICT	QUANTITY	AF	0	321.6	57700.0	1182.3	0	0	58882.3	.01422896			58882.3	.01422896	
	CAPACITY	CFS	0	.52933	172.15151	1.94590	0	0	174.09750	.02141108	.01782002	0	174.09750	.02141108	.01782002
TULARE LAKE BASIN WATER STORAGE DISTRICT	QUANTITY,	AF	0	612.5	110000.0	2161.4	0	0	112161.4	.02710391			112161.4	.02710391	
	CAPACITY,	CFS	0	1.00813	328.19179	3.55751	0	0	331.74930	.04079962	.03395176	0	331.74930	.04079962	.03395176
HACIENDA WATER DISTRICT	QUANTITY	AF	0	47.4	8500.0	174.1	0	0	8674.1	.00209610			8674.1	.00209610	
	CAPACITY	CFS	0	.07802	25.36027	.28656	0	0	25.64683	.00315413	.00262512	0	25.64683	.00315413	.00262512
EMPIRE WEST SIDE IRRIGATION	QUANTITY	AF	0	16.7	3000.0	56.8	0	0	3056.8	.00073868			3056.8	.00073868	
	CAPACITY	CFS	0	.02749	8.95069	.09349	0	0	9.04418	.00111228	.00092548	0	9.04418	.00111228	.00092548
KINGS COUNTY	QUANTITY	AF	0	22.3	4000.0	76.0	0	0	4076.0	.00098497			4076.0	.00098497	
	CAPACITY	CFS	0	.03670	7.29315	.12508	0	0	7.41823	.00091232	.00094864	0	7.41823	.00091232	.00094864
OAK FLAT WATER DISTRICT	QUANTITY	AF	5700.0	31.3	5700.0	31.3	0	0	5731.3	.00138497			5731.3	.00138497	
	CAPACITY	CFS	17.00630	.05152	17.00630	.05152	0	0	17.05782	.00209783	.00174140	0	17.05782	.00209783	.00174140
TOTAL	QUANTITY	AF	5700.0	22600.0	3935200.0	203000.0	0	0	4138200.0	1.00000000			4138200.0	1.00000000	
	CAPACITY	CFS	17.00630	37.19805	7583.51238	323.61741	224.05699	0	8131.18678	1.00000000	1.00000000	0	8131.18678	1.00000000	1.00000000

TABLE B-3 (Continued)
REACH SUMMARY OF PROPORTIONATE USE OF PROJECT TRANSPORTATION FACILITIES BY WATER SUPPLY CONTRACTORS

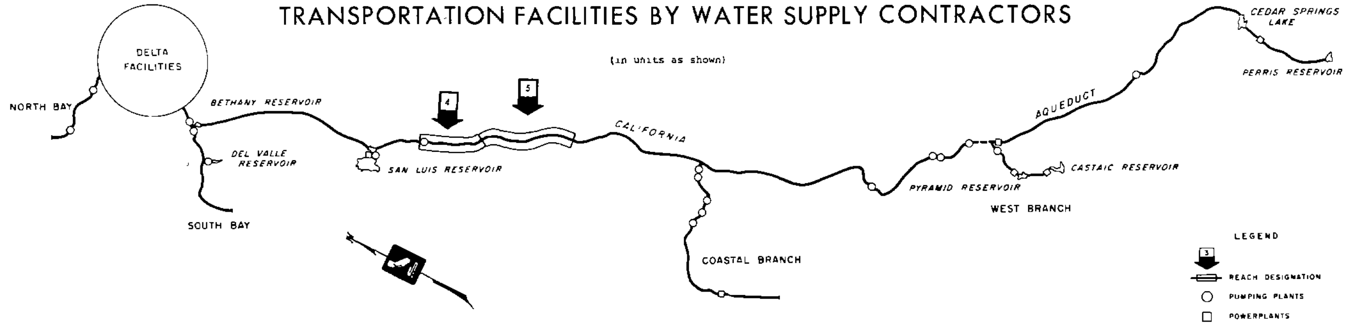
(in units as shown)



WATER SUPPLY CONTRACTOR	MEASURE OF USE (1)		MAXIMUM ANNUAL ENTITLEMENTS DELIVERED FROM REACH (2)	ESTIMATED OPERATIONAL LOSSES WITHIN REACH (3)	CAPACITY PROVIDED IN REACH: FOR DELIVERY OF ENTITLEMENTS (4)	FOR COMPENSATION OF: OPERATIONAL LOSSES (5)	SCHEDULED OUTAGES (6)	DOWNSTREAM REGULATION (7)	SUBTOTAL (8)	PROPORTIONATE USE FOR ALLOCATION OF CAPITAL COSTS: RATIOS OF TOTAL REACH USE (9)	AVERAGE OF RATIOS (10)	CAPACITY PROVIDED IN REACH: FOR REQUESTED EXCESS PEAKING (11)	TOTAL FOR WATER SUPPLY CONTRACTORS (12)	PROPORTIONATE USE FOR ALLOCATION OF MINIMUM OMP&R COSTS: RATIOS OF TOTAL REACH USE (13)	AVERAGE OF RATIOS (14)
REACH 2B – ORESTIMBA CREEK TO O'NEILL FOREBAY															
THE METROPOLITAN WATER DISTRICT	QUANTITY,	AF	0	3890.9	2011500.0	120655.8	0	0	2132155.8	.51878532			2132155.8	.51878532	
OF SOUTHERN CALIFORNIA	CAPACITY,	CFS	0	6.40416	2863.07637	189.03000	184.61850	0	3236.72487	.40073442	.45975987	0	3236.72487	.40073442	.45975987
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY,	AF	0	190.9	98000.0	6611.5	0	0	104611.5	.02545354			104611.5	.02545354	
	CAPACITY	CFS	0	.31421	164.57133	10.69137	.73472	0	175.99742	.02179000	.02362177	0	175.99742	.02179000	.02362177
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY,	AF	0	56.1	28800.0	1943.3	0	0	30743.3	.00748030			30743.3	.00748030	
	CAPACITY	CFS	0	.09234	45.15128	3.14251	1.26003	0	49.55382	.00613519	.00680775	0	49.55382	.00613519	.00680775
FUTURE CONTRACTOR-SOUTHERN CALIFORNIA	QUANTITY,	AF	0	9.0	4600.0	310.1	0	0	4910.1	.00119470			4910.1	.00119470	
	CAPACITY,	CFS	0	.01481	7.72965	.50144	.03290	0	8.26399	.00102315	.00110893	0	8.26399	.00102315	.00110893
SAN GORGONIO PASS WATER AGENCY	QUANTITY,	AF	0	33.7	17300.0	1167.5	0	0	18467.5	.00449342			18467.5	.00449342	
	CAPACITY.	CFS	0	.05547	29.05110	1.88794	.12996	0	31.06900	.00384661	.00417001	0	31.06900	.00384661	.00417001
CRESTLINE LAKE ARROWHEAD WATER AGENCY	QUANTITY	AF	0	11.3	5800.0	391.0	0	0	6191.0	.00150636			6191.0	.00150636	
	CAPACITY	CFS	0	.01860	9.73527	.63230	.04500	0	10.41257	.00128917	.00139777	0	10.41257	.00128917	.00139777
MOJAVE WATER AGENCY	QUANTITY	AF	0	98.2	50800.0	2986.8	0	0	53786.8	.01308713			53786.8	.01308713	
	CAPACITY	CFS	0	.16163	70.16895	4.91609	5.26267	0	80.34771	.00994774	.01151744	0	80.34771	.00994774	.01151744
DESERT WATER AGENCY	QUANTITY	AF	0	73.6	38100.0	2240.2	0	0	40340.2	.00981537			40340.2	.00981537	
	CAPACITY	CFS	0	.12114	63.98093	3.68721	.25674	0	67.92488	.00840968	.00911253	0	67.92488	.00840968	.00911253
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY	AF	0	44.6	23100.0	1358.1	0	0	24458.1	.00595102			24458.1	.00595102	
	CAPACITY	CFS	0	.07341	38.78637	2.23536	.15736	0	41.17909	.00509833	.00552467	0	41.17909	.00509833	.00552467
ANTELOPE VALLEY EAST KERN WATER AGENCY	QUANTITY	AF	0	262.3	138400.0	5360.2	0	0	143760.2	.03497900			143760.2	.03497900	
	CAPACITY	CFS	0	.43173	191.16895	8.82252	14.33767	0	214.32914	.02653579	.03075740	0	214.32914	.02653579	.03075740
LITTLEROCK CREEK IRRIGATION DISTRICT	QUANTITY,	AF	0	4.4	2300.0	105.5	0	0	2405.5	.00058529			2405.5	.00058529	
	CAPACITY	CFS	0	.00724	3.17694	.17365	.23827	0	3.58886	.00044433	.00051481	0	3.58886	.00044433	.00051481
PALMDALE IRRIGATION DISTRICT	QUANTITY,	AF	0	33.0	17300.0	55.8	0	0	18055.8	.00439325			18055.8	.00439325	
	CAPACITY,	CFS	0	.05432	23.89612	1.24402	1.79221	0	26.93235	.00333446	.00386385	0	26.93235	.00333446	.00386385
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY.	AF	0	38.3	20000.0	998.5	0	0	20998.5	.00510925			20998.5	.00510925	
	CAPACITY,	CFS	0	.06304	27.62557	1.56285	2.10347	0	31.29189	.00387421	.00449173	0	31.29189	.00387421	.00449173
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY.	AF	0	79.5	41500.0	2072.2	0	0	43572.2	.01060177			43572.2	.01060177	
	CAPACITY.	CFS	0	.13085	57.32306	3.24341	4.36471	0	64.93118	.00803904	.00932040	0	64.93118	.00803904	.00932040
KERN COUNTY WATER AGENCY – MUNICIPAL & INDUSTRIAL	QUANTITY,	AF	0	223.6	119600.0	2910.9	0	0	122510.9	.02980873			122510.9	.02980873	
	CAPACITY	CFS	0	.36803	218.06521	4.79114	0	0	222.85635	.02759154	.02870013	0	222.85635	.02759154	.02870013
KERN COUNTY WATER AGENCY – AGRICULTURAL	QUANTITY,	AF	0	1929.5	1033800.0	23562.8	0	0	1057362.8	.25727215			1057362.8	.25727215	
	CAPACITY,	CFS	0	3.17582	3058.92860	38.78272	0	0	3097.71132	.38352334	.32039775	0	3097.71132	.38352334	.32039775
SANTA BARBARA COUNTY FLOOD CONTROL	QUANTITY	AF	0	110.8	57700.0	3042.8	0	0	60742.8	.01477963			60742.8	.01477963	
AND WATER CONSERVATION DISTRICT	CAPACITY	CFS	0	.18237	79.69977	4.67754	6.10693	0	90.48424	.01120273	.01299118	0	90.48424	.01120273	.01299118
SAN LUIS OBISPO COUNTY FLOOD CONTROL	QUANTITY	AF	0	47.5	25000.0	1018.7	0	0	26018.7	.00633074			26018.7	.00633074	
AND WATER CONSERVATION DISTRICT	CAPACITY	CFS	0	.07818	34.53197	1.61042	2.61585	0	38.75824	.00479860	.00556467	0	38.75824	.00479860	.00556467
DEVIL'S DEN WATER DISTRICT	QUANTITY.	AF	0	23.7	12700.0	278.2	0	0	12978.2	.00315779			12978.2	.00315779	
	CAPACITY	CFS	0	.03901	37.89123	.45791	0	0	38.34914	.00474795	.00395287	0	38.34914	.00474795	.00395287
DUDLEY RIDGE WATER DISTRICT	QUANTITY	AF	0	106.9	57700.0	860.7	0	0	58560.7	.01424869			58560.7	.01424869	
	CAPACITY	CFS	0	.17595	172.15151	1.41666	0	0	173.56817	.02148923	.01786896	0	173.56817	.02148923	.01786896
TULARE LAKE BASIN WATER STORAGE DISTRICT	QUANTITY,	AF	0	203.6	110000.0	1548.9	0	0	111548.9	.02714151			111548.9	.02714151	
	CAPACITY.	CFS	0	.33511	328.19179	2.54938	0	0	330.74117	.04094861	.03404506	0	330.74117	.04094861	.03404506
HACIENDA WATER DISTRICT	QUANTITY	AF	0	15.7	8500.0	126.7	0	0	8626.7	.00209901			8626.7	.00209901	
	CAPACITY,	CFS	0	.02584	25.36027	.20854	0	0	25.56881	.00316564	.00263232	0	25.56881	.00316564	.00263232
EMPIRE WEST SIDE IRRIGATION	QUANTITY.	AF	0	5.5	3000.0	40.1	0	0	3040.1	.00073970			3040.1	.00073970	
	CAPACITY	CFS	0	.00905	8.95069	.06600	0	0	9.01669	.00111634	.00092802	0	9.01669	.00111634	.00092802
KINGS COUNTY	QUANTITY.	AF	0	7.4	4000.0	53.7	0	0	4053.7	.00098633			4053.7	.00098633	
	CAPACITY	CFS	0	.01218	7.29315	.08838	0	0	7.38153	.00091390	.00095011	0	7.38153	.00091390	.00095011
TOTAL	QUANTITY,	AF	0	7500.0	3929500.0	180400.0	0	0	4109900.0	1.00000000			4109900.0	1.00000000	
	CAPACITY,	CFS	0	12.34449	7566.50608	286.41936	224.05699	0	8076.98243	1.00000000	1.00000000	0	8076.98243	1.00000000	1.00000000
REACH 3 – O'NEILL FOREBAY TO DOS AMIGOS PUMPING PLANT															
THE METROPOLITAN WATER DISTRICT	QUANTITY	AF	0	3735.3	2011500.0	116764.9	0	0	2128264.9	.51878532			2128264.9	.51878532	
OF SOUTHERN CALIFORNIA	CAPACITY,	CFS	0	6.14805	2863.07637	182.62584	184.61850	0	3230.32071	.40055372	.45966952	0	3230.32071	.40055372	.45966952
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY	AF	0	183.3	98000.0	6420.6	0	0	104420.6	.02545354			104420.6	.02545354	
	CAPACITY,	CFS	0	.30170	164.57133	10.37716	.73472	0	175.68321	.02178439	.02361896	0	175.68321	.02178439	.02361896
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY,	AF	0	53.9	28800.0	1887.2	0	0	30687.2	.00748031			30687.2	.00748031	
	CAPACITY,	CFS	0	.08872	45.15128	3.05017	1.26003	0	49.46148	.00613313	.00680672	0	49.46148	.00613313	.00680672
FUTURE CONTRACTOR-SOUTHERN CALIFORNIA	QUANTITY,	AF	0	8.6	4600.0	301.1	0	0	4901.1	.00119469			4901.1	.00119469	
	CAPACITY	CFS	0	.01415	7.72965	.48663	.03290	0	8.24918	.00102288	.00110879	0	8.24918	.00102288	.00110879
SAN GORGONIO PASS WATER AGENCY	QUANTITY,	AF	0	32.4	17300.0	1133.8	0	0	18433.8	.00449342			18433.8	.00449342	
	CAPACITY,	CFS	0	.05333	29.05110	1.83247	.12996	0	31.01353	.00384562	.00416952	0	31.01353	.00384562	.00416952
CRESTLINE LAKE ARROWHEAD WATER AGENCY	QUANTITY,	AF	0	10.8	5800.0	379.7	0	0	6179.7	.00150636			6179.7	.00150636	
	CAPACITY,	CFS	0	.01778	9.73527	.61370	.04500	0	10.39397	.00128883	.00139760	0	10.39397	.00128883	.00139760
MOJAVE WATER AGENCY	QUANTITY	AF	0	94.2	50800.0	2888.6	0	0	53688.6	.01308712			53688.6	.01308712	
	CAPACITY	CFS	0	.15505	70.16895	4.75446	5.26267	0	80.18608	.00994292	.01151502	0	80.18608	.00994292	.01151502
DESERT WATER AGENCY	QUANTITY	AF	0	70.7	38100.0	2166.6	0	0	40266.6	.00981538			40266.6	.00981538	
	CAPACITY	CFS	0	.11637	63.98093	3.56607	.25674	0	67.80374	.00840754	.00911146	0	67.80374	.00840754	.00911146
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY	AF	0	42.8	23100.0	1313.5	0	0	24413.5	.00595103			24413.5	.00595103	
	CAPACITY,	CFS	0	.07045	38.78637	2.16195	.15736	0	41.10568	.00509703	.00552403	0	41.10568	.00509703	.00552403
ANTELOPE VALLEY-EAST KERN WATER AGENCY	QUANTITY,	AF	0	251.9	138400.0	5097.9	0	0	143497.9	.03497901			143497.9	.03497901	
	CAPACITY.	CFS	0	.41461	191.16895	8.39079	14.33767	0	213.89741	.02652288	.03075094	0	213.89741	.02652288	.03075094
LITTLEROCK CREEK IRRIGATION DISTRICT	QUANTITY	AF	0	4.2	2300.0	101.1	0	0	2401.1	.00058529			2401.1	.00058529	
	CAPACITY,	CFS	0	.00691	3.17694	.16641	.23827	0	3.58162	.00044411	.00051470	0	3.58162	.00044411	.00051470
PALMDALE IRRIGATION DISTRICT	QUANTITY.	AF	0	31.6	17300.0	722.8	0	0	18022.8	.00439323			18022.8	.00439323	
	CAPACITY	CFS	0	.05201	23.89612	1.18970	1.79221	0	26.87803	.00333283	.00386303	0	26.87803	.00333283	.00386303
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY,	AF	0	36.8	20000.0	960.2	0	0	20960.2	.00510925			20960.2	.00510925	
	CAPACITY,	CFS	0	.06057	27.62557	1.49981	2.10347	0	31.22885	.00387232	.00449079	0	31.22885	.00387232	.00449079
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY	AF	0	76.3	41500.0	1992.7	0	0	43492.7	.01060177			43492.7	.01060177	
	CAPACITY	CFS	0	.12558	57.32306	3.11256	4.36471	0	64.80033	.00803512	.00931844	0	64.80033	.00803512	.00931844
KERN COUNTY WATER AGENCY – MUNICIPAL & INDUSTRIAL	QUANTITY.	AF	0	214.6	119600.0	2687.3	0	0	122287.3	.02980872			122287.3	.02980872	
	CAPACITY	CFS	0	.35322	218.06521	4.42311	0	0	222.48832	.02758813	.02869843	0	222.48832	.02758813	.02869843
KERN COUNTY WATER AGENCY – AGRICULTURAL	QUANTITY,	AF	0	1852.4	1033800.0	21633.3	0	0	1055433.3	.25727216			1055433.3	.25727216	
	CAPACITY.	CFS	0	3.04892	3058.92860	35.60690	0	0	3094.53550	.38371661	.32049438	0	3094.53550	.38371661	.32049438
SANTA BARBARA COUNTY FLOOD CONTROL	QUANTITY.	AF	0	106.4	57700.0	2932.0	0	0	60632.0	.01477964			60632.0	.01477964	
AND WATER CONSERVATION DISTRICT	CAPACITY.	CFS	0	.17513	79.69977	4.49517	6.10693	0	90.30187	.01119726	.01298845	0	90.30187	.01119726	.01298845
SAN LUIS OBISPO COUNTY FLOOD CONTROL	QUANTITY.	AF	0	45.6	25000.0	971.2	0	0	25971.2	.00633073			25971.2	.00633073	
AND WATER CONSERVATION DISTRICT	CAPACITY,	CFS	0	.07505	34.53197	1.53224	2.61585	0	38.68006	.00479626	.00556349	0	38.68006	.00479626	.00556349
DEVIL'S DEN WATER DISTRICT	QUANTITY	AF	0	22.7	12700.0	254.5	0	0	12954.5	.00315779			12954.5	.00315779	
	CAPACITY	CFS	0	.03736	37.89123	.41890	0	0	38.31013	.00475038	.00395408	0	38.31013	.00475038	.00395408
DUDLEY RIDGE WATER DISTRICT	QUANTITY,	AF	0	102.6	57700.0	753.8	0	0	58453.8	.01424868			58453.8	.01424868	
	CAPACITY,	CFS	0	.16887	172.15151	1.24071	0	0	173.39222	.02150031	.01787450	0	173.39222	.02150031	.01787450
TULARE LAKE BASIN WATER STORAGE DISTRICT	QUANTITY	AF	0	195.4	110000.0	1345.3	0	0	111345.3	.02714150			111345.3	.02714150	
	CAPACITY,	CFS	0	.32162	328.19179	2.21427	0	0	330.40606	.04096973	.03405562	0	330.40606	.04096973	.03405562
HACIENDA WATER DISTRICT	QUANTITY	AF	0	15.1	8500.0	111.0	0	0	8611.0	.00209902			8611.0	.00209902	
	CAPACITY	CFS	0	.02485	25.36027	.18270	0	0	25.54297	.00316728	.00263315	0	25.54297	.00316728	.00263315
EMPIRE WEST SIDE IRRIGATION	QUANTITY	AF	0	5.3	3000.0	34.6	0	0	3034.6	.00073971			3034.6	.00073971	
	CAPACITY	CFS	0	.00872	8.95069	.05695	0	0	9.00764	.00111693	.00092832	0	9.00764	.00111693	.00092832
KINGS COUNTY	QUANTITY	AF	0	7.1	4000.0	46.3	0	0	4046.3	.00098633			4046.3	.00098633	
	CAPACITY,	CFS	0	.01169	7.29315	.07620	0	0	7.36935	.00091379	.00095006	0	7.36935	.00091379	.00095006
TOTAL	QUANTITY	AF	0	7200.0	3929500.0	172900.0	0	0	4102400.0	1.00000000			4102400.0	1.00000000	
	CAPACITY.	CFS	0	11.85071	7566.50608	274.07487	224.05699	0	8064.63794	1.00000000	1.00000000	0	8064.63794	1.00000000	1.00000000

TABLE B-3 (Continued)
REACH SUMMARY OF PROPORTIONATE USE OF PROJECT TRANSPORTATION FACILITIES BY WATER SUPPLY CONTRACTORS

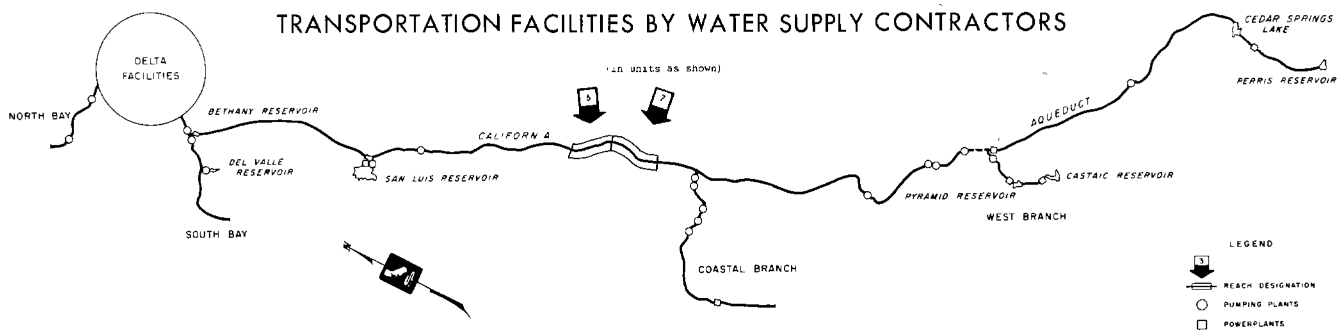
(in units as shown)



WATER SUPPLY CONTRACTOR	MEASURE OF USE (1)		MAXIMUM ANNUAL ENTITLEMENTS DELIVERED FROM REACH (2)	ESTIMATED OPERATIONAL LOSSES WITHIN REACH (3)	CAPACITY PROVIDED IN REACH: FOR DELIVERY OF ENTITLEMENTS (4)	FOR COMPENSATION OF: OPERATIONAL LOSSES (5)	SCHEDULED OUTAGES (6)	DOWNSTREAM REGULATION (7)	SUBTOTAL (8)	PROPORTIONATE USE FOR ALLOCATION OF CAPITAL COSTS: RATIOS OF TOTAL REACH USE (9)	AVERAGE OF RATIOS (10)	CAPACITY PROVIDED IN REACH: FOR REQUESTED EXCESS PEAKING (11)	TOTAL FOR WATER SUPPLY CONTRACTORS (12)	PROPORTIONATE USE FOR ALLOCATION OF MINIMUM OMP&R COSTS: RATIOS OF TOTAL REACH USE (13)	AVERAGE OF RATIOS (14)
REACH 4 – DOS AMIGOS PUMPING PLANT TO PANOCHE CREEK															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY CAPACITY	AF CFS	0 0	4928.5 8.11197	2011500.0 2863.07637	113029.6 176.47779	0 184.61850	0 0	2124529.6 3224.17266	.51878531 .40037971	.45958251	0	2124529.6 3224.17266	.51878531 .40037971	.45958251
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY CAPACITY,	AF CFS	0 0	241.8 .39799	98000.0 164.57133	6237.3 10.07546	0 .73472	0 0	104237.3 175.38151	.02545353 .02177898	.02361626	0	104237.3 175.38151	.02545353 .02177898	.02361626
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY CAPACITY,	AF CFS	0 0	71.1 .11703	28800.0 45.15128	1833.3 2.96145	0 1.26003	0 0	30633.3 49.37276	.00748029 .00613114	.00680572	0	30633.3 49.37276	.00748029 .00613114	.00680572
FUTURE CONTRACTOR-SOUTHERN CALIFORNIA	QUANTITY, CAPACITY,	AF CFS	0 0	11.4 .01876	4600.0 7.72965	292.5 .47248	0 .03290	0 0	4892.5 8.23503	.00119469 .00102263	.00110866	0	4892.5 8.23503	.00119469 .00102263	.00110866
SAN GORGONIO PASS WATER AGENCY	QUANTITY CAPACITY,	AF CFS	0 0	42.7 .07028	17300.0 29.05110	1101.4 1.77914	0 .12996	0 0	18401.4 30.96020	.00449341 .00384466	.00416903	0	18401.4 30.96020	.00449341 .00384466	.00416903
CRESTLINE-LAKE ARROWHEAD WATER AGENCY	QUANTITY, CAPACITY	AF CFS	0 0	14.3 .02354	5800.0 9.73527	368.9 .59592	0 .04500	0 0	6168.9 10.37619	.00150637 .00128852	.00139745	0	6168.9 10.37619	.00150637 .00128852	.00139745
MOJAVE WATER AGENCY	QUANTITY. CAPACITY,	AF CFS	0 0	124.3 .20459	50800.0 70.16895	2794.4 4.59941	0 5.26267	0 0	53594.4 80.03103	.01308713 .00993830	.01151271	0	53594.4 80.03103	.01308713 .00993830	.01151271
DESERT WATER AGENCY	QUANTITY CAPACITY,	AF CFS	0 0	93.3 .15357	38100.0 63.98093	2095.9 3.44970	0 .25674	0 0	40195.9 67.68737	.00981537 .00840546	.00911041	0	40195.9 67.68737	.00981537 .00840546	.00911041
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY. CAPACITY.	AF CFS	0 0	56.5 .09299	23100.0 38.78637	1270.7 2.09150	0 .15736	0 0	24370.7 41.03523	.00595104 .00509578	.00552341	0	24370.7 41.03523	.00595104 .00509578	.00552341
ANTELOPE VALLEY EAST KERN WATER AGENCY	QUANTITY, CAPACITY.	AF CFS	0 0	332.3 .54694	138400.0 191.16895	4846.0 7.97618	0 14.33767	0 0	143246.0 213.48280	.03497900 .02651042	.03074471	0	143246.0 213.48280	.03497900 .02651042	.03074471
LITTLEROCK CREEK IRRIGATION DISTRICT	QUANTITY CAPACITY,	AF CFS	0 0	5.6 .00922	2300.0 3.17694	96.9 .15950	0 .23827	0 0	2396.9 3.57471	.00058529 .00044391	.00051460	0	2396.9 3.57471	.00058529 .00044391	.00051460
PALMDALE IRRIGATION DISTRICT	QUANTITY CAPACITY	AF CFS	0 0	41.7 .06864	17300.0 23.89612	691.2 1.13769	0 1.79221	0 0	17991.2 26.82602	.00439324 .00333127	.00386226	0	17991.2 26.82602	.00439324 .00333127	.00386226
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY, CAPACITY	AF CFS	0 0	48.5 .07983	20000.0 27.62557	923.4 1.43924	0 2.10347	0 0	20923.4 31.16828	.00510925 .00387050	.00448987	0	20923.4 31.16828	.00510925 .00387050	.00448987
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY. CAPACITY	AF CFS	0 0	100.7 .16574	41500.0 57.32306	1916.4 2.98698	0 4.36471	0 0	43416.4 64.67475	.01060178 .00803135	.00931656	0	43416.4 64.67475	.01060178 .00803135	.00931656
KERN COUNTY WATER AGENCY – MUNICIPAL & INDUSTRIAL	QUANTITY, CAPACITY	AF CFS	0 0	283.2 .46613	119600.0 218.06521	2472.7 4.06989	0 0	0 0	122072.7 222.13510	.02980873 .02758487	.02869680	0	122072.7 222.13510	.02980873 .02758487	.02869680
KERN COUNTY WATER AGENCY – AGRICULTURAL	QUANTITY. CAPACITY.	AF CFS	0 0	2444.1 4.02282	1033800.0 3058.92860	19780.9 32.55798	0 0	0 0	1053580.9 3091.48658	.25727215 .38390268	.32058741	0	1053580.9 3091.48658	.25727215 .38390268	.32058741
SANTA BARBARA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY. CAPACITY.	AF CFS	0 0	140.4 .23109	57700.0 79.69977	2825.6 4.32004	0 6.10693	0 0	60525.6 90.12674	.01477964 .01119199	.01298582	0	60525.6 90.12674	.01477964 .01119199	.01298582
SAN LUIS OBISPO COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY. CAPACITY.	AF CFS	0 0	60.1 .09892	25000.0 34.53197	925.6 1.45719	0 2.61585	0 0	25925.6 38.60501	.00633073 .00479399	.00556236	0	25925.6 38.60501	.00633073 .00479399	.00556236
DEVIL'S DEN WATER DISTRICT	QUANTITY CAPACITY,	AF CFS	0 0	30.0 .04938	12700.0 37.89123	231.8 .38154	0 0	0 0	12931.8 38.27277	.00315779 .00475274	.00395527	0	12931.8 38.27277	.00315779 .00475274	.00395527
DUDLEY RIDGE WATER DISTRICT	QUANTITY. CAPACITY.	AF CFS	0 0	135.4 .22286	57700.0 172.15151	651.2 1.07184	0 0	0 0	58351.2 173.22335	.01424868 .02151098	.01787983	0	58351.2 173.22335	.01424868 .02151098	.01787983
TULARE LAKE BASIN WATER STORAGE DISTRICT	QUANTITY. CAPACITY	AF CFS	0 0	257.8 .42432	110000.0 328.19179	1149.9 1.89265	0 0	0 0	111149.9 330.08444	.02714151 .04099009	.03406580	0	111149.9 330.08444	.02714151 .04099009	.03406580
HACIENDA WATER DISTRICT	QUANTITY. CAPACITY.	AF CFS	0 0	19.9 .03275	8500.0 25.36027	95.9 .15785	0 0	0 0	8595.9 25.51812	.00209902 .00316886	.00263394	0	8595.9 25.51812	.00209902 .00316886	.00263394
EMPIRE WEST SIDE IRRIGATION	QUANTITY. CAPACITY.	AF CFS	0 0	7.0 .01152	3000.0 8.95069	29.3 .04823	0 0	0 0	3029.3 8.99892	.00073972 .00111749	.00092861	0	3029.3 8.99892	.00073972 .00111749	.00092861
KINGS COUNTY	QUANTITY, CAPACITY,	AF CFS	0 0	9.4 .01547	4000.0 7.29315	39.2 .06451	0 0	0 0	4039.2 7.35766	.00098633 .00091368	.00095000	0	4039.2 7.35766	.00098633 .00091368	.00095000
TOTAL	QUANTITY CAPACITY	AF CFS	0 0	9500.0 15.63635	3929500.0 7566.50608	165700.0 262.22416	0 224.05699	0 0	4095200.0 8052.78723	1.00000000 1.00000000	1.00000000	0	4095200.0 8052.78723	1.00000000 1.00000000	1.00000000
REACH 5 – PANOCHE CREEK TO FIVE POINTS															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY. CAPACITY	AF CFS	0 0	7729.9 12.72289	2011500.0 2863.07637	108101.1 168.36582	0 184.61850	0 0	2119601.1 3216.06069	.51878530 .40014935	.45946732	0	2119601.1 3216.06069	.51878530 .40014935	.45946732
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY, CAPACITY	AF CFS	0 0	379.3 .62430	98000.0 164.57133	5995.5 9.67747	0 .73472	0 0	103995.5 174.98352	.02545353 02177184	.02361268	0	103995.5 174.98352	.02545353 .02177184	.02361268
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY CAPACITY	AF CFS	0 0	111.5 .18352	28800.0 45.15128	1762.2 2.84442	0 1.26003	0 0	30562.2 49.25573	.00748028 .00612851	.00680439	0	30562.2 49.25573	.00748028 .00612851	.00680439
FUTURE CONTRACTOR-SOUTHERN CALIFORNIA	QUANTITY. CAPACITY,	AF CFS	0 0	17.8 .02930	4600.0 7.72965	281.1 .45372	0 .03290	0 0	4881.1 8.21627	.00119468 .00102229	.00110848	0	4881.1 8.21627	.00119468 .00102229	.00110848
SAN GORGONIO PASS WATER AGENCY	QUANTITY, CAPACITY,	AF CFS	0 0	67.0 .11028	17300.0 29.05110	1058.7 1.70886	0 .12996	0 0	18358.7 30.88992	.00449340 .00384339	.00416840	0	18358.7 30.88992	.00449340 .00384339	.00416840
CRESTLINE-LAKE ARROWHEAD WATER AGENCY	QUANTITY, CAPACITY,	AF CFS	0 0	22.4 .03687	5800.0 9.73527	354.6 .57238	0 .04500	0 0	6154.6 10.35265	.00150638 .00128810	.00139724	0	6154.6 10.35265	.00150638 .00128810	.00139724
MOJAVE WATER AGENCY	QUANTITY, CAPACITY,	AF CFS	0 0	195.0 .32096	50800.0 70.16895	2670.1 4.39482	0 5.26267	0 0	53470.1 79.82644	.01308713 .00993218	.01150966	0	53470.1 79.82644	.01308713 .00993218	.01150966
DESERT WATER AGENCY	QUANTITY CAPACITY	AF CFS	0 0	146.2 .24063	38100.0 63.98093	2002.6 3.29613	0 .25674	0 0	40102.6 67.53380	.00981536 .00840270	.00910903	[illegible]	40102.6 67.53380	.00981536 .00840270	.00910903
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY CAPACITY,	AF CFS	0 0	88.7 .14599	23100.0 38.78637	1214.2 1.99851	0 .15736	0 0	24314.2 40.94224	.00595105 .00509412	.00552259	0	24314.2 40.94224	.00595105 .00509412	.00552259
ANTELOPE VALLEY-EAST KERN WATER AGENCY	QUANTITY, CAPACITY,	AF CFS	0 0	521.2 .85786	138400.0 191.16895	4513.7 7.42924	0 14.33767	0 0	142913.7 212.93586	.03497900 .02649395	.03073647	0	142913.7 212.93586	.03497900 .02649395	.03073647
LITTLEROCK CREEK IRRIGATION DISTRICT	QUANTITY CAPACITY.	AF CFS	0 0	8.7 .01432	2300.0 3.17694	91.3 .15028	0 .23827	0 0	2391.3 3.56549	.00058529 .00044363	.00051445	0	2391.3 3.56549	.00058529 .00044363	.00051445
PALMDALE IRRIGATION DISTRICT	QUANTITY, CAPACITY	AF CFS	0 0	65.5 .10781	17300.0 23.89612	649.5 1.06905	0 1.79221	0 0	17949.5 26.75738	.00439325 .00332921	.00386123	0	17949.5 26.75738	.00439325 .00332921	.00386123
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY, CAPACITY	AF CFS	0 0	76.1 .12526	20000.0 27.62557	874.9 1.35941	0 2.10347	0 0	20874.9 31.08845	.00510926 .00386809	.00448868	0	20874.9 31.08845	.00510926 .00386809	.00448868
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY. CAPACITY,	AF CFS	0 0	158.0 .26006	41500.0 57.32306	1815.7 2.82124	0 4.36471	0 0	43315.7 64.50901	.01060178 .00802635	.00931407	0	43315.7 64.50901	.01060178 .00802635	.00931407
KERN COUNTY WATER AGENCY – MUNICIPAL & INDUSTRIAL	QUANTITY CAPACITY,	AF CFS	0 0	444.1 .73096	119600.0 218.06521	2189.5 3.60376	0 0	0 0	121789.5 221.66897	.02980872 .02758054	.02869463	0	121789.5 221.66897	.02980872 .02758054	.02869463
KERN COUNTY WATER AGENCY – AGRICULTURAL	QUANTITY. CAPACITY.	AF CFS	0 0	3833.4 6.30951	1033800.0 3058.92860	17336.8 28.53516	0 0	0 0	1051136.8 3087.46376	.25727214 .38414904	.32071059	0	1051136.8 3087.46376	.25727214 .38414904	.32071059
SANTA BARBARA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY, CAPACITY,	AF CFS	0 0	220.2 .36243	57700.0 79.69977	2685.2 4.08895	0 6.10693	0 0	60385.2 89.89565	.01477965 .01118501	.01298233	0	60385.2 89.89565	.01477965 .01118501	.01298233
SAN LUIS OBISPO COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY, CAPACITY,	AF CFS	0 0	94.3 .15521	25000.0 34.53197	865.5 1.35827	0 2.61585	0 0	25865.5 38.50609	.00633074 .00479101	.00556088	0	25865.5 38.50609	.00633074 .00479101	.00556088
DEVIL'S DEN WATER DISTRICT	QUANTITY, CAPACITY,	AF CFS	0 0	47.0 .07736	12700.0 37.89123	201.8 .33216	0 0	0 0	12901.8 38.22339	.00315779 .00475584	.00395682	0	12901.8 38.22339	.00315779 .00475584	.00395682
DUDLEY RIDGE WATER DISTRICT	QUANTITY. CAPACITY.	AF CFS	0 0	212.3 .34943	57700.0 172.15151	515.8 .84898	0 0	0 0	58215.8 173.00049	.01424867 .02152510	.01788689	0	58215.8 173.00049	.01424867 .02152510	.01788689
TULARE LAKE BASIN WATER STORAGE DISTRICT	QUANTITY, CAPACITY	AF CFS	0 0	404.4 .66561	110000.0 328.19179	892.1 1.46833	0 0	0 0	110892.1 329.66012	.02714152 .04101704	.03407928	0	110892.1 329.66012	.02714152 .04101704	.03407928
HACIENDA WATER DISTRICT	QUANTITY CAPACITY,	AF CFS	0 0	31.3 .05152	8500.0 25.36027	76.0 .12510	0 0	0 0	8576.0 25.48537	.00209903 .00317095	.00263499	0	8576.0 25.48537	.00209903 .00317095	.00263499
EMPIRE WEST SIDE IRRIGATION	QUANTITY, CAPACITY,	AF CFS	0 0	11.0 .01811	3000.0 8.95069	22.3 .03671	0 0	0 0	3022.3 8.98740	.00073973 .00111823	.00092898	0	3022.3 8.98740	.00073973 .00111823	.00092898
KINGS COUNTY	QUANTITY, CAPACITY	AF CFS	0 0	14.7 .02419	4000.0 7.29315	29.8 .04904	0 0	0 0	4029.8 7.34219	.00098632 .00091353	.00094992	0	4029.8 7.34219	.00098632 .00091353	.00094992
TOTAL	QUANTITY CAPACITY.	AF CFS	0 0	14900.0 24.52438	3929500.0 7566.50608	156200.0 246.58781	0 224.05699	0 0	4085700.0 8037.15088	1.00000000 1.00000000	1.00000000	0	4085700.0 8037.15088	1.00000000 1.00000000	1.00000000

TABLE B-3 (Continued)
REACH SUMMARY OF PROPORTIONATE USE OF PROJECT TRANSPORTATION FACILITIES BY WATER SUPPLY CONTRACTORS

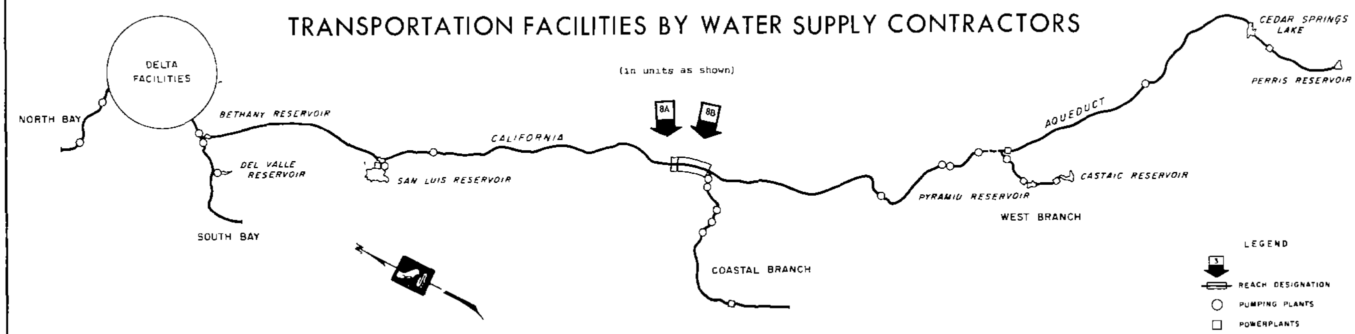
(in units as shown)



WATER SUPPLY CONTRACTOR	MEASURE OF USE	MAXIMUM ANNUAL ENTITLEMENTS DELIVERED FROM REACH	ESTIMATED OPERATIONAL LOSSES WITHIN REACH	CAPACITY PROVIDED IN REACH: FOR DELIVERY OF ENTITLEMENTS	CAPACITY PROVIDED IN REACH: FOR COMPENSATION OF OPERATIONAL LOSSES	FOR COMPENSATION OF SCHEDULED OUTAGES	FOR COMPENSATION OF DOWNSTREAM REGULATION	SUBTOTAL	PROPORTIONATE USE FOR ALLOCATION OF CAPITAL COSTS: RATIOS OF TOTAL REACH USE	AVERAGE OF RATIOS	CAPACITY PROVIDED IN REACH: FOR REQUESTED EXCESS PEAKING	TOTAL FOR WATER SUPPLY CONTRACTORS	PROPORTIONATE USE FOR ALLOCATION OF MINIMUM OMP&R COSTS: RATIOS OF TOTAL REACH USE	AVERAGE OF RATIOS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
REACH 6 – FIVE POINTS TO ARROYO PASAJERO														
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY, AF	0	3112.7	2011500.0	100371.2	0	0	2111871.2	.51878530			2111871.2	.51878530	
	CAPACITY, CFS	0	5.12329	2863.07637	155.64293	184.61850	0	3203.33780	.39978624	.45928577	0	3203.33780	.39978624	.45928577
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY AF	0	152.7	98000.0	5616.2	0	0	103616.2	.02545352			103616.2	.02545352	
	CAPACITY, CFS	0	.25133	164.57133	9.05317	.73472	0	174.35922	.02176056	.02360704	0	174.35922	.02176056	.02360704
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY, AF	0	44.9	28800.0	1650.7	0	0	30450.7	.00748027			30450.7	.00748027	
	CAPACITY CFS	0	.07390	45.15128	2.66090	1.26003	0	49.07221	.00612436	.00680232	0	49.07221	.00612436	.00680232
FUTURE CONTRACTOR-SOUTHERN CALIFORNIA	QUANTITY AF	0	7.2	4600.0	263.3	0	0	4863.3	.00119468			4863.3	.00119468	
	CAPACITY CFS	0	.01185	7.72965	.42442	.03290	0	8.18697	.00102176	.00110822	0	8.18697	.00102176	.00110822
SAN GORGONIO PASS WATER AGENCY	QUANTITY, AF	0	27.0	17300.0	991.7	0	0	18291.7	.00449339			18291.7	.00449339	
	CAPACITY, CFS	0	.04444	29.05110	1.59858	.12996	0	30.77964	.00384139	.00416739	0	30.77964	.00384139	.00416739
CRESTLINE LAKE ARROWHEAD WATER AGENCY	QUANTITY, AF	0	9.0	5800.0	332.2	0	0	6132.2	.00150639			6132.2	.00150639	
	CAPACITY, CFS	0	.01481	9.73527	.53551	.04500	0	10.31578	.00128744	.00139691	0	10.31578	.00128744	.00139691
MOJAVE WATER AGENCY	QUANTITY, AF	0	78.5	50800.0	2475.1	0	0	53275.1	.01308713			53275.1	.01308713	
	CAPACITY CFS	0	.12921	70.16895	4.07386	5.26267	0	79.50548	.00992252	.01150483	0	79.50548	.00992252	.01150483
DESERT WATER AGENCY	QUANTITY AF	0	58.9	38100.0	1856.4	0	0	39956.4	.00981537			39956.4	.00981537	
	CAPACITY CFS	0	.09695	63.98093	3.05550	.25674	0	67.29317	.00839839	.00910688	0	67.29317	.00839839	.00910688
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY AF	0	35.7	23100.0	1125.5	0	0	24225.5	.00595104			24225.5	.00595104	
	CAPACITY, CFS	0	.05876	38.78637	1.85252	.15736	0	40.79625	.00509150	.00552127	0	40.79625	.00509150	.00552127
ANTELOPE VALLEY EAST KERN WATER AGENCY	QUANTITY, AF	0	209.9	138400.0	3992.5	0	0	142392.5	.03497900			142392.5	.03497900	
	CAPACITY, CFS	0	.34548	191.16895	6.57138	14.33767	0	212.07800	.02646797	.03072349	0	212.07800	.02646797	.03072349
LITTLEROCK CREEK IRRIGATION DISTRICT	QUANTITY, AF	0	3.5	2300.0	82.6	0	0	2382.6	.00058529			2382.6	.00058529	
	CAPACITY, CFS	0	.00576	3.17694	.13596	.23827	0	3.55117	.00044320	.00051424	0	3.55117	.00044320	.00051424
PALMDALE IRRIGATION DISTRICT	QUANTITY, AF	0	26.4	17300.0	584.0	0	0	17884.0	.00439324			17884.0	.00439324	
	CAPACITY CFS	0	.04345	23.89612	.96124	1.79221	0	26.64957	.00332595	.00385959	0	26.64957	.00332595	.00385959
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY, AF	0	30.7	20000.0	798.8	0	0	20798.8	.00510927			20798.8	.00510927	
	CAPACITY CFS	0	.05053	27.62557	1.23415	2.10347	0	30.96319	.00386430	.00448678	0	30.96319	.00386430	.00448678
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY, AF	0	63.6	41500.0	1657.7	0	0	43157.7	.01060177			43157.7	.01060177	
	CAPACITY, CFS	0	.10468	57.32306	2.56118	4.36471	0	64.24895	.00801846	.00931012	0	64.24895	.00801846	.00931012
KERN COUNTY WATER AGENCY – MUNICIPAL & INDUSTRIAL	QUANTITY AF	0	178.9	119600.0	1745.4	0	0	121345.4	.02980874			121345.4	.02980874	
	CAPACITY CFS	0	.29446	218.06521	2.87280	0	0	220.93801	.02757373	.02869123	0	220.93801	.02757373	.02869123
KERN COUNTY WATER AGENCY – AGRICULTURAL	QUANTITY AF	0	1543.6	1033800.0	13503.4	0	0	1047303.4	.25727213			1047303.4	.25727213	
	CAPACITY CFS	0	2.54066	3058.92860	22.22565	0	0	3081.15425	.38453736	.32090475	0	3081.15425	.38453736	.32090475
SANTA BARBARA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY, AF	0	88.7	57700.0	2465.0	0	0	60165.0	.01477965			60165.0	.01477965	
	CAPACITY, CFS	0	.14599	79.69977	3.72652	6.10693	0	89.53322	.01117402	.01297683	0	89.53322	.01117402	.01297683
SAN LUIS OBISPO COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY AF	0	38.0	25000.0	771.2	0	0	25771.2	.00633075			25771.2	.00633075	
	CAPACITY, CFS	0	.06255	34.53197	1.20306	2.61585	0	38.35088	.00478631	.00555853	0	38.35088	.00478631	.00555853
DEVIL'S DEN WATER DISTRICT	QUANTITY AF	0	18.9	12700.0	154.8	0	0	12854.8	.00315781			12854.8	.00315781	
	CAPACITY, CFS	0	.03111	37.89123	.25480	0	0	38.14603	.00476074	.00395927	0	38.14603	.00476074	.00395927
DUDLEY RIDGE WATER DISTRICT	QUANTITY, AF	0	85.5	57700.0	303.5	0	0	58003.5	.01424867			58003.5	.01424867	
	CAPACITY CFS	0	.14073	172.15151	.49955	0	0	172.65106	.02154737	.01789803	0	172.65106	.02154737	.01789803
TULARE LAKE BASIN WATER STORAGE DISTRICT	QUANTITY, AF	0	162.8	110000.0	487.7	0	0	110487.7	.02714152			110487.7	.02714152	
	CAPACITY CFS	0	.26796	328.19179	.80272	0	0	328.99451	.04105951	.03410052	0	328.99451	.04105951	.03410052
HACIENDA WATER DISTRICT	QUANTITY, AF	0	12.6	8500.0	44.7	0	0	8544.7	.00209902			8544.7	.00209902	
	CAPACITY, CFS	0	.02074	25.36027	.07358	0	0	25.43385	.00317422	.00263662	0	25.43385	.00317422	.00263662
EMPIRE WEST SIDE IRRIGATION	QUANTITY, AF	0	4.4	3000.0	11.3	0	0	3011.3	.00073973			3011.3	.00073973	
	CAPACITY CFS	0	.00724	8.95069	.01860	0	0	8.96929	.00111939	.00092956	0	8.96929	.00111939	.00092956
KINGS COUNTY	QUANTITY AF	0	5.9	4000.0	15.1	0	0	4015.1	.00098632			4015.1	.00098632	
	CAPACITY, CFS	0	.00971	7.29315	.02485	0	0	7.31800	.00091331	.00094981	0	7.31800	.00091331	.00094981
TOTAL	QUANTITY AF	0	6000.0	3929500.0	141300.0	0	0	4070800.0	1.00000000			4070800.0	1.00000000	
	CAPACITY CFS	0	9.87559	7566.50608	222.06343	224.05699	0	8012.62650	1.00000000	1.00000000	0	8012.62650	1.00000000	1.00000000
REACH 7 – ARROYO PASAJERO TO KETTLEMAN CITY														
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY AF	0	4357.8	2011500.0	97258.5	0	0	2108758.5	.51878530			2108758.5	.51878530	
	CAPACITY, CFS	0	7.17264	2863.07637	150.51964	184.61850	0	3198.21451	.39963939	.45921235	0	3198.21451	.39963939	.45921235
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY AF	0	213.8	98000.0	5463.5	0	0	103463.5	.02545353			103463.5	.02545353	
	CAPACITY, CFS	0	.35190	164.57133	8.80184	.73472	0	174.10789	.02175601	.02360477	0	174.10789	.02175601	.02360477
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY AF	0	62.8	28800.0	1605.8	0	0	30405.8	.00748027			30405.8	.00748027	
	CAPACITY, CFS	0	.10336	45.15128	2.58700	1.26003	0	48.99831	.00612268	.00680148	0	48.99831	.00612268	.00680148
FUTURE CONTRACTOR-SOUTHERN CALIFORNIA	QUANTITY, AF	0	10.0	4600.0	256.1	0	0	4856.1	.00119467			4856.1	.00119467	
	CAPACITY, CFS	0	.01646	7.72965	.41257	.03290	0	8.17512	.00102154	.00110810	0	8.17512	.00102154	.00110810
SAN GORGONIO PASS WATER AGENCY	QUANTITY AF	0	37.7	17300.0	964.7	0	0	18264.7	.00449338			18264.7	.00449338	
	CAPACITY, CFS	0	.06205	29.05110	1.55414	.12996	0	30.73520	.00384058	.00416698	0	30.73520	.00384058	.00416698
CRESTLINE-LAKE ARROWHEAD WATER AGENCY	QUANTITY, AF	0	12.7	5800.0	323.2	0	0	6123.2	.00150640			6123.2	.00150640	
	CAPACITY, CFS	0	.02090	9.73527	.52070	.04500	0	10.30097	.00128718	.00139679	0	10.30097	.00128718	.00139679
MOJAVE WATER AGENCY	QUANTITY AF	0	109.9	50800.0	2396.6	0	0	53196.6	.01308714			53196.6	.01308714	
	CAPACITY CFS	0	.18089	70.16895	3.94465	5.26267	0	79.37627	.00991862	.01150288	0	79.37627	.00991862	.01150288
DESERT WATER AGENCY	QUANTITY, AF	0	82.5	38100.0	1797.5	0	0	39897.5	.00981537			39897.5	.00981537	
	CAPACITY, CFS	0	.13579	63.98093	2.95855	.25674	0	67.19622	.00839664	.00910600	0	67.19622	.00839664	.00910600
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY, AF	0	50.0	23100.0	1089.8	0	0	24189.8	.00595104			24189.8	.00595104	
	CAPACITY, CFS	0	.08230	38.78637	1.79376	.15736	0	40.73749	.00509044	.00552074	0	40.73749	.00509044	.00552074
ANTELOPE VALLEY EAST KERN WATER AGENCY	QUANTITY, AF	0	293.8	138400.0	3782.6	0	0	142182.6	.03497899			142182.6	.03497899	
	CAPACITY CFS	0	.48357	191.16895	6.22590	14.33767	0	211.73252	.02645747	.03071823	0	211.73252	.02645747	.03071823
LITTLEROCK CREEK IRRIGATION DISTRICT	QUANTITY, AF	0	4.9	2300.0	79.1	0	0	2379.1	.00058529			2379.1	.00058529	
	CAPACITY CFS	0	.00807	3.17694	.13020	.23827	0	3.54541	.00044302	.00051416	0	3.54541	.00044302	.00051416
PALMDALE IRRIGATION DISTRICT	QUANTITY AF	0	36.9	17300.0	557.6	0	0	17857.6	.00439323			17857.6	.00439323	
	CAPACITY, CFS	0	.06074	23.89612	.91779	1.79221	0	26.60612	.00332462	.00385893	0	26.60612	.00332462	.00385893
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY AF	0	42.9	20000.0	768.1	0	0	20768.1	.00510926			20768.1	.00510926	
	CAPACITY CFS	0	.07061	27.62557	1.18362	2.10347	0	30.91266	.00386275	.00448600	0	30.91266	.00386275	.00448600
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY AF	0	89.1	41500.0	1594.1	0	0	43094.1	.01060178			43094.1	.01060178	
	CAPACITY CFS	0	.14665	57.32306	2.45650	4.36471	0	64.14427	.00801528	.00930853	0	64.14427	.00801528	.00930853
KERN COUNTY WATER AGENCY – MUNICIPAL & INDUSTRIAL	QUANTITY AF	0	250.4	119600.0	1566.5	0	0	121166.5	.02980872			121166.5	.02980872	
	CAPACITY, CFS	0	.41214	218.06521	2.57834	0	0	220.64355	.02757096	.02868984	0	220.64355	.02757096	.02868984
KERN COUNTY WATER AGENCY – AGRICULTURAL	QUANTITY AF	0	2161.1	1033800.0	11959.8	0	0	1045759.8	.25727214			1045759.8	.25727214	
	CAPACITY CFS	0	3.55702	3058.92860	19.68499	0	0	3078.61359	.38469442	.32098328	0	3078.61359	.38469442	.32098328
SANTA BARBARA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY, AF	0	124.2	57700.0	2376.3	0	0	60076.3	.01477965			60076.3	.01477965	
	CAPACITY CFS	0	.20443	79.69977	3.58053	6.10693	0	89.38723	.01116956	.01297460	0	89.38723	.01116956	.01297460
SAN LUIS OBISPO COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY AF	0	53.2	25000.0	733.2	0	0	25733.2	.00633074			25733.2	.00633074	
	CAPACITY CFS	0	.08756	34.53197	1.14051	2.61585	0	38.28833	.00478440	.00555757	0	38.28833	.00478440	.00555757
DEVIL'S DEN WATER DISTRICT	QUANTITY AF	0	26.5	12700.0	135.9	0	0	12835.9	.00315782			12835.9	.00315782	
	CAPACITY, CFS	0	.04362	37.89123	.22369	0	0	38.11492	.00476273	.00396027	0	38.11492	.00476273	.00396027
DUDLEY RIDGE WATER DISTRICT	QUANTITY AF	0	119.7	57700.0	218.0	0	0	57918.0	.01424867			57918.0	.01424867	
	CAPACITY, CFS	0	.19702	172.15151	.35882	0	0	172.51033	.02155638	.01790253	0	172.51033	.02155638	.01790253
TULARE LAKE BASIN WATER STORAGE DISTRICT	QUANTITY AF	0	228.0	110000.0	324.9	0	0	110324.9	.02714153			110324.9	.02714153	
	CAPACITY CFS	0	.37527	328.19179	.53476	0	0	328.72655	.04107669	.03410911	0	328.72655	.04107669	.03410911
HACIENDA WATER DISTRICT	QUANTITY AF	0	17.6	8500.0	32.1	0	0	8532.1	.00209902			8532.1	.00209902	
	CAPACITY CFS	0	.02897	25.36027	.05284	0	0	25.41311	.00317555	.00263728	0	25.41311	.00317555	.00263728
EMPIRE WEST SIDE IRRIGATION	QUANTITY AF	0	6.2	3000.0	6.9	0	0	3006.9	.00073974			3006.9	.00073974	
	CAPACITY CFS	0	.01021	8.95069	.01136	0	0	8.96205	.00111987	.00092981	0	8.96205	.00111987	.00092981
KINGS COUNTY	QUANTITY AF	0	8.3	4000.0	9.2	0	0	4009.2	.00098632			4009.2	.00098632	
	CAPACITY CFS	0	.01366	7.29315	.01514	0	0	7.30829	.00091322	.00094977	0	7.30829	.00091322	.00094977
TOTAL	QUANTITY AF	0	8400.0	3929500.0	135300.0	0	0	4064800.0	1.00000000			4064800.0	1.00000000	
	CAPACITY, CFS	0	13.82583	7566.50608	212.18784	224.05699	0	8002.75091	1.00000000	1.00000000	0	8002.75091	1.00000000	1.00000000

TABLE B-3 (Continued)
REACH SUMMARY OF PROPORTIONATE USE OF PROJECT TRANSPORTATION FACILITIES BY WATER SUPPLY CONTRACTORS

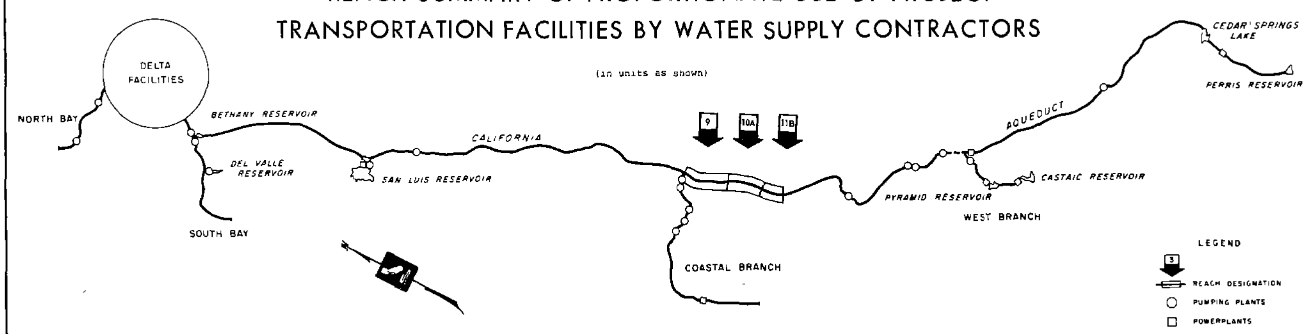
(in units as shown)



WATER SUPPLY CONTRACTOR	MEASURE OF USE		MAXIMUM ANNUAL ENTITLEMENTS DELIVERED FROM REACH	ESTIMATED OPERATIONAL LOSSES WITHIN REACH	CAPACITY PROVIDED IN REACH: FOR DELIVERY OF ENTITLEMENTS	FOR COMPENSATION OF: OPERATIONAL LOSSES	SCHEDULED OUTAGES	DOWNSTREAM REGULATION	SUBTOTAL	PROPORTIONATE USE FOR ALLOCATION OF CAPITAL COSTS: RATIOS OF TOTAL REACH USE	AVERAGE OF RATIOS	CAPACITY PROVIDED IN REACH: FOR REQUESTED EXCESS PEAKING	TOTAL FOR WATER SUPPLY CONTRACTORS	PROPORTIONATE USE FOR ALLOCATION OF MINIMUM OMP&R COSTS: RATIOS OF TOTAL REACH USE	AVERAGE OF RATIOS
	(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
REACH 8A – KETTLEMAN CITY TO STATE ROUTE 41															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY,	AF	0	466.9	2011500.0	92900.7	0	0	2104400.7	.51878530			2104400.7	.51878530	
	CAPACITY	CFS	0	.76849	2863.07637	143.34700	184.61850	0	3191.04187	.39943320	.45910925	188.00000	3379.04187	.41324114	.46601322
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY,	AF	0	22.9	98000.0	5249.7	0	0	103249.7	.02545353			103249.7	.02545353	
	CAPACITY	CFS	0	.03769	164.57133	8.44994	.73472	0	173.75599	.02174961	.02360157	0	173.75599	.02124955	.02335154
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY	AF	0	6.7	28800.0	1543.0	0	0	30343.0	.00748028			30343.0	.00748028	
	CAPACITY	CFS	0	.01103	45.15128	2.48364	1.26003	0	48.89495	.00612034	.00680031	0	48.89495	.00597963	.00672995
FUTURE CONTRACTOR-SOUTHERN CALIFORNIA	QUANTITY	AF	0	1.1	4600.0	246.1	0	0	4846.1	.00119468			4846.1	.00119468	
	CAPACITY,	CFS	0	.00181	7.72965	.39611	.03290	0	8.15866	.00102125	.00110796	0	8.15866	.00099777	.00109622
SAN GORGONIO PASS WATER AGENCY	QUANTITY.	AF	0	4.0	17300.0	927.0	0	0	18227.0	.00449339			18227.0	.00449339	
	CAPACITY	CFS	0	.00658	29.05110	1.49209	.12996	0	30.67315	.00382946	.00416643	0	30.67315	.00375118	.00412229
CRESTLINE LAKE ARROWHEAD WATER AGENCY	QUANTITY.	AF	0	1.4	5800.0	310.5	0	0	6110.5	.00150638			6110.5	.00150638	
	CAPACITY.	CFS	0	.00231	9.73527	.49980	.04500	0	10.28007	.00128679	.00139659	0	10.28007	.00125720	.00138180
MOJAVE WATER AGENCY	QUANTITY	AF	0	11.8	50800.0	2286.7	0	0	53086.7	.01308715			53086.7	.01308715	
	CAPACITY,	CFS	0	.01942	70.16895	3.76376	5.26267	0	79.19538	.00991315	.01150015	0	79.19538	.00968523	.01138619
DESERT WATER AGENCY	QUANTITY.	AF	0	8.8	38100.0	1715.0	0	0	39815.0	.00981535			39815.0	.00981535	
	CAPACITY,	CFS	0	.01448	63.98093	2.82276	.25674	0	67.06043	.00839417	.00910476	0	67.06043	.00820118	.00900827
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY,	AF	0	5.4	23100.0	1039.8	0	0	24139.8	.00595104			24139.8	.00595104	
	CAPACITY	CFS	0	.00889	38.78637	1.71146	.15736	0	40.65519	.00508894	.00551999	0	40.65519	.00497194	.00546149
ANTELOPE VALLEY EAST KERN WATER AGENCY	QUANTITY,	AF	0	31.5	138400.0	3488.8	0	0	141888.8	.03497900			141888.8	.03497900	
	CAPACITY	CFS	0	.05185	191.16895	5.74233	14.33767	0	211.24895	.02644273	.03071086	0	211.24895	.02583477	.03040688
LITTLEROCK CREEK IRRIGATION DISTRICT	QUANTITY,	AF	0	.5	2300.0	74.2	0	0	2374.2	.00058530			2374.2	.00058530	
	CAPACITY.	CFS	0	.00082	3.17694	.12213	.23827	0	3.53734	.00044278	.00051404	0	3.53734	.00043260	.00050895
PALMDALE IRRIGATION DISTRICT	QUANTITY	AF	0	4.0	17300.0	520.7	0	0	17820.7	.00439323			17820.7	.00439323	
	CAPACITY.	CFS	0	.00658	23.89612	.85705	1.79221	0	26.54538	.00332277	.00385800	0	26.54538	.00324638	.00381980
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY,	AF	0	4.6	20000.0	725.2	0	0	20725.2	.00510926			20725.2	.00510926	
	CAPACITY.	CFS	0	.00757	27.62557	1.11301	2.10347	0	30.84205	.00386060	.00448493	0	30.84205	.00377184	.00444055
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY	AF	0	9.5	41500.0	1505.0	0	0	43005.0	.01060177			43005.0	.01060177	
	CAPACITY,	CFS	0	.01564	57.32306	2.30985	4.36471	0	63.99762	.00801079	.00930628	0	63.99762	.00782661	.00921419
KERN COUNTY WATER AGENCY – MUNICIPAL & INDUSTRIAL	QUANTITY	AF	0	26.8	119600.0	1316.1	0	0	120916.1	.02980872			120916.1	.02980872	
	CAPACITY,	CFS	0	.04411	218.06521	2.16620	0	0	220.23141	.02756709	.02868790	0	220.23141	.02693328	.02837100
KERN COUNTY WATER AGENCY – AGRICULTURAL	QUANTITY	AF	0	231.6	1033800.0	9798.7	0	0	1043598.7	.25727214			1043598.7	.25727214	
	CAPACITY	CFS	0	.38120	3058.92860	16.12797	0	0	3075.05657	.38491493	.32109353	0	3075.05657	.37606515	.31666864
SANTA BARBARA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY,	AF	0	13.3	57700.0	2252.1	0	0	59952.1	.01477963			59952.1	.01477963	
	CAPACITY	CFS	0	.02189	79.69977	3.37610	6.10693	0	89.18280	.01116330	.01297147	0	89.18280	.01090664	.01284314
SAN LUIS OBISPO COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY	AF	0	5.7	25000.0	680.0	0	0	25680.0	.00633074			25680.0	.00633074	
	CAPACITY,	CFS	0	.00938	34.53197	1.05295	2.61585	0	38.20077	.00478172	.00555623	0	38.20077	.00467178	.00550126
DEVIL S DEN WATER DISTRICT	QUANTITY,	AF	0	2.8	12700.0	109.4	0	0	12809.4	.00315782			12809.4	.00315782	
	CAPACITY,	CFS	0	.00461	37.89123	.18007	0	0	38.07130	.00476551	.00396167	0	38.07130	.00465594	.00390688
DUDLEY RIDGE WATER DISTRICT	QUANTITY,	AF	0	12.8	57700.0	98.3	0	0	57798.3	.01424867			57798.3	.01424867	
	CAPACITY	CFS	0	.02107	172.15151	.16180	0	0	172.31331	.02156902	.01790885	0	172.31331	.02107312	.01766089
TULARE LAKE BASIN WATER STORAGE DISTRICT	QUANTITY,	AF	61050.0	24.4	110000.0	96.9	0	0	110096.9	.02714153			110096.9	.02714153	
	CAPACITY,	CFS	182.14644	.04016	328.19179	.15949	0	0	328.35128	.04110081	.03412117	0	328.35128	.04015584	.03364868
HACIENDA WATER DISTRICT	QUANTITY,	AF	0	1.9	8500.0	14.5	0	0	8514.5	.00209903			8514.5	.00209903	
	CAPACITY,	CFS	0	.00313	25.36027	.02387	0	0	25.38414	.00317742	.00263622	0	25.38414	.00310436	.00260170
EMPIRE WEST SIDE IRRIGATION	QUANTITY.	AF	3000.0	.7	3000.0	.7	0	0	3000.7	.00073974			3000.7	.00073974	
	CAPACITY	CFS	8.95069	.00115	8.95069	.00115	0	0	8.95184	.00112053	.00093014	0	8.95184	.00109477	.00091726
KINGS COUNTY	QUANTITY,	AF	4000.0	.9	4000.0	.9	0	0	4000.9	.00098632			4000.9	.00098632	
	CAPACITY	CFS	7.29315	.00148	7.29315	.00148	0	0	7.29463	.00091309	.00094970	0	7.29463	.00089210	.00093921
TOTAL	QUANTITY,	AF	68050.0	900.0	3929500.0	126900.0	0	0	4056400.0	1.00000000			4056400.0	1.00000000	
	CAPACITY	CFS	198.39028	1.48134	7566.50608	198.36203	224.05699	0	7988.92508	1.00000000	1.00000000	188.00000	8176.92508	1.00000000	1.00000000
REACH 8B – STATE ROUTE 41 TO AVENAL GAP															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY	AF	0	3113.1	2011500.0	92433.8	0	0	2103933.8	.52763892			2103933.8	.52763892	
	CAPACITY	CFS	0	5.12395	2863.07637	142.57851	184.61850	0	3190.27338	.40958422	.46861157	188.00000	3378.27338	.42349890	.47556891
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY	AF	0	152.7	98000.0	5226.8	0	0	103226.8	.02588792			103226.8	.02588792	
	CAPACITY,	CFS	0	.25133	164.57133	8.41225	.73472	0	173.71830	.02230288	.02409540	0	173.71830	.02177725	.02383259
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY	AF	0	44.9	28800.0	1536.3	0	0	30336.3	.00760795			30336.3	.00760795	
	CAPACITY	CFS	0	.07390	45.15128	2.47261	1.26003	0	48.88392	.00627598	.00694196	0	48.88392	.00612807	.00686801
FUTURE CONTRACTOR-SOUTHERN CALIFORNIA	QUANTITY	AF	0	7.2	4600.0	245.0	0	0	4845.0	.00121506			4845.0	.00121506	
	CAPACITY,	CFS	0	.01185	7.72965	.39430	.03290	0	8.15685	.00104722	.00113114	0	8.15685	.00102254	.00111880
SAN GORGONIO PASS WATER AGENCY	QUANTITY.	AF	0	27.0	17300.0	923.0	0	0	18223.0	.00457009			18223.0	.00457009	
	CAPACITY,	CFS	0	.04444	29.05110	1.48551	.12996	0	30.66657	.00393714	.00425361	0	30.66657	.00384435	.00420722
CRESTLINE-LAKE ARROWHEAD WATER AGENCY	QUANTITY	AF	0	9.0	5800.0	309.1	0	0	6109.1	.00153208			6109.1	.00153208	
	CAPACITY	CFS	0	.01481	9.73527	.49749	.04500	0	10.27776	.00131951	.00142580	0	10.27776	.00128842	.00141025
MOJAVE WATER AGENCY	QUANTITY	AF	0	78.5	50800.0	2274.9	0	0	53074.9	.01331049			53074.9	.01331049	
	CAPACITY	CFS	0	.12921	70.16895	3.74434	5.26267	0	79.17596	.01016503	.01173776	0	79.17596	.00992546	.01161797
DESERT WATER AGENCY	QUANTITY	AF	0	58.9	38100.0	1706.2	0	0	39806.2	.00998287			39806.2	.00998287	
	CAPACITY	CFS	0	.09695	63.98093	2.80828	.25674	0	67.04595	.00860772	.00929529	0	67.04595	.00840485	.00919386
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY,	AF	0	35.7	23100.0	1034.4	0	0	24134.4	.00605259			24134.4	.00605259	
	CAPACITY,	CFS	0	.05876	38.78637	1.70257	.15736	0	40.64630	.00521839	.00563549	0	40.64630	.00509540	.00557400
ANTELOPE VALLEY-EAST KERN WATER AGENCY	QUANTITY,	AF	0	209.9	138400.0	3457.3	0	0	141857.3	.03557594			141857.3	.03557594	
	CAPACITY.	CFS	0	.34548	191.16895	5.69048	14.33767	0	211.19710	.02711460	.03134527	0	211.19710	.02647558	.03102576
LITTLEROCK CREEK IRRIGATION DISTRICT	QUANTITY,	AF	0	3.5	2300.0	73.7	0	0	2373.7	.00059529			2373.7	.00059529	
	CAPACITY	CFS	0	.00576	3.17694	.12131	.23827	0	3.53652	.00045404	.00052466	0	3.53652	.00044334	.00051931
PALMDALE IRRIGATION DISTRICT	QUANTITY,	AF	0	26.4	17300.0	516.7	0	0	17816.7	.00446819			17816.7	.00446819	
	CAPACITY	CFS	0	.04345	23.89612	.85047	1.79221	0	26.53880	.00340719	.00393769	0	26.53880	.00332689	.00389754
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY	AF	0	30.7	20000.0	720.6	0	0	20720.6	.00519645			20720.6	.00519645	
	CAPACITY.	CFS	0	.05053	27.62557	1.10544	2.10347	0	30.83448	.00395869	.00457757	0	30.83448	.00386540	.00453093
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY	AF	0	63.6	41500.0	1495.5	0	0	42995.5	.01078271			42995.5	.01078271	
	CAPACITY,	CFS	0	.10468	57.32306	2.29421	4.36471	0	63.98198	.00821435	.00949853	0	63.98198	.00802075	.00940173
KERN COUNTY WATER AGENCY – MUNICIPAL & INDUSTRIAL	QUANTITY	AF	0	178.9	119600.0	1289.3	0	0	120889.3	.03031745			120889.3	.03031745	
	CAPACITY	CFS	0	.29446	218.06521	2.12209	0	0	220.18730	.02826881	.02929313	0	220.18730	.02760259	.02896002
KERN COUNTY WATER AGENCY – AGRICULTURAL	QUANTITY,	AF	-6400.0	1543.8	1033800.0	9567.1	0	0	1043367.1	.26166274			1043367.1	.26166274	
	CAPACITY	CFS	-14.00000	2.54099	3058.92860	15.74677	0	0	3074.67537	.39474313	.32820294	0	3074.67537	.38543999	.32355136
SANTA BARBARA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY	AF	0	88.7	57700.0	2238.8	0	0	59938.8	.01503186			59938.8	.01503186	
	CAPACITY	CFS	0	.14599	79.69977	3.35421	6.10693	0	89.16091	.01144695	.01323941	0	89.16091	.01117717	.01310452
SAN LUIS OBISPO COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY	AF	0	38.0	25000.0	674.3	0	0	25674.3	.00643878			25674.3	.00643878	
	CAPACITY,	CFS	0	.06255	34.53197	1.04357	2.61585	0	38.19139	.00490321	.00567099	0	38.19139	.00478766	.00561322
DEVIL'S DEN WATER DISTRICT	QUANTITY	AF	0	18.9	12700.0	106.6	0	0	12806.6	.00321173			12806.6	.00321173	
	CAPACITY	CFS	0	.03111	37.89123	.17546	0	0	38.06669	.00488720	.00404947	0	38.06669	.00477202	.00399187
DUDLEY RIDGE WATER DISTRICT	QUANTITY	AF	57700.0	85.5	57700.0	85.5	0	0	57785.5	.01449184			57785.5	.01449184	
	CAPACITY	CFS	172.15151	.14073	172.15151	.14073	0	0	172.29224	.02211979	.01830582	0	172.29224	.02159848	.01804516
TULARE LAKE BASIN WATER STORAGE DISTRICT	QUANTITY	AF	48950.0	72.5	48950.0	72.5	0	0	49022.5	.01229420			49022.5	.01229420	
	CAPACITY,	CFS	146.04535	.11933	146.04535	.11933	0	0	146.16468	.01876540	.01552980	0	146.16468	.01832314	.01530867
HACIENDA WATER DISTRICT	QUANTITY,	AF	8500.0	12.6	8500.0	12.6	0	0	8512.6	.00213485			8512.6	.00213485	
	CAPACITY	CFS	25.36027	.02074	25.36027	.02074	0	0	25.38101	.00325855	.00269670	0	25.38101	.00318175	.00265830
TOTAL	QUANTITY	AF	108750.0	5900.0	3861450.0	126000.0	0	0	3987450.0	1.00000000			3987450.0	1.00000000	
	CAPACITY	CFS	329.55713	9.71100	7368.11580	196.88067	224.05699	0	7789.05346	1.00000000	1.00000000	188.00000	7977.05346	1.00000000	1.00000000

TABLE B-3 (Continued)
REACH SUMMARY OF PROPORTIONATE USE OF PROJECT TRANSPORTATION FACILITIES BY WATER SUPPLY CONTRACTORS

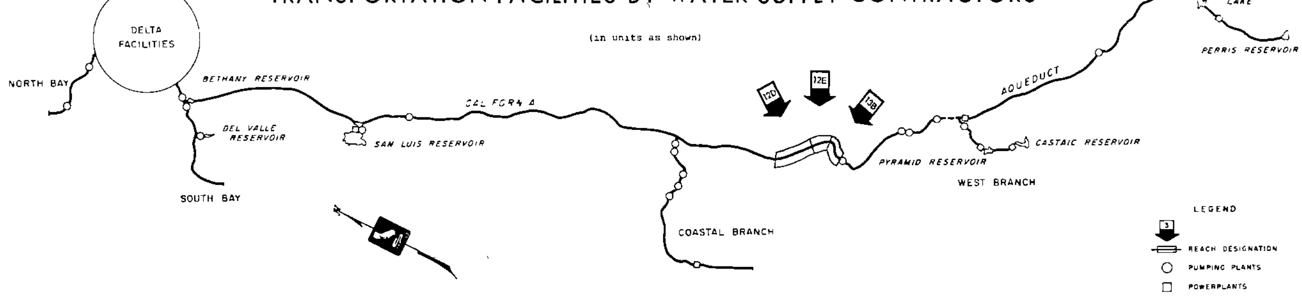
(in units as shown)



WATER SUPPLY CONTRACTOR	MEASURE OF USE (1)		MAXIMUM ANNUAL ENTITLEMENTS DELIVERED FROM REACH (2)	ESTIMATED OPERATIONAL LOSSES WITHIN REACH (3)	CAPACITY PROVIDED IN REACH: FOR DELIVERY OF ENTITLEMENTS (4)	CAPACITY PROVIDED IN REACH: FOR COMPENSATION OF OPERATIONAL LOSSES (5)	CAPACITY PROVIDED IN REACH: FOR COMPENSATION OF SCHEDULED OUTAGES (6)	CAPACITY PROVIDED IN REACH: FOR COMPENSATION OF DOWNSTREAM REGULATION (7)	CAPACITY PROVIDED IN REACH: SUBTOTAL (8)	PROPORTIONATE USE FOR ALLOCATION OF CAPITAL COSTS: RATIOS OF TOTAL REACH USE (9)	PROPORTIONATE USE FOR ALLOCATION OF CAPITAL COSTS: AVERAGE OF RATIOS (10)	CAPACITY PROVIDED IN REACH: FOR REQUESTED EXCESS PEAKING (11)	CAPACITY PROVIDED IN REACH: TOTAL FOR WATER SUPPLY CONTRACTORS (12)	PROPORTIONATE USE FOR ALLOCATION OF MINIMUM OMP&R COSTS: RATIOS OF TOTAL REACH USE (13)	PROPORTIONATE USE FOR ALLOCATION OF MINIMUM OMP&R COSTS: AVERAGE OF RATIOS (14)
REACH 9 – AVENAL GAP TO TWISSELMAN ROAD															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY, CAPACITY	AF CFS	0 0	3664.9 6.03217	2011500.0 2863.07637	89320.7 137.45456	0 184.61850	0 0	2100820.7 3185.14943	.57263355 .45499462	.51381408	188.00000	2100820.7 3373.14943	.57263355 .46924826	.52094090
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY CAPACITY,	AF CFS	0 0	179.8 .29594	98000.0 164.57133	5074.1 8.16092	0 .73472	0 0	103074.1 173.46697	.02809554 .02477954	.02643754	0	103074.1 173.46697	.02809554 .02413148	.02611351
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY, CAPACITY,	AF CFS	0 0	52.9 .08707	28800.0 45.15128	1491.4 2.39871	0 1.26003	0 0	30291.4 48.81002	.00825671 .00697245	.00761458	0	30291.4 48.81002	.00825671 .00679010	.00752341
FUTURE CONTRACTOR SOUTHERN CALIFORNIA	QUANTITY, CAPACITY,	AF CFS	0 0	8.4 .01383	4600.0 7.72965	237.8 .38245	0 .03290	0 0	4837.8 8.14500	.00131867 .00116350	.00124109	0	4837.8 8.14500	.00131867 .00113307	.00122587
SAN GORGONIO PASS WATER AGENCY	QUANTITY CAPACITY,	AF CFS	0 0	31.8 .05234	17300.0 29.05110	896.0 1.44107	0 .12996	0 0	18196.0 30.62213	.00495980 .00437433	.00466706	0	18196.0 30.62213	.00495980 .00425993	.00460986
CRESTLINE-LAKE ARROWHEAD WATER AGENCY	QUANTITY, CAPACITY,	AF CFS	0 0	10.6 .01745	5800.0 9.73527	300.1 .48268	0 .04500	0 0	6100.1 10.26295	.00166274 .00146605	.00156440	0	6100.1 10.26295	.00166274 .00142771	.00154522
MOJAVE WATER AGENCY	QUANTITY, CAPACITY	AF CFS	0 0	92.5 .15225	50800.0 70.16895	2196.4 3.61513	0 5.26267	0 0	52996.4 79.04675	.01444555 .01129173	.01286864	0	52996.4 79.04675	.01444555 .01099641	.01272098
DESERT WATER AGENCY	QUANTITY, CAPACITY,	AF CFS	0 0	69.3 .11406	38100.0 63.98093	1647.3 2.71133	0 .25674	0 0	39747.3 66.94900	.01083417 .00956358	.01019887	0	39747.3 66.94900	.01083417 .00931346	.01007381
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY, CAPACITY,	AF CFS	0 0	42.0 .06913	23100.0 38.78637	998.7 1.64381	0 .15736	0 0	24098.7 40.58754	.00656873 .00579788	.00618331	0	24098.7 40.58754	.00656873 .00564625	.00610749
ANTELOPE VALLEY EAST KERN WATER AGENCY	QUANTITY CAPACITY,	AF CFS	0 0	247.1 .40671	138400.0 191.16895	3247.4 5.34500	0 14.33767	0 0	141647.4 210.85162	.03860970 .03011989	.03436479	0	141647.4 210.85162	.03860970 .02933216	.03397093
LITTLEROCK CREEK IRRIGATION DISTRICT	QUANTITY CAPACITY,	AF CFS	0 0	4.1 .00675	2300.0 3.17694	70.2 .11555	0 .23827	0 0	2370.2 3.53076	.00064606 .00050437	.00057521	0	2370.2 3.53076	.00064606 .00049117	.00056862
PALMDALE IRRIGATION DISTRICT	QUANTITY CAPACITY,	AF CFS	0 0	31.0 .05102	17300.0 23.89612	490.3 .80702	0 1.79221	0 0	17790.3 26.49535	.00484921 .00378483	.00431702	0	17790.3 26.49535	.00484921 .00368584	.00426753
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY, CAPACITY,	AF CFS	0 0	36.1 .05942	20000.0 27.62557	689.9 1.05491	0 2.10347	0 0	20689.9 30.78395	.00563957 .00439745	.00501851	0	20689.9 30.78395	.00563957 .00428244	.00496101
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY, CAPACITY,	AF CFS	0 0	74.9 .12328	41500.0 57.32306	1431.9 2.18953	0 4.36471	0 0	42931.9 63.87730	.01170221 .00912479	.01041350	0	42931.9 63.87730	.01170221 .00888615	.01029418
KERN COUNTY WATER AGENCY – MUNICIPAL & INDUSTRIAL	QUANTITY, CAPACITY,	AF CFS	0 0	210.6 .34663	119600.0 218.06521	1110.4 1.82763	0 0	0 0	120710.4 219.89284	.03290277 .03141142	.03215710	0	120710.4 219.89284	.03290277 .03058991	.03174634
KERN COUNTY WATER AGENCY – AGRICULTURAL	QUANTITY, CAPACITY,	AF CFS	46900.0 139.92905	1644.0 2.70591	935100.0 2789.92860	7297.4 12.01100	0 0	0 0	942397.4 2801.93960	.25687502 .40025357	.32856430	0	942397.4 2801.93960	.25687502 .38978566	.32333034
TOTAL	QUANTITY CAPACITY	AF CFS	46900.0 139.92905	6400.0 10.53396	3552200.0 6603.43570	116500.0 181.64130	0 215.33421	0 0	3668700.0 7000.41121	1.00000000 1.00000000	1.00000000	188.00000	3668700.0 7188.41121	1.00000000 1.00000000	1.00000000
REACH 10A – TWISSELMAN ROAD TO LOST HILLS															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY CAPACITY	AF CFS	0 0	3770.4 6.20582	2011500.0 2863.07637	85655.8 131.42239	0 184.61850	0 0	2097155.8 3179.11726	.58006190 .46410822	.52208506	188.00000	2097155.8 3367.11726	.58006190 .47842314	.52924252
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY, CAPACITY	AF CFS	0 0	185.0 .30450	98000.0 164.57133	4894.3 7.86498	0 .73472	0 0	102894.3 173.17103	.02846000 .02528063	.02687032	0	102894.3 173.17103	.02846000 .02460533	.02653267
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY CAPACITY	AF CFS	0 0	54.4 .08954	28800.0 45.15128	1438.5 2.31164	0 1.26003	0 0	30238.5 48.72295	.00836381 .00711269	.00773835	0	30238.5 48.72295	.00836381 .00692289	.00764335
FUTURE CONTRACTOR-SOUTHERN CALIFORNIA	QUANTITY CAPACITY,	AF CFS	0 0	8.7 .01432	4600.0 7.72965	229.4 .36862	0 .03290	0 0	4829.4 8.13117	.00133579 .00118704	.00126141	0	4829.4 8.13117	.00133579 .00115533	.00124556
SAN GORGONIO PASS WATER AGENCY	QUANTITY CAPACITY,	AF CFS	0 0	32.7 .05382	17300.0 29.05110	864.2 1.38873	0 .12996	0 0	18164.2 30.56979	.00502412 .00446278	.00474345	0	18164.2 30.56979	.00502412 .00434357	.00468384
CRESTLINE-LAKE ARROWHEAD WATER AGENCY	QUANTITY CAPACITY,	AF CFS	0 0	10.9 .01794	5800.0 9.73527	289.5 .46523	0 .04500	0 0	6089.5 10.24550	.00168432 .00149570	.00159001	0	6089.5 10.24550	.00168432 .00145575	.00157004
MOJAVE WATER AGENCY	QUANTITY, CAPACITY,	AF CFS	0 0	95.1 .15653	50800.0 70.16895	2103.9 3.46288	0 5.26267	0 0	52903.9 78.89450	.01463293 .01151753	.01307523	0	52903.9 78.89450	.01463293 .01120987	.01292140
DESERT WATER AGENCY	QUANTITY CAPACITY	AF CFS	0 0	71.3 .11735	38100.0 63.98093	1578.0 2.59727	0 .25674	0 0	39678.0 66.83494	.01097472 .00975700	.01036586	0	39678.0 66.83494	.01097472 .00949637	.01023554
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY, CAPACITY,	AF CFS	0 0	43.3 .07127	23100.0 38.78637	956.7 1.57468	0 .15736	0 0	24056.7 40.51841	.00665395 .00591514	.00628455	0	24056.7 40.51841	.00665395 .00575713	.00620554
ANTELOPE VALLEY EAST KERN WATER AGENCY	QUANTITY CAPACITY,	AF CFS	0 0	254.2 .41840	138400.0 191.16895	3000.3 4.93829	0 14.33767	0 0	141400.3 210.44491	.03911056 .03072212	.03491634	0	141400.3 210.44491	.03911056 .02990146	.03450601
LITTLEROCK CREEK IRRIGATION DISTRICT	QUANTITY CAPACITY	AF CFS	0 0	4.3 .00708	2300.0 3.17694	66.1 .10880	0 .23827	0 0	2366.1 3.52401	.00065445 .00051446	.00058445	0	2366.1 3.52401	.00065445 .00050072	.00057758
PALMDALE IRRIGATION DISTRICT	QUANTITY CAPACITY,	AF CFS	0 0	31.9 .05251	17300.0 23.89612	459.3 .75600	0 1.79221	0 0	17759.3 26.44433	.00491213 .00386052	.00438632	0	17759.3 26.44433	.00491213 .00375739	.00433476
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY, CAPACITY,	AF CFS	0 0	37.1 .06106	20000.0 27.62557	653.8 .99549	0 2.10347	0 0	20653.8 30.72453	.00571273 .00448537	.00509905	0	20653.8 30.72453	.00571273 .00436555	.00503914
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY CAPACITY,	AF CFS	0 0	77.1 .12690	41500.0 57.32306	1357.0 2.06625	0 4.36471	0 0	42857.0 63.75402	.01185401 .00930723	.01058062	0	42857.0 63.75402	.01185401 .00905861	.01045631
KERN COUNTY WATER AGENCY – MUNICIPAL & INDUSTRIAL	QUANTITY, CAPACITY,	AF CFS	0 0	216.6 .35651	119600.0 218.06521	899.8 1.48100	0 0	0 0	120499.8 219.54621	.03332959 .03205078	.03269019	0	120499.8 219.54621	.03332959 .03119463	.03226211
KERN COUNTY WATER AGENCY – AGRICULTURAL	QUANTITY, CAPACITY,	AF CFS	265800.0 793.03071	1607.0 2.64501	888200.0 2649.99955	5653.4 9.30509	0 0	0 0	893853.4 2659.30464	.24723499 .38822259	.31772879	0	893853.4 2659.30464	.24723499 .37785226	.31254363
TOTAL	QUANTITY CAPACITY,	AF CFS	265800.0 793.03071	6500.0 10.69856	3505300.0 6463.50665	110100.0 171.10734	0 215.33421	0 0	3615400.0 6849.94820	1.00000000 1.00000000	1.00000000	188.00000	3615400.0 7037.94820	1.00000000 1.00000000	1.00000000
REACH 11B – LOST HILLS TO 7TH STANDARD ROAD															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY CAPACITY,	AF CFS	0 0	2442.1 4.01953	2011500.0 2863.07637	81885.4 125.21657	0 184.61850	0 0	2093385.4 3172.91144	.62618091 .52477614	.57547852	188.00000	2093385.4 3360.91144	.62618091 .53910706	.58264398
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY CAPACITY,	AF CFS	0 0	119.8 .19718	98000.0 164.57133	4709.3 7.56048	0 .73472	0 0	102709.3 172.86653	.03072277 .02859085	.02965681	0	102709.3 172.86653	.03072277 .02772866	.02922572
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY, CAPACITY,	AF CFS	0 0	35.2 .05794	28800.0 45.15128	1384.1 2.22210	0 1.26003	0 0	30184.1 48.63341	.00902878 .00804361	.00853619	0	30184.1 48.63341	.00902878 .00780104	.00841491
FUTURE CONTRACTOR-SOUTHERN CALIFORNIA	QUANTITY, CAPACITY,	AF CFS	0 0	5.6 .00922	4600.0 7.72965	220.7 .35430	0 .03290	0 0	4820.7 8.11685	.00144198 .00134247	.00139222	0	4820.7 8.11685	.00144198 .00130198	.00137198
SAN GORGONIO PASS WATER AGENCY	QUANTITY, CAPACITY	AF CFS	0 0	21.2 .03489	17300.0 29.05110	831.5 1.33491	0 .12996	0 0	18131.5 30.51597	.00542356 .00504712	.00523534	0	18131.5 30.51597	.00542356 .00489492	.00515924
CRESTLINE LAKE ARROWHEAD WATER AGENCY	QUANTITY CAPACITY	AF CFS	0 0	7.1 .01169	5800.0 9.73527	278.6 .44729	0 .04500	0 0	6078.6 10.22756	.00181825 .00169156	.00175491	0	6078.6 10.22756	.00181825 .00164055	.00172940
MOJAVE WATER AGENCY	QUANTITY, CAPACITY	AF CFS	0 0	61.6 .10139	50800.0 70.16895	2008.8 3.30635	0 5.26267	0 0	52808.8 78.73797	.01579636 .01302268	.01440952	0	52808.8 78.73797	.01579636 .01262997	.01421316
DESERT WATER AGENCY	QUANTITY CAPACITY	AF CFS	0 0	46.2 .07604	38100.0 63.98093	1506.7 2.47992	0 .25674	0 0	39606.7 66.71759	.01184730 .01103460	.01144095	0	39606.7 66.71759	.01184730 .01070184	.01127457
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY CAPACITY,	AF CFS	0 0	28.0 .04609	23100.0 38.78637	913.4 1.50341	0 .15736	0 0	24013.4 40.44714	.00718297 .00668966	.00693631	0	24013.4 40.44714	.00718297 .00648792	.00683545
ANTELOPE VALLEY EAST KERN WATER AGENCY	QUANTITY, CAPACITY,	AF CFS	0 0	164.7 .27108	138400.0 191.16895	2746.1 4.51989	0 14.33767	0 0	141146.1 210.02651	.04222013 .03473683	.03847848	0	141146.1 210.02651	.04222013 .03368931	.03795472
LITTLEROCK CREEK IRRIGATION DISTRICT	QUANTITY, CAPACITY,	AF CFS	0 0	2.8 .00461	2300.0 3.17694	61.8 .10172	0 .23827	0 0	2361.8 3.51693	.00070647 .00058167	.00064407	0	2361.8 3.51693	.00070647 .00056413	.00063530
PALMDALE IRRIGATION DISTRICT	QUANTITY, CAPACITY,	AF CFS	0 0	20.7 .03407	17300.0 23.89612	427.4 .70340	0 1.79221	0 0	17727.4 26.39182	.00530268 .00436501	.00483385	0	17727.4 26.39182	.00530268 .00423338	.00476803
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY CAPACITY	AF CFS	0 0	24.0 .03950	20000.0 27.62557	616.7 .93443	0 2.10347	0 0	20616.7 30.66347	.00616694 .00507151	.00561923	0	20616.7 30.66347	.00616694 .00491857	.00554276
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY CAPACITY,	AF CFS	0 0	49.9 .08213	41500.0 57.32306	1279.9 1.93935	0 4.36471	0 0	42779.9 63.62712	.01279648 .01052346	.01165997	0	42779.9 63.62712	.01279648 .01020611	.01150129
KERN COUNTY WATER AGENCY – MUNICIPAL & INDUSTRIAL	QUANTITY, CAPACITY	AF CFS	0 0	140.3 .23092	119600.0 218.06521	683.2 1.12449	0 0	0 0	120283.2 219.18970	.03597954 .03625236	.03611595	0	120283.2 219.18970	.03597954 .03515913	.03556933
KERN COUNTY WATER AGENCY – AGRICULTURAL	QUANTITY, CAPACITY,	AF CFS	126300.0 376.82385	730.8 1.20285	622400.0 1856.96884	4046.4 6.66008	0 0	0 0	626446.4 1863.62892	.18738488 .30823047	.24780768	0	626446.4 1863.62892	.18738488 .29893543	.24316016
TOTAL	QUANTITY CAPACITY	AF CFS	126300.0 376.82385	3900.0 6.41913	3239500.0 5670.47594	103600.0 160.40878	0 215.33421	0 0	3343100.0 6046.21893	1.00000000 1.00000000	1.00000000	188.00000	3343100.0 6234.21893	1.00000000 1.00000000	1.00000000

TABLE B-3 (Continued)
REACH SUMMARY OF PROPORTIONATE USE OF PROJECT TRANSPORTATION FACILITIES BY WATER SUPPLY CONTRACTORS

(in units as shown)

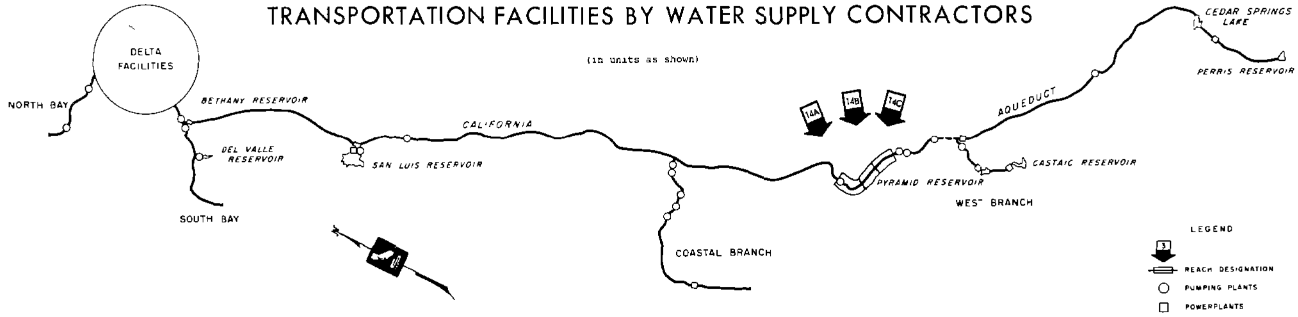


WATER SUPPLY CONTRACTOR	MEASURE OF USE		MAXIMUM ANNUAL ENTITLEMENTS DELIVERED FROM REACH	ESTIMATED OPERATIONAL LOSSES WITHIN REACH	CAPACITY PROVIDED IN REACH: FOR DELIVERY OF ENTITLEMENTS	FOR COMPENSATION OF: OPERATIONAL LOSSES	FOR COMPENSATION OF: SCHEDULED OUTAGES	FOR COMPENSATION OF: DOWNSTREAM REGULATION	SUBTOTAL	PROPORTIONATE USE FOR ALLOCATION OF CAPITAL COSTS: RATIOS OF TOTAL REACH USE	AVERAGE OF RATIOS	CAPACITY PROVIDED IN REACH: FOR REQUESTED EXCESS PEAKING	TOTAL FOR WATER SUPPLY CONTRACTORS	PROPORTIONATE USE FOR ALLOCATION OF MINIMUM OMP&R COSTS: RATIOS OF TOTAL REACH USE	AVERAGE OF RATIOS
	(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
REACH 12D – 7TH STANDARD ROAD TO ELK HILLS ROAD															
THE METROPOLITAN WATER DISTRICT	QUANTITY,	AF	0	3839.7	2011500.0	79443.3	0	0	2090943.3	.65079626			2090943.3	.65079626	
OF SOUTHERN CALIFORNIA	CAPACITY	CFS	0	6.31988	2863.07637	121.19704	184.61850	0	3168.89191	.55958068	.60518847	188.00000	3356.89191	.57373196	.61226411
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY	AF	0	188.4	98000.0	4589.5	0	0	102589.5	.03193050			102589.5	.03193050	
	CAPACITY	CFS	0	.31009	164.57133	7.36330	.73472	0	172.66935	.03049092	.03121071	0	172.66935	.02951120	.03072085
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY	AF	0	55.4	28800.0	1348.9	0	0	30148.9	.00938370			30148.9	.00938370	
	CAPACITY	CFS	0	.09119	45.15128	2.16416	1.26003	0	48.57547	.00857773	.00898072	0	48.57547	.00830211	.00884291
FUTURE CONTRACTOR SOUTHERN CALIFORNIA	QUANTITY	AF	0	8.8	4600.0	215.1	0	0	4815.1	.00149868			4815.1	.00149868	
	CAPACITY,	CFS	0	.01448	7.72965	.34508	.03290	0	8.10763	.00143169	.00146518	0	8.10763	.00138569	.00144218
SAN GORGONIO PASS WATER AGENCY	QUANTITY,	AF	0	33.3	17300.0	810.3	0	0	18110.3	.00563674			18110.3	.00563674	
	CAPACITY.	CFS	0	.05481	29.05110	1.30002	.12996	0	30.48108	.00538252	.00550963	0	30.48108	.00520957	.00542316
CRESTLINE-LAKE ARROWHEAD WATER AGENCY	QUANTITY,	AF	0	11.2	5800.0	271.5	0	0	6071.5	.00188973			6071.5	.00188973	
	CAPACITY.	CFS	0	.01844	9.73527	.43560	.04500	0	10.21587	.00180397	.00184685	0	10.21587	.00174601	.00181787
MOJAVE WATER AGENCY	QUANTITY,	AF	0	96.9	50800.0	1947.2	0	0	52747.2	.01641732			52747.2	.01641732	
	CAPACITY,	CFS	0	.15949	70.16895	3.20496	5.26267	0	78.63658	.01388609	.01515170	0	78.63658	.01343991	.01492861
DESERT WATER AGENCY	QUANTITY	AF	0	72.6	38100.0	1460.5	0	0	39560.5	.01231302			39560.5	.01231302	
	CAPACITY.	CFS	0	.11950	63.98093	2.40388	.25674	0	66.64155	.01176794	.01204048	0	66.64155	.01138982	.01185142
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY,	AF	0	44.0	23100.0	885.4	0	0	23985.4	.00746534			23985.4	.00746534	
	CAPACITY,	CFS	0	.07242	38.78637	1.45732	.15736	0	40.40105	.00713424	.00729979	0	40.40105	.00690501	.00718518
ANTELOPE VALLEY-EAST KERN WATER AGENCY	QUANTITY	AF	0	258.9	138400.0	2581.4	0	0	140981.4	.04387980			140981.4	.04387980	
	CAPACITY	CFS	0	.42613	191.16895	4.24881	14.33767	0	209.75543	.03703979	.04045979	0	209.75543	.03584965	.03986472
LITTLEROCK CREEK IRRIGATION DISTRICT	QUANTITY,	AF	0	4.3	2300.0	59.0	0	0	2359.0	.00073423			2359.0	.00073423	
	CAPACITY	CFS	0	.00708	3.17694	.09711	.23827	0	3.51232	.00062022	.00067723	0	3.51232	.00060030	.00066726
PALMDALE IRRIGATION DISTRICT	QUANTITY	AF	0	32.5	17300.0	406.7	0	0	17706.7	.00551113			17706.7	.00551113	
	CAPACITY	CFS	0	.05349	23.89612	.66942	1.79221	0	26.35775	.00465440	.00508276	0	26.35775	.00450485	.00500799
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY	AF	0	37.8	20000.0	592.7	0	0	20592.7	.00640938			20592.7	.00640938	
	CAPACITY,	CFS	0	.06222	27.62557	.89493	2.10347	0	30.62397	.00540775	.00590857	0	30.62397	.00523399	.00582169
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY,	AF	0	78.5	41500.0	1230.0	0	0	42730.0	.01329951			42730.0	.01329951	
	CAPACITY	CFS	0	.12921	57.32306	1.85722	4.36471	0	63.54499	.01122113	.01226032	0	63.54499	.01086058	.01208004
KERN COUNTY WATER AGENCY – MUNICIPAL & INDUSTRIAL	QUANTITY,	AF	0	220.6	119600.0	542.9	0	0	120142.9	.03739391			120142.9	.03739391	
	CAPACITY,	CFS	0	.36309	218.06521	.89357	0	0	218.95878	.03866497	.03802944	0	218.95878	.03742261	.03740826
KERN COUNTY WATER AGENCY – AGRICULTURAL	QUANTITY	AF	3700.0	917.1	496100.0	3315.6	0	0	499415.6	.15544075			499415.6	.15544075	
	CAPACITY	CFS	11.03918	1.50948	1480.14499	5.45723	0	0	1485.60222	.26233596	.20888836	0	1485.60222	.25390674	.20467375
TOTAL	QUANTITY,	AF	3700.0	5900.0	3113200.0	99700.0	0	0	3212900.0	1.00000000			3212900.0	1.00000000	
	CAPACITY	CFS	11.03918	9.71100	5293.65209	153.98965	215.33421	0	5662.97595	1.00000000	1.00000000	188.00000	5850.97595	1.00000000	1.00000000
REACH 12E – ELK HILLS ROAD TO TUPMAN ROAD															
THE METROPOLITAN WATER DISTRICT	QUANTITY,	AF	0	2345.6	2011500.0	75603.6	0	0	2087103.6	.65154797			2087103.6	.65154797	
OF SOUTHERN CALIFORNIA	CAPACITY	CFS	0	3.86070	2863.07637	114.87716	184.61850	0	3162.57203	.56051852	.60603324	188.00000	3350.57203	.57468993	.61311895
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY	AF	0	115.1	98000.0	4401.1	0	0	102401.1	.03196738			102401.1	.03196738	
	CAPACITY	CFS	0	.18945	164.57133	7.05321	.73472	0	172.35926	.03054810	.03125774	0	172.35926	.02956305	.03076521
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY	AF	0	33.8	28800.0	1293.5	0	0	30093.5	.00939453			30093.5	.00939453	
	CAPACITY	CFS	0	.05563	45.15128	2.07297	1.26003	0	48.48428	.00859311	.00899382	0	48.48428	.00831602	.00885527
FUTURE CONTRACTOR SOUTHERN CALIFORNIA	QUANTITY,	AF	0	5.4	4600.0	206.3	0	0	4806.3	.00150042			4806.3	.00150042	
	CAPACITY	CFS	0	.00889	7.72965	.33060	.03290	0	8.09315	.00143439	.00146740	0	8.09315	.00138814	.00144428
SAN GORGONIO PASS WATER AGENCY	QUANTITY	AF	0	20.3	17300.0	777.0	0	0	18077.0	.00564324			18077.0	.00564324	
	CAPACITY.	CFS	0	.03341	29.05110	1.24521	.12996	0	30.42627	.00539260	.00551792	0	30.42627	.00521871	.00543098
CRESTLINE-LAKE ARROWHEAD WATER AGENCY	QUANTITY	AF	0	6.8	5800.0	260.3	0	0	6060.3	.00189189			6060.3	.00189189	
	CAPACITY	CFS	0	.01119	9.73527	.41716	.04500	0	10.19743	.00180734	.00184962	0	10.19743	.00174906	.00182048
MOJAVE WATER AGENCY	QUANTITY	AF	0	59.2	50800.0	1850.3	0	0	52650.3	.01643627			52650.3	.01643627	
	CAPACITY	CFS	0	.09744	70.16895	3.04547	5.26267	0	78.47709	.01390889	.01517258	0	78.47709	.01346039	.01494833
DESERT WATER AGENCY	QUANTITY	AF	0	44.4	38100.0	1387.9	0	0	39487.9	.01232726			39487.9	.01232726	
	CAPACITY,	CFS	0	.07308	63.98093	2.28438	.25674	0	66.52205	.01179004	.01205865	0	66.52205	.01140986	.01186856
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY,	AF	0	26.9	23100.0	841.4	0	0	23941.4	.00747398			23941.4	.00747398	
	CAPACITY	CFS	0	.04428	38.78637	1.38490	.15736	0	40.32863	.00714764	.00731081	0	40.32863	.00691716	.00719557
ANTELOPE VALLEY EAST KERN WATER AGENCY	QUANTITY,	AF	0	158.1	138400.0	2322.5	0	0	140722.5	.04393048			140722.5	.04393048	
	CAPACITY.	CFS	0	.26022	191.16895	3.82268	14.33767	0	209.32930	.03710048	.04051548	0	209.32930	.03590415	.03991731
LITTLEROCK CREEK IRRIGATION DISTRICT	QUANTITY,	AF	0	2.6	2300.0	54.7	0	0	2354.7	.00073508			2354.7	.00073508	
	CAPACITY	CFS	0	.00428	3.17694	.09003	.23827	0	3.50524	.00062125	.00067817	0	3.50524	.00060122	.00066815
PALMDALE IRRIGATION DISTRICT	QUANTITY	AF	0	19.9	17300.0	374.2	0	0	17674.2	.00551750			17674.2	.00551750	
	CAPACITY	CFS	0	.03275	23.89612	.61593	1.79221	0	26.30426	.00466204	.00508977	0	26.30426	.00451171	.00501460
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY,	AF	0	23.1	20000.0	554.9	0	0	20554.9	.00641679			20554.9	.00641679	
	CAPACITY	CFS	0	.03802	27.62557	.83271	2.10347	0	30.56175	.00541661	.00591670	0	30.56175	.00524195	.00582937
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY	AF	0	47.9	41500.0	1151.5	0	0	42651.5	.01331486			42651.5	.01331486	
	CAPACITY	CFS	0	.07884	57.32306	1.72801	4.36471	0	63.41578	.01123950	.01227718	0	63.41578	.01087707	.01209597
KERN COUNTY WATER AGENCY – MUNICIPAL & INDUSTRIAL	QUANTITY	AF	77400.0	134.8	119600.0	322.3	0	0	119922.3	.03743711			119922.3	.03743711	
	CAPACITY,	CFS	141.12247	.22187	218.06521	.53048	0	0	218.59569	.03874281	.03808996	0	218.59569	.03749352	.03746532
KERN COUNTY WATER AGENCY – AGRICULTURAL	QUANTITY,	AF	130800.0	556.1	492400.0	2398.5	0	0	494798.5	.15446524			494798.5	.15446524	
	CAPACITY	CFS	390.24988	.91530	1469.10581	3.94775	0	0	1473.05356	.26107668	.20777096	0	1473.05356	.25265806	.20356165
TOTAL	QUANTITY	AF	208200.0	3600.0	3109500.0	93800.0	0	0	3203300.0	1.00000000			3203300.0	1.00000000	
	CAPACITY	CFS	531.37235	5.92535	5282.61291	144.27865	215.33421	0	5642.22577	1.00000000	1.00000000	188.00000	5830.22577	1.00000000	1.00000000
REACH 13B – TUPMAN ROAD TO BUENA VISTA PUMPING PLANT															
THE METROPOLITAN WATER DISTRICT	QUANTITY,	AF	0	3902.6	2011500.0	73258.0	0	0	2084758.0	.69689387			2084758.0	.69689387	
OF SOUTHERN CALIFORNIA	CAPACITY.	CFS	0	6.42341	2863.07637	111.01646	184.61850	0	3158.71133	.61875727	.65782557	188.00000	3346.71133	.63229866	.66459626
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY	AF	0	191.5	98000.0	4286.0	0	0	102286.0	.03419221			102286.0	.03419221	
	CAPACITY	CFS	0	.31520	164.57133	6.86376	.73472	0	172.16981	.03372620	.03395920	0	172.16981	.03252828	.03336024
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY,	AF	0	56.3	28800.0	1259.7	0	0	30059.7	.01004837			30059.7	.01004837	
	CAPACITY	CFS	0	.09267	45.15128	2.01734	1.26003	0	48.42865	.00948665	.00976751	0	48.42865	.00914969	.00959903
FUTURE CONTRACTOR SOUTHERN CALIFORNIA	QUANTITY	AF	0	9.0	4600.0	200.9	0	0	4800.9	.00160485			4800.9	.00160485	
	CAPACITY,	CFS	0	.01481	7.72965	.32171	.03290	0	8.08426	.00158362	.00159423	0	8.08426	.00152737	.00156611
SAN GORGONIO PASS WATER AGENCY	QUANTITY	AF	0	33.8	17300.0	756.7	0	0	18056.7	.00603600			18056.7	.00603600	
	CAPACITY	CFS	0	.05563	29.05110	1.21180	.12996	0	30.39286	.00595363	.00599482	0	30.39286	.00574217	.00588908
CRESTLINE LAKE ARROWHEAD WATER AGENCY	QUANTITY	AF	0	11.3	5800.0	253.5	0	0	6053.5	.00202357			6053.5	.00202357	
	CAPACITY	CFS	0	.01860	9.73527	.40597	.04500	0	10.18624	.00199537	.00200947	0	10.18624	.00192450	.00197403
MOJAVE WATER AGENCY	QUANTITY	AF	0	98.5	50800.0	1791.1	0	0	52591.1	.01758018			52591.1	.01758018	
	CAPACITY	CFS	0	.16212	70.16895	2.94803	5.26267	0	78.37965	.01535372	.01646695	0	78.37965	.01480837	.01619428
DESERT WATER AGENCY	QUANTITY	AF	0	73.8	38100.0	1343.5	0	0	39443.5	.01318519			39443.5	.01318519	
	CAPACITY,	CFS	0	.12147	63.98093	2.21130	.25674	0	66.44897	.01301663	.01310091	0	66.44897	.01255429	.01286974
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY	AF	0	44.8	23100.0	814.5	0	0	23914.5	.00799415			23914.5	.00799415	
	CAPACITY	CFS	0	.07374	38.78637	1.34062	.15736	0	40.28435	.00789127	.00794271	0	40.28435	.00761098	.00780256
ANTELOPE VALLEY EAST KERN WATER AGENCY	QUANTITY	AF	0	263.1	138400.0	2164.4	0	0	140564.4	.04698793			140564.4	.04698793	
	CAPACITY,	CFS	0	.43305	191.16895	3.56246	14.33767	0	209.06908	.04095436	.04397115	0	209.06908	.03949970	.04324382
LITTLEROCK CREEK IRRIGATION DISTRICT	QUANTITY	AF	0	4.4	2300.0	52.1	0	0	2352.1	.00078626			2352.1	.00078626	
	CAPACITY	CFS	0	.00724	3.17694	.08575	.23827	0	3.50096	.00068580	.00073603	0	3.50096	.00066144	.00072385
PALMDALE IRRIGATION DISTRICT	QUANTITY	AF	0	33.0	17300.0	354.3	0	0	17654.3	.00590149			17654.3	.00590149	
	CAPACITY	CFS	0	.05432	23.89612	.58318	1.79221	0	26.27151	.00514630	.00552390	0	26.27151	.00496351	.00543250
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY	AF	0	38.4	20000.0	531.8	0	0	20531.8	.00686338			20531.8	.00686338	
	CAPACITY	CFS	0	.06320	27.62557	.79469	2.10347	0	30.52373	.00597927	.00642132	0	30.52373	.00576689	.00631514
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY	AF	0	79.8	41500.0	1103.6	0	0	42603.6	.01424155			42603.6	.01424155	
	CAPACITY,	CFS	0	.13135	57.32306	1.64917	4.36471	0	63.33694	.01240702	.01332428	0	63.33694	.01196633	.01310394
KERN COUNTY WATER AGENCY – MUNICIPAL & INDUSTRIAL	QUANTITY	AF	25200.0	79.3	42200.0	187.5	0	0	42387.5	.01416931			42387.5	.01416931	
	CAPACITY	CFS	45.94685	.13052	76.94274	.30861	0	0	77.25135	.01513270	.01465101	0	77.25135	.01459520	.01438226
KERN COUNTY WATER AGENCY – AGRICULTURAL	QUANTITY	AF	86800.0	680.4	361600.0	1842.4	0	0	363442.4	.12149169			363442.4	.12149169	
	CAPACITY	CFS	258.97316	1.11989	1078.85593	3.03245	0	0	1081.88838	.21193019	.16671094	0	1081.88838	.20440262	.16294716
TOTAL	QUANTITY	AF	112000.0	5600.0	2901300.0	90200.0	0	0	2991500.0	1.00000000			2991500.0	1.00000000	
	CAPACITY	CFS	304.92001	9.21722	4751.24056	138.35330	215.33421	0	5104.92807	1.00000000	1.00000000	188.00000	5292.92807	1.00000000	1.00000000

TABLE B-3 (Continued)

REACH SUMMARY OF PROPORTIONATE USE OF PROJECT TRANSPORTATION FACILITIES BY WATER SUPPLY CONTRACTORS

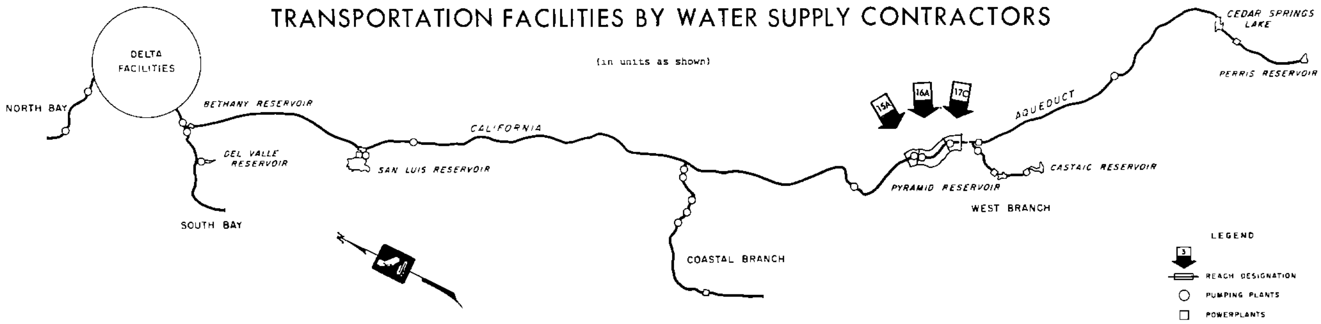
(in units as shown)



WATER SUPPLY CONTRACTOR	MEASURE OF USE		MAXIMUM ANNUAL ENTITLEMENTS DELIVERED FROM REACH	ESTIMATED OPERATIONAL LOSSES WITHIN REACH	CAPACITY PROVIDED IN REACH: FOR DELIVERY OF ENTITLEMENTS	CAPACITY PROVIDED IN REACH: FOR COMPENSATION OF: OPERATIONAL LOSSES	CAPACITY PROVIDED IN REACH: FOR COMPENSATION OF: SCHEDULED OUTAGES	CAPACITY PROVIDED IN REACH: FOR COMPENSATION OF: DOWNSTREAM REGULATION	CAPACITY PROVIDED IN REACH: SUBTOTAL	PROPORTIONATE USE FOR ALLOCATION OF CAPITAL COSTS: RATIOS OF TOTAL REACH USE	PROPORTIONATE USE FOR ALLOCATION OF CAPITAL COSTS: AVERAGE OF RATIOS	CAPACITY PROVIDED IN REACH: FOR REQUESTED EXCESS PEAKING	CAPACITY PROVIDED IN REACH: TOTAL FOR WATER SUPPLY CONTRACTORS	PROPORTIONATE USE FOR ALLOCATION OF MINIMUM OMP&R COSTS: RATIOS OF TOTAL REACH USE	PROPORTIONATE USE FOR ALLOCATION OF MINIMUM OMP&R COSTS: AVERAGE OF RATIOS
	(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
REACH 14A – BUENA VISTA PUMPING PLANT TO SANTIAGO CREEK															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY	AF	0	3692.7	2011500.0	69355.4	0	0	2080855.4	.72405282			2080855.4	.72405282	
	CAPACITY	CFS	0	6.07793	2863.07637	104.59305	184.61850	0	3152.28792	.65798905	.69102094	188.00000	3340.28792	.67090344	.69747813
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY,	AF	0	181.2	98000.0	4094.5	0	0	102094.5	.03552472			102094.5	.03552472	
	CAPACITY,	CFS	0	.29824	164.57133	6.54856	.73472	0	171.85461	.03587187	.03569829	0	171.85461	.03451734	.03502103
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY	AF	0	53.2	28800.0	1203.4	0	0	30003.4	.01043996			30003.4	.01043996	
	CAPACITY	CFS	0	.08757	45.15128	1.92467	1.26003	0	48.33598	.01008935	.01026466	0	48.33598	.00970838	.01007417
FUTURE CONTRACTOR SOUTHERN CALIFORNIA	QUANTITY,	AF	0	8.5	4600.0	191.9	0	0	4791.9	.00166739			4791.9	.00166739	
	CAPACITY,	CFS	0	.01399	7.72965	.30690	.03290	0	8.06945	.00168437	.00167588	0	8.06945	.00162076	.00164408
SAN GORGONIO PASS WATER AGENCY	QUANTITY,	AF	0	32.0	17300.0	722.9	0	0	18022.9	.00627124			18022.9	.00627124	
	CAPACITY,	CFS	0	.05267	29.05110	1.15617	.12996	0	30.33723	.00633241	.00630182	0	30.33723	.00609329	.00618226
CRESTLINE-LAKE ARROWHEAD WATER AGENCY	QUANTITY,	AF	0	10.7	5800.0	242.2	0	0	6042.2	.00210244			6042.2	.00210244	
	CAPACITY,	CFS	0	.01761	9.73527	.38737	.04500	0	10.16764	.00212233	.00211238	0	10.16764	.00204219	.00207231
MOJAVE WATER AGENCY	QUANTITY,	AF	0	93.1	50800.0	1692.6	0	0	52492.6	.01826528			52492.6	.01826528	
	CAPACITY,	CFS	0	.15324	70.16895	2.78591	5.26267	0	78.21753	.01632664	.01729596	0	78.21753	.01571015	.01698772
DESERT WATER AGENCY	QUANTITY	AF	0	69.9	38100.0	1269.7	0	0	39369.7	.01369905			39369.7	.01369905	
	CAPACITY	CFS	0	.11505	63.98093	2.08983	.25674	0	66.32750	.01384479	.01377192	0	66.32750	.01332201	.01351053
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY	AF	0	42.3	23100.0	769.7	0	0	23869.7	.00830568			23869.7	.00830568	
	CAPACITY,	CFS	0	.06962	38.78637	1.26688	.15736	0	40.21061	.00839331	.00834950	0	40.21061	.00807638	.00819103
ANTELOPE VALLEY EAST KERN WATER AGENCY	QUANTITY,	AF	0	249.0	138400.0	1901.3	0	0	140301.3	.04881913			140301.3	.04881913	
	CAPACITY	CFS	0	.40984	191.16895	3.12941	14.33767	0	208.63603	.04354939	.04618426	0	208.63603	.04190496	.04536205
LITTLEROCK CREEK IRRIGATION DISTRICT	QUANTITY,	AF	0	4.2	2300.0	47.7	0	0	2347.7	.00081690			2347.7	.00081690	
	CAPACITY,	CFS	0	.00691	3.17694	.07851	.23827	0	3.49372	.00072926	.00077308	0	3.49372	.00070172	.00075931
PALMDALE IRRIGATION DISTRICT	QUANTITY,	AF	0	31.3	17300.0	321.3	0	0	17621.3	.00613149			17621.3	.00613149	
	CAPACITY,	CFS	0	.05152	23.89612	.52886	1.79221	0	26.21719	.00547242	.00580195	0	26.21719	.00526577	.00569863
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY,	AF	0	36.4	20000.0	493.4	0	0	20493.4	.00713087			20493.4	.00713087	
	CAPACITY	CFS	0	.05991	27.62557	.73149	2.10347	0	30.46053	.00635814	.00674451	0	30.46053	.00611806	.00662446
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY,	AF	0	75.5	41500.0	1023.8	0	0	42523.8	.01479655			42523.8	.01479655	
	CAPACITY	CFS	0	.12427	57.32306	1.51782	4.36471	0	63.20559	.01319314	.01399485	0	63.20559	.01269497	.01374576
KERN COUNTY WATER AGENCY – MUNICIPAL & INDUSTRIAL	QUANTITY	AF	0	30.3	17000.0	108.2	0	0	17108.2	.00595296			17108.2	.00595296	
	CAPACITY,	CFS	0	.04987	30.99589	.17809	0	0	31.17398	.00650706	.00623001	0	31.17398	.00626136	.00610716
KERN COUNTY WATER AGENCY – AGRICULTURAL	QUANTITY	AF	37500.0	489.7	274800.0	1162.0	0	0	275962.0	.09602352			275962.0	.09602352	
	CAPACITY	CFS	111.88357	.80601	819.88277	1.91256	0	0	821.79533	.17153647	.13377999	0	821.79533	.16505922	.13054137
TOTAL	QUANTITY,	AF	37500.0	5100.0	2789300.0	84600.0	0	0	2873900.0	1.00000000			2873900.0	1.00000000	
	CAPACITY	CFS	111.88357	8.39425	4446.32055	129.13608	215.33421	0	4790.79084	1.00000000	1.00000000	188.00000	4978.79084	1.00000000	1.00000000
REACH 14B – SANTIAGO CREEK TO OLD RIVER ROAD															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY	AF	0	2567.7	2011500.0	65662.7	0	0	2077162.7	.73364275			2077162.7	.73364275	
	CAPACITY,	CFS	0	4.22626	2863.07637	98.51512	184.61850	0	3146.20999	.67363264	.70363769	188.00000	3334.20999	.68626141	.70995208
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY	AF	0	126.0	98000.0	3913.3	0	0	101913.3	.03599523			101913.3	.03599523	
	CAPACITY,	CFS	0	.20739	164.57133	6.25032	.73472	0	171.55637	.03673180	.03636352	0	171.55637	.03531047	.03565285
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY,	AF	0	37.0	28800.0	1150.2	0	0	29950.2	.01057825			29950.2	.01057825	
	CAPACITY,	CFS	0	.06090	45.15128	1.83710	1.26003	0	48.24841	.01033043	.01045434	0	48.24841	.00993069	.01025447
FUTURE CONTRACTOR SOUTHERN CALIFORNIA	QUANTITY	AF	0	5.9	4600.0	183.4	0	0	4783.4	.00168947			4783.4	.00168947	
	CAPACITY,	CFS	0	.00971	7.72965	.29291	.03290	0	8.05546	.00172475	.00170711	0	8.05546	.00165801	.00167374
SAN GORGONIO PASS WATER AGENCY	QUANTITY	AF	0	22.2	17300.0	690.9	0	0	17990.9	.00635429			17990.9	.00635429	
	CAPACITY,	CFS	0	.03654	29.05110	1.10350	.12996	0	30.28456	.00648420	.00641925	0	30.28456	.00623330	.00629379
CRESTLINE LAKE ARROWHEAD WATER AGENCY	QUANTITY	AF	0	7.5	5800.0	231.5	0	0	6031.5	.00213030			6031.5	.00213030	
	CAPACITY	CFS	0	.01234	9.73527	.36976	.04500	0	10.15003	.00217322	.00215175	0	10.15003	.00208912	.00210971
MOJAVE WATER AGENCY	QUANTITY,	AF	0	64.8	50800.0	1599.5	0	0	52399.5	.01850722			52399.5	.01850722	
	CAPACITY,	CFS	0	.10666	70.16895	2.63267	5.26267	0	78.06429	.01671429	.01761075	0	78.06429	.01606753	.01728738
DESERT WATER AGENCY	QUANTITY,	AF	0	48.6	38100.0	1199.8	0	0	39299.8	.01388048			39299.8	.01388048	
	CAPACITY	CFS	0	.07999	63.98093	1.97478	.25674	0	66.21245	.01417670	.01402859	0	66.21245	.01362813	.01375430
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY	AF	0	29.5	23100.0	727.4	0	0	23827.4	.00841571			23827.4	.00841571	
	CAPACITY,	CFS	0	.04856	38.78637	1.19726	.15736	0	40.14099	.00859456	.00850513	0	40.14099	.00826199	.00833885
ANTELOPE VALLEY EAST KERN WATER AGENCY	QUANTITY	AF	0	173.1	138400.0	1652.3	0	0	140052.3	.04946572			140052.3	.04946572	
	CAPACITY,	CFS	0	.28491	191.16895	2.71957	14.33767	0	208.22619	.04458315	.04702444	0	208.22619	.04285801	.04616187
LITTLEROCK CREEK IRRIGATION DISTRICT	QUANTITY	AF	0	2.9	2300.0	43.5	0	0	2343.5	.00082771			2343.5	.00082771	
	CAPACITY,	CFS	0	.00477	3.17694	.07160	.23827	0	3.48681	.00074656	.00078714	0	3.48681	.00071767	.00077269
PALMDALE IRRIGATION DISTRICT	QUANTITY	AF	0	21.7	17300.0	290.0	0	0	17590.0	.00621270			17590.0	.00621270	
	CAPACITY.	CFS	0	.03572	23.89612	.47734	1.79221	0	26.16567	.00560231	.00590750	0	26.16567	.00538553	.00579911
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY	AF	0	25.3	20000.0	457.0	0	0	20457.0	.00722530			20457.0	.00722530	
	CAPACITY,	CFS	0	.04164	27.62557	.67158	2.10347	0	30.40062	.00650905	.00686718	0	30.40062	.00625718	.00674124
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY,	AF	0	52.5	41500.0	948.3	0	0	42448.3	.01499251			42448.3	.01499251	
	CAPACITY,	CFS	0	.08641	57.32306	1.39355	4.36471	0	63.08132	.01350629	.01424940	0	63.08132	.01298367	.01398809
KERN COUNTY WATER AGENCY – MUNICIPAL & INDUSTRIAL	QUANTITY	AF	0	21.1	17000.0	77.9	0	0	17077.9	.00603182			17077.9	.00603182	
	CAPACITY	CFS	0	.03473	30.99589	.12822	0	0	31.12411	.00666396	.00634789	0	31.12411	.00640610	.00621896
KERN COUNTY WATER AGENCY – AGRICULTURAL	QUANTITY	AF	60700.0	294.2	237300.0	672.3	0	0	237972.3	.08405054			237972.3	.08405054	
	CAPACITY,	CFS	181.10220	.48423	707.99920	1.10655	0	0	709.10575	.15182609	.11793832	0	709.10575	.14595119	.11500087
TOTAL	QUANTITY	AF	60700.0	3500.0	2751800.0	79500.0	0	0	2831300.0	1.00000000			2831300.0	1.00000000	
	CAPACITY	CFS	181.10220	5.76076	4334.43698	120.74183	215.33421	0	4670.51302	1.00000000	1.00000000	188.00000	4858.51302	1.00000000	1.00000000
REACH 14C – OLD RIVER ROAD TO WHEELER RIDGE PUMPING PLANT															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY,	AF	0	2174.2	2011500.0	63095.0	0	0	2074595.0	.74973619			2074595.0	.74973619	
	CAPACITY	CFS	0	3.57859	2863.07637	94.28886	184.61850	0	3141.98373	.70076471	.72525045	188.00000	3329.98373	.71280676	.73127147
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY	AF	0	106.7	98000.0	3787.3	0	0	101787.3	.03678483			101787.3	.03678483	
	CAPACITY	CFS	0	.17562	164.57133	6.04293	.73472	0	171.34898	.03821640	.03750062	0	171.34898	.03667847	.03673165
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY	AF	0	31.4	28800.0	1113.2	0	0	29913.2	.01081031			29913.2	.01081031	
	CAPACITY	CFS	0	.05168	45.15128	1.77620	1.26003	0	48.18751	.01074738	.01077885	0	48.18751	.01031488	.01056259
FUTURE CONTRACTOR SOUTHERN CALIFORNIA	QUANTITY	AF	0	5.0	4600.0	177.5	0	0	4777.5	.00172654			4777.5	.00172654	
	CAPACITY	CFS	0	.00823	7.72965	.28320	.03290	0	8.04575	.00179446	.00176050	0	8.04575	.00172225	.00172439
SAN GORGONIO PASS WATER AGENCY	QUANTITY	AF	0	18.8	17300.0	668.7	0	0	17968.7	.00649369			17968.7	.00649369	
	CAPACITY,	CFS	0	.03094	29.05110	1.06696	.12996	0	30.24802	.00674629	.00661999	0	30.24802	.00647480	.00648425
CRESTLINE LAKE ARROWHEAD WATER AGENCY	QUANTITY.	AF	0	6.3	5800.0	224.0	0	0	6024.0	.00217701			6024.0	.00217701	
	CAPACITY,	CFS	0	.01037	9.73527	.35742	.04500	0	10.13769	.00226104	.00221902	0	10.13769	.00217005	.00217353
MOJAVE WATER AGENCY	QUANTITY,	AF	0	54.9	50800.0	1534.7	0	0	52334.7	.01891319			52334.7	.01891319	
	CAPACITY.	CFS	0	.09036	70.16895	2.52601	5.26267	0	77.95763	.01738709	.01815014	0	77.95763	.01668739	.01780029
DESERT WATER AGENCY	QUANTITY,	AF	0	41.1	38100.0	1151.2	0	0	39251.2	.01418496			39251.2	.01418496	
	CAPACITY,	CFS	0	.06765	63.98093	1.89479	.25674	0	66.13246	.01474969	.01446733	0	66.13246	.01415612	.01417054
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY,	AF	0	24.9	23100.0	697.9	0	0	23797.9	.00860030			23797.9	.00860030	
	CAPACITY,	CFS	0	.04098	38.78637	1.14870	.15736	0	40.09243	.00894192	.00877111	0	40.09243	.00858207	.00859119
ANTELOPE VALLEY-EAST KERN WATER AGENCY	QUANTITY	AF	0	146.6	138400.0	1479.2	0	0	139879.2	.05055083			139879.2	.05055083	
	CAPACITY,	CFS	0	.24129	191.16895	2.43466	14.33767	0	207.94128	.04637768	.04846425	0	207.94128	.04451131	.04753107
LITTLEROCK CREEK IRRIGATION DISTRICT	QUANTITY	AF	0	2.5	2300.0	40.6	0	0	2340.6	.00084587			2340.6	.00084587	
	CAPACITY	CFS	0	.00412	3.17694	.06683	.23827	0	3.48204	.00077661	.00081124	0	3.48204	.00074536	.00079561
PALMDALE IRRIGATION DISTRICT	QUANTITY,	AF	0	18.4	17300.0	268.3	0	0	17568.3	.00634899			17568.3	.00634899	
	CAPACITY	CFS	0	.03029	23.89612	.44162	1.79221	0	26.12995	.00582783	.00608841	0	26.12995	.00559330	.00597115
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY,	AF	0	21.4	20000.0	431.7	0	0	20431.7	.00738380			20431.7	.00738380	
	CAPACITY,	CFS	0	.03522	27.62557	.62994	2.10347	0	30.35898	.00677104	.00707742	0	30.35898	.00649856	.00694118
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY	AF	0	44.4	41500.0	895.8	0	0	42395.8	.01532138			42395.8	.01532138	
	CAPACITY,	CFS	0	.07308	57.32306	1.30714	4.36471	0	62.99491	.01404992	.01468565	0	62.99491	.01348451	.01440295
KERN COUNTY WATER AGENCY – MUNICIPAL & INDUSTRIAL	QUANTITY,	AF	0	17.9	17000.0	56.8	0	0	17056.8	.00616414			17056.8	.00616414	
	CAPACITY	CFS	0	.02946	30.99589	.09349	0	0	31.08938	.00693395	.00654904	0	31.08938	.00665490	.00640952
KERN COUNTY WATER AGENCY – AGRICULTURAL	QUANTITY,	AF	32500.0	185.5	176600.0	378.1	0	0	176978.1	.06395797			176978.1	.06395797	
	CAPACITY,	CFS	96.96576	.30532	526.89700	.62232	0	0	527.51932	.11765399	.09080598	0	527.51932	.11291927	.08843862
TOTAL	QUANTITY	AF	32500.0	2900.0	2691100.0	76000.0	0	0	2767100.0	1.00000000			2767100.0	1.00000000	
	CAPACITY	CFS	96.96576	4.77320	4153.33478	114.98107	215.33421	0	4483.65006	1.00000000	1.00000000	188.00000	4671.65006	1.00000000	1.00000000

TABLE B-3 (Continued)
REACH SUMMARY OF PROPORTIONATE USE OF PROJECT TRANSPORTATION FACILITIES BY WATER SUPPLY CONTRACTORS

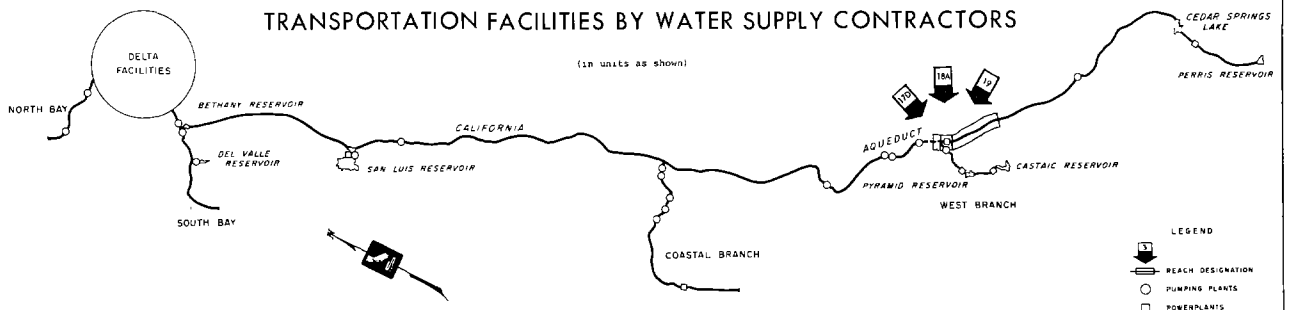
(in units as shown)



WATER SUPPLY CONTRACTOR	MEASURE OF USE (1)		MAXIMUM ANNUAL ENTITLEMENTS DELIVERED FROM REACH (2)	ESTIMATED OPERATIONAL LOSSES WITHIN REACH (3)	CAPACITY PROVIDED IN REACH: FOR DELIVERY OF ENTITLEMENTS (4)	FOR COMPENSATION OF: OPERATIONAL LOSSES (5)	FOR COMPENSATION OF: SCHEDULED OUTAGES (6)	FOR COMPENSATION OF: DOWNSTREAM REGULATION (7)	SUBTOTAL (8)	PROPORTIONATE USE FOR ALLOCATION OF CAPITAL COSTS: RATIOS OF TOTAL REACH USE (9)	AVERAGE OF RATIOS (10)	CAPACITY PROVIDED IN REACH: FOR REQUESTED EXCESS PEAKING (11)	TOTAL FOR WATER SUPPLY CONTRACTORS (12)	PROPORTIONATE USE FOR ALLOCATION OF MINIMUM OMP&R COSTS: RATIOS OF TOTAL REACH USE (13)	AVERAGE OF RATIOS (14)
REACH 15A – WHEELER RIDGE PUMPING PLANT TO WIND GAP PUMPING PLANT															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY,	AF	0	682.8	2011500.0	60920.6	0	0	2072420.8	.75865608			2072420.8	.75865608	
	CAPACITY	CFS	0	1.12384	2863.07637	90.71027	184.61850	0	3138.40514	.71621835	.73743721	188.00000	3326.40514	.72789275	.74327441
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY,	AF	0	33.5	98000.0	3680.6	0	0	101680.6	.03722246			101680.6	.03722246	
	CAPACITY	CFS	0	.05514	164.57133	5.86731	.73472	0	171.17336	.03906363	.03814305	0	171.17336	.03745661	.03733953
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY,	AF	0	9.9	28800.0	1081.8	0	0	29881.8	.01093890			29881.8	.01093890	
	CAPACITY,	CFS	0	.01630	45.15128	1.72452	1.26003	0	48.13583	.01098512	.01096201	0	48.13583	.01053321	.01073606
FUTURE CONTRACTOR SOUTHERN CALIFORNIA	QUANTITY,	AF	0	1.6	4600.0	172.5	0	0	4772.5	.00174708			4772.5	.00174708	
	CAPACITY,	CFS	0	.00263	7.72965	.27497	.03290	0	8.03752	.00183425	.00179067	0	8.03752	.00175879	.00175294
SAN GORGONIO PASS WATER AGENCY	QUANTITY,	AF	0	5.9	17300.0	649.9	0	0	17949.9	.00657096			17949.9	.00657096	
	CAPACITY	CFS	0	.00971	29.05110	1.03602	.12996	0	30.21708	.00689587	.00673342	0	30.21708	.00661218	.00659157
CRESTLINE-LAKE ARROWHEAD WATER AGENCY	QUANTITY,	AF	0	2.0	5800.0	217.7	0	0	6017.7	.00220291			6017.7	.00220291	
	CAPACITY	CFS	0	.00329	9.73527	.34705	.04500	0	10.12732	.00231117	.00225704	0	10.12732	.00221609	.00220950
MOJAVE WATER AGENCY	QUANTITY	AF	0	17.2	50800.0	1479.8	0	0	52279.8	.01913819			52279.8	.01913819	
	CAPACITY,	CFS	0	.02831	70.16895	2.43565	5.26267	0	77.86727	.01777016	.01845418	0	77.86727	.01703912	.01808866
DESERT WATER AGENCY	QUANTITY,	AF	0	12.9	38100.0	1110.1	0	0	39210.1	.01435374			39210.1	.01435374	
	CAPACITY,	CFS	0	.02123	63.98093	1.82714	.25674	0	66.06481	.01507671	.01471522	0	66.06481	.01445648	.01440511
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY	AF	0	7.8	23100.0	673.0	0	0	23773.0	.00870264			23773.0	.00870264	
	CAPACITY,	CFS	0	.01284	38.78637	1.10772	.15736	0	40.05145	.00914018	.00892141	0	40.05145	.00876416	.00873340
ANTELOPE VALLEY EAST KERN WATER AGENCY	QUANTITY	AF	0	46.0	138400.0	1332.6	0	0	139732.6	.05115225			139732.6	.05115225	
	CAPACITY,	CFS	0	.07571	191.16895	2.19337	14.33767	0	207.69999	.04739941	.04927583	0	207.69999	.04544946	.04830085
LITTLEROCK CREEK IRRIGATION DISTRICT	QUANTITY,	AF	0	.8	2300.0	38.1	0	0	2338.1	.00085591			2338.1	.00085591	
	CAPACITY	CFS	0	.00132	3.17694	.06271	.23827	0	3.47792	.00079370	.00082481	0	3.47792	.00076105	.00080848
PALMDALE IRRIGATION DISTRICT	QUANTITY,	AF	0	5.8	17300.0	249.9	0	0	17549.9	.00642454			17549.9	.00642454	
	CAPACITY	CFS	0	.00955	23.89612	.41133	1.79221	0	26.09966	.00595623	.00619038	0	26.09966	.00571120	.00606786
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY,	AF	0	6.7	20000.0	410.3	0	0	20410.3	.00747165			20410.3	.00747165	
	CAPACITY	CFS	0	.01103	27.62557	.59472	2.10347	0	30.32376	.00692021	.00719593	0	30.32376	.00663552	.00705359
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY,	AF	0	14.0	41500.0	851.4	0	0	42351.4	.01550368			42351.4	.01550368	
	CAPACITY	CFS	0	.02304	57.32306	1.23406	4.36471	0	62.92183	.01435945	.01493156	0	62.92183	.01376872	.01463620
KERN COUNTY WATER AGENCY – MUNICIPAL & INDUSTRIAL	QUANTITY	AF	0	5.6	17000.0	38.9	0	0	17038.9	.00623747			17038.9	.00623747	
	CAPACITY	CFS	0	.00922	30.99589	.06403	0	0	31.05992	.00708821	.00666284	0	31.05992	.00679661	.00651704
KERN COUNTY WATER AGENCY – AGRICULTURAL	QUANTITY,	AF	70000.0	47.5	144100.0	192.6	0	0	144292.6	.05282154			144292.6	.05282154	
	CAPACITY,	CFS	208.84932	.07818	429.93124	.31700	0	0	430.24824	.09818735	.07550444	0	430.24824	.09414805	.07348480
TOTAL	QUANTITY	AF	70000.0	900.0	2658600.0	73100.0	0	0	2731700.0	1.00000000			2731700.0	1.00000000	
	CAPACITY	CFS	208.84932	1.48134	4056.36902	110.20787	215.33421	0	4381.91110	1.00000000	1.00000000	188.00000	4569.91110	1.00000000	1.00000000
REACH 16A – WIND GAP PUMPING PLANT TO TEHACHAPI PUMPING PLANT															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY,	AF	0	4048.8	2011500.0	60238.0	0	0	2071738.0	.77861470			2071738.0	.77861470	
	CAPACITY,	CFS	0	6.66405	2863.07637	89.58643	184.61850	0	3137.28130	.75206060	.76533765	188.00000	3325.28130	.76275260	.77068365
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY	AF	0	198.6	98000.0	3647.1	0	0	101647.1	.03820171			101647.1	.03820171	
	CAPACITY.	CFS	0	.32688	164.57133	5.81217	.73472	0	171.11822	.04102000	.03961085	0	171.11822	.03925107	.03872639
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY,	AF	0	58.4	28800.0	1071.9	0	0	29871.9	.01122666			29871.9	.01122666	
	CAPACITY,	CFS	0	.09612	45.15128	1.70822	1.26003	0	48.11953	.01153508	.01138087	0	48.11953	.01103765	.01113216
FUTURE CONTRACTOR SOUTHERN CALIFORNIA	QUANTITY	AF	0	9.3	4600.0	170.9	0	0	4770.9	.00179303			4770.9	.00179303	
	CAPACITY,	CFS	0	.01531	7.72965	.27234	.03290	0	8.03489	.00192610	.00185957	0	8.03489	.00184304	.00181804
SAN GORGONIO PASS WATER AGENCY	QUANTITY,	AF	0	35.1	17300.0	644.0	0	0	17944.0	.00674384			17944.0	.00674384	
	CAPACITY,	CFS	0	.05777	29.05110	1.02631	.12996	0	30.20737	.00724123	.00699253	0	30.20737	.00692896	.00683640
CRESTLINE LAKE ARROWHEAD WATER AGENCY	QUANTITY,	AF	0	11.8	5800.0	215.7	0	0	6015.7	.00226086			6015.7	.00226086	
	CAPACITY,	CFS	0	.01942	9.73527	.34376	.04500	0	10.12403	.00242690	.00234388	0	10.12403	.00232225	.00229155
MOJAVE WATER AGENCY	QUANTITY	AF	0	102.1	50800.0	1462.6	0	0	52262.6	.01964169			52262.6	.01964169	
	CAPACITY,	CFS	0	.16805	70.16895	2.40734	5.26267	0	77.83896	.01865935	.01915052	0	77.83896	.01785469	.01874819
DESERT WATER AGENCY	QUANTITY	AF	0	76.6	38100.0	1097.2	0	0	39197.2	.01473136			39197.2	.01473136	
	CAPACITY	CFS	0	.12608	63.98093	1.80591	.25674	0	66.04358	.01583179	.01528158	0	66.04358	.01514907	.01494021
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY,	AF	0	46.4	23100.0	665.2	0	0	23765.2	.00893160			23765.2	.00893160	
	CAPACITY,	CFS	0	.07637	38.78637	1.09488	.15736	0	40.03861	.00959795	.00926477	0	40.03861	.00918405	.00905783
ANTELOPE VALLEY-EAST KERN WATER AGENCY	QUANTITY,	AF	0	273.0	138400.0	1286.6	0	0	139686.6	.05249797			139686.6	.05249797	
	CAPACITY	CFS	0	.44934	191.16895	2.11766	14.33767	0	207.62428	.04977113	.05113455	0	207.62428	.04762483	.05006140
LITTLEROCK CREEK IRRIGATION DISTRICT	QUANTITY	AF	0	4.6	2300.0	37.3	0	0	2337.3	.00087842			2337.3	.00087842	
	CAPACITY	CFS	0	.00757	3.17694	.06139	.23827	0	3.47660	.00083340	.00085591	0	3.47660	.00079746	.00083794
PALMDALE IRRIGATION DISTRICT	QUANTITY	AF	0	34.3	17300.0	244.1	0	0	17544.1	.00659354			17544.1	.00659354	
	CAPACITY	CFS	0	.05646	23.89612	.40178	1.79221	0	26.09011	.00625425	.00642390	0	26.09011	.00598455	.00628904
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY,	AF	0	39.9	20000.0	403.6	0	0	20403.6	.00766822			20403.6	.00766822	
	CAPACITY,	CFS	0	.06567	27.62557	.58369	2.10347	0	30.31273	.00726649	.00746735	0	30.31273	.00695313	.00731068
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY,	AF	0	82.7	41500.0	837.4	0	0	42337.4	.01591153			42337.4	.01591153	
	CAPACITY,	CFS	0	.13612	57.32306	1.21102	4.36471	0	62.89879	.01507793	.01549473	0	62.89879	.01442772	.01516962
KERN COUNTY WATER AGENCY – MUNICIPAL & INDUSTRIAL	QUANTITY	AF	12000.0	33.3	17000.0	33.3	0	0	17033.3	.00640157			17033.3	.00640157	
	CAPACITY	CFS	21.87945	.05481	30.99589	.05481	0	0	31.05070	.00744339	.00692248	0	31.05070	.00712241	.00676199
KERN COUNTY WATER AGENCY – AGRICULTURAL	QUANTITY	AF	74100.0	145.1	74100.0	145.1	0	0	74245.1	.02790330			74245.1	.02790330	
	CAPACITY,	CFS	221.08192	.23882	221.08192	.23882	0	0	221.32074	.05305441	.04047886	0	221.32074	.05076652	.03933491
TOTAL	QUANTITY	AF	86100.0	5200.0	2588600.0	72200.0	0	0	2660800.0	1.00000000			2660800.0	1.00000000	
	CAPACITY	CFS	242.96137	8.55884	3847.51970	108.72653	215.33421	0	4171.58044	1.00000000	1.00000000	188.00000	4359.58044	1.00000000	1.00000000
REACH 17C – TEHACHAPI PUMPING PLANT TO BEARTRAP ACCESS STRUCTURE															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY	AF	0	0	2011500.0	56189.2	0	0	2067689.2	.80470489			2067689.2	.80470489	
	CAPACITY.	CFS	0	0	2863.07637	82.92238	184.61850	0	3130.61725	.79861458	.80165973	188.00000	3318.61725	.80783072	.80626780
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY,	AF	0	0	98000.0	3448.5	0	0	101448.5	.03948181			101448.5	.03948181	
	CAPACITY.	CFS	0	0	164.57133	5.48529	.73472	0	170.79134	.04356855	.04152518	0	170.79134	.04157469	.04052825
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY,	AF	0	0	28800.0	1013.5	0	0	29813.5	.01160284			29813.5	.01160284	
	CAPACITY.	CFS	0	0	45.15128	1.61210	1.26003	0	48.02341	.01225068	.01192676	0	48.02341	.01169005	.01164644
FUTURE CONTRACTOR SOUTHERN CALIFORNIA	QUANTITY	AF	0	0	4600.0	161.6	0	0	4761.6	.00185312			4761.6	.00185312	
	CAPACITY	CFS	0	0	7.72965	.25703	.03290	0	8.01958	.00204578	.00194945	0	8.01958	.00195216	.00190264
SAN GORGONIO PASS WATER AGENCY	QUANTITY,	AF	0	0	17300.0	608.9	0	0	17908.9	.00696980			17908.9	.00696980	
	CAPACITY	CFS	0	0	29.05110	.96854	.12996	0	30.14960	.00769111	.00733045	0	30.14960	.00733913	.00715447
CRESTLINE LAKE ARROWHEAD WATER AGENCY	QUANTITY	AF	0	0	5800.0	203.9	0	0	6003.9	.00233660			6003.9	.00233660	
	CAPACITY	CFS	0	0	9.73527	.32434	.04500	0	10.10461	.00257767	.00245713	0	10.10461	.00245970	.00239815
MOJAVE WATER AGENCY	QUANTITY,	AF	0	0	50800.0	1360.5	0	0	52160.5	.02029986			52160.5	.02029986	
	CAPACITY.	CFS	0	0	70.16895	2.23929	5.26267	0	77.67091	.01981370	.02005678	0	77.67091	.01890696	.01960341
DESERT WATER AGENCY	QUANTITY	AF	0	0	38100.0	1020.6	0	0	39120.6	.01522499			39120.6	.01522499	
	CAPACITY,	CFS	0	0	63.98093	1.67983	.25674	0	65.91750	.01681543	.01602021	0	65.91750	.01604589	.01563544
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY,	AF	0	0	23100.0	618.8	0	0	23718.8	.00923090			23718.8	.00923090	
	CAPACITY	CFS	0	0	38.78637	1.01851	.15736	0	39.96224	.01019429	.00971260	0	39.96224	.00972776	.00947933
ANTELOPE VALLEY EAST KERN WATER AGENCY	QUANTITY,	AF	0	0	138400.0	1013.6	0	0	139413.6	.05425709			139413.6	.05425709	
	CAPACITY,	CFS	0	0	191.16895	1.66832	14.33767	0	207.17494	.05284994	.05355352	0	207.17494	.05043133	.05234421
LITTLEROCK CREEK IRRIGATION DISTRICT	QUANTITY,	AF	0	0	2300.0	32.7	0	0	2332.7	.00090784			2332.7	.00090784	
	CAPACITY	CFS	0	0	3.17694	.05382	.23827	0	3.46903	.00088494	.00089639	0	3.46903	.00084445	.00087614
PALMDALE IRRIGATION DISTRICT	QUANTITY,	AF	0	0	17300.0	209.8	0	0	17509.8	.00681448			17509.8	.00681448	
	CAPACITY.	CFS	0	0	23.89612	.34532	1.79221	0	26.03365	.00664113	.00672781	0	26.03365	.00633721	.00657585
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY	AF	0	0	20000.0	363.7	0	0	20363.7	.00792516			20363.7	.00792516	
	CAPACITY	CFS	0	0	27.62557	.51802	2.10347	0	30.24706	.00771597	.00782056	0	30.24706	.00736286	.00764401
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY,	AF	0	0	41500.0	754.7	0	0	42254.7	.01644472			42254.7	.01644472	
	CAPACITY	CFS	0	0	57.32306	1.07490	4.36471	0	62.76267	.01601064	.01622768	0	62.76267	.01527793	.01586133
KERN COUNTY WATER AGENCY – MUNICIPAL & INDUSTRIAL	QUANTITY	AF	5000.0	0	5000.0	0	0	0	5000.0	.00194590			5000.0	.00194590	
	CAPACITY,	CFS	9.11644	0	9.11644	0	0	0	9.11644	.00232559	.00213575	0	9.11644	.00221916	.00208253
TOTAL	QUANTITY	AF	5000.0	0	2502500.0	67000.0	0	0	2569500.0	1.00000000			2569500.0	1.00000000	
	CAPACITY	CFS	9.11644	0	3604.55833	100.16769	215.33421	0	3920.06023	1.00000000	1.00000000	188.00000	4108.06023	1.00000000	1.00000000

TABLE B-3 (Continued)

REACH SUMMARY OF PROPORTIONATE USE OF PROJECT TRANSPORTATION FACILITIES BY WATER SUPPLY CONTRACTORS

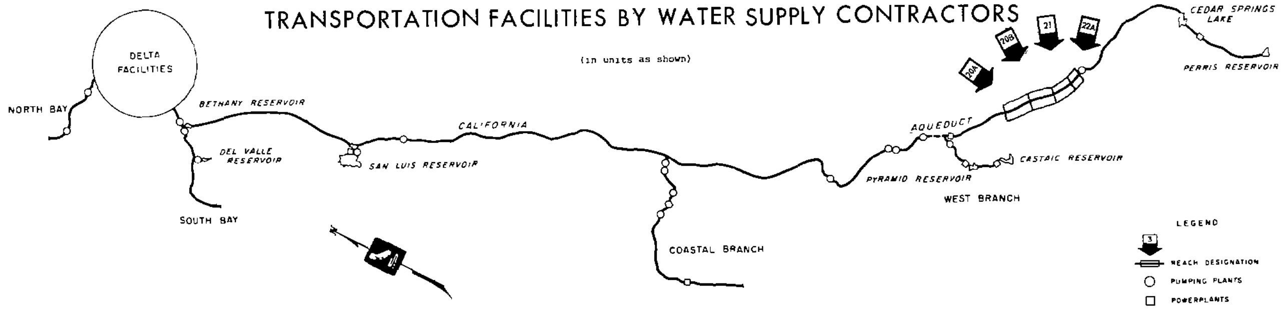


WATER SUPPLY CONTRACTOR	MEASURE OF USE		MAXIMUM ANNUAL ENTITLEMENTS DELIVERED FROM REACH	ESTIMATED OPERATIONAL LOSSES WITHIN REACH	CAPACITY PROVIDED IN REACH					PROPORTIONATE USE FOR ALLOCATION OF CAPITAL COSTS		CAPACITY PROVIDED IN REACH		PROPORTIONATE USE FOR ALLOCATION OF MINIMUM OMP&R COSTS	
					FOR DELIVERY OF ENTITLEMENTS	FOR COMPENSATION OF OPERATIONAL LOSSES	FOR COMPENSATION OF SCHEDULED OUTAGES	FOR COMPENSATION OF DOWNSTREAM REGULATION	SUBTOTAL	RATIOS OF TOTAL REACH USE	AVERAGE OF RATIOS	FOR REQUESTED EXCESS PEAKING	TOTAL FOR WATER SUPPLY CONTRACTORS	RATIOS OF TOTAL REACH USE	AVERAGE OF RATIOS
	(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
REACH 17D - BEARTRAP ACCESS STRUCTURE TO JUNCTION, WEST BRANCH, CALIFORNIA AQUEDUCT															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY, CAPACITY	AF CFS	0 0	241.9 .39815	2011500.0 2863.07657	56189.2 82.92238	184.61850	0 0	2067689.2 3130.61725	.80627382 .80047616	.80337498	188.00000	2067689.2 3318.61725	.80627382 .80962741	.80795061
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY CAPACITY	AF CFS	0 0	11.9 .01959	98000.0 164.57133	3448.5 5.48529	.73472	0 0	101448.5 170.79134	.03955878 .04367011	.04161445	0	101448.5 170.79134	.03955878 .04166716	.04061297
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY CAPACITY	AF CFS	0 0	3.5 .00576	28800.0 45.15128	1013.6 1.61210	1.26003	0 0	29813.7 48.02391	.01162546 .01227924	.01195235	0	29813.7 48.02391	.01162546 .01171605	.01167075
FUTURE CONTRACTOR-SOUTHERN CALIFORNIA	QUANTITY, CAPACITY,	AF CFS	0 0	1.5 .00082	4600.0 7.72965	161.6 .25703	.03290	0 0	4761.6 8.01958	.00185674 .00205055	.00195364	0	4761.6 8.01958	.00185674 .00195650	.00190662
SAN GORGONIO PASS WATER AGENCY	QUANTITY, CAPACITY,	AF CFS	0 0	2.1 .00346	17300.0 29.05110	608.9 .96854	.12996	0 0	17908.9 30.14960	.00698339 .00770903	.00734621	0	17908.9 30.14960	.00698339 .00735566	.00716942
CRESTLINE LAKE ARROWHEAD WATER AGENCY	QUANTITY, CAPACITY,	AF CFS	0 0	.7 .00115	5800.0 9.73527	203.0 .32314	.04500	0 0	6003.0 10.10461	.00234116 .00258367	.00246242	0	6003.0 10.10461	.00234116 .00246517	.00240317
MOJAVE WATER AGENCY	QUANTITY CAPACITY	AF CFS	0 0	6.1 .01004	50800.0 70.16895	1360.5 2.23926	5.26267	0 0	52160.5 77.67091	.02033944 .01985989	.02009967	0	52160.5 77.67091	.02033944 .01894901	.01964422
DESERT WATER AGENCY	QUANTITY CAPACITY	AF CFS	0 0	4.6 .00757	38100.0 63.98093	1029.6 1.67983	.25674	0 0	39129.6 65.91750	.01525467 .01685163	.01605465	0	39129.6 65.91750	.01525467 .01608136	.01566813
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY CAPACITY,	AF CFS	0 0	2.8 .00461	23100.0 38.78637	618.8 1.01851	.15736	0 0	23718.8 39.96224	.00924890 .01021805	.00973348	0	23718.8 39.96224	.00924890 .00974940	.00949915
ANTELOPE VALLEY EAST KERN WATER AGENCY	QUANTITY CAPACITY	AF CFS	0 0	16.3 .02683	138400.0 191.16895	1013.6 1.66832	14.33767	0 0	139413.6 207.17494	.05436288 .05297313	.05366800	0	139413.6 207.17494	.05436288 .05054349	.05245319
LITTLEROCK CREEK IRRIGATION DISTRICT	QUANTITY CAPACITY	AF CFS	0 0	7.3 .00047	2300.0 3.17694	32.7 .05382	.23827	0 0	2338.7 3.46554	.00090961 .00088701	.00089831	0	2338.7 3.46903	.00090961 .00084532	.00087797
PALMDALE IRRIGATION DISTRICT	QUANTITY CAPACITY,	AF CFS	0 0	3.0 .00329	17300.0 23.89612	209.8 .34532	1.79221	0 0	17509.8 26.03365	.00682776 .00665662	.00674219	0	17509.8 26.03365	.00682776 .00638131	.00658953
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY, CAPACITY,	AF CFS	0 0	2.4 .00395	20000.0 27.62557	363.7 .51802	2.10347	0 0	20363.7 30.24706	.00794061 .00773595	.00783728	0	20363.7 30.24706	.00794061 .00737925	.00765992
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY CAPACITY	AF CFS	0 0	4.9 .00807	41500.0 57.32306	754.7 1.07490	4.36471	0 0	42254.7 62.76267	.01647678 .01604796	.01626237	0	42254.7 62.76267	.01647678 .01531191	.01589435
TOTAL	QUANTITY CAPACITY	AF CFS	0 0	300.0 .49378	2497500.0 3595.44189	67000.0 100.16769	215.33421	0 0	2564500.0 3910.94379	1.00000000 1.00000000	1.00000000	188.00000	2564500.0 4098.94379	1.00000000 1.00000000	1.00000000
REACH 18A - JUNCTION, WEST BRANCH, CALIFORNIA AQUEDUCT THRU COTTONWOOD POWERPLANT															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY CAPACITY	AF CFS	0 0	459.6 .75647	556500.0 853.31603	29658.4 45.12008	31.58045	0 0	586158.4 930.02656	.57449613 .57506319	.57477966	0	586158.4 930.02656	.57449613 .57506319	.57477966
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY, CAPACITY	AF CFS	0 0	79.6 .13085	98000.0 164.57133	3436.6 5.46570	.73472	0 0	101436.6 170.77175	.09941841 .10559327	.10250584	0	101436.6 170.77175	.09941841 .10559327	.10250584
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY, CAPACITY,	AF CFS	0 0	23.4 .03852	28800.0 45.15128	1010.0 1.60634	1.26003	0 0	29810.0 48.01765	.02921690 .02969075	.02945382	0	29810.0 48.01765	.02921690 .02969075	.02945382
FUTURE CONTRACTOR SOUTHERN CALIFORNIA	QUANTITY CAPACITY	AF CFS	0 0	3.7 .00609	4600.0 7.72965	161.1 .25621	.03290	0 0	4761.1 8.01876	.00466637 .00495824	.00481231	0	4761.1 8.01876	.00466637 .00495824	.00481231
SAN GORGONIO PASS WATER AGENCY	QUANTITY CAPACITY	AF CFS	0 0	14.1 .02321	17300.0 29.05110	606.8 .96508	.12996	0 0	17906.8 30.14614	.01755053 .01869539	.01809539	0	17906.8 30.14614	.01755053 .01860252	.01807652
CRESTLINE-LAKE ARROWHEAD WATER AGENCY	QUANTITY CAPACITY	AF CFS	0 0	4.7 .00774	5800.0 9.73527	203.2 .32316	.04500	0 0	6003.2 10.10346	.00588376 .00624727	.00606551	0	6003.2 10.10346	.00588376 .00624727	.00606551
MOJAVE WATER AGENCY	QUANTITY CAPACITY	AF CFS	0 0	49.9 .08752	50800.0 70.16895	1354.4 2.22925	5.26267	0 0	52154.4 77.66087	.05111673 .04802003	.04956838	0	52154.4 77.66087	.05111673 .04802003	.04956838
DESERT WATER AGENCY	QUANTITY, CAPACITY	AF CFS	0 0	30.7 .05053	38100.0 63.98093	1016.0 1.67226	.25674	0 0	39116.0 65.90993	.03833778 .04075408	.03954591	0	39116.0 65.90993	.03833778 .04075408	.03954591
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY CAPACITY	AF CFS	0 0	18.6 .03061	23100.0 38.78637	616.0 1.01390	.15736	0 0	23716.0 39.95763	.02324416 .02470700	.02397557	0	23716.0 39.95763	.02324416 .02470700	.02397557
ANTELOPE VALLEY EAST KERN WATER AGENCY	QUANTITY CAPACITY	AF CFS	0 0	109.3 .17990	138400.0 191.16895	997.3 1.64149	14.33767	0 0	139397.3 207.14811	.13662384 .12808565	.13235485	0	139397.3 207.14811	.13662384 .12809586	.13235485
LITTLEROCK CREEK IRRIGATION DISTRICT	QUANTITY CAPACITY	AF CFS	0 0	1.8 .00269	2300.0 3.17694	32.4 .05333	.23827	0 0	2332.4 3.46854	.00228599 .00214470	.00221535	0	2332.4 3.46854	.00228599 .00214470	.00221535
PALMDALE IRRIGATION DISTRICT	QUANTITY CAPACITY,	AF CFS	0 0	13.7 .02255	17300.0 23.89612	207.8 .34203	1.79221	0 0	17507.8 26.03036	.01715946 .01609535	.01662741	0	17507.8 26.03036	.01715946 .01609535	.01662741
TOTAL	QUANTITY CAPACITY	AF CFS	0 0	800.0 1.31675	961000.0 1500.73292	39300.0 60.68886	55.83798	0 0	1020300.0 1617.25976	1.00000000 1.00000000	1.00000000	0	1020300.0 1617.25976	1.00000000 1.00000000	1.00000000
REACH 19 - COTTONWOOD POWERPLANT TO FAIRMONT															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY CAPACITY,	AF CFS	0 0	2183.1 3.69325	556500.0 853.31603	29198.8 44.36361	31.58045	0 0	586698.8 929.27009	.57449613 .57506365	.57477989	0	586698.8 929.27009	.57449613 .57506365	.57477989
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY CAPACITY	AF CFS	0 0	377.8 .62183	98000.0 164.57133	3357.1 5.53485	.73472	0 0	101357.1 170.64090	.09918844 .10559834	.10250839	0	101357.1 170.64090	.09918844 .10559834	.10250839
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY CAPACITY	AF CFS	0 0	111.0 .18270	28800.0 45.15128	986.6 1.56782	1.26003	0 0	29786.6 47.97913	.02921687 .02969110	.02945399	0	29786.6 47.97913	.02921687 .02969110	.02945399
FUTURE CONTRACTOR SOUTHERN CALIFORNIA	QUANTITY, CAPACITY,	AF CFS	0 0	17.4 .02913	4600.0 7.72965	157.4 .25012	.03290	0 0	4757.4 8.01267	.00466640 .00495851	.00481246	0	4757.4 8.01267	.00466640 .00495851	.00481246
SAN GORGONIO PASS WATER AGENCY	QUANTITY, CAPACITY,	AF CFS	0 0	66.7 .10978	17300.0 29.05110	592.7 .94187	.12996	0 0	17892.7 30.12293	.01755047 .01864109	.01809577	0	17892.7 30.12293	.01755047 .01864109	.01809577
CRESTLINE LAKE ARROWHEAD WATER AGENCY	QUANTITY, CAPACITY,	AF CFS	0 0	32.4 .05687	5800.0 9.73527	193.5 .30745	.04500	0 0	5993.5 10.09572	.00588377 .00624757	.00606567	0	5993.5 10.09572	.00588377 .00624757	.00606567
MOJAVE WATER AGENCY	QUANTITY CAPACITY	AF CFS	0 0	194.2 .31960	50800.0 70.16895	1313.6 2.16193	5.26267	0 0	52113.6 77.59355	.05111672 .04801750	.04956711	0	52113.6 77.59355	.05111672 .04801760	.04956711
DESERT WATER AGENCY	QUANTITY CAPACITY	AF CFS	0 0	143.7 .25681	38400.0 63.98093	985.3 1.62173	.25674	0 0	39085.3 65.85940	.03833771 .04075602	.03954687	0	39085.3 65.85940	.03833771 .04075602	.03954687
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY CAPACITY,	AF CFS	0 0	88.3 .14534	23100.0 38.78637	597.4 .98329	.15736	0 0	23697.4 39.92702	.02324416 .02470819	.02397616	0	23697.4 39.92702	.02324416 .02470819	.02397616
ANTELOPE VALLEY EAST KERN WATER AGENCY	QUANTITY CAPACITY,	AF CFS	74400.0 102.76713	519.2 .85457	136400.0 191.16895	888.0 1.46159	14.33767	0 0	139288.0 206.96821	.13662384 .12807890	.13235137	0	139288.0 206.96821	.13662384 .12807890	.13235137
LITTLEROCK CREEK IRRIGATION DISTRICT	QUANTITY CAPACITY	AF CFS	0 0	8.7 .01432	2300.0 3.17694	30.6 .05057	.23827	0 0	2330.6 3.46558	.00228602 .00214462	.00221532	0	2330.6 3.46558	.00228602 .00214462	.00221532
PALMDALE IRRIGATION DISTRICT	QUANTITY CAPACITY	AF CFS	0 0	65.2 .10732	17300.0 23.89612	194.1 .31948	1.79221	0 0	17494.1 26.00781	.01715949 .01609451	.01662700	0	17494.1 26.00781	.01715949 .01609451	.01662700
TOTAL	QUANTITY CAPACITY,	AF CFS	74400.0 102.76713	3800.0 6.25454	981000.0 1500.73292	38500.0 59.37211	55.63798	0 0	1019500.0 1615.94301	1.00000000 1.00000000	1.00000000	0	1019500.0 1615.94301	1.00000000 1.00000000	1.00000000

TABLE B-3 (Continued)

REACH SUMMARY OF PROPORTIONATE USE OF PROJECT TRANSPORTATION FACILITIES BY WATER SUPPLY CONTRACTORS

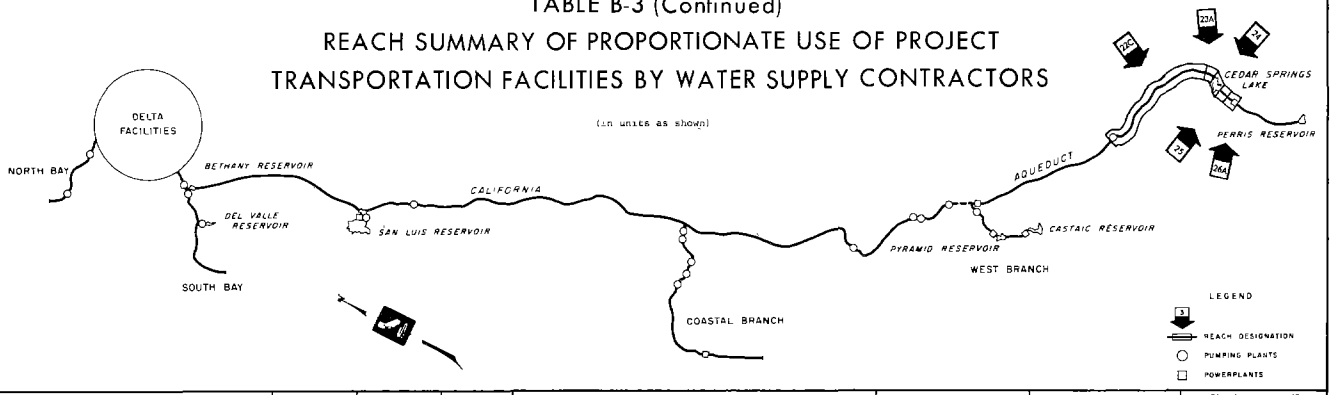
(in units as shown)



WATER SUPPLY CONTRACTOR	MEASURE OF USE (1)	MAXIMUM ANNUAL ENTITLEMENTS DELIVERED FROM REACH (2)	ESTIMATED OPERATIONAL LOSSES WITHIN REACH (3)	CAPACITY PROVIDED IN REACH: FOR DELIVERY OF ENTITLEMENTS (4)	CAPACITY PROVIDED IN REACH: FOR COMPENSATION OF: OPERATIONAL LOSSES (5)	CAPACITY PROVIDED IN REACH: FOR COMPENSATION OF: SCHEDULED OUTAGES (6)	CAPACITY PROVIDED IN REACH: FOR COMPENSATION OF: DOWNSTREAM REGULATION (7)	CAPACITY PROVIDED IN REACH: SUBTOTAL (8)	PROPORTIONATE USE FOR ALLOCATION OF CAPITAL COSTS: RATIOS OF TOTAL REACH USE (9)	PROPORTIONATE USE FOR ALLOCATION OF CAPITAL COSTS: AVERAGE OF RATIOS (10)	CAPACITY PROVIDED IN REACH: FOR REQUESTED EXCESS PEAKING (11)	CAPACITY PROVIDED IN REACH: TOTAL FOR WATER SUPPLY CONTRACTORS (12)	PROPORTIONATE USE FOR ALLOCATION OF MINIMUM OMP&R COSTS: RATIOS OF TOTAL REACH USE (13)	PROPORTIONATE USE FOR ALLOCATION OF MINIMUM OMP&R COSTS: AVERAGE OF RATIOS (14)
REACH 20A – FAIRMONT TO 70TH STREET WEST														
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY, AF	0	2231.6	556500.0	27015.7	0	0	583515.7	.61990407			583515.7	.61990407	
	CAPACITY, CFS	0	3.67306	853.31603	40.77038	31.59045	0	925.67686	.61744152	.61867280	0	925.67686	.61744152	.61867280
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY, AF	0	386.2	98000.0	2979.3	0	0	100979.3	.10727643			100979.3	.10727643	
	CAPACITY, CFS	0	.63566	164.57133	4.71302	.73472	0	170.01907	.11340549	.11034096	0	170.01907	.11340549	.11034096
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY AF	0	113.5	28800.0	875.6	0	0	29675.6	.03152619			29675.6	.03152619	
	CAPACITY, CFS	0	.18681	45.15128	1.38512	1.26003	0	47.79643	.03188100	.03170359	0	47.79643	.03188100	.03170359
FUTURE CONTRACTOR SOUTHERN CALIFORNIA	QUANTITY, AF	0	18.1	4600.0	139.7	0	0	4739.7	.00503527			4739.7	.00503527	
	CAPACITY, CFS	0	.02979	7.72965	.22099	.03290	0	7.98354	.00532515	.00518021	0	7.98354	.00532515	.00518021
SAN GORGONIO PASS WATER AGENCY	QUANTITY, AF	0	68.2	17300.0	526.0	0	0	17826.0	.01893764			17826.0	.01893764	
	CAPACITY, CFS	0	.11225	29.05110	.83209	.12996	0	30.01315	.02001926	.01947845	0	30.01315	.02001926	.01947845
CRESTLINE LAKE ARROWHEAD WATER AGENCY	QUANTITY AF	0	22.8	5800.0	176.1	0	0	5976.1	.00634877			5976.1	.00634877	
	CAPACITY CFS	0	.03753	9.73527	.27858	.04500	0	10.05885	.00670942	.00652909	0	10.05885	.00670942	.00652909
MOJAVE WATER AGENCY	QUANTITY, AF	0	198.6	50800.0	1119.3	0	0	51919.3	.05515702			51919.3	.05515702	
	CAPACITY, CFS	0	.32688	70.16895	1.84229	5.26267	0	77.27391	.05154295	.05334999	0	77.27391	.05154295	.05334999
DESERT WATER AGENCY	QUANTITY AF	0	148.9	38100.0	839.6	0	0	38939.6	.04136789			38939.6	.04136789	
	CAPACITY, CFS	0	.24508	63.98093	1.38192	.25674	0	65.61959	.04376933	.04256861	0	65.61959	.04376933	.04256861
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY, AF	0	90.3	23100.0	509.1	0	0	23609.1	.02508138			23609.1	.02508138	
	CAPACITY CFS	0	.14863	38.78637	.83795	.15736	0	39.78168	.02653503	.02580820	0	39.78168	.02653503	.02580820
ANTELOPE VALLEY-EAST KERN WATER AGENCY	QUANTITY, AF	43800.0	246.2	64000.0	368.8	0	0	64368.8	.06838287			64368.8	.06838287	
	CAPACITY CFS	60.50000	.40523	88.40182	.60702	6.63014	0	95.63898	.06379275	.06608782	0	95.63898	.06379275	.06608782
LITTLEROCK CREEK IRRIGATION DISTRICT	QUANTITY AF	0	8.9	2300.0	21.9	0	0	2321.9	.00246669			2321.9	.00246669	
	CAPACITY, CFS	0	.01465	3.17694	.03605	.23827	0	3.45126	.00230205	.00238437	0	3.45126	.00230205	.00238437
PALMDALE IRRIGATION DISTRICT	QUANTITY AF	0	66.7	17300.0	128.9	0	0	17428.9	.01851578			17428.9	.01851578	
	CAPACITY CFS	0	.10978	23.89612	.21216	1.79221	0	25.90049	.01727605	.01789591	0	25.90049	.01727605	.01789591
TOTAL	QUANTITY AF	43800.0	3600.0	906600.0	34700.0	0	0	941300.0	1.00000000			941300.0	1.00000000	
	CAPACITY, CFS	60.50000	5.92535	1397.96579	53.11757	48.13045	0	1499.21381	1.00000000	1.00000000	0	1499.21381	1.00000000	1.00000000
REACH 20B – 70TH STREET WEST TO PALMDALE														
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY AF	0	2080.9	556500.0	24784.1	0	0	581284.1	.65027867			581284.1	.65027867	
	CAPACITY CFS	0	3.42502	853.31603	37.09732	31.59045	0	922.00380	.64554747	.64791307	0	922.00380	.64554747	.64791307
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY, AF	0	360.1	98000.0	2593.1	0	0	100593.1	.11253283			100593.1	.11253283	
	CAPACITY, CFS	0	.59270	164.57133	4.07736	.73472	0	169.38341	.11859499	.11556391	0	169.38341	.11859499	.11556391
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY, AF	0	105.8	28800.0	762.1	0	0	29562.1	.03307092			29562.1	.03307092	
	CAPACITY CFS	0	.17414	45.15128	1.19831	1.26003	0	47.60962	.03333421	.03320257	0	47.60962	.03333421	.03320257
FUTURE CONTRACTOR-SOUTHERN CALIFORNIA	QUANTITY AF	0	16.9	4600.0	121.6	0	0	4721.6	.00528202			4721.6	.00528202	
	CAPACITY, CFS	0	.02781	7.72965	.19120	.03290	0	7.95375	.00556887	.00542545	0	7.95375	.00556887	.00542545
SAN GORGONIO PASS WATER AGENCY	QUANTITY AF	0	63.6	17300.0	457.8	0	0	17757.8	.01986553			17757.8	.01986553	
	CAPACITY, CFS	0	.10468	29.05110	.71984	.12996	0	29.90090	.02093533	.02040043	0	29.90090	.02093533	.02040043
CRESTLINE-LAKE ARROWHEAD WATER AGENCY	QUANTITY, AF	0	21.3	5800.0	153.3	0	0	5953.3	.00665992			5953.3	.00665992	
	CAPACITY CFS	0	.03506	9.73527	.24105	.04500	0	10.02132	.00701650	.00683821	0	10.02132	.00701650	.00683821
MOJAVE WATER AGENCY	QUANTITY, AF	0	185.1	50800.0	920.7	0	0	51720.7	.05785960			51720.7	.05785960	
	CAPACITY, CFS	0	.30466	70.16895	1.51541	5.26267	0	76.94703	.05387501	.05586731	0	76.94703	.05387501	.05586731
DESERT WATER AGENCY	QUANTITY AF	0	138.9	38100.0	690.7	0	0	38790.7	.04339490			38790.7	.04339490	
	CAPACITY CFS	0	.22862	63.98093	1.13684	.25674	0	65.37451	.04577242	.04458366	0	65.37451	.04577242	.04458366
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY AF	0	84.2	23100.0	418.8	0	0	23518.8	.02631033			23518.8	.02631033	
	CAPACITY CFS	0	.13859	38.78637	.68932	.15736	0	39.63305	.02774936	.02702984	0	39.63305	.02774936	.02702984
ANTELOPE VALLEY EAST KERN WATER AGENCY	QUANTITY, AF	0	72.7	20200.0	122.6	0	0	20322.6	.02273476			20322.6	.02273476	
	CAPACITY, CFS	0	.11966	27.90182	.20179	2.09264	0	30.19625	.02114212	.02193844	0	30.19625	.02114212	.02193844
LITTLEROCK CREEK IRRIGATION DISTRICT	QUANTITY AF	0	8.3	2300.0	13.0	0	0	2313.0	.00258754			2313.0	.00258754	
	CAPACITY CFS	0	.01366	3.17694	.02140	.23827	0	3.43661	.00240617	.00249685	0	3.43661	.00240617	.00249685
PALMDALE IRRIGATION DISTRICT	QUANTITY, AF	17300.0	62.2	17300.0	62.2	0	0	17362.2	.01942298			17362.2	.01942298	
	CAPACITY CFS	23.89612	.10238	23.89612	.10238	1.79221	0	25.79071	.01805755	.01874026	0	25.79071	.01805755	.01874026
TOTAL	QUANTITY, AF	17300.0	3200.0	862800.0	31100.0	0	0	893900.0	1.00000000			893900.0	1.00000000	
	CAPACITY, CFS	23.89612	5.26698	1337.46579	47.19222	43.59295	0	1428.25096	1.00000000	1.00000000	0	1428.25096	1.00000000	1.00000000
REACH 21 – PALMDALE TO LITTLEROCK CREEK														
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY, AF	0	1193.7	556500.0	22703.2	0	0	579203.2	.66315915			579203.2	.66315915	
	CAPACITY CFS	0	1.96475	853.31603	33.67230	31.59045	0	918.57878	.65739758	.66027836	0	918.57878	.65739758	.66027836
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY AF	0	206.6	98000.0	2233.0	0	0	100233.0	.11476185			100233.0	.11476185	
	CAPACITY CFS	0	.34005	164.57133	3.48466	.73472	0	168.79071	.12079814	.11777999	0	168.79071	.12079814	.11777999
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY, AF	0	60.7	28800.0	656.3	0	0	29456.3	.03372601			29456.3	.03372601	
	CAPACITY CFS	0	.09991	45.15128	1.02417	1.26003	0	47.43548	.03394806	.03383704	0	47.43548	.03394806	.03383704
FUTURE CONTRACTOR-SOUTHERN CALIFORNIA	QUANTITY, AF	0	9.7	4600.0	104.7	0	0	4704.7	.00538665			4704.7	.00538665	
	CAPACITY CFS	0	.01596	7.72965	.16339	.03290	0	7.92594	.00567234	.00552950	0	7.92594	.00567234	.00552950
SAN GORGONIO PASS WATER AGENCY	QUANTITY AF	0	36.5	17300.0	394.2	0	0	17694.2	.02025899			17694.2	.02025899	
	CAPACITY CFS	0	.06008	29.05110	.61516	.12996	0	29.79622	.02132420	.02079160	0	29.79622	.02132420	.02079160
CRESTLINE LAKE ARROWHEAD WATER AGENCY	QUANTITY AF	0	12.2	5800.0	132.0	0	0	5932.0	.00679185			5932.0	.00679185	
	CAPACITY CFS	0	.02008	9.73527	.20599	.04500	0	9.98626	.00714685	.00696935	0	9.98626	.00714685	.00696935
MOJAVE WATER AGENCY	QUANTITY AF	0	106.2	50800.0	735.6	0	0	51535.6	.05900572			51535.6	.05900572	
	CAPACITY CFS	0	.17480	70.16895	1.21075	5.26267	0	76.64237	.05485050	.05692811	0	76.64237	.05485050	.05692811
DESERT WATER AGENCY	QUANTITY AF	0	79.7	38100.0	551.8	0	0	38651.8	.04425441			38651.8	.04425441	
	CAPACITY, CFS	0	.13118	63.98093	.90822	.25674	0	65.14589	.04662284	.04543862	0	65.14589	.04662284	.04543862
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY, AF	0	48.3	23100.0	334.6	0	0	23434.6	.02683146			23434.6	.02683146	
	CAPACITY, CFS	0	.07950	38.78637	.55073	.15736	0	39.49446	.02826493	.02754820	0	39.49446	.02826493	.02754820
ANTELOPE VALLEY-EAST KERN WATER AGENCY	QUANTITY, AF	10100.0	41.7	20200.0	49.9	0	0	20249.9	.02318514			20249.9	.02318514	
	CAPACITY, CFS	13.95091	.06863	27.90182	.08213	2.09264	0	30.07659	.02152486	.02235500	0	30.07659	.02152486	.02235500
LITTLEROCK CREEK IRRIGATION DISTRICT	QUANTITY AF	2300.0	4.7	2300.0	4.7	0	0	2304.7	.00263877			2304.7	.00263877	
	CAPACITY CFS	3.17694	.00774	3.17694	.00774	.23827	0	3.42295	.00244970	.00254423	0	3.42295	.00244970	.00254423
TOTAL	QUANTITY AF	12400.0	1800.0	845500.0	27900.0	0	0	873400.0	1.00000000			873400.0	1.00000000	
	CAPACITY CFS	17.12785	2.96268	1313.56967	41.92524	41.80074	0	1397.29565	1.00000000	1.00000000	0	1397.29565	1.00000000	1.00000000
REACH 22A – LITTLEROCK CREEK TO PEARBLOSSOM PUMPING PLANT														
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY AF	0	470.9	556500.0	21509.5	0	0	578009.5	.67272986			578009.5	.67272986	
	CAPACITY CFS	0	.77507	853.31603	31.70755	31.59045	0	916.61403	.66618239	.66945613	0	916.61403	.66618239	.66945613
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY AF	0	81.5	98000.0	2026.4	0	0	100026.4	.11641806			100026.4	.11641806	
	CAPACITY CFS	0	.13414	164.57133	3.14461	.73472	0	168.45066	.12242761	.11942284	0	168.45066	.12242761	.11942284
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY AF	0	24.0	28800.0	595.6	0	0	29395.6	.03421276			29395.6	.03421276	
	CAPACITY, CFS	0	.03950	45.15128	.92426	1.26003	0	47.33557	.03440284	.03430780	0	47.33557	.03440284	.03430780
FUTURE CONTRACTOR SOUTHERN CALIFORNIA	QUANTITY AF	0	3.8	4600.0	95.0	0	0	4695.0	.00546439			4695.0	.00546439	
	CAPACITY CFS	0	.00626	7.72965	.14743	.03290	0	7.90998	.00574886	.00560662	0	7.90998	.00574886	.00560662
SAN GORGONIO PASS WATER AGENCY	QUANTITY AF	0	14.4	17300.0	357.7	0	0	17657.7	.02055133			17657.7	.02055133	
	CAPACITY CFS	0	.02370	29.05110	.55508	.12996	0	29.73614	.02161182	.02108157	0	29.73614	.02161182	.02108157
CRESTLINE-LAKE ARROWHEAD WATER AGENCY	QUANTITY AF	0	4.8	5800.0	119.8	0	0	5919.8	.00688990			5919.8	.00688990	
	CAPACITY CFS	0	.00790	9.73527	.18591	.04500	0	9.96618	.00724328	.00706659	0	9.96618	.00724328	.00706659
MOJAVE WATER AGENCY	QUANTITY AF	0	41.9	50800.0	629.4	0	0	51429.4	.05985731			51429.4	.05985731	
	CAPACITY CFS	0	.06896	70.16895	1.03595	5.26267	0	76.46757	.05557557	.05771644	0	76.46757	.05557557	.05771644
DESERT WATER AGENCY	QUANTITY AF	0	31.4	38100.0	472.1	0	0	38572.1	.04489304			38572.1	.04489304	
	CAPACITY, CFS	0	.05168	63.98093	.77704	.25674	0	65.01471	.04725179	.04607241	0	65.01471	.04725179	.04607241
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY AF	0	19.1	23100.0	286.3	0	0	23386.3	.02721869			23386.3	.02721869	
	CAPACITY CFS	0	.03144	38.78637	.47123	.15736	0	39.41496	.02864625	.02793247	0	39.41496	.02864625	.02793247
ANTELOPE VALLEY EAST KERN WATER AGENCY	QUANTITY AF	10100.0	8.2	10100.0	8.2	0	0	10108.2	.01176466			10108.2	.01176466	
	CAPACITY CFS	13.95091	.01350	13.95091	.01350	1.04632	0	15.01073	.01090959	.01133713	0	15.01073	.01090959	.01133713
TOTAL	QUANTITY AF	10100.0	700.0	833100.0	26100.0	0	0	859200.0	1.00000000			859200.0	1.00000000	
	CAPACITY CFS	13.95091	1.15215	1296.44182	38.96256	40.51615	0	1375.92053	1.00000000	1.00000000	0	1375.92053	1.00000000	1.00000000

TABLE B-3 (Continued)

REACH SUMMARY OF PROPORTIONATE USE OF PROJECT TRANSPORTATION FACILITIES BY WATER SUPPLY CONTRACTORS

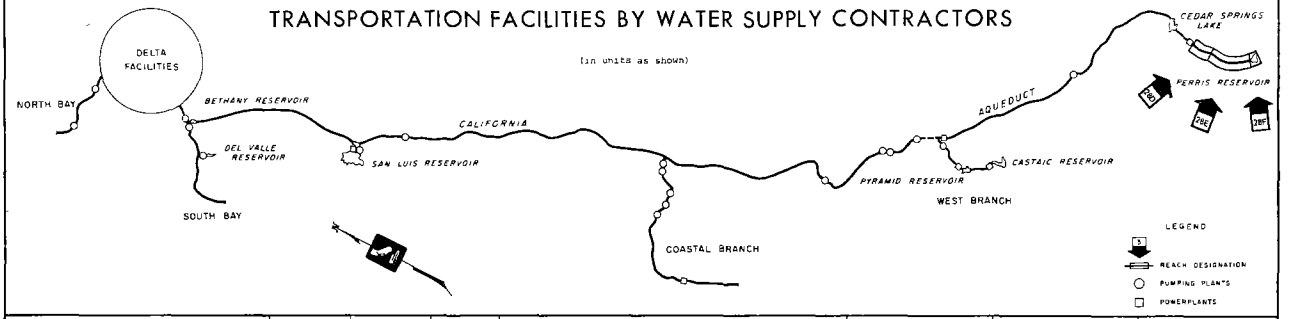


WATER SUPPLY CONTRACTOR	MEASURE OF USE		MAXIMUM ANNUAL ENTITLEMENTS DELIVERED FROM REACH	ESTIMATED OPERATIONAL LOSSES WITHIN REACH	CAPACITY PROVIDED IN REACH: FOR DELIVERY OF ENTITLEMENTS	CAPACITY PROVIDED IN REACH: FOR COMPENSATION OF OPERATIONAL LOSSES	CAPACITY PROVIDED IN REACH: FOR COMPENSATION OF SCHEDULED OUTAGES	CAPACITY PROVIDED IN REACH: FOR COMPENSATION OF DOWNSTREAM REGULATION	CAPACITY PROVIDED IN REACH: SUBTOTAL	PROPORTIONATE USE FOR ALLOCATION OF CAPITAL COSTS: RATIOS OF TOTAL REACH USE	PROPORTIONATE USE FOR ALLOCATION OF CAPITAL COSTS: AVERAGE OF RATIOS	CAPACITY PROVIDED IN REACH: FOR REQUESTED EXCESS PEAKING	CAPACITY PROVIDED IN REACH: TOTAL FOR WATER SUPPLY CONTRACTORS	PROPORTIONATE USE FOR ALLOCATION OF MINIMUM OM&R COSTS: RATIOS OF TOTAL REACH USE	PROPORTIONATE USE FOR ALLOCATION OF MINIMUM OM&R COSTS: AVERAGE OF RATIOS
	(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
REACH 22C – PEARBLOSSOM PUMPING PLANT TO ANTELOPE SIPHON															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY,	AF	0	6603.2	556500.0	21038.6	31.59045	0	577538.6	.68073857	.67713145	0	577538.6	.68073857	.67713145
	CAPACITY,	CFS	0	10.66842	853.31603	30.93248		0	915.83898	.67352434			915.83898	.67352434	
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY,	AF	0	1148.7	98000.0	1906.7	0	0	99954.9	.11780398	.12079348	0	99954.9	.11780398	.12079348
	CAPACITY	CFS	0	1.88081	164.57133	3.01047	.73472	0	168.31652	.12378298			168.31652	.12378298	
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY,	AF	0	335.8	28800.0	571.6	0	0	29371.6	.03461999	.03470118	0	29371.6	.03461999	.03470118
	CAPACITY	CFS	0	.55270	45.15128	.88476	1.26003	0	47.29607	.03478237			47.29607	.03478237	
FUTURE CONTRACTOR SOUTHERN CALIFORNIA	QUANTITY,	AF	0	53.6	4600.0	91.5	0	0	4691.2	.00552947	.00567100	0	4691.2	.00552947	.00567100
	CAPACITY,	CFS	0	.08822	7.72965	.14117	.03290	0	7.90372	.00581254			7.90372	.00581254	
SAN GORGONIO PASS WATER AGENCY	QUANTITY,	AF	0	201.7	17300.0	343.3	0	0	17643.3	.02079597	.02132352	0	17643.3	.02079597	.02132352
	CAPACITY	CFS	0	.33198	29.05110	.53138	.12996	0	29.71244	.02185106			29.71244	.02185106	
CRESTLINE-LAKE ARROWHEAD WATER AGENCY	QUANTITY,	AF	0	67.6	5800.0	115.0	0	0	5915.0	.00697195	.00714772	0	5915.0	.00697195	.00714772
	CAPACITY	CFS	0	.11127	9.73527	.17801	.04500	0	9.96828	.00732350			9.96828	.00732350	
MOJAVE WATER AGENCY	QUANTITY,	AF	50800.0	587.5	50800.0	587.5	0	0	51387.5	.06056989	.05837740	0	51387.5	.06056989	.05837740
	CAPACITY	CFS	70.16895	.96699	70.16895	.96698	5.26267	0	76.39861	.05618490			76.39861	.05618490	
DESERT WATER AGENCY	QUANTITY,	AF	36100.0	440.7	36100.0	448.7	0	0	36548.7	.04546737	.04660124	0	36548.7	.04546737	.04660124
	CAPACITY,	CFS	52.62671	.72536	52.98093	.72536	.25674	0	54.96303	.04777497			54.96303	.04777497	
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY,	AF	23100.0	267.2	23100.0	267.2	0	0	23367.2	.02754267	.02825301	0	23367.2	.02754267	.02825301
	CAPACITY,	CFS	31.90754	.43476	38.78637	.43979	.15736	0	39.38352	.02896334			39.38352	.02896334	
TOTAL	QUANTITY	AF	112000.0	1246.4	823000.0	25400.0	0	0	848400.0	1.00000000			848400.0	1.00000000	
	CAPACITY,	CFS	154.70320	1.96554	1282.49091	37.81041	39.46983	0	1359.77115	1.00000000	1.00000000	0	1359.77115	1.00000000	1.00000000
REACH 23A – ANTELOPE SIPHON TO CEDAR SPRINGS LAKE															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY,	AF	64.63450	471.4	556500.0	14435.8	31.59045	0	570935.4	.78326639	.74837755	0	570935.4	.78326639	.74837755
	CAPACITY,	CFS		.77589	853.31603	20.06486		0	904.97094	.71348872			904.97094	.71348872	
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY	AF	0	61.6	98000.0	802.2	0	0	98802.2	.13554676	.13338325	0	98802.2	.13554676	.13338325
	CAPACITY	CFS	29.20603	.13431	164.57133	1.12966	.73472	0	166.43572	.13171974			166.43572	.13171974	
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY	AF	0	24.3	28800.0	235.8	0	0	29035.8	.03983422	.03834360	0	29035.8	.03983422	.03834360
	CAPACITY,	CFS	5.37048	.03950	45.15128	.33206	1.26003	0	46.74337	.03685299			46.74337	.03685299	
FUTURE CONTRACTOR SOUTHERN CALIFORNIA	QUANTITY	AF	0	3.8	4600.0	37.6	0	0	4637.6	.00636232	.00626208	0	4637.6	.00636232	.00626208
	CAPACITY,	CFS	1.37577	.00626	7.72965	.05295	.03290	0	7.81550	.00616183			7.81550	.00616183	
SAN GORGONIO PASS WATER AGENCY	QUANTITY,	AF	0	14.4	17300.0	141.6	0	0	17441.6	.02392813	.02354601	0	17441.6	.02392813	.02354601
	CAPACITY	CFS	5.15498	.02370	29.05110	.19940	.12996	0	29.38046	.02316588			29.38046	.02316588	
CRESTLINE LAKE ARROWHEAD WATER AGENCY	QUANTITY,	AF	0	4.8	5800.0	47.4	0	0	5847.4	.00802205	.00789277	0	5847.4	.00802205	.00789277
	CAPACITY,	CFS	1.72385	.00790	9.73527	.06674	.04500	0	9.84701	.00776349			9.84701	.00776349	
DESERT WATER AGENCY	QUANTITY,	AF	0	0	0	0	0	1380.6	1380.6	.00189322	.02626945	0	1380.6	.00189322	.02626945
	CAPACITY,	CFS	11.35422	0	11.35422	0	.25674	52.62671	64.23767	.00864569			64.23767	.00864569	
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY,	AF	0	0	0	0	0	836.4	836.4	.00114691	.01592529	0	836.4	.00114691	.01592529
	CAPACITY,	CFS	6.87863	0	6.87863	0	.15736	31.90754	38.94353	.01307366			38.94353	.01307366	
TOTAL	QUANTITY	AF	0	600.0	711000.0	15700.0	0	2216.0	728916.0	1.00000000			728916.0	1.00000000	
	CAPACITY	CFS	145.69864	.98756	1127.78771	21.84487	34.20716	84.53425	1268.37399	1.00000000	1.00000000	0	1268.37399	1.00000000	1.00000000
REACH 24 – CEDAR SPRINGS DAM AND LAKE															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY,	AF	46092.0	4164.0	556500.0	13964.0	0	0	840.884411/	.78565482	.66533377 2/		840.884411/	.78565482	.66533377 2/
	CAPACITY,	AF		1054.0	46092.0	1054.0	0	0	47146.0	.64903634			47146.0	.64903634	
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY,	AF	15904.0	720.6	98000.0	720.6	0	0	145.517701/	.13596005	.21344472 2/		145.517701/	.13596005	.21344472 2/
	CAPACITY,	AF		365.0	15904.0	365.0	0	0	16267.0	.22593998			16267.0	.22593998	
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY,	AF	3055.0	211.8	28800.0	211.8	0	0	42.764381/	.03995568	.04265477 2/		42.764381/	.03995568	.04265477 2/
	CAPACITY	AF		70.0	3055.0	70.0	0	0	3125.0	.04302037			3125.0	.04302037	
FUTURE CONTRACTOR SOUTHERN CALIFORNIA	QUANTITY,	AF	746.0	33.8	4600.0	33.8	0	0	6.830821/	.00638180	.01001213 2/		6.830821/	.00638180	.01001213 2/
	CAPACITY,	AF		17.0	746.0	17.0	0	0	763.0	.01050386			763.0	.01050386	
SAN GORGONIO PASS WATER AGENCY	QUANTITY,	AF	2067.0	127.2	17300.0	127.2	0	0	25.678331/	.02400111	.02849388 2/		25.678331/	.02400111	.02849388 2/
	CAPACITY	AF		47.0	2067.0	47.0	0	0	2114.0	.02912242			2114.0	.02912242	
CRESTLINE LAKE ARROWHEAD WATER AGENCY	QUANTITY,	AF	5800.0	42.6	5800.0	42.6	0	0	8.612281/	.00804662	.01257497 2/		8.612281/	.00804662	.01257497 2/
	CAPACITY	AF	937.0	21.0	937.0	21.0	0	0	958.0	.01318833			958.0	.01318833	
DESERT WATER AGENCY	QUANTITY,	AF	0	0	0	0	0	0 1/	0 1/	0	.01711950 2/		0 1/	0	.01711950 2/
	CAPACITY,	AF	1380.0	32.0	1380.0	32.0	0	0	1412.0	.01943833			1412.0	.01943833	
COACHELLA VALLEY COUNTY WATER DISTRICT	QUANTITY,	AF	0	0	0	0	0	0 1/	0 1/	0	.01036626 2/		0 1/	0	.01036626 2/
	CAPACITY,	AF	836.0	19.0	836.0	19.0	0	0	855.0	.01177037			855.0	.01177037	
TOTAL	QUANTITY	AF	5800.0	5300.0	711000.0	15100.0	0	0	1070.297521/	1.00000000			1070.297521/	1.00000000	
	CAPACITY	AF	71017.0	1623.0	71017.0	1623.0	0	0	72640.0	1.00000000	1.00000000 2/		72640.0	1.00000000	1.00000000 2/
REACH 25 – CEDAR SPRINGS LAKE TO SOUTH PORTAL, SAN BERNARDINO TUNNEL															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY	AF	0	0	556500.0	9800.0	0	0	566300.0	.79282797	.78534346	787.00000	566300.0	.79282797	.82910361
	CAPACITY	CFS	0	0	894.21213	13.53653	29.24512	0	936.99378	.77855896			1723.99378	.86617425	
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY	AF	0	0	98000.0	0	0	0	98000.0	.13706294	.14277555	0	98000.0	.13706294	.11341876
	CAPACITY,	CFS	0	0	178.68220	0	0	0	178.68220	.14848817			178.68220	.08977456	
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY,	AF	0	0	28800.0	0	0	0	28800.0	.04027972	.03967031	0	28800.0	.04027972	.03213201
	CAPACITY	CFS	0	0	47.73699	0	0	0	47.73699	.03967031			47.73699	.02368430	
FUTURE CONTRACTOR SOUTHERN CALIFORNIA	QUANTITY	AF	0	0	4600.0	0	0	0	4600.0	.00643357	.00670171	0	4600.0	.00643357	.00532374
	CAPACITY	CFS	0	0	6.38712	0	0	0	6.38712	.00696985			6.38712	.00421391	
SAN GORGONIO PASS WATER AGENCY	QUANTITY,	AF	17300.0	0	17300.0	0	0	0	17300.0	.02419580	.02520426	0	17300.0	.02419580	.02002188
	CAPACITY	CFS	31.54288	0	31.54288	0	0	0	31.54288	.02621271			31.54288	.01584796	
TOTAL	QUANTITY	AF	17300.0	0	705200.0	9800.0	0	0	715000.0	1.00000000			715000.0	1.00000000	
	CAPACITY	CFS	31.54288	0	1160.56132	13.53653	29.24512	0	1203.34297	1.00000000	1.00000000	787.00000	1990.34297	1.00000000	1.00000000
REACH 26A – SOUTH PORTAL, SAN BERNARDINO TUNNEL THRU DEVIL CANYON POWERPLANT															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY	AF	284300.0	0	556500.0	9800.0	29.24512	0	566300.0	.81166690	.80564302	0	566300.0	.81166690	.80564302
	CAPACITY	CFS	517.81372	0	894.21213	13.53653		0	936.99378	.79961914			936.99378	.79961914	
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY,	AF	0	0	98000.0	0	0	0	98000.0	.14046152	.14647337	0	98000.0	.14046152	.14647337
	CAPACITY	CFS	0	0	178.68220	0	0	0	178.68220	.15248522			178.68220	.15248522	
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT	QUANTITY,	AF	28800.0	0	28800.0	0	0	0	28800.0	.04127849	.04100833	0	28800.0	.04127849	.04100833
	CAPACITY	CFS	47.73699	0	47.73699	0	0	0	47.73699	.04073817			47.73699	.04073817	
FUTURE CONTRACTOR SOUTHERN CALIFORNIA	QUANTITY,	AF	4600.0	0	4600.0	0	0	0	4600.0	.00659309	.00687528	0	4600.0	.00659309	.00687528
	CAPACITY,	CFS	8.38712	0	8.38712	0	0	0	8.38712	.00716947			8.38712	.00716947	
TOTAL	QUANTITY	AF	317400.0	0	687900.0	9800.0	0	0	697700.0	1.00000000			697700.0	1.00000000	
	CAPACITY	CFS	573.93783	0	1129.01844	13.53653	29.24512	0	1171.80009	1.00000000	1.00000000	0	1171.80009	1.00000000	1.00000000

1/ Capacity in cubic feet per second for conveyance of annual quantities delivered from or through the reservoir, excluding losses from the reservoir.
2/ Summation of quantity ratio weighted by 0.11969158 and capacity ratio weighted by 0.88030848.

TABLE B-3 (Continued)
REACH SUMMARY OF PROPORTIONATE USE OF PROJECT TRANSPORTATION FACILITIES BY WATER SUPPLY CONTRACTORS

(in units as shown)

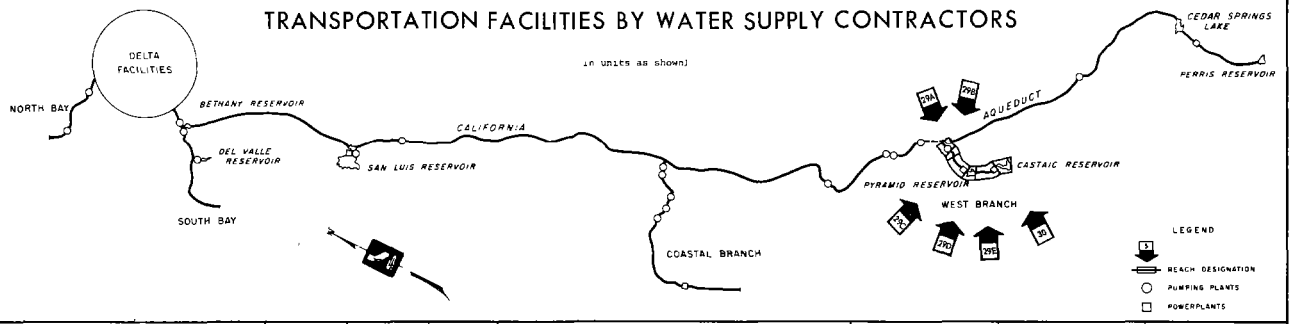


WATER SUPPLY CONTRACTOR	MEASURE OF USE		MAXIMUM ANNUAL ENTITLEMENTS DELIVERED FROM REACH	ESTIMATED OPERATIONAL LOSSES WITHIN REACH	CAPACITY PROVIDED IN REACH					PROPORTIONATE USE FOR ALLOCATION OF CAPITAL COSTS		CAPACITY PROVIDED IN REACH		PROPORTIONATE USE FOR ALLOCATION OF MINIMUM OM&R COSTS	
					FOR DELIVERY OF ENTITLEMENTS	FOR COMPENSATION OF OPERATIONAL LOSSES	FOR COMPENSATION OF SCHEDULED OUTAGES	FOR COMPENSATION OF DOWNSTREAM REGULATION	SUBTOTAL	RATIOS OF TOTAL REACH USE	AVERAGE OF RATIOS	FOR REQUESTED EXCESS PEAKING	TOTAL FOR WATER SUPPLY CONTRACTORS	RATIOS OF TOTAL REACH USE	AVERAGE OF RATIOS
REACH 28D – DEVIL CANYON POWERPLANT TO WARM CREEK	(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY	AF	0	0	272500.0	9800.0	0	0	282300.0	.74230870			282300.0	.74230870	
	CAPACITY	CFS	0	0	376.39841	13.53653	29.24512	0	419.18006	.70113149	.72172010	0	419.18006	.70113149	.72172010
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT	QUANTITY	AF	98000.0	0	98000.0	0	0	0	98000.0	.25769130			98000.0	.25769130	
	CAPACITY	CFS	178.68220	0	178.68220	0	0	0	178.68220	.29886851	.27827990	0	178.68220	.29886851	.27827990
TOTAL	QUANTITY	AF	98000.0	0	370500.0	9800.0	0	0	380300.0	1.00000000			380300.0	1.00000000	
	CAPACITY	CFS	178.68220	0	555.08061	13.53653	29.24512	0	597.86226	1.00000000	1.00000000	0	597.86226	1.00000000	1.00000000
REACH 28E – WARM CREEK TO PERRIS RESERVOIR															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY	AF	0	0	272500.0	9800.0	0	0	282300.0	1.00000000			282300.0	1.00000000	
	CAPACITY	CFS	0	0	376.39841	13.53653	29.24512	0	419.18006	1.00000000	1.00000000	0	419.18006	1.00000000	1.00000000
TOTAL	QUANTITY,	AF	0	0	272500.0	9800.0	0	0	282300.0	1.00000000			282300.0	1.00000000	
	CAPACITY	CFS	0	0	376.39841	13.53653	29.24512	0	419.18006	1.00000000	1.00000000	0	419.18006	1.00000000	1.00000000
REACH 28F – PERRIS DAM AND RESERVOIR															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY	AF	272500.0	9800.0	272500.0	9800.0	0		404.62829 1/	1.00000000			404.62829 1/	1.00000000	
	CAPACITY,	AF	95999.0	3001.0	95999.0	3001.0	0		99000.0	1.00000000	1.00000000		99000.0	1.00000000	1.00000000
TOTAL	QUANTITY	AF	272500.0	9800.0	272500.0	9800.0	0		404.62829 1/	1.00000000			404.62829 1/	1.00000000	
	CAPACITY	AF	95999.0	3001.0	95999.0	3001.0	0		99000.0	1.00000000	1.00000000		99000.0	1.00000000	1.00000000

1/ CAPACITY IN CUBIC FEET PER SECOND FOR CONVEYANCE OF ANNUAL QUANTITIES DELIVERED FROM OR THROUGH THE RESERVOIR, EXCLUDING LOSSES FROM THE RESERVOIR

TABLE B-3 (Continued)

REACH SUMMARY OF PROPORTIONATE USE OF PROJECT TRANSPORTATION FACILITIES BY WATER SUPPLY CONTRACTORS



WATER SUPPLY CONTRACTOR	MEASURE OF USE		MAXIMUM ANNUAL ENTITLEMENTS DELIVERED FROM REACH	ESTIMATED OPERATIONAL LOSSES WITHIN REACH	CAPACITY PROVIDED IN REACH					PROPORTIONATE USE FOR ALLOCATION OF CAPITAL COSTS		CAPACITY PROVIDED IN REACH		PROPORTIONATE USE FOR ALLOCATION OF MINIMUM OMP&R COSTS	
					FOR DELIVERY OF ENTITLEMENTS	FOR COMPENSATION OF OPERATIONAL LOSSES	FOR COMPENSATION OF SCHEDULED OUTAGES	FOR COMPENSATION OF DOWNSTREAM REGULATION	SUBTOTAL	RATIOS OF TOTAL REACH USE	AVERAGE OF RATIOS	FOR REQUESTED EXCESS PEAKING	TOTAL FOR WATER SUPPLY CONTRACTORS	RATIOS OF TOTAL REACH USE	AVERAGE OF RATIOS
	(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
REACH 29A – JUNCTION, WEST BRANCH, CALIFORNIA AQUEDUCT THRU OSO PUMPING PLANT															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY	AF	0	479.7	1455000.0	26288.9	0	0	1481288.9	.95944614			1481288.9	.95944614	
	CAPACITY	CFS	0	.78956	2785.95222	37.40415	153.02805	0	2976.38442	.95944613	.95944614	0	2976.38442	.95944613	.95944614
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY	AF	0	6.6	20000.0	361.3	0	0	20361.3	.01318823			20361.3	.01318823	
	CAPACITY	CFS	0	.01086	38.29488	.51407	2.10347	0	40.91242	.01318824	.01318823	0	40.91242	.01318824	.01318823
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY	AF	0	13.7	41500.0	749.8	0	0	42249.8	.02736563			42249.8	.02736563	
	CAPACITY	CFS	0	.02255	79.46187	1.06683	4.36471	0	84.89341	.02736563	.02736563	0	84.89341	.02736563	.02736563
TOTAL	QUANTITY	AF	0	500.0	1516500.0	27400.0	0	0	1543900.0	1.00000000			1543900.0	1.00000000	
	CAPACITY	CFS	0	.82297	2903.70897	38.98505	159.49623	0	3102.19025	1.00000000	1.00000000	0	3102.19025	1.00000000	1.00000000
REACH 29B – OSO PUMPING PLANT TO STATE ROUTE 138															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY	AF	0	2308.6	1455000.0	25809.2	0	0	1480809.2	.95944616			1480809.2	.95944616	
	CAPACITY	CFS	0	3.90793	2785.95222	36.61458	153.02805	0	2975.59486	.95944614	.95944615	0	2975.59486	.95944614	.95944615
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY	AF	0	33.0	20000.0	354.7	0	0	20354.7	.01318826			20354.7	.01318826	
	CAPACITY	CFS	0	.05432	38.29488	.50521	2.10347	0	40.90356	.01318823	.01318823	0	40.90356	.01318823	.01318823
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY	AF	0	68.4	41500.0	736.1	0	0	42236.1	.02736562			42236.1	.02736562	
	CAPACITY	CFS	0	.11258	79.46187	1.04428	4.36471	0	84.87086	.02736563	.02736562	0	84.87086	.02736563	.02736562
TOTAL	QUANTITY	AF	0	2500.0	1516500.0	26900.0	0	0	1543400.0	1.00000000			1543400.0	1.00000000	
	CAPACITY	CFS	0	4.11483	2903.70897	38.16208	159.49623	0	3101.36728	1.00000000	1.00000000	0	3101.36728	1.00000000	1.00000000
REACH 29C – STATE ROUTE 138 THRU PYRAMID POWERPLANT															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY	AF	0	1287.3	1455000.0	24610.6	0	0	1479610.6	.95944617			1479610.6	.95944617	
	CAPACITY	CFS	0	2.05297	2785.95222	35.06666	153.02805	0	2971.64645	.95944615	.95944616	0	2971.64645	.95944615	.95944616
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY	AF	0	17.1	20000.0	321.7	0	0	20321.7	.01318820			20321.7	.01318820	
	CAPACITY	CFS	0	.02815	38.29488	.44889	2.10347	0	40.84724	.01318822	.01318821	0	40.84724	.01318822	.01318821
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY	AF	0	35.6	41500.0	667.7	0	0	42167.7	.02736563			42167.7	.02736563	
	CAPACITY	CFS	0	.05859	79.46187	.93170	4.36471	0	84.75828	.02736563	.02736563	0	84.75828	.02736563	.02736563
TOTAL	QUANTITY	AF	0	1300.0	1516500.0	24400.0	0	0	1540900.0	1.00000000			1540900.0	1.00000000	
	CAPACITY	CFS	0	2.13971	2903.70897	34.04725	159.49623	0	3097.25245	1.00000000	1.00000000	0	3097.25245	1.00000000	1.00000000
REACH 29D – PYRAMID DAM AND RESERVOIR															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY	AF	123596.0	6620.2	1455000.0	22163.3	0		2183.57192 1/	.95944614			2183.57192 1/	.95944614	
	CAPACITY	AF	123596.0	2041.0	123596.0	2041.0	0		125637.0	.96569562	.96434513 2/		125637.0	.96569562	.96434513 2/
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY	AF	1032.0	91.0	20000.0	309.6	0		30.01465 1/	.01318823			30.01465 1/	.01318823	
	CAPACITY	AF	1032.0	17.0	1032.0	17.0	0		1049.0	.00806303	.00917108 2/		1049.0	.00806303	.00917108 2/
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY	AF	3359.0	188.8	41500.0	632.1	0		62.28056 1/	.02736562			62.28056 1/	.02736562	
	CAPACITY	AF	3359.0	55.0	3359.0	55.0	0		3414.0	.02624135	.02648412 2/		3414.0	.02624135	.02648412 2/
TOTAL	QUANTITY	AF	127987.0	6900.0	1516500.0	23100.0	0		2275.86711 1/	1.00000000			2275.86711 1/	1.00000000	
	CAPACITY	AF	127987.0	2113.0	127987.0	2113.0	0		130100.0	1.00000000	1.00000000 2/		130100.0	1.00000000	1.00000000 2/
REACH 29E – PYRAMID RESERVOIR THRU CASTAIC POWERPLANT															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY	AF	0	96.0	1455000.0	15543.1	0	0	1470543.1	.95944614			1470543.1	.95944614	
	CAPACITY	CFS	776.19188	.15801	2785.95222	21.49476	152.33228	0	2959.77926	.95944613	.95944614	0	2959.77926	.95944613	.95944614
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY	AF	0	1.3	20000.0	213.6	0	0	20213.6	.01318823			20213.6	.01318823	
	CAPACITY	CFS	10.66931	.00214	38.29488	.29534	2.09391	0	40.68418	.01318824	.01318823	0	40.68418	.01318824	.01318823
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY	AF	0	2.7	41500.0	443.3	0	0	41943.3	.02736563			41943.3	.02736563	
	CAPACITY	CFS	22.13881	.00444	79.46187	.61303	4.34487	0	84.41977	.02736563	.02736563	0	84.41977	.02736563	.02736563
TOTAL	QUANTITY	AF	0	100.0	1516500.0	16200.0	0	0	1532700.0	1.00000000			1532700.0	1.00000000	
	CAPACITY	CFS	809.00000	.16459	2903.70897	22.40318	158.77106	0	3084.88321	1.00000000	1.00000000	0	3084.88321	1.00000000	1.00000000
REACH 30 – CASTAIC DAM AND RESERVOIR															
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	QUANTITY	AF	1455000.0	15447.1	1455000.0	15447.1	0		2160.492361 1/	.95944609			2160.492361 1/	.95944609	
	CAPACITY	AF	317780.0	4761.0	317780.0	4761.0	0		322541.0	.96569162	.96496372 2/		322541.0	.96569162	.96496372 2/
VENTURA COUNTY FLOOD CONTROL DISTRICT	QUANTITY	AF	20000.0	212.3	20000.0	212.3	0		29.697493 1/	.01318826			29.697493 1/	.01318826	
	CAPACITY	AF	2652.0	40.0	2652.0	40.0	0		2692.0	.00805988	.00865758 2/		2692.0	.00805988	.00865758 2/
UPPER SANTA CLARA VALLEY WATER AGENCY	QUANTITY	AF	41500.0	440.6	41500.0	440.6	0		61.622291 1/	.02736565			61.622291 1/	.02736565	
	CAPACITY	AF	8638.0	129.0	8638.0	129.0	0		8767.0	.02624850	.02637870 2/		8767.0	.02624850	.02637870 2/
TOTAL	QUANTITY	AF	1516500.0	16100.0	1516500.0	16100.0	0		2251.81214 1/	1.00000000			2251.81214 1/	1.00000000	
	CAPACITY	AF	329070.0	4930.0	329070.0	4930.0	0		334000.0	1.00000000	1.00000000 2/		334000.0	1.00000000	1.00000000 2/

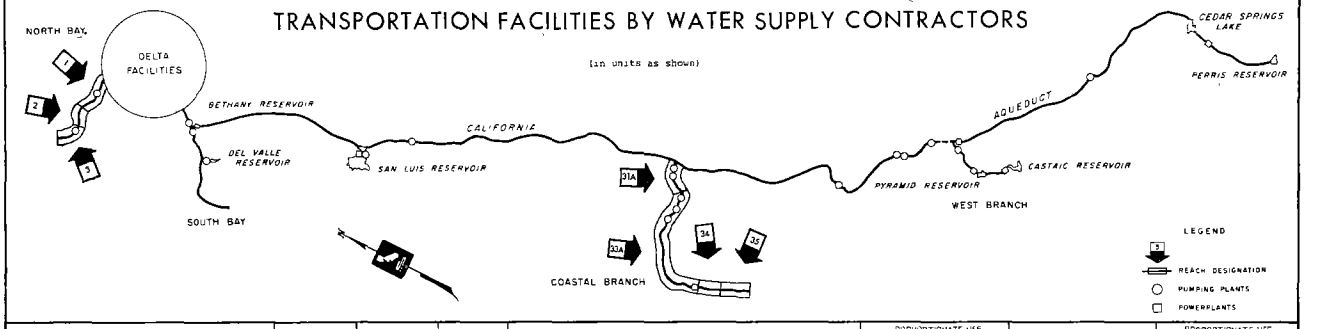
1/ Capacity in cubic feet per second for conveyance of annual quantities delivered from or through the reservoir, excluding losses from the reservoir.

2/ Summation of quantity ratio weighted by 0.21619628 for Pyramid Reservoir and 0.11654762 for Castaic Reservoir, and capacity ratio weighted 0.78380372 for Pyramid Reservoir, and 0.88345238 for Castaic Reservoir.

TABLE B-3 (Continued)

REACH SUMMARY OF PROPORTIONATE USE OF PROJECT TRANSPORTATION FACILITIES BY WATER SUPPLY CONTRACTORS

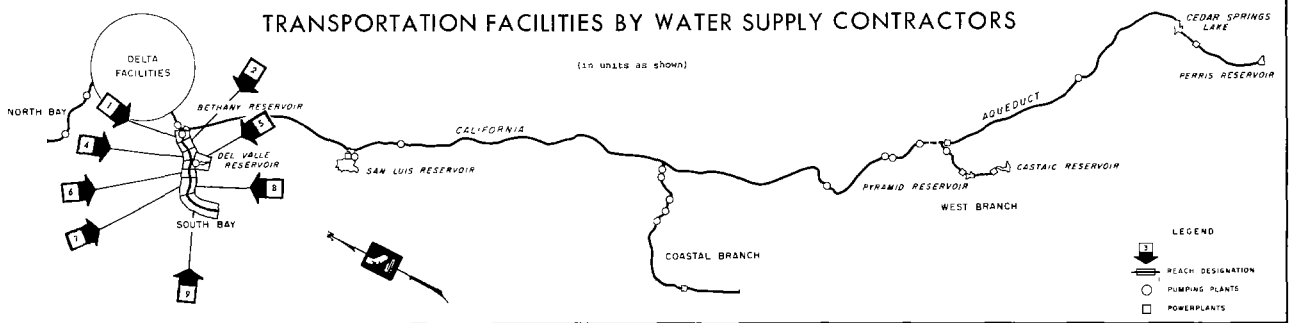
(In units as shown)



WATER SUPPLY CONTRACTOR	MEASURE OF USE		MAXIMUM ANNUAL ENTITLEMENTS DELIVERED FROM REACH	ESTIMATED OPERATIONAL LOSSES WITHIN REACH	CAPACITY PROVIDED IN REACH					PROPORTIONATE USE FOR ALLOCATION OF CAPITAL COSTS		CAPACITY PROVIDED IN REACH		PROPORTIONATE USE FOR ALLOCATION OF MINIMUM OM&R COSTS	
					FOR DELIVERY OF ENTITLEMENTS	FOR COMPENSATION OF OPERATIONAL LOSSES	FOR COMPENSATION OF SCHEDULED OUTAGES	FOR COMPENSATION OF DOWNSTREAM REGULATION	SUBTOTAL	RATIOS OF TOTAL REACH USE	AVERAGE OF RATIOS	FOR REQUESTED EXCESS PEAKING	TOTAL FOR WATER SUPPLY CONTRACTORS	RATIOS OF TOTAL REACH USE	AVERAGE OF RATIOS
	(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
REACH 31A – AVENAL GAP TO DEVIL'S DEN PUMPING PLANT															
KERN COUNTY WATER AGENCY – AGRICULTURAL	QUANTITY,	AF	105130.0	785.9	105130.0	785.9	0	0	105825.9	.51850024		0	105825.9	.51850024	.57546190
	CAPACITY,	CFS	283.00000	1.19478	283.00000	1.19478	0	0	284.19478	.63242356	.57546190		284.19478	.63242356	
SANTA BARBARA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY,	AF	0	410.5	57700.0	2150.1	0	0	59850.1	.29323910		0	59850.1	.29323910	.24566277
	CAPACITY	CFS	0	.67565	79.69977	3.20822	6.10693	0	89.01492	.19808644	.24566277		89.01492	.19808644	
SAN LUIS OBISPO COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY,	AF	0	175.9	25800.0	636.3	0	0	25636.3	.12560657		0	25636.3	.12560657	.10522767
	CAPACITY	CFS	0	.28952	34.53197	.98102	2.61585	0	38.12884	.08484877	.10522767		38.12884	.08484877	
DEVIL'S DEN WATER DISTRICT	QUANTITY,	AF	12700.0	87.7	12700.0	87.7	0	0	12787.7	.06265409		0	12787.7	.06265409	.07364766
	CAPACITY	CFS	37.89123	.14435	37.89123	.14435	0	0	38.03558	.08464123	.07364766		38.03558	.08464123	
TOTAL	QUANTITY	AF	117800.0	1400.0	200500.0	3600.0	0	0	204100.0	1.00000000		0	204100.0	1.00000000	
	CAPACITY	CFS	320.89123	2.30430	435.12297	5.52837	8.72278	0	449.37412	1.00000000	1.00000000		449.37412	1.00000000	1.00000000
REACH 33A – DEVIL'S DEN PUMPING PLANT THRU SAN LUIS OBISPO POWERPLANT															
SANTA BARBARA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY,	AF	0	490.1	57700.0	1739.6	0	0	59439.6	.70011307		0	59439.6	.70011307	.70011303
	CAPACITY	CFS	0	.80667	79.69977	2.53257	6.10693	0	88.33927	.70011299	.70011303		88.33927	.70011299	
SAN LUIS OBISPO COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY,	AF	10000.0	309.9	25000.0	960.4	0	0	25460.4	.29988693		0	25460.4	.29988693	.29988697
	CAPACITY	CFS	13.81279	.34548	34.53197	.69150	2.61585	0	37.83932	.29988701	.29988697		37.83932	.29988701	
TOTAL	QUANTITY,	AF	10000.0	700.0	82700.0	2200.0	0	0	84900.0	1.00000000		0	84900.0	1.00000000	
	CAPACITY	CFS	13.81279	1.15215	114.23174	3.22407	8.72278	0	126.17859	1.00000000	1.00000000		126.17859	1.00000000	1.00000000
REACH 34 – SAN LUIS OBISPO POWERPLANT TO ARROYO GRANDE															
SANTA BARBARA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY	AF	0	397.2	57700.0	1249.5	0	0	58949.5	.79446765		0	58949.5	.79446765	.79446761
	CAPACITY,	CFS	0	.54864	79.69977	1.72590	6.10693	0	87.53260	.79446756	.79446761		87.53260	.79446756	
SAN LUIS OBISPO COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY	AF	5000.0	102.8	15000.0	250.5	0	0	15250.5	.20553235		0	15250.5	.20553235	.20553239
	CAPACITY,	CFS	6.90639	.14200	20.71918	.34602	1.57989	0	22.64509	.20553244	.20553239		22.64509	.20553244	
TOTAL	QUANTITY	AF	5000.0	500.0	72700.0	1500.0	0	0	74200.0	1.00000000		0	74200.0	1.00000000	
	CAPACITY	CFS	6.90639	.69064	100.41895	2.07192	7.68682	0	110.17769	1.00000000	1.00000000		110.17769	1.00000000	1.00000000
REACH 35 – ARROYO GRANDE TO SANTA MARIA TERMINUS															
SANTA BARBARA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY	AF	57700.0	852.3	57700.0	852.3	0	0	58552.3	.85228967		0	58552.3	.85228967	.85228962
	CAPACITY	CFS	79.69977	1.17726	79.69977	1.17726	6.86578	0	86.94281	.85228958	.85228962		86.94281	.85228958	
SAN LUIS OBISPO COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY,	AF	10000.0	147.7	10000.0	147.7	0	0	10147.7	.14771033		0	10147.7	.14771033	.14771038
	CAPACITY	CFS	13.81279	.20402	13.81279	.20402	1.05126	0	15.06807	.14771042	.14771038		15.06807	.14771042	
TOTAL	QUANTITY	AF	67700.0	1000.0	67700.0	1000.0	0	0	68700.0	1.00000000		0	68700.0	1.00000000	
	CAPACITY	CFS	93.51256	1.38128	93.51256	1.38128	7.11704	0	102.01088	1.00000000	1.00000000		102.01088	1.00000000	1.00000000
REACH 1 – LINDSEY SLOUGH TO SUISUN CITY															
NAPA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY,	AF	0	398.1	25000.0	557.3	0	0	25557.3	.39808879		0	25557.3	.39808879	.39808876
	CAPACITY,	CFS	0	.65524	45.58219	.81727	0	0	46.49946	.39808874	.39808876		46.49946	.39808874	
SOLANO COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY,	AF	0	601.9	37600.0	842.7	0	0	38642.7	.60191121		0	38642.7	.60191121	.60191124
	CAPACITY,	CFS	0	.99069	68.92028	1.38703	0	0	70.30731	.60191126	.60191124		70.30731	.60191126	
TOTAL	QUANTITY,	AF	0	1000.0	62800.0	1400.0	0	0	64200.0	1.00000000		0	64200.0	1.00000000	
	CAPACITY	CFS	0	1.64593	114.50247	2.30430	0	0	116.80677	1.00000000	1.00000000		116.80677	1.00000000	1.00000000
REACH 2 – SUISUN CITY TO CORDELIA PUMPING PLANT															
NAPA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY,	AF	0	159.2	25000.0	159.2	0	0	25159.2	.39808861		0	25159.2	.39808861	.39808862
	CAPACITY,	CFS	0	.26203	45.58219	.26203	0	0	45.84422	.39808862	.39808861		45.84422	.39808862	
SOLANO COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY,	AF	37800.0	240.8	37800.0	240.8	0	0	38040.8	.60191139		0	38040.8	.60191139	.60191138
	CAPACITY,	CFS	68.92028	.39634	68.92028	.39634	0	0	69.31662	.60191138	.60191139		69.31662	.60191138	
TOTAL	QUANTITY	AF	37800.0	400.0	62800.0	400.0	0	0	63200.0	1.00000000		0	63200.0	1.00000000	
	CAPACITY	CFS	68.92028	.65837	114.50247	.65837	0	0	115.16084	1.00000000	1.00000000		115.16084	1.00000000	1.00000000
REACH 3 – CORDELIA PUMPING PLANT TO NAPA TURNOUT RESERVOIR															
NAPA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	QUANTITY,	AF	25000.0	0	25000.0	0	0	0	25000.0	1.00000000		0	25000.0	1.00000000	
	CAPACITY,	CFS	45.58219	0	45.58219	0	0	0	45.58219	1.00000000	1.00000000		45.58219	1.00000000	1.00000000
TOTAL	QUANTITY,	AF	25000.0	0	25000.0	0	0	0	25000.0	1.00000000		0	25000.0	1.00000000	
	CAPACITY,	CFS	45.58219	0	45.58219	0	0	0	45.58219	1.00000000	1.00000000		45.58219	1.00000000	1.00000000

TABLE B-3 (Continued)

REACH SUMMARY OF PROPORTIONATE USE OF PROJECT TRANSPORTATION FACILITIES BY WATER SUPPLY CONTRACTORS



WATER SUPPLY CONTRACTOR	MEASURE OF USE		MAXIMUM ANNUAL ENTITLEMENTS DELIVERED FROM REACH	ESTIMATED OPERATIONAL LOSSES WITHIN REACH	CAPACITY PROVIDED IN REACH					PROPORTIONATE USE FOR ALLOCATION OF CAPITAL COSTS		CAPACITY PROVIDED IN REACH		PROPORTIONATE USE FOR ALLOCATION OF MINIMUM OM&R COSTS	
					FOR DELIVERY OF ENTITLEMENTS	FOR COMPENSATION OF			SUBTOTAL	RATIOS OF TOTAL REACH USE	AVERAGE OF RATIOS	FOR REQUESTED EXCESS PEAKING	TOTAL FOR WATER SUPPLY CONTRACTORS	RATIOS OF TOTAL REACH USE	AVERAGE OF RATIOS
						OPERATIONAL LOSSES	SCHEDULED OUTAGES	DOWNSTREAM REGULATION							
REACH 1 – BETHANY RESERVOIR TO ALTAMONT TURNOUT	(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
SANTA CLARA COUNTY FLOOD CONTROL AND WATER DISTRICT	QUANTITY	AF	0	85.3	100000.0	1721.6	0	0	101721.6	.67371862	.49203156	0	101721.6	.67371862	.49203156
	CAPACITY,	CFS	0	.11782	149.02297	2.37801	1.70237	0	153.10335	.51034486			153.10335	.51034486	
ALAMEDA COUNTY WATER DISTRICT	QUANTITY	AF	0	35.8	42000.0	712.5	0	0	42712.5	.19891459	.20663014	0	42712.5	.19891459	.20663014
	CAPACITY	CFS	0	.04945	62.60515	.98817	.71499	0	64.30431	.21434770			64.30431	.21434770	
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT ZONE 7	QUANTITY	AF	0	39.1	46000.0	718.2	0	0	46718.2	.21756718	.22599574	0	46718.2	.21756718	.22599574
	CAPACITY	CFS	0	.05401	68.55218	.99203	.78308	0	70.32729	.23442430			70.32729	.23442430	
FUTURE CONTRACTOR – SOUTH BAY	QUANTITY	AF	0	19.8	22000.0	1577.7	0	0	23577.7	.10980161	.07534256	0	23577.7	.10980161	.07534256
	CAPACITY	CFS	0	.02736	9.71128	2.17925	.37452	0	12.26505	.04088350			12.26505	.04088350	
TOTAL	QUANTITY	AF	0	180.0	210000.0	4730.0	0	0	214730.0	1.00000000			214730.0	1.00000000	
	CAPACITY	CFS	0	.24883	289.89158	6.53346	3.57496	0	300.00000	1.00000000	1.00000000	0	300.00000	1.00000000	1.00000000
REACH 2 – ALTAMONT TURNOUT THRU PATTERSON RESERVOIR															
SANTA CLARA COUNTY FLOOD CONTROL AND WATER DISTRICT	QUANTITY	AF	0	113.7	100000.0	1636.7	0	0	101636.7	.67371848	.49203231	0	101636.7	.67371848	.49203231
	CAPACITY,	CFS	0	.15705	149.02297	2.26819	1.60597	.01517	153.10336	.51034613			153.10336	.51034613	
ALAMEDA COUNTY WATER DISTRICT	QUANTITY,	AF	0	47.7	42000.0	676.7	0	0	42676.7	.19891261	.20663057	0	42676.7	.19891261	.20663057
	CAPACITY,	CFS	0	.06589	62.60515	.93472	.75832	.00637	64.30456	.21434854			64.30456	.21434854	
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT ZONE 7	QUANTITY	AF	17000.0	52.2	46000.0	679.1	0	0	46679.1	.21756747	.22599655	0	46679.1	.21756747	.22599655
	CAPACITY	CFS	23.48174	.07210	68.55218	.93802	.83053	.00696	70.32769	.23442563			70.32769	.23442563	
FUTURE CONTRACTOR – SOUTH BAY	QUANTITY	AF	0	26.4	22000.0	1557.8	0	0	23557.8	.10980144	.07534057	0	23557.8	.10980144	.07534057
	CAPACITY	CFS	0	.03647	9.71128	2.15190	.39721	.00352	12.26391	.04087970			12.26391	.04087970	
TOTAL	QUANTITY	AF	17000.0	280.0	210000.0	4550.0	0	0	214550.0	1.00000000			214550.0	1.00000000	
	CAPACITY	CFS	23.48174	.33151	289.89158	6.28483	3.79157	.03202	300.00000	1.00000000	1.00000000	0	300.00000	1.00000000	1.00000000
REACH 4 – PATTERSON RESERVOIR TO DEL VALLE JUNCTION															
SANTA CLARA COUNTY FLOOD CONTROL AND WATER DISTRICT	QUANTITY	AF	0	416.8	100000.0	1522.6	0	0	101522.6	.51062826	.51077363	0	101522.6	.51062826	.51077363
	CAPACITY,	CFS	0	.57572	149.02297	2.10314	2.11419	.03540	153.27570	.51091980			153.27570	.51091980	
ALAMEDA COUNTY WATER DISTRICT	QUANTITY	AF	0	175.3	42000.0	629.1	0	0	42629.0	.21041110	.21450020	0	42629.0	.21041110	.21450020
	CAPACITY	CFS	0	.24173	62.60515	.86803	.88798	.01485	64.37676	.21458930			64.37676	.21458930	
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, ZONE 7	QUANTITY	AF	0	121.6	29000.0	626.9	0	1509.0	31135.9	.15660925	.19504789	0	31135.9	.15660925	.19504789
	CAPACITY,	CFS	0	.16796	45.07044	.86592	.61311	23.49799	70.04746	.23349153			70.04746	.23349153	
FUTURE CONTRACTOR – SOUTH BAY	QUANTITY,	AF	0	96.6	22000.0	1531.5	0	0	23531.5	.11835639	.07967828	0	23531.5	.11835639	.07967828
	CAPACITY	CFS	0	.13343	9.71128	2.11544	.46512	.00822	12.30005	.04100017			12.30005	.04100017	
TOTAL	QUANTITY	AF	0	810.0	193000.0	4310.0	0	1509.0	198819.0	1.00000000			198819.0	1.00000000	
	CAPACITY	CFS	0	1.11884	266.40984	5.95332	4.08038	23.55646	300.00000	1.00000000	1.00000000	0	300.00000	1.00000000	1.00000000
REACH 5 – DEL VALLE JUNCTION THRU DEL VALLE RESERVOIR															
SANTA CLARA COUNTY FLOOD CONTROL AND WATER DISTRICT	QUANTITY	AF	6936.0	1105.8	100000.0	1105.8	0		9257.0	.31592778	.31592778		9257.0	.31592778	.31592778
	CAPACITY,	AF	0	321.0	8936.0	321.0									
ALAMEDA COUNTY WATER DISTRICT	QUANTITY,	AF	3669.0	456.0	42000.0	454.0	0		3801.0	.12972254	.12972254		3801.0	.12972254	.12972254
	CAPACITY	AF	0	132.0	3669.0	132.0									
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, ZONE 7	QUANTITY	AF	4083.0	505.3	29000.0	505.3	0		4230.0	.14436367	.14436367		4230.0	.14436367	.14436367
	CAPACITY	AF	0	147.0	4083.0	147.0									
FUTURE CONTRACTOR – SOUTH BAY	QUANTITY	AF	12000.0	1434.9	22000.0	1434.9	0		12013.0	.40998601	.40998601		12013.0	.40998601	.40998601
	CAPACITY	AF	11596.0	417.0	11596.0	417.0									
TOTAL	QUANTITY,	AF	12000.0	3500.0	193000.0	3500.0	0		29301.0	1.00000000	1.00000000		29301.0	1.00000000	1.00000000
	CAPACITY	AF	28284.0	1017.0	26284.0	1017.0									
REACH 6 – DEL VALLE JUNCTION TO SOUTH LIVERMORE TURNOUT															
SANTA CLARA COUNTY FLOOD CONTROL AND WATER DISTRICT	QUANTITY	AF	0	0	100000.0	0	0	0	100000.0	.55246619	.52968662	0	100000.0	.55246619	.52968662
	CAPACITY	CFS	0	0	184.00000	0	0	0	184.00000	.50688705			184.00000	.50688705	
ALAMEDA COUNTY WATER DISTRICT	QUANTITY	AF	0	0	42000.0	0	0	0	42000.0	.23204420	.22150155	0	42000.0	.23204420	.22150155
	CAPACITY	CFS	0	0	76.57808	0	0	0	76.57808	.21095890			76.57808	.21095890	
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT ZONE 7	QUANTITY	AF	29000.0	0	29000.0	0	0	0	29000.0	.16022099	.15294154	0	29000.0	.16022099	.15294154
	CAPACITY	CFS	52.87534	0	52.87534	0	0	0	52.87534	.14566209			52.87534	.14566209	
FUTURE CONTRACTOR – SOUTH BAY	QUANTITY	AF	0	0	10000.0	0	0	0	10000.0	.05524862	.05273846	0	10000.0	.05524862	.05273846
	CAPACITY	CFS	0	0	18.23287	0	0	0	18.23287	.05022829			18.23287	.05022829	
EXCESS CAPACITY – SOUTH BAY	QUANTITY	AF	0	0	0	0	0	0	0	0			0	0	
	CAPACITY	CFS	5.12466	0	31.31371	0	0	0	31.31371	.08626367	.04313183	0	31.31371	.08626367	.04313183
TOTAL	QUANTITY,	AF	29000.0	0	181000.0	0	0	0	181000.0	1.00000000			181000.0	1.00000000	
	CAPACITY	CFS	58.00000	0	363.00000	0	0	0	363.00000	1.00000000	1.00000000	0	363.00000	1.00000000	1.00000000
REACH 7 – SOUTH LIVERMORE TURNOUT TO VALLECITOS TURNOUT															
SANTA CLARA COUNTY FLOOD CONTROL AND WATER DISTRICT	QUANTITY	AF	0	0	100000.0	0	0	0	100000.0	.65789474	.63058671	0	100000.0	.65789474	.63058671
	CAPACITY	CFS	0	0	184.00000	0	0	0	184.00000	.60327869			184.00000	.60327869	
ALAMEDA COUNTY WATER DISTRICT	QUANTITY	AF	37000.0	0	42000.0	0	0	0	42000.0	.27631579	.26369573	0	42000.0	.27631579	.26369573
	CAPACITY	CFS	67.46165	0	76.57808	0	0	0	76.57808	.25107567			76.57808	.25107567	
FUTURE CONTRACTOR – SOUTH BAY	QUANTITY	AF	-15000.0	0	10000.0	0	0	0	10000.0	.06578947	.06278469	0	10000.0	.06578947	.06278469
	CAPACITY	CFS	-27.34932	0	18.23287	0	0	0	18.23287	.05977490			18.23287	.05977490	
EXCESS CAPACITY – SOUTH BAY	QUANTITY	AF	0	0	0	0	0	0	0	0			0	0	
	CAPACITY	CFS	16.77124	0	26.18905	0	0	0	26.18905	.08586574	.04293287	0	26.18905	.08586574	.04293287
TOTAL	QUANTITY	AF	22000.0	0	152000.0	0	0	0	152000.0	1.00000000			152000.0	1.00000000	
	CAPACITY	CFS	56.88357	0	305.00000	0	0	0	305.00000	1.00000000	1.00000000	0	305.00000	1.00000000	1.00000000
REACH 8 – VALLECITOS TURNOUT TO ALAMEDA-BAYSIDE TURNOUT															
SANTA CLARA COUNTY FLOOD CONTROL AND WATER DISTRICT	QUANTITY	AF	0	0	100000.0	0	0	0	100000.0	.76923077	.74539970	0	100000.0	.76923077	.74539970
	CAPACITY	CFS	0	0	184.00000	0	0	0	184.00000	.72156863			184.00000	.72156863	
ALAMEDA COUNTY WATER DISTRICT	QUANTITY	AF	5000.0	0	5000.0	0	0	0	5000.0	.03846154	.05060332	0	5000.0	.03846154	.05060332
	CAPACITY	CFS	16.00000	0	16.00000	0	0	0	16.00000	.05274510			16.00000	.05274510	
FUTURE CONTRACTOR – SOUTH BAY	QUANTITY	AF	25000.0	0	25000.0	0	0	0	25000.0	.19230769	.18553069	0	25000.0	.19230769	.18553069
	CAPACITY	CFS	45.58219	0	45.58219	0	0	0	45.58219	.17875368			45.58219	.17875368	
EXCESS CAPACITY – SOUTH BAY	QUANTITY	AF	0	0	0	0	0	0	0	0			0	0	
	CAPACITY	CFS	9.41781	0	9.41781	0	0	0	9.41781	.03693259	.01846629	0	9.41781	.03693259	.01846629
TOTAL	QUANTITY	AF	30000.0	0	130000.0	0	0	0	130000.0	1.00000000			130000.0	1.00000000	
	CAPACITY	CFS	71.00000	0	255.00000	0	0	0	255.00000	1.00000000	1.00000000	0	255.00000	1.00000000	1.00000000
REACH 9 – ALAMEDA BAYSIDE TURNOUT TO SANTA CLARA TERMINAL FACILITIES															
SANTA CLARA COUNTY FLOOD CONTROL AND WATER DISTRICT	QUANTITY	AF	100000.0	0	100000.0	0	0	0	100000.0	1.00000000	1.00000000	0	100000.0	1.00000000	1.00000000
	CAPACITY	CFS	184.00000	0	184.00000	0	0	0	184.00000	1.00000000			184.00000	1.00000000	
TOTAL	QUANTITY	AF	100000.0	0	100000.0	0	0	0	100000.0	1.00000000	1.00000000	0	100000.0	1.00000000	1.00000000
	CAPACITY	CFS	184.00000	0	184.00000	0	0	0	184.00000	1.00000000			184.00000	1.00000000	

TABLE B-4

ANNUAL QUANTITIES DELIVERED FROM EACH REACH FOR EACH CONTRACTOR

(in acre-feet)

CALENDAR YEAR	NORTH BAY AQUEDUCT		TOTAL NORTH BAY AQUEDUCT 1/	SOUTH BAY AQUEDUCT							TOTAL SOUTH BAY AQUEDUCT
	Reach 2	Reach 3		Reach 1		Reach 2	Reach 4	Reach 6	Reach 7	Reach 8	Reach 9	
	SC FC & WCD	NC FC & WCD 1/		AC FC & WCD	ACWD	AC FC & WCD	AC FC & WCD	AC FC & WCD	ACWD	ACWD	SCC FC & WD	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1962	0	0	0	141	8,412	353	0	0	0	0	0	8,906
63	0	0	0	814	10,914	917	0	0	0	0	0	12,645
64	0	0	0	248	19,238	1,425	0	0	0	0	0	20,911
65	0	0	0	637	15,280	1,830	138	0	1,127	0	15,014	34,026
66	0	0	0	2,475	0	2,537	499	0	14,864	0	34,538	54,913
67	0	0	0	3,360	0	2,515	0	525	24,234	0	53,000	83,634
68	0	900	900	4,012	0	2,902	0	586	15,000	0	88,000	110,500
69	0	1,900	1,900	4,389	0	3,341	0	1,070	15,500	0	88,000	112,300
1970	0	2,800	2,800	4,644	0	3,839	0	1,517	15,700	500	88,000	114,200
71	0	3,800	3,800	4,865	0	4,336	0	1,999	16,000	1,000	88,000	116,200
72	0	4,800	4,800	3,500	0	6,400	0	2,500	16,400	1,500	88,000	118,300
73	0	5,800	5,800	3,500	0	6,600	0	3,500	16,800	2,000	88,000	120,400
74	0	6,700	6,700	0	0	10,300	0	4,500	17,100	2,500	88,000	122,400
75	0	7,700	7,700	0	0	10,500	0	5,500	17,500	3,000	88,000	124,500
76	0	8,600	8,600	0	0	10,700	0	6,500	17,800	3,500	88,000	126,500
77	0	9,600	9,600	0	0	10,900	0	7,500	18,200	4,000	88,000	128,600
78	0	10,500	10,500	0	0	11,200	0	8,400	18,600	4,500	88,000	130,700
79	0	11,500	11,500	0	0	11,500	0	9,300	18,900	5,000	88,000	132,700
1980	6,750	12,500	19,250	0	0	11,900	0	10,100	19,800	5,000	88,000	134,800
81	8,000	13,750	21,750	0	0	12,200	0	10,800	21,000	5,000	88,000	137,000
82	9,400	15,000	24,400	0	0	12,400	0	11,600	22,200	5,000	88,000	139,200
83	10,800	16,250	27,050	0	0	12,600	0	12,400	23,400	5,000	88,000	141,400
84	12,100	17,500	29,600	0	0	12,800	0	13,200	24,600	5,000	88,000	143,600
85	14,000	18,750	32,750	0	0	13,000	0	14,000	25,800	5,000	88,000	145,800
86	16,500	20,000	36,500	0	0	13,200	0	14,800	27,100	5,000	88,000	148,100
87	20,000	21,250	41,250	0	0	13,400	0	15,600	28,300	5,000	88,000	150,300
88	27,000	22,500	49,500	0	0	13,600	0	16,400	29,500	5,000	88,000	152,500
89	34,500	23,750	58,250	0	0	13,800	0	17,200	30,700	5,000	90,000	156,700
1990	37,800 2/	25,000	62,800	0	0	14,000	0	18,000	31,900	5,000	92,000	160,900
91	37,800	25,000	62,800	0	0	14,200	0	19,800	33,400	5,000	94,000	166,400
92	37,800	25,000	62,800	0	0	14,400	0	21,600	34,900	5,000	96,000	171,900
93	37,800	25,000	62,800	0	0	14,700	0	23,300	36,400	5,000	98,000	177,400
94	37,800	25,000	62,800	0	0	15,000	0	25,000	37,000	5,000	100,000	182,000
95	37,800	25,000	62,800	0	0	15,300	0	26,700	37,000	5,000	100,000	184,000
96	37,800	25,000	62,800	0	0	16,000	0	28,000	37,000	5,000	100,000	186,000
97	37,800	25,000	62,800	0	0	17,000	0	29,000	37,000	5,000	100,000	188,000
98	37,800	25,000	62,800	0	0	17,000	0	29,000	37,000	5,000	100,000	188,000
99	37,800	25,000	62,800	0	0	17,000	0	29,000	37,000	5,000	100,000	188,000
2000 3/	37,800	25,000	62,800	0	0	17,000	0	29,000	37,000	5,000	100,000	188,000

1/ Between 1968 and 1979 inclusive, annual quantities delivered are nonproject water pumped thru an interim facility.

2/ Solano County Flood Control and Water Conservation District (SCFC&WCD) has contracted for 42,000 acre-feet per year. The District will take 4,200 acre-feet from the Delta thru their own facilities.

3/ And thereafter for the remainder of the project repayment period.

Note: Abbreviations for titles of contractors are shown in Table B-1.

TABLE B-4 (Continued)

ANNUAL QUANTITIES DELIVERED FROM EACH REACH FOR EACH CONTRACTOR

(in acre-feet)

CALENDAR YEAR	CALIFORNIA AQUEDUCT												
	NORTH SAN JOAQUIN DIVISION	SOUTH SAN JOAQUIN DIVISION											
	Reach 2A	Reach 8A			Reach 8B			Reach 9	Reach 10A	Reach 11B	Reach 12D	Reach 12E	
	OFWD	EWSID	KC	TLBWSD	TLBWSD	HWD	DRWD	KCWA (Ag.)	KCWA (Ag.)	KCWA (Ag.)	KCWA (Ag.)	KCWA (Ag.)	KCWA (M&I)
	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
1962	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0
68	2,300	3,000	1,600	14,911	11,989	1,300	11,500	13,000	1,800	19,400	0	0	0
69	2,500	3,000	1,800	16,246	13,054	1,600	13,600	30,700	3,900	35,600	0	0	0
1970	2,600	3,000	2,100	17,633	14,167	2,000	15,700	38,900	300	45,200	0	1,100	18,700
71	2,800	3,000	2,300	18,964	15,236	2,300	17,900	41,700	15,800	48,500	0	3,500	22,330
72	2,900	3,000	2,600	20,368	16,332	2,600	20,000	42,500	40,300	49,500	0	9,500	24,500
73	3,100	3,000	2,800	21,700	17,400	2,900	22,000	50,100	41,800	58,100	0	9,600	28,000
74	3,200	3,000	3,000	23,865	19,135	3,300	24,100	70,200	28,300	77,900	1,700	6,700	31,400
75	3,400	3,000	3,300	26,030	20,870	3,600	26,200	76,100	35,200	83,200	2,400	7,800	35,000
76	3,500	3,000	3,500	28,194	22,606	3,900	28,300	82,700	43,900	90,700	2,400	9,700	37,300
77	3,700	3,000	3,800	30,414	24,386	4,200	30,400	88,300	54,600	97,300	2,400	12,300	40,800
78	3,900	3,000	4,000	32,578	26,122	4,600	32,500	94,600	64,800	104,600	2,400	14,600	43,100
79	4,000	3,000	4,000	34,743	27,857	4,900	34,600	100,600	74,700	111,600	2,400	17,000	45,400
1980	4,200	3,000	4,000	36,908	29,592	5,200	36,700	100,600	91,200	118,000	2,400	19,500	47,700
81	4,300	3,000	4,000	39,072	31,328	5,600	38,800	100,600	110,300	124,700	2,400	22,500	50,200
82	4,500	3,000	4,000	41,236	33,064	5,900	41,000	100,600	127,800	130,800	2,400	25,400	53,600
83	4,600	3,000	4,000	43,401	34,799	6,200	42,900	100,600	148,200	135,600	2,400	29,100	56,000
84	4,800	3,000	4,000	45,566	36,534	6,500	45,100	100,600	166,500	141,300	2,400	32,100	59,400
85	4,900	3,000	4,000	47,730	38,270	6,900	47,200	100,600	184,900	145,400	2,400	35,500	62,900
86	5,100	3,000	4,000	49,950	40,050	7,200	49,300	100,600	202,500	150,000	2,400	38,600	65,300
87	5,200	3,000	4,000	52,114	41,786	7,500	51,400	100,600	221,400	153,300	2,400	42,200	68,800
88	5,400	3,000	4,000	54,279	43,521	7,800	53,500	101,800	237,700	155,800	2,400	45,800	71,200
89	5,600	3,000	4,000	56,444	45,256	8,200	55,600	102,500	249,700	157,200	2,400	48,300	73,500
1990	5,700	3,000	4,000	61,050	48,950	8,500	57,700	103,000	265,200	157,800	2,400	51,200	77,000
91	5,700	3,000	4,000	61,050	48,950	8,500	57,700	103,000	265,200	157,800	2,400	51,200	77,000
92	5,700	3,000	4,000	61,050	48,950	8,500	57,700	103,000	265,200	157,800	2,400	51,200	77,000
93	5,700	3,000	4,000	61,050	48,950	8,500	57,700	103,000	265,200	157,800	2,400	51,200	77,000
94	5,700	3,000	4,000	61,050	48,950	8,500	57,700	103,000	265,200	157,800	2,400	51,200	77,000
95	5,700	3,000	4,000	61,050	48,950	8,500	57,700	103,000	265,200	157,800	2,400	51,200	77,000
96	5,700	3,000	4,000	61,050	48,950	8,500	57,700	103,000	265,200	157,800	2,400	51,200	77,000
97	5,700	3,000	4,000	61,050	48,950	8,500	57,700	103,000	265,200	157,800	2,400	51,200	77,000
98	5,700	3,000	4,000	61,050	48,950	8,500	57,700	103,000	265,200	157,800	2,400	51,200	77,000
99 1/	5,700	3,000	4,000	61,050	48,950	8,500	57,700	103,000	265,200	157,800	2,400	51,200	77,000
2000 1/	5,700	3,000	4,000	61,050	48,950	8,500	57,700	103,000	265,200	157,800	2,400	51,200	77,000

1/ And thereafter for the remainder of the project repayment period.

TABLE B-4 (Continued)

ANNUAL QUANTITIES DELIVERED FROM EACH REACH FOR EACH CONTRACTOR

(in acre-feet)

CALENDAR YEAR	CALIFORNIA AQUEDUCT (Continued)											
	SOUTH SAN JOAQUIN DIVISION (Continued)								TEHACHAPI DIVISION	MOJAVE DIVISION		
	Reach 13B		Reach 14A	Reach 14B	Reach 14C	Reach 15A	Reach 16A		Reach 17C	Reach 19	Reach 20A	Reach 20B
	KCWA (Ag.)	KCWA (M&I)	KCWA (Ag.)	KCWA (Ag.)	KCWA (Ag.)	KCWA (Ag.)	KCWA (Ag.)	KCWA (M&I)	KCWA (M&I)	AVEKWA	AVEKWA	PID
	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)
1962	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0
1970	300	10,000	0	0	0	0	0	0	0	0	0	0
71	4,700	10,800	5,300	3,900	0	0	0	2,500	70	0	0	0
72	16,200	11,500	13,100	13,800	7,600	7,200	0	2,700	500	10,800	6,300	1,620
73	17,400	12,200	13,400	20,300	7,100	11,700	0	2,800	500	13,400	8,000	2,940
74	12,400	13,000	9,600	16,700	9,200	13,700	0	3,000	600	16,100	9,500	4,260
75	14,400	13,800	11,300	18,100	9,800	17,400	100	3,200	700	18,800	11,100	5,580
76	18,000	14,500	15,600	20,700	10,700	20,300	200	3,500	800	23,700	13,900	6,900
77	22,300	15,200	20,100	25,200	11,800	22,500	200	3,800	800	26,900	15,800	8,220
78	26,300	16,000	22,900	28,500	12,800	24,200	3,700	4,100	900	30,600	18,100	9,340
79	30,400	16,800	24,800	31,200	13,600	25,700	9,000	4,400	1,000	33,900	19,900	10,260
1980	35,000	17,500	26,700	34,300	14,400	27,400	14,500	4,800	1,100	37,200	21,900	11,180
81	39,900	18,200	29,000	40,800	15,400	29,100	18,100	5,200	1,200	40,300	23,700	11,700
82	44,600	19,000	30,900	45,200	17,500	30,800	22,000	5,700	1,300	43,700	25,700	12,320
83	51,000	19,800	34,300	49,800	21,500	33,200	25,100	6,300	1,400	47,100	27,800	12,940
84	56,000	20,500	36,500	52,200	24,700	35,100	30,100	7,200	1,500	50,500	29,800	13,560
85	61,800	21,200	39,100	57,000	26,600	38,100	32,600	8,200	1,600	54,000	31,800	14,180
86	67,400	22,000	41,200	61,500	28,800	41,200	35,500	9,400	1,700	57,400	33,700	14,800
87	72,900	22,800	43,800	66,300	31,100	44,500	38,700	10,700	1,800	60,800	35,700	15,420
88	78,600	23,500	46,300	70,600	33,500	47,600	41,800	12,300	1,900	64,200	37,800	16,040
89	83,100	24,200	48,300	73,900	34,900	50,000	44,100	13,600	1,900	67,600	39,700	16,660
1990	87,500	25,000	50,300	76,700	36,400	52,100	46,700	15,000	2,000	71,000	41,800	17,300
91	87,500	25,000	50,300	76,700	36,400	52,100	46,700	15,000	2,000	74,400	43,800	17,300
92	87,500	25,000	50,300	76,700	36,400	52,100	46,700	15,000	2,000	74,400	43,800	17,300
93	87,500	25,000	50,300	76,700	36,400	52,100	46,700	15,000	2,000	74,400	43,800	17,300
94	87,500	25,000	50,300	76,700	36,400	52,100	46,700	15,000	2,000	74,400	43,800	17,300
95	87,500	25,000	50,300	76,700	36,400	52,100	46,700	15,000	2,000	74,400	43,800	17,300
96	87,500	25,000	50,300	76,700	36,400	52,100	46,700	15,000	2,000	74,400	43,800	17,300
97	87,500	25,000	50,300	76,700	36,400	52,100	46,700	15,000	2,000	74,400	43,800	17,300
98	87,500	25,000	50,300	76,700	36,400	52,100	46,700	15,000	2,000	74,400	43,800	17,300
99 1/	87,500	25,000	50,300	76,700	36,400	52,100	46,700	15,000	2,000	74,400	43,800	17,300
2000 1/	87,500	25,000	50,300	76,700	36,400	52,100	46,700	15,000	2,000	74,400	43,800	17,300

1/ And each year for the remainder of the project repayment period.

TABLE B-4 (Continu d)

ANNUAL QUANTITIES DELIVERED FROM EACH REACH FOR EACH CONTRACTOR

(in acre-feet)

CALENDAR YEAR	CALIFORNIA AQUEDUCT (Continued)												
	MOJAVE DIVISION (Continued)							SANTA ANA DIVISION					
	Reach 21		Reach 22A	Reach 22C			Reach 24	Reach 25	Reach 26A			Reach 28D	Reach 28F
	AVEKWA	LCID	AVEKWA	MWA	CVCWD	DWA	CLAWA	SGPWA	SGVMWD	MWD-SC	FUTURE[2]	SBVMWD	MWD-SC
	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)	(49)	(50)
1962	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	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	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0
72	1,400	170	1,500	8,400	5,200	8,000	580	1,000	10,600	39,600	4,600	45,541	35,000
73	1,800	290	1,800	10,700	5,800	9,000	870	1,700	11,500	49,900	4,600	47,559	45,000
74	2,200	400	2,200	13,100	6,400	10,000	1,160	2,400	12,300	55,200	4,600	49,806	50,000
75	2,500	520	2,600	15,400	7,000	11,000	1,450	3,100	13,100	68,100	4,600	51,826	62,500
76	3,200	640	3,200	17,800	7,600	12,000	1,740	3,800	14,000	80,900	4,600	53,842	75,000
77	3,700	730	3,600	20,200	8,421	13,000	2,030	4,500	14,800	93,800	4,600	55,860	87,500
78	4,100	920	4,200	22,500	9,242	14,000	2,320	5,200	15,700	106,600	4,600	57,878	100,000
79	4,600	1,040	4,600	24,900	10,063	15,000	2,610	5,900	16,600	119,500	4,600	60,010	112,500
1980	5,100	1,150	5,000	27,200	10,884	17,000	2,900	6,800	17,400	132,300	4,600	61,913	125,000
81	5,500	1,270	5,500	29,600	12,105	19,000	3,190	7,800	18,300	157,600	4,600	64,161	150,000
82	5,900	1,380	6,000	31,900	13,326	21,000	3,480	8,800	19,100	183,000	4,600	64,161	175,000
83	6,400	1,500	6,400	34,300	14,547	23,000	3,770	9,800	19,900	208,300	4,600	64,161	200,000
84	6,900	1,610	6,800	36,700	15,768	25,000	4,060	10,800	20,700	233,700	4,600	64,161	225,000
85	7,300	1,730	7,300	39,000	16,989	27,000	4,350	11,800	21,800	259,300	4,600	64,161	250,000
86	7,800	1,840	7,800	41,400	18,210	29,000	4,640	12,900	23,200	282,300	4,600	66,179	272,500
87	8,300	1,960	8,200	43,700	19,431	31,500	4,930	14,000	24,600	282,900	4,600	72,462	272,500
88	8,700	2,070	8,700	46,000	20,652	34,000	5,220	15,100	26,000	283,500	4,600	78,745	272,500
89	9,200	2,190	9,200	48,500	21,873	36,500	5,510	16,200	27,400	284,000	4,600	84,915	272,500
1990	9,700	2,300	9,600	50,800	23,100	38,100	5,800	17,300	28,800	284,000	4,600	91,198	272,500
91	10,100	2,300	10,100	50,800	23,100	38,100	5,800	17,300	28,800	284,000	4,600	98,000	272,500
92	10,100	2,300	10,100	50,800	23,100	38,100	5,800	17,300	28,800	284,000	4,600	98,000	272,500
93	10,100	2,300	10,100	50,800	23,100	38,100	5,800	17,300	28,800	284,000	4,600	98,000	272,500
94	10,100	2,300	10,100	50,800	23,100	38,100	5,800	17,300	28,800	284,000	4,600	98,000	272,500
95	10,100	2,300	10,100	50,800	23,100	38,100	5,800	17,300	28,800	284,000	4,600	98,000	272,500
96	10,100	2,300	10,100	50,800	23,100	38,100	5,800	17,300	28,800	284,000	4,600	98,000	272,500
97	10,100	2,300	10,100	50,800	23,100	38,100	5,800	17,300	28,800	284,000	4,600	98,000	272,500
98	10,100	2,300	10,100	50,800	23,100	38,100	5,800	17,300	28,800	284,000	4,600	98,000	272,500
99	10,100	2,300	10,100	50,800	23,100	38,100	5,800	17,300	28,800	284,000	4,600	98,000	272,500
2000[1]	10,100	2,300	10,100	50,800	23,100	38,100	5,800	17,300	28,800	284,000	4,600	98,000	272,500

1/ And each year for the remainder of the project repayment period.
2/ Future Contractor, Southern California.

TABLE B-4 (Continued)

ANNUAL QUANTITIES DELIVERED FROM EACH REACH FOR EACH CONTRACTOR

(in acre-feet)

CALENDAR YEAR	CALIFORNIA AQUEDUCT (continued)									
	WEST BRANCH, CALIFORNIA AQUEDUCT			COASTAL BRANCH, CALIFORNIA AQUEDUCT						TOTAL CALIFORNIA AQUEDUCT
	Reach 30			Reach 31A		Reach 33A	Reach 34	Reach 35		
	USCVWA	VCFCD	MWD-SC	DDWD	KCWA (Ag.)	SLOC FC&WCD	SLOC FC&WCD	SLOC FC&WCD	SBC FC&WCD	
	(51)	(52)	(53)	(54)	(55)	(56)	(57)	(58)	(59)	(60)
1962	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0
68	0	0	0	3,700	12,400	0	0	0	0	96,900
69	0	0	0	4,700	25,500	0	0	0	0	152,200
1970	0	0	0	5,700	30,600	0	0	0	0	208,000
71	1,600	0	70,000	6,700	31,200	0	0	0	0	331,100
72	3,700	0	280,000	7,700	31,800	0	0	0	0	810,211
73	5,700	0	360,000	8,700	37,500	0	0	0	0	972,659
74	7,500	0	450,000	9,700	52,600	0	0	0	0	1,133,426
75	9,500	0	525,000	10,700	57,000	0	0	0	0	1,296,276
76	11,400	0	600,000	11,700	61,800	0	0	0	0	1,471,722
77	13,400	0	675,000	12,700	66,000	0	0	0	0	1,648,261
78	15,300	0	750,000	12,700	70,800	0	0	0	0	1,824,300
79	17,700	0	825,000	12,700	75,300	0	0	0	0	1,998,383
1980	20,100	1,000	900,000	12,700	79,400	400	200	400	1,200	2,177,627
81	22,100	2,000	950,000	12,700	83,800	400	200	400	2,300	2,361,926
82	24,600	3,000	1,000,000	12,700	87,700	800	400	800	4,600	2,544,267
83	26,900	4,000	1,050,000	12,700	90,800	1,200	600	1,200	6,900	2,732,018
84	29,100	5,000	1,100,000	12,700	94,500	1,800	900	1,800	10,400	2,917,459
85	30,900	6,000	1,150,000	12,700	97,100	3,000	1,500	3,000	17,300	3,106,710
86	32,900	8,000	1,205,000	12,700	100,100	4,000	2,000	4,000	23,100	3,296,769
87	35,300	10,000	1,305,000	12,700	102,200	5,000	2,500	5,000	28,800	3,493.803
88	37,400	13,000	1,405,000	12,700	103,800	6,200	3,100	6,200	35,800	3,689,327
89	39,300	16,000	1,455,000	12,700	104,700	8,000	4,000	8,000	46,100	3,826,048
1990	41,500	20,000	1,455,000	12,700	105,100	10,000	5,000	10,000	57,700	3,922,098
91	41,500	20,000	1,455,000	12,700	105,100	10,000	5,000	10,000	57,700	3,935,200
92	41,500	20,000	1,455,000	12,700	105,100	10,000	5,000	10,000	57,700	3,935,200
93	41,500	20,000	1,455,000	12,700	105,100	10,000	5,000	10,000	57,700	3,935,200
94	41,500	20,000	1,455,000	12,700	105,100	10,000	5,000	10,000	57,700	3,935,200
95	41,500	20,000	1,455,000	12,700	105,100	10,000	5,000	10,000	57,700	3,935,200
96	41,500	20,000	1,455,000	12,700	105,100	10,000	5,000	10,000	57,700	3,935,200
97	41,500	20,000	1,455,000	12,700	105,100	10,000	5,000	10,000	57,700	3,935,200
98	41,500	20,000	1,455,000	12,700	105,100	10,000	5,000	10,000	57,700	3,935,200
99	41,500	20,000	1,455,000	12,700	105,100	10,000	5,000	10,000	57,700	3,935,200
2000 1/	41,500	20,000	1,455,000	12,700	105,100	10,000	5,000	10,000	57,700	3,935,200

1/ And thereafter for the remainder of the project repayment period.

TABLE B-5

ANNUAL QUANTITIES CONVEYED THROUGH EACH PUMPING AND POWER RECOVERY PLANT

(in acre-feet)

CALENDAR YEAR	NORTH BAY AQUEDUCT										SOUTH BAY AQUEDUCT				
	CALHOUN PUMPING PLANT					CORDELIA PUMPING PLANT					SOUTH BAY PUMPING PLANT				
	Const. water	Operat'l losses	Deliveries: Water supply	Deliveries: Recreation	Total	Const. water	Operat'l losses	Deliveries: Water supply 1/	Deliveries: Recreation	Total 1/	Const. water	Operat'l losses	Deliveries: Water supply	Deliveries: Recreation	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1962	0	0	0	0	0	0	0	0	0	0	9	272	8,906	0	9,187
63	0	0	0	0	0	0	0	0	0	0	71	185	12,645	0	12,901
64	0	0	0	0	0	0	0	0	0	0	171	152	20,911	0	21,234
65	0	0	0	0	0	0	0	0	0	0	93	729	33,944	0	34,766
66	0	0	0	0	0	0	0	0	0	0	120	1,626	54,883	0	56,629
67	0	0	0	0	0	0	0	0	0	0	0	1,230	83,634	0	84,864
68	0	0	0	0	0	7	0	900	0	907	0	1,230	110,500	0	111,730
69	0	0	0	0	0	0	0	1,900	0	1,900	10,000	4,730	112,300	0	127,030
1970	0	0	0	0	0	0	0	2,800	0	2,800	0	4,730	114,200	0	118,930
71	0	0	0	0	0	0	0	3,800	0	3,800	0	4,730	116,200	0	120,930
72	0	0	0	0	0	0	0	4,800	0	4,800	0	4,730	118,300	0	123,030
73	0	0	0	0	0	0	0	5,800	0	5,800	0	4,730	120,400	0	125,130
74	0	0	0	0	0	0	0	6,700	0	6,700	0	4,730	122,400	0	127,130
75	0	0	0	0	0	0	0	7,700	0	7,700	0	4,730	124,500	0	129,230
76	0	0	0	0	0	0	0	8,600	0	8,600	0	4,730	126,500	0	131,230
77	0	0	0	0	0	0	0	9,600	0	9,600	0	4,730	128,600	0	133,330
78	0	0	0	0	0	0	0	10,500	0	10,500	0	4,730	130,700	0	135,430
79	0	0	0	0	0	0	0	11,500	0	11,500	0	4,730	132,700	0	137,430
1980	120	1,400	19,250	0	20,770	0	0	12,500	0	12,500	0	4,730	134,800	0	139,530
81	0	1,400	21,750	0	23,150	0	0	13,750	0	13,750	0	4,730	137,000	0	141,730
82	0	1,400	24,400	0	25,800	0	0	15,000	0	15,000	0	4,730	139,200	0	143,930
83	0	1,400	27,050	0	28,450	0	0	16,250	0	16,250	0	4,730	141,400	0	146,130
84	0	1,400	29,600	0	31,000	0	0	17,500	0	17,500	0	4,730	143,600	0	148,330
85	0	1,400	32,750	0	34,150	0	0	18,750	0	18,750	0	4,730	145,800	0	150,530
86	0	1,400	36,500	0	37,900	0	0	20,000	0	20,000	0	4,730	148,100	0	152,830
87	0	1,400	41,250	0	42,650	0	0	21,250	0	21,250	0	4,730	150,300	0	155,030
88	0	1,400	49,500	0	50,900	0	0	22,500	0	22,500	0	4,730	152,500	0	157,230
89	0	1,400	58,250	0	59,650	0	0	23,750	0	23,750	0	4,730	156,700	0	161,430
1990	0	1,400	62,800	0	64,200	0	0	25,000	0	25,000	0	4,730	160,900	0	165,630
91	0	1,400	62,800	0	64,200	0	0	25,000	0	25,000	0	4,730	166,400	0	171,130
92	0	1,400	62,800	0	64,200	0	0	25,000	0	25,000	0	4,730	171,900	0	176,630
93	0	1,400	62,800	0	64,200	0	0	25,000	0	25,000	0	4,730	177,400	0	182,130
94	0	1,400	62,800	0	64,200	0	0	25,000	0	25,000	0	4,730	182,000	0	186,730
95	0	1,400	62,800	0	64,200	0	0	25,000	0	25,000	0	4,730	184,000	0	188,730
96	0	1,400	62,800	0	64,200	0	0	25,000	0	25,000	0	4,730	186,000	0	190,730
97	0	1,400	62,800	0	64,200	0	0	25,000	0	25,000	0	4,730	188,000	0	192,730
98	0	1,400	62,800	0	64,200	0	0	25,000	0	25,000	0	4,730	188,000	0	192,730
99	0	1,400	62,800	0	64,200	0	0	25,000	0	25,000	0	4,730	188,000	0	192,730
2000 2/	0	1,400	62,800	0	64,200	0	0	25,000	0	25,000	0	4,730	188,000	0	192,730

1/ Between 1968 and 1979 inclusive, annual quantities delivered are nonproject water pumped thru an interim facility.
2/ And thereafter for the remainder of the project repayment period.

TABLE B-5 (Continued)

ANNUAL QUANTITIES CONVEYED
THROUGH EACH PUMPING AND POWER RECOVERY PLANT

(in acre-feet)

CALENDAR YEAR	CALIFORNIA AQUEDUCT														
	NORTH SAN JOAQUIN DIVISION					SAN LUIS DIVISION					SOUTH SAN JOAQUIN DIVISION				
	DELTA PUMPING PLANT					DOS AMIGOS PUMPING PLANT					BUENA VISTA PUMPING PLANT				
	Const. water 2/	Operat'l losses 2/	Deliveries		Total	Const. water	Operat'l losses	Deliveries		Total	Const. water	Operat'l losses	Deliveries		Total
			Water supply	Recreation				Water supply	Recreation				Water supply	Recreation	
	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1962	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	4,000	700	28,207	0	32,907	0	0	0	0	0	0	0	0	0	0
68	333,100	150,230	207,400	0	690,730	10,500	63,800	94,600	0	168,900	0	0	0	0	0
69	656,500	153,730	264,500	0	1,074,730	6,500	63,800	149,700	0	220,000	0	0	0	0	0
1970	224,800	174,542	322,200	0	721,542	6,800	84,612	205,400	0	296,812	6,800	5,712	0	0	12,512
71	159,800	210,860	447,300	9,500	827,460	159,800	120,939	328,300	9,500	618,539	159,800	42,039	83,370	0	285,209
72	192,300	254,530	928,511	29,500	1,404,841	192,300	164,600	807,311	29,500	1,193,711	192,300	85,700	508,911	20,000	806,911
73	234,300	256,830	1,093,059	29,500	1,613,689	234,300	166,900	969,559	29,500	1,400,259	234,300	88,000	636,359	20,000	978,659
74	80,900	256,830	1,255,826	29,500	1,623,056	80,900	166,900	1,130,226	29,500	1,407,526	80,900	88,000	749,926	20,000	938,826
75	0	256,830	1,420,776	29,500	1,707,106	0	166,900	1,292,876	29,500	1,489,276	0	88,000	874,276	20,000	982,276
76	0	256,830	1,598,222	29,500	1,884,552	0	166,900	1,468,222	29,500	1,664,622	0	88,000	1,006,022	20,000	1,114,022
77	0	256,830	1,776,861	29,500	2,063,191	0	166,900	1,644,561	29,500	1,840,961	0	88,000	1,136,461	20,000	1,244,461
78	0	256,830	1,955,000	29,500	2,241,330	0	166,900	1,820,400	29,500	2,016,800	0	88,000	1,267,700	20,000	1,375,700
79	0	256,830	2,131,083	29,500	2,417,413	0	166,900	1,994,383	29,500	2,190,783	0	88,000	1,398,383	20,000	1,506,383
1980	200	259,030	2,312,427	45,500	2,617,157	200	169,100	2,173,427	45,500	2,388,227	0	88,000	1,531,827	20,000	1,639,827
81	0	259,030	2,498,926	45,500	2,803,456	0	169,100	2,357,626	45,500	2,572,226	0	88,000	1,667,226	20,000	1,775,226
82	0	259,030	2,683,467	45,500	2,987,997	0	169,100	2,539,767	45,500	2,754,367	0	88,000	1,800,367	20,000	1,908,367
83	0	259,030	2,873,418	45,500	3,177,948	0	169,100	2,727,418	45,500	2,942,018	0	88,000	1,937,018	20,000	2,045,018
84	0	259,030	3,061,059	45,500	3,365,589	0	169,100	2,912,659	45,500	3,127,259	0	88,000	2,071,059	20,000	2,179,059
85	0	259,030	3,252,510	45,500	3,557,040	0	169,100	3,101,810	45,500	3,316,410	0	88,000	2,205,410	20,000	2,313,410
86	0	259,030	3,444,869	45,500	3,749,399	0	169,100	3,291,669	45,500	3,506,269	0	88,000	2,343,469	20,000	2,451,469
87	0	259,030	3,644,103	45,500	3,948,633	0	169,100	3,488,603	45,500	3,703,203	0	88,000	2,488,203	20,000	2,596,203
88	0	259,030	3,841,827	45,500	4,146,357	0	169,100	3,683,927	45,500	3,898,527	0	88,000	2,633,227	20,000	2,741,227
89	0	259,030	3,982,748	45,500	4,287,278	0	169,100	3,820,448	45,500	4,035,048	0	88,000	2,723,548	20,000	2,831,548
1990	0	259,030	4,082,998	45,500	4,387,528	0	169,100	3,916,398	45,500	4,130,998	0	88,000	2,763,598	20,000	2,871,598
91	0	259,030	4,101,600	45,500	4,406,130	0	169,100	3,929,500	45,500	4,144,100	0	88,000	2,776,700	20,000	2,884,700
92	0	259,030	4,107,100	45,500	4,411,630	0	169,100	3,929,500	45,500	4,144,100	0	88,000	2,776,700	20,000	2,884,700
93	0	259,030	4,112,600	45,500	4,417,130	0	169,100	3,929,500	45,500	4,144,100	0	88,000	2,776,700	20,000	2,884,700
94	0	259,030	4,117,200	45,500	4,421,730	0	169,100	3,929,500	45,500	4,144,100	0	88,000	2,776,700	20,000	2,884,700
95	0	259,030	4,119,200	45,500	4,423,730	0	169,100	3,929,500	45,500	4,144,100	0	88,000	2,776,700	20,000	2,884,700
96	0	259,030	4,121,200	45,500	4,425,730	0	169,100	3,929,500	45,500	4,144,100	0	88,000	2,776,700	20,000	2,884,700
97	0	259,030	4,123,200	45,500	4,427,730	0	169,100	3,929,500	45,500	4,144,100	0	88,000	2,776,700	20,000	2,884,700
98	0	259,030	4,123,200	45,500	4,427,730	0	169,100	3,929,500	45,500	4,144,100	0	88,000	2,776,700	20,000	2,884,700
99	0	259,030	4,123,200	45,500	4,427,730	0	169,100	3,929,500	45,500	4,144,100	0	88,000	2,776,700	20,000	2,884,700
2000 1/	0	259,030	4,123,200	45,500	4,427,730	0	169,100	3,929,500	45,500	4,144,100	0	88,000	2,776,700	20,000	2,884,700

1/ And thereafter for the remainder of the project repayment period.
2/ Includes water allocated to conservation features from the Delta thru San Luis reservoir.

TABLE B-5 (Continued)

TABLE B-5 (Continued)

ANNUAL QUANTITIES CONVEYED THROUGH EACH PUMPING AND POWER RECOVERY PLANT

(in acre-feet)

CALENDAR YEAR	CALIFORNIA AQUEDUCT (Continued)														
	SOUTH SAN JOAQUIN DIVISION (Continued)										TEHACHAPI DIVISION				
	WHEELER RIDGE PUMPING PLANT					WIND GAP PUMPING PLANT					TEHACHAPI PUMPING PLANT				
	Const. water	Operat'l losses	Deliveries		Total	Const. water	Operat'l losses	Deliveries		Total	Const. water	Operat'l losses	Deliveries		Total
			Water supply	Recreation				Water supply	Recreation				Water supply	Recreation	
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)
1962	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1970	2,300	1,980	0	0	4,280	2,000	1,688	0	0	3,688	0	0	0	0	0
71	159,800	30,539	74,170	0	264,509	159,800	29,639	74,170	0	263,609	159,800	24,439	71,670	0	255,909
72	192,300	74,200	474,411	20,000	760,911	192,300	73,300	469,211	20,000	754,811	192,300	68,100	464,511	20,000	744,911
73	234,300	76,500	595,559	20,000	926,359	234,300	75,600	583,859	20,000	913,759	234,300	70,400	581,059	20,000	905,759
74	80,900	76,500	714,426	20,000	891,826	80,900	75,600	700,726	20,000	877,226	80,900	70,400	697,726	20,000	869,026
75	0	76,500	835,076	20,000	931,576	0	75,600	817,676	20,000	913,276	0	70,400	814,376	20,000	904,776
76	0	76,500	959,022	20,000	1,055,522	0	75,600	938,722	20,000	1,034,322	0	70,400	935,022	20,000	1,025,422
77	0	76,500	1,079,361	20,000	1,175,861	0	75,600	1,056,861	20,000	1,152,461	0	70,400	1,052,861	20,000	1,143,261
78	0	76,500	1,203,500	20,000	1,300,000	0	75,600	1,179,300	20,000	1,274,900	0	70,400	1,171,500	20,000	1,261,900
79	0	76,500	1,328,783	20,000	1,425,283	0	75,600	1,303,083	20,000	1,398,683	0	70,400	1,289,683	20,000	1,380,083
1980	0	76,500	1,456,427	20,000	1,552,927	0	75,600	1,429,027	20,000	1,524,627	0	70,400	1,409,727	20,000	1,500,127
81	0	76,500	1,582,026	20,000	1,678,526	0	75,600	1,552,926	20,000	1,648,526	0	70,400	1,529,626	20,000	1,620,026
82	0	76,500	1,706,767	20,000	1,803,267	0	75,600	1,675,967	20,000	1,771,567	0	70,400	1,648,267	20,000	1,738,667
83	0	76,500	1,831,418	20,000	1,927,918	0	75,600	1,798,218	20,000	1,893,818	0	70,400	1,766,818	20,000	1,857,218
84	0	76,500	1,957,659	20,000	2,054,159	0	75,600	1,922,559	20,000	2,018,159	0	70,400	1,885,259	20,000	1,975,659
85	0	76,500	2,082,710	20,000	2,179,210	0	75,600	2,044,610	20,000	2,140,210	0	70,400	2,003,810	20,000	2,094,210
86	0	76,500	2,211,969	20,000	2,308,469	0	75,600	2,170,769	20,000	2,266,369	0	70,400	2,125,869	20,000	2,216,269
87	0	76,500	2,347,003	20,000	2,443,503	0	75,600	2,302,503	20,000	2,398,103	0	70,400	2,253,103	20,000	2,343,503
88	0	76,500	2,482,827	20,000	2,579,327	0	75,600	2,435,227	20,000	2,530,827	0	70,400	2,381,127	20,000	2,471,527
89	0	76,500	2,566,448	20,000	2,662,948	0	75,600	2,516,448	20,000	2,612,048	0	70,400	2,458,748	20,000	2,549,148
1990	0	76,500	2,600,198	20,000	2,696,698	0	75,600	2,548,098	20,000	2,643,698	0	70,400	2,486,398	20,000	2,576,798
91	0	76,500	2,613,300	20,000	2,709,800	0	75,600	2,561,200	20,000	2,656,800	0	70,400	2,499,500	20,000	2,589,900
92	0	76,500	2,613,300	20,000	2,709,800	0	75,600	2,561,200	20,000	2,656,800	0	70,400	2,499,500	20,000	2,589,900
93	0	76,500	2,613,300	20,000	2,709,800	0	75,600	2,561,200	20,000	2,656,800	0	70,400	2,499,500	20,000	2,589,900
94	0	76,500	2,613,300	20,000	2,709,800	0	75,600	2,561,200	20,000	2,656,800	0	70,400	2,499,500	20,000	2,589,900
95	0	76,500	2,613,300	20,000	2,709,800	0	75,600	2,561,200	20,000	2,656,800	0	70,400	2,499,500	20,000	2,589,900
96	0	76,500	2,613,300	20,000	2,709,800	0	75,600	2,561,200	20,000	2,656,800	0	70,400	2,499,500	20,000	2,589,900
97	0	76,500	2,613,300	20,000	2,709,800	0	75,600	2,561,200	20,000	2,656,800	0	70,400	2,499,500	20,000	2,589,900
98	0	76,500	2,613,300	20,000	2,709,800	0	75,600	2,561,200	20,000	2,656,800	0	70,400	2,499,500	20,000	2,589,900
99	0	76,500	2,613,300	20,000	2,709,800	0	75,600	2,561,200	20,000	2,656,800	0	70,400	2,499,500	20,000	2,589,900
2000 1/	0	76,500	2,613,300	20,000	2,709,800	0	75,600	2,561,200	20,000	2,656,800	0	70,400	2,499,500	20,000	2,589,900

1/ And thereafter for the remainder of the project repayment period.

TABLE B-5 (Continued)

ANNUAL QUANTITIES CONVEYED
THROUGH EACH PUMPING AND POWER RECOVERY PLANT

(in acre-feet)

CALENDAR YEAR	CALIFORNIA AQUEDUCT (Continued)															
	MOJAVE DIVISION										SANTA ANA DIVISION					
	COTTONWOOD POWERPLANT					PEARBLOSSOM PUMPING PLANT					DEVIL CANYON POWERPLANT					
	Const. water	Operat'l losses	Deliveries		Total	Const. water	Operat'l losses	Deliveries		Total	Const. water	Operat'l losses	Deliveries		Total
			Water supply	Recreation				Water supply	Recreation				Water supply	Recreation	
	(46)	(47)	(48)	(49)	(50)	(51)	(52)	(53)	(54)	(55)	(56)	(57)	(58)	(59)	(60)
1962	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	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	0	0	0
71	26,900	6,106	0	0	33,006	23,900	3,646	0	0	27,546	0	0	0	0	0
72	141,000	41,800	180,311	15,000	378,111	141,000	28,700	158,521	11,000	339,221	81,300	9,800	135,341	6,000	232,441
73	6,500	41,800	214,859	15,000	278,159	6,500	28,700	186,629	11,000	232,829	6,500	9,800	158,559	6,000	180,859
74	0	41,800	239,626	15,000	296,426	0	28,700	204,966	11,000	244,666	0	9,800	171,906	6,000	187,706
75	0	41,800	279,176	15,000	335,976	0	28,700	238,076	11,000	277,776	0	9,800	200,126	6,000	215,926
76	0	41,800	322,822	15,000	379,622	0	28,700	271,282	11,000	310,982	0	9,800	228,342	6,000	244,142
77	0	41,800	363,661	15,000	420,461	0	28,700	304,711	11,000	344,411	0	9,800	256,560	6,000	272,360
78	0	41,800	405,300	15,000	462,100	0	28,700	338,040	11,000	377,740	0	9,800	284,778	6,000	300,578
79	0	41,800	445,983	15,000	502,783	0	28,700	371,683	11,000	411,383	0	9,800	313,210	6,000	329,010
1980	0	41,800	487,527	15,000	544,327	0	28,700	405,997	11,000	445,697	0	9,800	341,213	6,000	357,013
81	0	41,800	554,326	15,000	611,126	0	28,700	466,356	11,000	506,056	0	9,800	394,661	6,000	410,461
82	0	41,800	619,367	15,000	676,167	0	28,700	524,367	11,000	564,067	0	9,800	445,861	6,000	461,661
83	0	41,800	684,518	15,000	741,318	0	28,700	582,378	11,000	622,078	0	9,800	496,961	6,000	512,761
84	0	41,800	749,659	15,000	806,459	0	28,700	640,489	11,000	680,189	0	9,800	548,161	6,000	563,961
85	0	41,800	815,310	15,000	872,110	0	28,700	699,000	11,000	738,700	0	9,800	599,861	6,000	615,661
86	0	41,800	878,269	15,000	935,069	0	28,700	754,929	11,000	794,629	0	9,800	648,779	6,000	664,579
87	0	41,800	901,003	15,000	957,803	0	28,700	770,623	11,000	810,323	0	9,800	657,062	6,000	672,862
88	0	41,800	923,827	15,000	980,627	0	28,700	786,317	11,000	826,017	0	9,800	665,345	6,000	681,145
89	0	41,800	946,548	15,000	1,003,348	0	28,700	801,998	11,000	841,698	0	9,800	673,415	6,000	689,215
1990	0	41,800	967,898	15,000	1,024,698	0	28,700	816,198	11,000	855,898	0	9,800	681,098	6,000	696,898
91	0	41,800	981,000	15,000	1,037,800	0	28,700	823,000	11,000	862,700	0	9,800	687,900	6,000	703,700
92	0	41,800	981,000	15,000	1,037,800	0	28,700	823,000	11,000	862,700	0	9,800	687,900	6,000	703,700
93	0	41,800	981,000	15,000	1,037,800	0	28,700	823,000	11,000	862,700	0	9,800	687,900	6,000	703,700
94	0	41,800	981,000	15,000	1,037,800	0	28,700	823,000	11,000	862,700	0	9,800	687,900	6,000	703,700
95	0	41,800	981,000	15,000	1,037,800	0	28,700	823,000	11,000	862,700	0	9,800	687,900	6,000	703,700
96	0	41,800	981,000	15,000	1,037,800	0	28,700	823,000	11,000	862,700	0	9,800	687,900	6,000	703,700
97	0	41,800	981,000	15,000	1,037,800	0	28,700	823,000	11,000	862,700	0	9,800	687,900	6,000	703,700
98	0	41,800	981,000	15,000	1,037,800	0	28,700	823,000	11,000	862,700	0	9,800	687,900	6,000	703,700
99	0	41,800	981,000	15,000	1,037,800	0	28,700	823,000	11,000	862,700	0	9,800	687,900	6,000	703,700
2000 1/	0	41,800	981,000	15,000	1,037,800	0	28,700	823,000	11,000	862,700	0	9,800	687,900	6,000	703,700

1/ And thereafter for the remainder of the project repayment period.

TABLE B-5 (Continued)

ANNUAL QUANTITIES CONVEYED

THROUGH EACH PUMPING AND POWER RECOVERY PLANT

(in acre-feet)

CALENDAR YEAR	CALIFORNIA AQUEDUCT (Continued)															
	WEST BRANCH, CALIFORNIA AQUEDUCT															
	OSO PUMPING PLANT					PYRAMID POWERPLANT					CASTAIC POWERPLANT					
	Const. water	Operat'l losses	Deliveries		Total	Const. water	Operat'l losses	Deliveries		Total	Const. water	Operat'l losses	Deliveries		Total	
			Water supply	Recreation				Water supply	Recreation				Water supply	Recreation		
	(61)	(62)	(63)	(64)	(65)	(66)	(67)	(68)	(69)	(70)	(71)	(72)	(73)	(74)	(75)	
1962	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
69	0	0	0	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	0	0	0	
71	132,900	17,500	71,600	0	222,000	132,900	13,700	71,600	0	218,200	116,800	9,400	71,600	0	197,800	
72	51,300	24,700	283,700	5,000	364,700	51,300	20,900	283,700	5,000	360,900	51,300	16,100	283,700	5,000	356,100	
73	227,800	27,000	365,700	5,000	625,500	227,800	23,200	365,700	5,000	621,700	122,800	16,100	365,700	5,000	509,600	
74	80,900	27,000	457,500	5,000	570,400	80,900	23,200	457,500	5,000	566,600	35,300	16,100	457,500	5,000	513,900	
75	0	27,000	534,500	5,000	566,500	0	23,200	534,500	5,000	562,700	0	16,100	534,500	5,000	555,600	
76	0	27,000	611,400	5,000	643,400	0	23,200	611,400	5,000	639,600	0	16,100	611,400	5,000	632,500	
77	0	27,000	688,400	5,000	720,400	0	23,200	688,400	5,000	716,600	0	16,100	688,400	5,000	709,500	
78	0	27,000	765,300	5,000	797,300	0	23,200	765,300	5,000	793,500	0	16,100	765,300	5,000	786,400	
79	0	27,000	842,700	5,000	874,700	0	23,200	842,700	5,000	870,900	0	16,100	842,700	5,000	863,800	
1980	0	27,000	921,100	5,000	953,100	0	23,200	921,100	5,000	949,300	0	16,100	921,100	5,000	942,200	
81	0	27,000	974,100	5,000	1,006,100	0	23,200	974,100	5,000	1,002,300	0	16,100	974,100	5,000	995,200	
82	0	27,000	1,027,600	5,000	1,059,600	0	23,200	1,027,600	5,000	1,055,800	0	16,100	1,027,600	5,000	1,048,700	
83	0	27,000	1,080,900	5,000	1,112,900	0	23,200	1,080,900	5,000	1,109,100	0	16,100	1,080,900	5,000	1,102,000	
84	0	27,000	1,134,100	5,000	1,166,100	0	23,200	1,134,100	5,000	1,162,300	0	16,100	1,134,100	5,000	1,155,200	
85	0	27,000	1,186,900	5,000	1,218,900	0	23,200	1,186,900	5,000	1,215,100	0	16,100	1,186,900	5,000	1,208,000	
86	0	27,000	1,245,900	5,000	1,277,900	0	23,200	1,245,900	5,000	1,274,100	0	16,100	1,245,900	5,000	1,267,000	
87	0	27,000	1,350,300	5,000	1,382,300	0	23,200	1,350,300	5,000	1,378,500	0	16,100	1,350,300	5,000	1,371,400	
88	0	27,000	1,455,400	5,000	1,487,400	0	23,200	1,455,400	5,000	1,483,600	0	16,100	1,455,400	5,000	1,476,500	
89	0	27,000	1,510,300	5,000	1,542,300	0	23,200	1,510,300	5,000	1,538,500	0	16,100	1,510,300	5,000	1,531,400	
1990	0	27,000	1,516,500	5,000	1,548,500	0	23,200	1,516,500	5,000	1,544,700	0	16,100	1,516,500	5,000	1,537,600	
91	0	27,000	1,516,500	5,000	1,548,500	0	23,200	1,516,500	5,000	1,544,700	0	16,100	1,516,500	5,000	1,537,600	
92	0	27,000	1,516,500	5,000	1,548,500	0	23,200	1,516,500	5,000	1,544,700	0	16,100	1,516,500	5,000	1,537,600	
93	0	27,000	1,516,500	5,000	1,548,500	0	23,200	1,516,500	5,000	1,544,700	0	16,100	1,516,500	5,000	1,537,600	
94	0	27,000	1,516,500	5,000	1,548,500	0	23,200	1,516,500	5,000	1,544,700	0	16,100	1,516,500	5,000	1,537,600	
95	0	27,000	1,516,500	5,000	1,548,500	0	23,200	1,516,500	5,000	1,544,700	0	16,100	1,516,500	5,000	1,537,600	
96	0	27,000	1,516,500	5,000	1,548,500	0	23,200	1,516,500	5,000	1,544,700	0	16,100	1,516,500	5,000	1,537,600	
97	0	27,000	1,516,500	5,000	1,548,500	0	23,200	1,516,500	5,000	1,544,700	0	16,100	1,516,500	5,000	1,537,600	
98	0	27,000	1,516,500	5,000	1,548,500	0	23,200	1,516,500	5,000	1,544,700	0	16,100	1,516,500	5,000	1,537,600	
99	0	27,000	1,516,500	5,000	1,548,500	0	23,200	1,516,500	5,000	1,544,700	0	16,100	1,516,500	5,000	1,537,600	
2000 1/	0	27,000	1,516,500	5,000	1,548,500	0	23,200	1,516,500	5,000	1,544,700	0	16,100	1,516,500	5,000	1,537,600	

1/ And thereafter for the remainder of the project repayment period.

TABLE B-5 (Continued)

TABLE B-5 (Continued)

ANNUAL QUANTITIES CONVEYED
THROUGH EACH PUMPING AND POWER RECOVERY PLANT

(in acre-feet)

CALENDAR YEAR	CALIFORNIA AQUEDUCT (Continued)														
	COASTAL BRANCH, CALIFORNIA AQUEDUCT														
	LAS PERILLAS AND BADGER HILL PUMPING PLANTS					DEVIL'S DEN AND SAWTOOTH PUMPING PLANTS					POLONIO PUMPING PLANT AND SAN LUIS OBISPO POWERPLANT				
	Const. water	Operat'l losses	Deliveries		Total	Const. water	Operat'l losses	Deliveries		Total	Const. water	Operat'l losses	Deliveries		Total
			Water supply	Recreation				Water supply	Recreation				Water supply	Recreation	
	(76)	(77)	(78)	(79)	(80)	(81)	(82)	(83)	(84)	(85)	(86)	(87)	(88)	(89)	(90)
1962	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	500	1,400	16,100	0	18,000	0	0	0	0	0	0	0	0	0	0
69	0	1,400	30,200	0	31,600	0	0	0	0	0	0	0	0	0	0
1970	0	1,400	36,300	0	37,700	0	0	0	0	0	0	0	0	0	0
71	0	1,400	37,900	0	39,300	0	0	0	0	0	0	0	0	0	0
72	0	1,400	39,500	0	40,900	0	0	0	0	0	0	0	0	0	0
73	0	1,400	46,200	0	47,600	0	0	0	0	0	0	0	0	0	0
74	0	1,400	62,300	0	63,700	0	0	0	0	0	0	0	0	0	0
75	0	1,400	67,700	0	69,100	0	0	0	0	0	0	0	0	0	0
76	0	1,400	73,500	0	74,900	0	0	0	0	0	0	0	0	0	0
77	0	1,400	78,700	0	80,100	0	0	0	0	0	0	0	0	0	0
78	0	1,400	83,500	0	84,900	0	0	0	0	0	0	0	0	0	0
79	0	1,400	88,000	0	89,400	0	0	0	0	0	0	0	0	0	0
1980	200	3,600	94,300	0	98,100	200	2,200	2,200	0	4,600	200	1,500	2,200	0	3,900
81	0	3,600	99,800	0	103,400	0	2,200	3,300	0	5,500	0	1,500	3,300	0	4,800
82	0	3,600	107,000	0	110,600	0	2,200	6,600	0	8,800	0	1,500	6,600	0	8,100
83	0	3,600	113,400	0	117,000	0	2,200	9,900	0	12,100	0	1,500	9,900	0	11,400
84	0	3,600	122,100	0	125,700	0	2,200	14,900	0	17,100	0	1,500	14,900	0	16,400
85	0	3,600	134,600	0	138,200	0	2,200	24,800	0	27,000	0	1,500	24,800	0	26,300
86	0	3,600	145,900	0	149,500	0	2,200	33,100	0	35,300	0	1,500	33,100	0	34,600
87	0	3,600	156,200	0	159,800	0	2,200	41,300	0	43,500	0	1,500	41,300	0	42,800
88	0	3,600	167,800	0	171,400	0	2,200	51,300	0	53,500	0	1,500	51,300	0	52,800
89	0	3,600	183,500	0	187,100	0	2,200	66,100	0	68,300	0	1,500	66,100	0	67,600
1990	0	3,600	200,500	0	204,100	0	2,200	82,700	0	84,900	0	1,500	82,700	0	84,200
91	0	3,600	200,500	0	204,100	0	2,200	82,700	0	84,900	0	1,500	82,700	0	84,200
92	0	3,600	200,500	0	204,100	0	2,200	82,700	0	84,900	0	1,500	82,700	0	84,200
93	0	3,600	200,500	0	204,100	0	2,200	82,700	0	84,900	0	1,500	82,700	0	84,200
94	0	3,600	200,500	0	204,100	0	2,200	82,700	0	84,900	0	1,500	82,700	0	84,200
95	0	3,600	200,500	0	204,100	0	2,200	82,700	0	84,900	0	1,500	82,700	0	84,200
96	0	3,600	200,500	0	204,100	0	2,200	82,700	0	84,900	0	1,500	82,700	0	84,200
97	0	3,600	200,500	0	204,100	0	2,200	82,700	0	84,900	0	1,500	82,700	0	84,200
98	0	3,600	200,500	0	204,100	0	2,200	82,700	0	84,900	0	1,500	82,700	0	84,200
99	0	3,600	200,500	0	204,100	0	2,200	82,700	0	84,900	0	1,500	82,700	0	84,200
2000 1/	0	3,600	200,500	0	204,100	0	2,200	82,700	0	84,900	0	1,500	82,700	0	84,200

1/ And thereafter for the remainder of the project repayment period.

TABLE B-6

REQUIRED ADVANCE OF FUNDS FOR EXCESS CAPACITY IN THE CALIFORNIA AQUEDUCT AND PERRIS RESERVOIR

(in dollars, unless otherwise noted)

TOTAL REQUIRED ADVANCE OF FUNDS

REACH NUMBER	THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA							
	YEAR REACH BECOMES OPERATIONAL	EXCESS CAPACITY (cfs)	TOTAL REACH CAPACITY (cfs)	RATIO OF EXCESS CAPACITY TO TOTAL CAPACITY (cfs/cfs)	TOTAL REACH COST[1]	TOTAL ADVANCE PAYMENTS FOR EXCESS CAPACITY	TOTAL INCREMENTAL COSTS FOR EXCESS CAPACITY	RECONCILIATION OF ADVANCE PAYMENTS[2]
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
8A	1967	188.00000	8,251.04448	0.02278499	2,444,898	55,707	19,000	36,707
8B	1967	188.00000	8,051.17286	0.02335064	12,298,197	287,171	96,000	191,171
9	1968	188.00000	7,262 53061	0.02588629	10,712,314	277,302	71,000	206,302
10A	1968	188.00000	7,112.06760	0.02643394	11,270,064	297,912	92,000	205,912
11B	1968	188.00000	6,308.33833	0.02980183	11,178,936	333,153	108,000	225,153
12D	1969	188.00000	5,925.09535	0.03172945	15,640,342	496,259	156,000	340,259
12E	1969	188.00000	5,904.34517	0 03184096	10,521,039	335,000	118,000	217,000
13B	1969	188.00000	5,337.87487	0.03522000	17,329,458	610,344	139,000	471,344
14A	1970	188 00000	5,006.41641	0 03755181	48,755,368	1,830,852	559,000	1,271,852
14B	1970	188.00000	4,886.13859	0.03847619	13,227,096	508,928	175,000	333,928
14C	1970	188.00000	4,699.27563	0.04000617	11,026,008	441,108	223,000	218,108
15A	1970	188.00000	4,597.53667	0.04089146	33,899,600	1,383,342	593,000	790,342
16A	1970	188.00000	4,387.20601	0.04285187	62,869,589	2,694,079	995,000	1,699,079
17C	1970	188.00000	4,135.68580	0.04545800	187,299,858	8,514,277	5,769,000	2,745,277
17D	1970	188.00000	4,126.56936	0 04555842	50,748,591	2,312,026	1,438,000	874,026
25	1971	787.00000	1,998.63064	0.39376961	37,049,378	14,588,919	7,034,000	7,554,919

ANNUAL REQUIRED ADVANCE OF FUNDS

REACH NUMBER	ITEM	ESTIMATED COSTS AND ADVANCE PAYMENTS BY CALENDAR YEAR									REACH TOTALS
		1965	1966	1967	1968	1969	1970	1971	1972	1973	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
8A	1. Incremental Costs	1,000	8,000	10,000							19,000
	2. Advance Payments and Reconciliations (-)	2,932	23,456	29,319		(-) 35,707					19,000
	3 Interest Credits[3]					(-) 3,341					(-) 3,341
8B	1. Incremental Costs	3,000	38,000	55,000							96,000
	2. Advance Payments and Reconciliations (-)	8,974	113,672	164,525		(-)191,171					96,000
	3 Interest Credits[3]					(-) 16,909					(-) 16,909
9	1. Incremental Costs	4,000	24,000	35,000	8,000						71,000
	2. Advance Payments and Reconciliations (-)	15,623	93,736	136,698	31,245		(-)206,302				71,000
	3. Interest Credit						(-) 25,181				(-) 25,181
10A	1 Incremental Costs	5,000	30,000	46,000	11,000						92,000
	2. Advance Payments and Reconciliations (-)	16,191	97,145	148,956	35,620		(-)205,912				92,000
	3 Interest Credits[3]						(-) 24,952				(-) 24,952
11B	1. Incremental Costs	7,000	42,000	48,000	11,000						108,000
	2. Advance Payments and Reconciliations (-)	21,593	129,560	148,068	33,932		(-)225,153				108,000
	3 Interest Credits[3]						(-) 28,168				(-) 28,168
12D	1 Incremental Costs	16,000	20,000	15,000	71,000	31,000					156,000
	2. Advance Payments and Reconciliations (-)	50,898	63,623	57,261	225,861	98,616		(-)340,259[4]			156,000
	3. Interest Credits[3]							(-) 43,632[4]			(-) 43,632
12E	1. Incremental Costs	10,000	14,000	14,000	56,000	24,000					118,000
	2. Advance Payments and Reconciliations (-)	28,390	39,746	39,746	158,983	68,135		(-)217,000[4]			118,000
	3. Interest Credits[3]							(-) 27,186[4]			(-) 27,186
13B	1. Incremental Costs	1,000	2,000	14,000	77,000	45,000					139,000
	2. Advance Payments and Reconciliations (-)	4,391	8,782	61,474	338,104	197,593		(-)471,344[4]			139,000
	3 Interest Credits[3]							(-) 48,309[4]			(-) 48,309
14A	1 Incremental Costs	51,000	65,000	39,000	175,000	156,000	73,000				559,000
	2. Advance Payments and Reconciliations (-)	167,037	212,890	127,734	573,165	510,935	239,091		(-)1,271,852		559,000
	3 Interest Credits[3]								(-) 191,309		(-) 191,309
14B	1. Incremental Costs	31,000	14,000	10,000	35,000	78,000	4,000				175,000
	2. Advance Payments and Reconciliations (-)	90,153	40,714	29,082	110,510	226,836	11,633		(-) 333,928		175,000
	3 Interest Credits[3]								(-) 52,233		(-) 52,233
14C	1. Incremental Costs	39,000	18,000	13,000	48,000	100,000	5,000				223,000
	2. Advance Payments and Reconciliations (-)	77,145	35,605	25,715	94,947	197,806	9,890		(-) 218,108		223,000
	3 Interest Credits[3]								(-) 34,715		(-) 34,715
15A	1 Incremental Costs	4,000	10,000	46,000	211,000	209,000	113,000				593,000
	2. Advance Payments and Reconciliations (-)	9,331	23,328	107,308	492,218	487,552	263,605		(-) 790,342		593,000
	3. Interest Credits[3]								(-) 98,512		(-) 98,512
16A	1. Incremental Costs	14,000	12,000	56,000	284,000	431,000	198,000				995,000
	2. Advance Payments and Reconciliations (-)	37,907	32,491	151,627	768,963	1,166,983	536,108		(-)1,699,079		995,000
	3. Interest Credits[3]								(-) 204,795		(-) 204,795
17C	1. Incremental Costs	28,000	253,000	1,145,000	1,870,000	1,827,000	646,000				5,769,000
	2. Advance Payments and Reconciliations (-)	41,324	373,395	1,689,868	2,759,871	2,696,409	953,410		(-)2,745,277		5,769,000
	3. Interest Credits[3]								(-) 391,184		(-) 391,184
17D	1 Incremental Costs	80,000	209,000	482,000	430,000	206,000	31,000				1,438,000
	2. Advance Payments and Reconciliations (-)	128,624	336,032	774,963	691,357	331,208	49,842		(-) 874,026		1,438,000
	3. Interest Credits[3]								(-) 150,857		(-) 150,857
25	1 Incremental Costs	0	68,000	1,270,000	2,000,000	3,000,000	300,000	396,000			7,034,000
	2. Advance Payments and Reconciliations (-)	0	141,036	2,634,053	4,148,114	6,222,172	622,217	821,367[4]		(-)7,554,919	7,034,000
	3. Interest Credits[3]									(-)1,276,443	(-)1,276,443
28F	1 Incremental Costs	0	68,700	1,093,000	4,175,000	1,495,000	1,626,000	1,345,000			9,802,700
	2. Advance Payments and Reconciliations (-)	0	68,700	1,093,000	4,175,000	1,495,000	1,626,000	1,345,000			9,802,700
	3. Interest Credits[3]										-
TOTALS	1. Incremental Costs	294,000	895,700	4,394,000	9,465,000	7,602,000	2,996,000	1,741,000	0	0	27,387,700
	2. Advance Payments and Reconciliations (-)	700,513	1,833,911	7,419,397	14,637,890	13,471,367	3,674,429	1,137,724	(-)7,932,612	(-)7,554,919	27,387,700
	3. Interest Credit					(-)20,250	(-)78,301	(-)119,127	(-)1,123,605	(-)1,276,443	(-)2,617,726
	4 Reapplied Credits[4]							326,403	9,056,217	8,831,363	18,213,983
	5. Required Advance of Funds	700,513	1,833,911	7,419,397	14,637,890	13,451,117	3,596,128	1,345,000	0	0	42,983,956
CURRENT ADJUSTMENTS	6. Advance Payments and Adjustments[5]	0	9,295,981	10,578,143	4,717,587	13,451,117	3,596,128	1,345,000	0	0	42,983,956
	7 Interest Credit[6]				(-)725,010						(-) 725,010
	8. Net Required Advance of Funds	0	9,295,981	10,578,143	3,992,577	13,451,117	3,596,128	1,345,000	0	0	42,258,946

1/ Reach costs for Reaches 8A thru 17D during the period 1952-1965 are compounded to 1965 at the project interest rate, 3.709 percent. Reach costs for Reach 25 during the period 1952-1966 are compounded to 1966 at the project interest rate, 3.709 percent.

2/ Column 5, less Column 6.

3/ Interest credits for reconciliation of advance payments with incremental costs are compounded annually to the year in which credits are applied at 3.5 percent per annum.

4/ Reconciliation of Advance payments with cost allocation under Amendment 2 are to be applied against the Capital Cost Component of the Transportation Charge.

5/ Actual Payments are shown for 1966 and 1967 with the adjusted 1968 value reflecting over and underpayments for prior years without interest.

6/ Interest for over and underpayments reflect the reconciliation provisions of Amendments 2 and 5 of the water supply contract.

TABLE B-6

TABLE B-7

ACTUAL AND PROJECTED CAPITAL COSTS ALLOCATED TO TRANSPORTATION FOR EACH AQUEDUCT REACH

(in dollars)

CALENDAR YEAR	NORTH BAY AQUEDUCT				SOUTH BAY AQUEDUCT						
	Reach 1	Reach 2	Reach 3	Total	Reach 1	Reach 2	Reach 4	Reach 5	Reach 6	Reach 7	Reach 8
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1952	0	0	0	0	97	34	30	70	8	67	72
1953	0	0	0	0	477	166	144	369	38	327	336
1954	0	0	0	0	1,466	508	437	1,189	123	1,005	1,003
1955	0	0	0	0	1,944	674	560	1,568	160	1,293	1,149
1956	0	0	0	0	18,954	6,572	5,137	15,652	1,570	12,063	11,158
1957	13,290	3,391	9,953	26,634	45,255	15,696	12,331	41,867	3,669	28,779	27,500
1958	19,086	4,975	25,847	49,908	193,778	81,322	7,634	27,340	2,219	17,717	17,253
1959	8,418	2,263	19,784	30,465	486,715	146,081	25,066	19,913	596	5,616	6,212
1960	13,503	3,817	9,631	26,951	1,112,959	87,226	72,918	76,145	1,245	11,727	13,022
1961	25,810	7,103	15,412	48,325	3,228,701	400,476	302,066	77,178	2,494	18,627	20,097
1962	4,848	2,538	2,098	9,484	1,437,157	240,276	863,976	33,790	7,085	157,565	179,360
1963	9,255	4,342	4,614	18,211	527,057	67,388	2,004,900	208,555	182,043	1,546,015	919,576
1964	17,977	10,391	49,627	77,995	2,524,526	15,163	179,437	260,700	20,777	1,536,404	2,411,364
1965	23,443	12,149	186,473	222,065	559,499	132,105	109,774	455,112	38,154	350,847	594,498
1966	54,618	25,940	439,061	519,619	515,383	241,285	108,869	1,733,541	19,786	32,129	96,836
1967	325,000	173,000	2,083,000	2,581,000	716,000	32,000	124,000	3,946,000	20,000	11,000	77,000
1968	271,000	134,000	96,000	501,000	223,000	19,000	49,000	3,506,000	11,000	3,000	87,000
1969	156,000	97,000	69,000	322,000	6,000	8,000	41,000	410,000	8,000	1,000	21,000
1970	122,000	77,000	104,000	303,000	4,000	3,000	11,000	30,000	0	0	16,000
1971	94,000	87,000	56,000	237,000	10,000	2,000	13,000	14,000	1,000	5,000	11,000
1972	33,000	16,000	1,000	50,000	51,000	14,000	65,000	0	3,000	23,000	52,000
1973	29,000	15,000	0	44,000	84,000	23,000	105,000	0	6,000	37,000	85,000
1974	30,000	15,000	0	45,000	1,000	0	1,000	0	0	0	1,000
1975	55,000	140,000	0	195,000	1,000	0	1,000	0	0	0	1,000
1976	231,000	302,000	63,000	596,000	0	0	0	0	0	0	0
1977	507,000	413,000	195,000	1,115,000	0	0	0	0	0	0	0
1978	1,051,000	788,000	423,000	2,262,000	0	0	0	0	0	0	0
1979	2,307,000	2,048,000	1,220,000	5,575,000	0	0	0	0	0	0	0
1980	134,000	112,000	64,000	310,000	0	0	0	0	0	0	0
1981	23,000	26,000	0	49,000	0	0	0	0	0	0	0
1982	13,000	15,000	0	28,000	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0
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	5,571,248	4,534,909	5,136,500	15,242,657	11,749,968	1,535,972	4,103,279	10,858,989	328,967	3,800,181	4,640,436

TABLE B-7 (Continued)

ACTUAL AND PROJECTED CAPITAL COSTS ALLOCATED TO TRANSPORTATION FOR EACH AQUEDUCT REACH

(in dollars)

CALENDAR YEAR	SOUTH BAY AQUEDUCT (Continued)		CALIFORNIA AQUEDUCT									
			NORTH SAN JOAQUIN DIVISION				SAN LUIS DIVISION					
	Reach 9	Total	Reach 1	Reach 2A	Reach 2B	Subtotal	Reach 3	Reach 4	Reach 5	Reach 6	Reach 7	Subtotal
	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
1952	132	510	4,758	3,931	1,777	10,466	1,571	3,641	4,131	1,050	1,295	11,688
1953	590	2,447	12,521	10,293	4,701	27,515	4,453	10,409	11,380	2,945	3,631	32,818
1954	1,790	7,521	16,389	12,427	6,139	34,955	5,574	12,875	14,174	3,655	4,509	40,787
1955	2,341	9,689	8,770	4,491	3,272	16,533	2,736	6,215	7,048	1,793	2,210	20,002
1956	27,512	98,618	6,754	2,614	1,205	10,573	1,261	2,431	2,759	701	864	8,016
1957	563,668	738,765	9,112	3,161	1,456	13,729	1,538	2,940	3,336	848	1,046	9,708
1958	560,343	907,606	25,077	21,086	9,710	55,873	12,331	27,029	30,849	7,737	9,885	87,831
1959	135,036	825,235	150,275	121,420	54,571	326,266	28,522	61,452	70,101	17,600	22,496	200,171
1960	379,018	1,754,260	185,257	146,966	68,784	401,007	32,026	63,425	67,135	17,358	26,827	206,771
1961	6,417-	4,043,222	211,672	162,913	51,349	425,934	128,095	373,971	177,573	24,479	34,577	738,695
1962	163,081	3,082,290	417,225	597,436	166,038	1,180,699	146,441	471,335	231,682	18,645	20,083	888,186
1963	119,817	5,575,351	3,065,623	1,832,487	761,174	5,659,284	2,334,283	3,378,113	1,312,737	87,171	101,887	7,214,191
1964	3,096,776	10,045,147	5,544,818	2,428,568	922,771	8,896,157	2,500,554	4,928,116	2,371,205	570,978	1,115,529	11,486,382
1965	1,717,366	3,957,355	7,281,683	7,627,259	4,203,412	19,112,354	2,898,003	5,707,436	2,835,258	687,584	1,344,794	13,473,075
1966	821,272	3,559,101	11,456,538	15,766,742	7,267,228	34,490,508	3,703,516	7,990,466	3,286,334	1,542,070	2,482,713	19,005,099
1967	205,000	5,131,000	12,422,000	14,304,000	8,903,000	35,629,000	943,000	3,684,000	5,841,000	1,600,000	3,973,000	16,041,000
1968	212,000	1,110,000	7,023,000	1,375,000	695,000	9,093,000	129,000	266,000	2,811,000	294,000	2,057,000	5,557,000
1969	152,000	647,000	3,439,000	533,000	173,000	4,145,000	123,000	253,000	460,000	146,000	240,000	1,222,000
1970	122,000	186,000	1,317,000	228,000	44,000	1,589,000	37,000	76,000	119,000	43,000	57,000	332,000
1971	17,000	73,000	2,472,000	221,000	42,000	2,735,000	35,000	73,000	114,000	41,000	54,000	317,000
1972	85,000	293,000	2,639,000	10,000	3,000	2,652,000	3,000	5,000	10,000	3,000	4,000	25,000
1973	138,000	478,000	1,620,000	1,000	0	1,621,000	0	0	1,000	0	0	1,000
1974	3,000	6,000	21,000	0	0	21,000	0	0	0	0	0	0
1975	3,000	6,000	22,000	0	0	22,000	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	306,000	480,000	439,000	109,000	233,000	1,567,000
1983	0	0	0	0	0	0	626,000	982,000	897,000	224,000	476,000	3,205,000
1984	0	0	0	0	0	0	1,279,000	2,007,000	1,835,000	459,000	975,000	6,555,000
1985	0	0	0	0	0	0	982,000	1,541,000	1,409,000	352,000	749,000	5,033,000
1986	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	8,519,325	45,537,117	59,371,472	45,413,794	23,383,587	128,168,853	16,263,904	32,406,854	24,361,702	6,255,614	13,990,346	93,278,420

TABLE B-7 (Continued)

ACTUAL AND PROJECTED CAPITAL COSTS ALLOCATED TO TRANSPORTATION FOR EACH AQUEDUCT REACH

(in dollars)

CALENDAR YEAR	CALIFORNIA AQUEDUCT (Continued)											
	SOUTH SAN JOAQUIN DIVISION											
	Reach 8A	Reach 8B	Reach 9	Reach 10A	Reach 11B	Reach 12D	Reach 12E	Reach 13B	Reach 14A	Reach 14B	Reach 14C	Reach 15A
	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)
1952	121	618	1,176	746	1,365	2,171	1,077	1,781	521	177	185	1,891
1953	447	2,295	4,402	2,729	5,067	8,058	3,998	6,609	1,907	647	679	7,034
1954	573	2,941	5,192	3,939	6,487	10,318	5,121	8,462	2,754	933	979	8,842
1955	263	1,347	2,095	2,086	2,970	4,725	2,345	3,875	1,458	494	520	3,944
1956	555	2,844	4,417	4,417	6,273	9,979	4,953	8,185	3,218	1,046	1,098	8,326
1957	1,334	6,850	10,640	10,640	15,113	24,041	11,932	19,717	9,432	2,522	2,647	20,058
1958	2,990	15,368	23,869	23,869	45,111	71,755	35,613	58,852	33,959	10,881	11,424	55,847
1959	3,269	16,804	25,796	25,797	65,701	104,507	51,868	85,714	58,640	19,878	20,872	76,060
1960	7,665	39,399	38,430	59,345	54,627	86,891	43,126	71,264	63,708	19,196	20,158	63,742
1961	12,594	64,723	39,540	76,051	78,758	125,441	62,522	102,947	142,125	41,833	43,559	95,229
1962	27,612	141,910	67,421	60,342	67,980	108,639	54,736	89,308	150,201	44,864	45,958	77,032
1963	29,504	151,634	95,594	67,880	97,586	155,995	77,119	126,919	290,623	89,061	91,773	195,691
1964	18,046	92,754	148,535	144,711	215,218	343,311	120,011	199,302	1,120,818	560,504	501,294	654,550
1965	95,918	492,974	589,095	575,409	1,354,924	1,597,225	520,493	498,026	3,160,038	1,756,035	1,534,969	488,411
1966	902,629	4,621,819	2,757,308	2,812,863	4,173,584	771,704	428,478	518,887	5,045,821	1,116,966	893,506	1,052,576
1967	1,030,000	5,081,000	4,734,000	5,096,000	3,091,000	1,806,000	1,343,000	1,763,000	3,285,000	889,000	673,000	2,436,000
1968	134,000	551,000	1,280,000	1,362,000	889,000	5,971,000	4,496,000	7,536,000	12,777,000	2,504,000	2,012,000	9,318,000
1969	38,000	232,000	270,000	289,000	246,000	2,755,000	2,076,000	4,565,000	11,695,000	4,685,000	3,858,000	9,389,000
1970	21,000	136,000	129,000	131,000	150,000	453,000	333,000	346,000	6,090,000	610,000	511,000	5,446,000
1971	13,000	63,000	59,000	59,000	66,000	331,000	244,000	328,000	2,629,000	211,000	182,000	2,670,000
1972	5,000	16,000	3,000	3,000	31,000	113,000	81,000	120,000	113,000	63,000	54,000	29,000
1973	5,000	15,000	0	0	29,000	51,000	35,000	45,000	27,000	19,000	16,000	7,000
1974	0	0	0	0	0	1,000	1,000	1,000	1,000	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	2,349,520	11,748,280	10,288,510	10,810,824	10,692,764	14,905,760	10,032,392	16,543,848	46,702,223	12,646,037	10,475,621	32,104,233

TABLE B-7 (Continued)

TABLE B-7 (Continued)
ACTUAL AND PROJECTED CAPITAL COSTS
ALLOCATED TO TRANSPORTATION FOR EACH AQUEDUCT REACH

(in dollars)

CALENDAR YEAR	CALIFORNIA AQUEDUCT (Continued)											
	SOUTH SAN JOAQUIN DIVISION		TEHACHAPI DIVISION			MOJAVE DIVISION						
	Reach 16A	Subtotal	Reach 17C	Reach 17D	Subtotal	Reach 18A	Reach 19	Reach 20A	Reach 20B	Reach 21	Reach 22A
	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)
1952	4,595	16,424	9,340	4,334	13,674	4,890	1,817	1,977	2,151	6,920	75
1953	17,084	60,956	30,517	14,165	44,682	16,686	6,199	6,748	7,340	23,612	286
1954	21,516	78,057	52,980	24,590	77,570	18,960	7,046	7,670	8,342	26,837	447
1955	9,622	35,744	32,891	15,264	48,155	7,524	2,795	3,044	3,311	10,653	247
1956	20,319	75,630	36,267	16,833	53,100	7,223	2,684	2,920	3,176	10,217	259
1957	48,946	183,872	85,413	39,643	125,056	18,511	6,878	7,671	7,952	26,187	662
1958	150,975	540,513	161,219	74,825	236,044	38,443	14,285	15,544	16,905	54,389	1,375
1959	225,111	780,017	129,895	60,256	190,151	41,002	23,380	20,432	22,221	60,683	1,536
1960	209,662	777,213	136,664	62,989	199,653	36,635	29,361	59,906	18,738	115,752	3,523
1961	291,229	1,176,551	358,357	134,730	493,087	40,130	43,543	95,223	91,848	306,583	21,673
1962	265,656	1,201,659	374,461	116,709	491,170	65,759	41,352	34,949	37,578	107,296	9,985
1963	696,006	2,165,385	829,453	207,329	1,036,782	33,974	79,178	220,699	240,086	749,555	116,550
1964	1,989,218	6,108,272	2,293,451	232,884	2,526,335	336,078	214,855	102,762	111,831	261,105	93,988
1965	1,219,077	13,882,594	3,195,941	1,801,190	4,997,131	138,822	396,823	152,646	166,510	129,002	80,144
1966	2,874,862	27,971,003	7,709,517	9,833,153	17,542,670	357,850	1,920,606	537,574	646,372	285,270	169,351
1967	3,035,000	34,262,000	25,333,000	14,479,000	39,812,000	1,624,000	3,429,000	993,000	2,334,000	844,000	961,000
1968	13,194,000	62,024,000	40,850,000	13,120,000	53,970,000	2,050,000	4,670,000	6,110,000	4,944,000	3,492,000	2,881,000
1969	19,885,000	59,983,000	40,254,000	6,312,000	46,566,000	3,819,000	3,634,000	5,642,000	5,266,000	5,392,000	3,690,000
1970	9,809,000	24,205,000	15,627,000	1,170,000	16,797,000	1,390,000	953,000	793,000	1,049,000	1,731,000	1,258,000
1971	5,514,000	12,369,000	15,692,000	144,000	15,836,000	725,000	509,000	538,000	421,000	439,000	339,000
1972	105,000	736,000	14,057,000	41,000	14,098,000	14,000	81,000	60,000	61,000	32,000	27,000
1973	37,000	286,000	1,604,000	12,000	1,616,000	13,000	70,000	50,000	52,000	27,000	22,000
1974	1,000	5,000	821,000	0	821,000	2,000	14,000	10,000	10,000	6,000	5,000
1975	0	0	2,103,000	0	2,103,000	0	1,000	1,000	1,000	0	0
1976	0	0	3,965,000	0	3,965,000	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0
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	59,623,878	248,923,490	175,742,366	47,916,894	223,659,260	10,799,487	16,351,802	15,466,765	15,522,361	14,137,061	9,683,101

TABLE B-7 (Continued)
ACTUAL AND PROJECTED CAPITAL COSTS
ALLOCATED TO TRANSPORTATION FOR EACH AQUEDUCT REACH

(in dollars)

CALENDAR YEAR	CALIFORNIA AQUEDUCT (Continued)											
	MOJAVE DIVISION (Continued)				SANTA ANA DIVISION						WEST BRANCH	
	Reach 22C	Reach 23A	Reach 24	Subtotal	Reach 25	Reach 26A	Reach 28D	Reach 28E	Reach 28F	Subtotal	Reach 29A	Reach 29B
	(47)	(48)	(49)	(50)	(51)	(52)	(53)	(54)	(55)	(56)	(57)	(58)
1952	2,432	2,422	2,884	25,568	3,985	6,695	4,211	6,427	3,542	24,860	3,063	153
1953	8,159	8,369	9,842	87,241	13,597	22,842	14,358	21,914	12,112	84,823	9,652	583
1954	8,722	9,946	11,186	99,156	15,454	25,963	16,278	24,843	13,873	96,411	7,750	909
1955	3,139	4,201	4,440	39,354	6,133	10,304	6,436	9,822	5,569	38,264	1,189	506
1956	2,916	4,103	4,259	37,757	5,884	9,885	6,166	9,412	5,360	36,707	584	524
1957	7,471	10,517	10,916	96,765	15,079	25,334	15,803	24,122	13,739	94,077	1,497	1,345
1958	15,517	21,841	22,669	200,968	31,318	52,617	32,824	50,096	28,533	195,388	3,113	2,793
1959	17,867	25,003	51,459	263,583	40,055	59,034	37,841	57,751	42,599	237,280	5,687	5,106
1960	48,664	33,715	90,616	436,910	69,205	99,603	69,137	105,516	70,051	413,512	12,194	10,943
1961	192,557	53,785	196,571	1,041,913	149,813	215,845	159,336	243,313	138,979	907,286	17,148	12,440
1962	181,791	26,251	106,518	611,479	55,149	106,879	61,735	94,752	64,638	383,153	43,062	28,634
1963	336,806	86,673	485,738	2,349,259	286,165	446,916	309,681	473,393	316,639	1,832,794	78,079	51,012
1964	230,004	34,209	324,903	1,709,735	100,482	283,180	88,802	135,938	149,169	757,571	170,933	85,253
1965	772,016	73,585	659,058	2,768,606	317,833	229,626	96,200	146,820	274,838	1,065,317	398,396	129,690
1966	1,954,239	155,341	1,030,558	7,057,161	425,997	354,624	134,871	349,377	661,108	1,925,977	387,669	126,687
1967	4,360,000	155,000	2,873,000	17,573,000	1,399,000	1,557,000	257,000	419,000	984,000	4,616,000	2,000,000	1,603,000
1968	6,218,000	439,000	10,472,000	41,276,000	7,046,000	4,849,000	574,000	520,000	1,690,000	14,679,000	4,926,000	4,314,000
1969	25,177,000	3,735,000	15,292,000	71,647,000	8,659,000	9,635,000	8,280,000	2,134,000	12,222,000	40,930,000	6,677,000	6,892,000
1970	19,291,000	4,613,000	7,766,000	38,844,000	7,843,000	7,572,000	12,896,000	19,610,000	13,676,000	61,597,000	3,619,000	800,000
1971	5,852,000	590,000	2,736,000	12,149,000	2,290,000	3,724,000	769,000	12,404,000	10,677,000	29,864,000	2,294,000	57,000
1972	1,417,000	25,000	1,061,000	2,778,000	17,000	860,000	46,000	86,000	1,177,000	2,186,000	413,000	19,000
1973	169,000	21,000	10,000	434,000	16,000	9,000	39,000	74,000	96,000	234,000	8,000	17,000
1974	34,000	5,000	2,000	88,000	3,000	2,000	8,000	15,000	2,000	30,000	0	3,000
1975	2,000	0	0	5,000	0	0	0	1,000	0	1,000	0	0
1976	0	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	66,302,300	10,132,961	43,223,617	201,619,455	28,809,149	30,157,347	23,922,679	37,016,496	42,324,749	162,230,420	21,077,016	14,161,578

TABLE B-7 (Continued)

ACTUAL AND PROJECTED CAPITAL COSTS
ALLOCATED TO TRANSPORTATION FOR EACH AQUEDUCT REACH

(in dollars)

CALENDAR YEAR	CALIFORNIA AQUEDUCT (Continued)											
	WEST BRANCH (Continued)					COASTAL BRANCH					Total	GRAND TOTAL
	Reach 29C	Reach 29D	Reach 29E	Reach 30	Subtotal	Reach 31A	Reach 33A	Reach 34	Reach 35	Subtotal		
	(59)	(60)	(61)	(62)	(63)	(64)	(65)	(66)	(67)	(68)	(69)	(70)
1952	542	476	844	1,683	6,761	0	0	0	0	0	109,441	109,951
1953	2,066	1,817	3,216	5,745	23,079	0	0	0	0	0	361,114	363,561
1954	3,223	2,833	5,017	6,539	26,271	0	0	0	0	0	453,207	460,728
1955	1,791	1,575	2,788	2,601	10,450	0	0	0	0	0	208,502	218,191
1956	1,859	1,633	2,893	2,484	9,977	0	0	0	0	0	231,760	330,378
1957	4,766	4,189	7,415	6,367	25,579	0	0	0	0	0	548,786	1,314,185
1958	9,895	8,700	15,402	13,222	53,125	0	0	0	0	0	1,369,742	2,327,256
1959	18,086	15,898	28,149	36,957	109,883	13,515	22,522	3,559	3,559	43,155	2,150,506	3,006,206
1960	38,769	34,078	60,342	64,698	221,024	37,074	65,605	8,563	12,027	123,269	2,779,359	4,560,570
1961	49,937	37,232	74,995	112,957	304,709	15,135	27,471	2,085	5,178	49,869	5,138,044	9,229,591
1962	121,739	84,452	180,542	223,891	682,320	11,774	20,148	945	2,512	35,379	5,474,045	8,565,819
1963	223,585	151,723	331,994	209,443	1,045,836	24,494	34,721	2,021	5,472	67,208	21,370,739	26,964,301
1964	400,792	255,219	545,419	793,153	2,290,769	307,140	49,660	3,108	8,236	368,144	34,143,365	44,266,507
1965	791,350	360,215	1,102,024	2,728,352	5,510,027	706,767	57,829	3,493	8,785	776,874	61,585,978	65,765,398
1966	1,347,574	292,414	4,631,941	9,762,828	16,549,113	2,360,879	70,353	3,817	10,107	2,445,156	126,986,687	131,065,407
1967	4,811,000	1,276,000	25,371,000	20,002,000	55,063,000	7,592,000	132,000	9,000	28,000	7,761,000	210,757,000	218,469,000
1968	19,011,000	1,733,000	29,098,000	20,168,000	79,250,000	1,037,000	130,000	10,000	29,000	1,206,000	267,055,000	271,666,000
1969	20,422,000	8,994,000	30,514,000	22,540,000	96,039,000	451,000	87,000	4,000	13,000	555,000	321,087,000	322,056,000
1970	4,165,000	8,376,000	11,605,000	17,629,000	46,194,000	315,000	83,000	4,000	12,000	414,000	189,972,000	190,461,000
1971	1,232,000	8,725,000	122,000	1,900,000	14,330,000	565,000	123,000	5,000	15,000	708,000	88,308,000	88,618,000
1972	37,000	2,600,000	41,000	960,000	3,670,000	1,298,000	399,000	4,000	14,000	1,715,000	27,860,000	28,203,000
1973	32,000	1,381,000	35,000	1,303,000	2,776,000	23,000	541,000	8,000	10,000	582,000	7,550,000	8,072,000
1974	6,000	599,000	7,000	311,000	926,000	0	894,000	24,000	69,000	987,000	2,878,000	2,929,000
1975	0	0	0	0	0	0	2,444,000	84,000	361,000	2,889,000	5,020,000	5,221,000
1976	0	0	0	0	0	0	8,208,000	291,000	709,000	9,208,000	13,173,000	13,769,000
1977	0	0	0	0	0	0	12,592,000	936,000	2,305,000	15,833,000	15,833,000	16,948,000
1978	0	0	0	0	0	0	7,979,000	1,676,000	5,254,000	14,909,000	14,909,000	17,171,000
1979	0	0	0	0	0	0	6,262,000	1,100,000	4,509,000	11,871,000	11,871,000	17,446,000
1980	0	0	0	0	0	0	1,474,000	109,000	707,000	2,290,000	2,290,000	2,600,000
1981	0	0	0	0	0	0	60,000	53,000	243,000	356,000	356,000	405,000
1982	0	0	0	0	0	0	0	0	0	0	1,567,000	1,595,000
1983	0	0	0	0	0	0	0	0	0	0	3,205,000	3,205,000
1984	0	0	0	0	0	0	0	0	0	0	6,555,000	6,555,000
1985	0	0	0	0	0	0	0	0	0	0	5,033,000	5,033,000
1986	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	52,731,974	34,936,454	103,825,981	98,383,920	325,116,923	14,758,278	41,756,309	4,344,591	14,333,876	75,193,054	1,458,190,275	1,518,970,049

TABLE B-8

DIRECT ANNUAL OPERATING COSTS[1/] OF PUMPING AND POWER RECOVERY PLANTS

(in dollars)

CALENDAR YEAR	NORTH BAY AQUEDUCT		SOUTH BAY AQUEDUCT	CALIFORNIA AQUEDUCT					
	Reach 1	Reach 3	Reach 1	Reach 1	Reach 4	Reach 14A	Reach 15A	Reach 16A	Reach 17C
	Calhoun Pumping Plant	Cordelia Pumping Plant	South Bay Pumping Plant[2/]	Delta Pumping Plant	Dos Amigos Pumping Plant	Buena Vista Pumping Plant	Wheeler Ridge Pumping Plant	Wind Gap Pumping Plant	Tehachapi Pumping Plant
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1961	0	0	0	0	0	0	0	0	0
62	0	0	39,891	0	0	0	0	0	0
63	0	0	61,299	0	0	0	0	0	0
64	0	0	78,904	0	0	0	0	0	0
65	0	0	152,344	0	0	0	0	0	0
66	0	0	206,672	0	0	0	0	0	0
67	0	0	312,000	116,000	0	0	0	0	0
68	0	14,000	535,000	909,000	250,000	0	0	0	0
69	0	14,000	583,000	1,212,000	316,000	0	0	0	0
1970	0	15,000	585,000	1,201,000	464,000	48,000	41,000	48,000	0
71	0	18,000	641,000	1,185,000	823,000	443,000	403,000	794,000	2,734,000
72	0	19,000	512,000	1,229,000	936,000	868,000	881,000	1,801,000	6,578,000
73	0	20,000	518,000	1,565,000	1,068,000	1,021,000	1,049,000	2,161,000	7,895,000
74	0	31,000	637,000	2,029,000	1,245,000	1,017,000	1,060,000	2,131,000	7,698,000
75	0	34,000	639,000	1,761,000	1,297,000	1,031,000	1,105,000	2,223,000	7,801,000
76	0	36,000	646,000	1,524,000	1,426,000	1,131,000	1,198,000	2,455,000	8,555,000
77	0	37,000	624,000	1,552,000	1,523,000	1,257,000	1,343,000	2,764,000	9,664,000
78	0	36,000	584,000	1,839,000	1,569,000	1,383,000	1,507,000	3,115,000	10,718,000
79	0	38,000	575,000	1,905,000	1,667,000	1,549,000	1,691,000	3,534,000	11,823,000
1980	9,000	51,000	547,000	2,209,000	1,723,000	1,631,000	1,731,000	3,679,000	12,502,000
81	10,000	52,000	535,000	2,353,000	1,800,000	1,743,000	1,847,000	3,927,000	13,486,000
82	10,000	54,000	522,000	2,398,000	1,864,000	1,828,000	1,923,000	4,114,000	14,214,000
83	10,000	55,000	500,000	2,516,000	1,901,000	1,874,000	2,003,000	4,230,000	14,644,000
84	9,000	55,000	468,000	2,410,000	1,878,000	1,895,000	2,006,000	4,256,000	14,796,000
85	9,000	57,000	471,000	2,631,000	1,986,000	2,014,000	2,131,000	4,521,000	15,785,000
86	10,000	61,000	471,000	3,389,000	2,092,000	2,151,000	2,267,000	4,834,000	16,995,000
87	10,000	61,000	459,000	2,792,000	2,140,000	2,216,000	2,337,000	5,002,000	17,679,000
88	11,000	61,000	447,000	2,673,000	2,199,000	2,316,000	2,438,000	5,213,000	18,507,000
89	12,000	64,000	454,000	2,866,000	2,185,000	2,389,000	2,522,000	5,391,000	19,171,000
1990	12,000	65,000	461,000	2,976,000	2,295,000	2,406,000	2,533,000	5,387,000	19,264,000
91	12,000	65,000	470,000	2,920,000	2,284,000	2,398,000	2,514,000	5,395,000	19,214,000
92	12,000	65,000	472,000	2,920,000	2,284,000	2,398,000	2,514,000	5,395,000	19,214,000
93	12,000	65,000	476,000	2,921,000	2,284,000	2,398,000	2,514,000	5,395,000	19,214,000
94	12,000	65,000	480,000	2,923,000	2,284,000	2,398,000	2,514,000	5,395,000	19,214,000
95	12,000	65,000	481,000	2,923,000	2,284,000	2,398,000	2,514,000	5,395,000	19,214,000
96	12,000	65,000	483,000	2,923,000	2,284,000	2,398,000	2,514,000	5,395,000	19,214,000
97	12,000	65,000	484,000	2,923,000	2,284,000	2,398,000	2,514,000	5,395,000	19,214,000
98	12,000	65,000	484,000	2,923,000	2,284,000	2,398,000	2,514,000	5,395,000	19,214,000
99	12,000	65,000	484,000	2,923,000	2,284,000	2,398,000	2,514,000	5,395,000	19,214,000
2000[3/]	12,000	65,000	484,000	2,923,000	2,284,000	2,398,000	2,514,000	5,395,000	19,214,000

Footnotes on Sheet 2.

TABLE B-8 (Continued)

DIRECT ANNUAL OPERATING COSTS[1/] OF PUMPING AND POWER RECOVERY PLANTS

(in dollars)

CALENDAR YEAR	CALIFORNIA AQUEDUCT (Continued)								GRAND TOTAL
	Reach 18A	Reach 22C	Reach 26A	Reach 29A	Reach 29C	Reach 29E	Reach 31A	Reach 33A	
	Cottonwood Powerplant	Pearblossom Pumping Plant	Devil Canyon Powerplant	Oso Pumping Plant	Pyramid Powerplant	Castaic Powerplant	Las Perillas and Badger Hill Pumping Plants	Devil's Den, Sawtooth and Polonio PP's and San Luis Obispo Pwp	
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1961	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	42,920
63	0	0	0	0	0	0	0	0	64,361
64	0	0	0	0	0	0	0	0	81,839
65	0	0	0	0	0	0	0	0	161,833
66	0	0	0	0	0	0	0	0	212,700
67	0	0	0	0	0	0	0	0	428,000
68	0	0	0	0	0	0	63,000	0	1,771,000
69	0	0	0	0	0	0	92,000	0	2,217,000
1970	0	0	0	0	0	0	96,000	0	2,498,000
71	3,000	126,000	0	314,000	- 799,000	- 649,000	111,000	0	6,147,000
72	- 35,000	1,057,000	-1,137,000	407,000	- 971,000	-1,016,000	100,000	0	11,229,000
73	- 27,000	678,000	- 769,000	672,000	-1,656,000	-1,363,000	110,000	0	12,942,000
74	- 43,000	773,000	-1,148,000	609,000	-1,918,000	-2,313,000	167,000	0	11,975,000
75	- 10,000	882,000	- 996,000	570,000	-1,759,000	-1,900,000	175,000	0	12,853,000
76	- 11,000	927,000	-1,094,000	635,000	-1,955,000	-2,069,000	191,000	0	13,595,000
77	- 5,000	939,000	-1,211,000	707,000	-2,171,000	-2,240,000	188,000	0	14,971,000
78	- 32,000	1,040,000	-1,311,000	779,000	-2,340,000	-2,439,000	184,000	0	16,632,000
79	- 53,000	1,207,000	-1,507,000	831,000	-2,630,000	-2,730,000	187,000	0	18,087,000
1980	-110,000	1,189,000	-1,510,000	805,000	-2,477,000	-2,804,000	194,000	145,000	19,514,000
81	-117,000	1,347,000	-1,771,000	943,000	-2,631,000	-2,998,000	195,000	142,000	20,863,000
82	-155,000	1,515,000	-1,906,000	993,000	-2,655,000	-2,966,000	195,000	148,000	22,096,000
83	-154,000	1,645,000	-1,952,000	1,002,000	-2,463,000	-2,883,000	195,000	149,000	23,272,000
84	-187,000	1,656,000	-1,956,000	1,015,000	-2,551,000	-2,920,000	193,000	200,000	23,223,000
85	-234,000	1,783,000	-2,420,000	1,064,000	-2,941,000	-3,370,000	210,000	226,000	23,923,000
86	-286,000	1,918,000	-2,779,000	1,155,000	-3,354,000	-3,969,000	217,000	298,000	25,470,000
87	-285,000	1,898,000	-2,709,000	1,230,000	-3,314,000	-4,171,000	224,000	339,000	25,908,000
88	-269,000	1,873,000	-2,512,000	1,342,000	-3,135,000	-4,101,000	228,000	361,000	27,652,000
89	-286,000	1,899,000	-2,566,000	1,401,000	-3,222,000	-4,299,000	247,000	445,000	28,673,000
1990	-281,000	1,888,000	-2,523,000	1,426,000	-3,169,000	-4,219,000	258,000	518,000	29,297,000
91	-286,000	1,909,000	-2,481,000	1,404,000	-3,104,000	-4,138,000	255,000	514,000	29,345,000
92	-286,000	1,909,000	-2,481,000	1,404,000	-3,104,000	-4,138,000	255,000	514,000	29,347,000
93	-286,000	1,909,000	-2,481,000	1,404,000	-3,104,000	-4,138,000	255,000	514,000	29,352,000
94	-286,000	1,909,000	-2,481,000	1,404,000	-3,104,000	-4,138,000	255,000	514,000	29,358,000
95	-286,000	1,909,000	-2,481,000	1,404,000	-3,104,000	-4,138,000	255,000	514,000	29,359,000
96	-286,000	1,909,000	-2,481,000	1,404,000	-3,104,000	-4,138,000	255,000	514,000	29,361,000
97	-286,000	1,909,000	-2,481,000	1,404,000	-3,104,000	-4,138,000	255,000	514,000	29,362,000
98	-286,000	1,909,000	-2,481,000	1,404,000	-3,104,000	-4,138,000	255,000	514,000	29,362,000
99	-286,000	1,909,000	-2,481,000	1,404,000	-3,104,000	-4,138,000	255,000	514,000	29,362,000
2000[3/]	-286,000	1,909,000	-2,481,000	1,404,000	-3,104,000	-4,138,000	255,000	514,000	29,362,000

1/ Includes only the costs of the project transportation facilities for electrical power and energy, materials, supplies and replacements associated with the operation of electro-mechanical units, prior to allocation between construction water, losses, deliveries, recreation and excess capacity.

2/ The estimated costs of Del Valle Pumping Plant have been combined with those of the South Bay Pumping Plant to simplify the allocation procedure.

3/ And thereafter for the remainder of the project repayment period.

TABLE B-9

ACTUAL AND PROJECTED MINIMUM OPERATION, MAINTENANCE, POWER, AND REPLACEMENT COSTS ALLOCATED TO TRANSPORTATION FOR EACH AQUEDUCT REACH

(in dollars)

CALENDAR YEAR	NORTH BAY AQUEDUCT				SOUTH BAY AQUEDUCT						
	Reach 1	Reach 2	Reach 3	Total	Reach 1	Reach 2	Reach 4	Reach 5	Reach 6	Reach 7	Reach 8
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1960	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	74,082	7,570	0	0	0	0	0
1963	0	0	0	0	131,072	17,541	0	0	0	0	0
1964	0	0	0	0	124,363	30,711	0	0	0	0	0
1965	0	0	0	0	243,795	23,370	43,906	0	2,158	7,624	5,430
1966	0	0	0	0	256,891	17,374	55,783	0	3,270	9,602	7,929
1967	0	0	0	0	151,000	19,000	72,000	0	1,000	7,000	16,000
1968	0	0	32,000	32,000	137,000	19,000	73,000	0	1,000	7,000	16,000
1969	0	0	31,000	31,000	160,000	19,000	74,000	9,000	2,000	8,000	16,000
1970	0	0	31,000	31,000	163,000	19,000	73,000	9,000	1,000	7,000	16,000
1971	0	0	31,000	31,000	163,000	19,000	74,000	9,000	1,000	7,000	16,000
1972	0	0	31,000	31,000	151,000	19,000	73,000	9,000	1,000	7,000	16,000
1973	0	0	31,000	31,000	151,000	19,000	74,000	9,000	1,000	7,000	16,000
1974	0	0	31,000	31,000	156,000	19,000	74,000	9,000	2,000	7,000	16,000
1975	0	0	31,000	31,000	156,000	19,000	75,000	9,000	2,000	8,000	16,000
1976	0	0	31,000	31,000	157,000	19,000	75,000	9,000	2,000	8,000	16,000
1977	0	0	31,000	31,000	156,000	19,000	75,000	9,000	2,000	8,000	16,000
1978	0	0	31,000	31,000	154,000	19,000	75,000	9,000	2,000	8,000	16,000
1979	0	0	31,000	31,000	154,000	19,000	75,000	9,000	2,000	8,000	16,000
1980	93,000	46,000	24,000	163,000	153,000	19,000	75,000	9,000	2,000	8,000	16,000
1981	93,000	46,000	24,000	163,000	152,000	19,000	75,000	9,000	2,000	8,000	16,000
1982	93,000	46,000	24,000	163,000	151,000	19,000	75,000	9,000	2,000	8,000	16,000
1983	92,000	46,000	24,000	162,000	150,000	19,000	75,000	9,000	2,000	8,000	16,000
1984	92,000	46,000	24,000	162,000	149,000	19,000	75,000	9,000	2,000	8,000	16,000
1985	92,000	46,000	24,000	162,000	149,000	19,000	75,000	9,000	2,000	8,000	16,000
1986	92,000	46,000	24,000	162,000	149,000	19,000	75,000	9,000	2,000	8,000	16,000
1987	92,000	46,000	24,000	162,000	148,000	19,000	75,000	9,000	2,000	8,000	16,000
1988	92,000	46,000	24,000	162,000	147,000	19,000	75,000	9,000	2,000	8,000	16,000
1989	92,000	46,000	24,000	162,000	147,000	19,000	75,000	9,000	2,000	8,000	16,000
1990	92,000	46,000	24,000	162,000	147,000	19,000	75,000	9,000	2,000	8,000	16,000
1991	92,000	46,000	24,000	162,000	147,000	19,000	75,000	9,000	2,000	8,000	16,000
1992	92,000	46,000	24,000	162,000	147,000	19,000	75,000	9,000	2,000	8,000	16,000
1993	92,000	46,000	24,000	162,000	146,000	19,000	75,000	9,000	2,000	8,000	16,000
1994	92,000	46,000	24,000	162,000	146,000	19,000	75,000	9,000	2,000	8,000	16,000
1995	92,000	46,000	24,000	162,000	146,000	19,000	75,000	9,000	2,000	8,000	16,000
1996	92,000	46,000	24,000	162,000	146,000	19,000	75,000	9,000	2,000	8,000	16,000
1997	92,000	46,000	24,000	162,000	146,000	19,000	75,000	9,000	2,000	8,000	16,000
1998	92,000	46,000	24,000	162,000	146,000	19,000	75,000	9,000	2,000	8,000	16,000
1999	92,000	46,000	24,000	162,000	146,000	19,000	75,000	9,000	2,000	8,000	16,000
2000 1/	92,000	46,000	24,000	162,000	146,000	19,000	75,000	9,000	2,000	8,000	16,000

1/ And each year thereafter for the remainder of the project repayment period.

TABLE B-9 (Continued)

ACTUAL AND PROJECTED MINIMUM OPERATION, MAINTENANCE, POWER, AND REPLACEMENT COSTS ALLOCATED TO TRANSPORTATION FOR EACH AQUEDUCT REACH

(in dollars)

CALENDAR YEAR	SOUTH BAY AQUEDUCT (Continued)		CALIFORNIA AQUEDUCT									
			NORTH SAN JOAQUIN DIVISION				SAN LUIS DIVISION					
	Reach 9	Total	Reach 1	Reach 2A	Reach 2B	Subtotal	Reach 3	Reach 4	Reach 5	Reach 6	Reach 7	Subtotal
	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
1960	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0	0	0
1962	0	81,652	0	0	0	0	0	0	0	0	0	0
1963	0	148,613	0	0	0	0	0	0	0	0	0	0
1964	0	155,574	0	0	0	0	0	0	0	0	0	0
1965	9,700	335,983	0	0	0	0	0	0	0	0	0	0
1966	18,235	369,084	0	0	0	0	0	0	0	0	0	0
1967	30,000	296,000	893,000	0	0	893,000	0	0	0	0	0	0
1968	31,000	284,000	1,271,000	556,000	184,000	2,011,000	153,000	582,000	343,000	110,000	149,000	1,337,000
1969	31,000	319,000	1,388,000	555,000	183,000	2,126,000	158,000	598,000	355,000	113,000	154,000	1,378,000
1970	31,000	319,000	1,535,000	582,000	192,000	2,309,000	157,000	617,000	352,000	112,000	152,000	1,390,000
1971	31,000	320,000	1,600,000	571,000	190,000	2,361,000	158,000	637,000	356,000	113,000	154,000	1,418,000
1972	31,000	307,000	1,494,000	573,000	189,000	2,256,000	158,000	620,000	355,000	113,000	154,000	1,400,000
1973	31,000	308,000	1,517,000	575,000	190,000	2,282,000	158,000	620,000	356,000	113,000	154,000	1,401,000
1974	31,000	314,000	1,578,000	578,000	190,000	2,346,000	159,000	635,000	358,000	114,000	155,000	1,421,000
1975	31,000	316,000	1,545,000	581,000	191,000	2,317,000	160,000	635,000	360,000	114,000	155,000	1,424,000
1976	31,000	317,000	1,501,000	584,000	193,000	2,278,000	161,000	637,000	361,000	115,000	156,000	1,430,000
1977	31,000	316,000	1,490,000	584,000	193,000	2,267,000	161,000	635,000	361,000	115,000	156,000	1,428,000
1978	31,000	314,000	1,504,000	584,000	193,000	2,281,000	161,000	631,000	361,000	115,000	156,000	1,424,000
1979	31,000	314,000	1,498,000	584,000	193,000	2,275,000	161,000	629,000	361,000	115,000	156,000	1,422,000
1980	31,000	313,000	1,508,000	584,000	193,000	2,285,000	161,000	627,000	361,000	115,000	156,000	1,420,000
1981	31,000	312,000	1,507,000	584,000	193,000	2,284,000	161,000	624,000	361,000	115,000	156,000	1,417,000
1982	31,000	311,000	1,499,000	584,000	193,000	2,276,000	161,000	622,000	361,000	115,000	156,000	1,415,000
1983	31,000	310,000	1,498,000	584,000	193,000	2,275,000	161,000	620,000	361,000	115,000	156,000	1,413,000
1984	31,000	309,000	1,482,000	584,000	193,000	2,259,000	161,000	617,000	361,000	115,000	156,000	1,410,000
1985	31,000	309,000	1,486,000	584,000	193,000	2,263,000	161,000	616,000	361,000	115,000	156,000	1,409,000
1986	31,000	309,000	1,519,000	584,000	193,000	2,296,000	161,000	616,000	361,000	115,000	156,000	1,409,000
1987	31,000	308,000	1,480,000	584,000	193,000	2,257,000	161,000	614,000	361,000	115,000	156,000	1,407,000
1988	31,000	307,000	1,468,000	584,000	193,000	2,245,000	161,000	613,000	361,000	115,000	156,000	1,406,000
1989	31,000	307,000	1,472,000	584,000	193,000	2,249,000	161,000	611,000	361,000	115,000	156,000	1,404,000
1990	31,000	307,000	1,475,000	584,000	193,000	2,252,000	161,000	612,000	361,000	115,000	156,000	1,405,000
1991	31,000	307,000	1,472,000	584,000	193,000	2,249,000	161,000	612,000	361,000	115,000	156,000	1,405,000
1992	31,000	307,000	1,472,000	584,000	193,000	2,249,000	161,000	612,000	361,000	115,000	156,000	1,405,000
1993	31,000	306,000	1,471,000	584,000	193,000	2,248,000	161,000	612,000	361,000	115,000	156,000	1,405,000
1994	31,000	306,000	1,471,000	584,000	193,000	2,248,000	161,000	612,000	361,000	115,000	156,000	1,405,000
1995	31,000	306,000	1,471,000	584,000	193,000	2,248,000	161,000	612,000	361,000	115,000	156,000	1,405,000
1996	31,000	306,000	1,471,000	584,000	193,000	2,248,000	161,000	612,000	361,000	115,000	156,000	1,405,000
1997	31,000	306,000	1,471,000	584,000	193,000	2,248,000	161,000	612,000	361,000	115,000	156,000	1,405,000
1998	31,000	306,000	1,471,000	584,000	193,000	2,248,000	161,000	612,000	361,000	115,000	156,000	1,405,000
1999	31,000	306,000	1,471,000	584,000	193,000	2,248,000	161,000	612,000	361,000	115,000	156,000	1,405,000
2000[1/]	31,000	306,000	1,471,000	584,000	193,000	2,248,000	161,000	612,000	361,000	115,000	156,000	1,405,000

1/ And each year thereafter for the remainder of the project repayment period.

TABLE B-9 (Continued)

TABLE B-9 (Continued)

ACTUAL AND PROJECTED MINIMUM OPERATION, MAINTENANCE, POWER, AND REPLACEMENT COSTS ALLOCATED TO TRANSPORTATION FOR EACH AQUEDUCT REACH

(in dollars)

CALENDAR YEAR	CALIFORNIA AQUEDUCT (Continued)											
	SOUTH SAN JOAQUIN DIVISION											
	Reach 8A	Reach 8B	Reach 9	Reach 10A	Reach 11B	Reach 12D	Reach 12E	Reach 13B	Reach 14A	Reach 14B	Reach 14C	Reach 15A
	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)
1960	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0	0	0
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	15,000	91,000	102,000	111,000	63,000	0	0	0	0	0	0	0
1969	17,000	108,000	121,000	132,000	74,000	0	0	0	0	0	0	0
1970	20,000	133,000	150,000	163,000	93,000	148,000	111,000	134,000	0	0	0	0
1971	27,000	168,000	191,000	207,000	117,000	189,000	143,000	172,000	603,000	133,000	113,000	403,000
1972	28,000	172,000	196,000	214,000	121,000	194,000	146,000	177,000	635,000	137,000	116,000	446,000
1973	29,000	173,000	198,000	216,000	121,000	195,000	144,000	177,000	641,000	138,000	117,000	451,000
1974	29,000	174,000	199,000	216,000	122,000	196,000	145,000	178,000	648,000	138,000	117,000	457,000
1975	29,000	175,000	200,000	217,000	122,000	197,000	146,000	179,000	649,000	138,000	118,000	459,000
1976	29,000	177,000	201,000	219,000	123,000	198,000	147,000	180,000	649,000	139,000	119,000	458,000
1977	29,000	177,000	201,000	219,000	123,000	198,000	147,000	180,000	649,000	139,000	119,000	458,000
1978	29,000	177,000	201,000	219,000	123,000	198,000	147,000	180,000	649,000	139,000	119,000	460,000
1979	29,000	177,000	201,000	219,000	123,000	198,000	147,000	180,000	650,000	139,000	119,000	462,000
1980	29,000	177,000	201,000	219,000	123,000	198,000	147,000	180,000	648,000	139,000	119,000	456,000
1981	29,000	177,000	201,000	219,000	123,000	198,000	147,000	180,000	647,000	139,000	119,000	455,000
1982	29,000	177,000	201,000	219,000	123,000	198,000	147,000	180,000	645,000	139,000	119,000	453,000
1983	29,000	177,000	201,000	219,000	123,000	198,000	147,000	180,000	642,000	139,000	119,000	451,000
1984	29,000	177,000	201,000	219,000	123,000	198,000	147,000	180,000	638,000	139,000	119,000	447,000
1985	29,000	177,000	201,000	219,000	123,000	198,000	147,000	180,000	638,000	139,000	119,000	447,000
1986	29,000	177,000	201,000	219,000	123,000	198,000	147,000	180,000	638,000	139,000	119,000	447,000
1987	29,000	177,000	201,000	219,000	123,000	198,000	147,000	180,000	636,000	139,000	119,000	445,000
1988	29,000	177,000	201,000	219,000	123,000	198,000	147,000	180,000	635,000	139,000	119,000	444,000
1989	29,000	177,000	201,000	219,000	123,000	198,000	147,000	180,000	635,000	139,000	119,000	444,000
1990	29,000	177,000	201,000	219,000	123,000	198,000	147,000	180,000	635,000	139,000	119,000	444,000
1991	29,000	177,000	201,000	219,000	123,000	198,000	147,000	180,000	635,000	139,000	119,000	443,000
1992	29,000	177,000	201,000	219,000	123,000	198,000	147,000	180,000	635,000	139,000	119,000	443,000
1993	29,000	177,000	201,000	219,000	123,000	198,000	147,000	180,000	635,000	139,000	119,000	443,000
1994	29,000	177,000	201,000	219,000	123,000	198,000	147,000	180,000	635,000	139,000	119,000	443,000
1995	29,000	177,000	201,000	219,000	123,000	198,000	147,000	180,000	635,000	139,000	119,000	443,000
1996	29,000	177,000	201,000	219,000	123,000	198,000	147,000	180,000	635,000	139,000	119,000	443,000
1997	29,000	177,000	201,000	219,000	123,000	198,000	147,000	180,000	635,000	139,000	119,000	443,000
1998	29,000	177,000	201,000	219,000	123,000	198,000	147,000	180,000	635,000	139,000	119,000	443,000
1999	29,000	177,000	201,000	219,000	123,000	198,000	147,000	180,000	635,000	139,000	119,000	443,000
2000 1/	29,000	177,000	201,000	219,000	123,000	198,000	147,000	180,000	635,000	139,000	119,000	443,000

1/ and each year thereafter for the remainder of the project repayment period.

TABLE B-9 (Continued)

ACTUAL AND PROJECTED MINIMUM OPERATION, MAINTENANCE, POWER, AND REPLACEMENT COSTS ALLOCATED TO TRANSPORTATION FOR EACH AQUEDUCT REACH

(in dollars)

CALENDAR YEAR	CALIFORNIA AQUEDUCT (Continued)											
	SOUTH SAN JOAQUIN DIVISION		TEHACHAPI DIVISION			MOJAVE DIVISION						
	Reach 16A	Subtotal	Reach 17C	Reach 17D	Subtotal	Reach 18A	Reach 19	Reach 20A	Reach 20B	Reach 21	Reach 22A
	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)
1960	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0	0
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	382,000	0	0	0	0	0	0	0	0	0
1969	0	452,000	0	0	0	0	0	0	0	0	0
1970	0	952,000	0	0	0	0	0	0	0	0	0
1971	659,000	3,125,000	1,253,000	27,000	1,280,000	0	0	0	0	0	0
1972	750,000	3,332,000	1,588,000	28,000	1,616,000	119,000	207,000	185,000	184,000	163,000	93,000
1973	760,000	3,360,000	1,608,000	28,000	1,636,000	119,000	203,000	179,000	179,000	156,000	90,000
1974	769,000	3,388,000	1,628,000	29,000	1,657,000	117,000	205,000	180,000	180,000	157,000	91,000
1975	773,000	3,402,000	1,618,000	29,000	1,647,000	123,000	205,000	181,000	181,000	158,000	91,000
1976	770,000	3,409,000	1,602,000	29,000	1,631,000	123,000	207,000	182,000	182,000	159,000	92,000
1977	772,000	3,411,000	1,609,000	29,000	1,638,000	123,000	207,000	182,000	182,000	159,000	92,000
1978	776,000	3,417,000	1,612,000	29,000	1,641,000	121,000	207,000	182,000	182,000	159,000	92,000
1979	781,000	3,425,000	1,616,000	29,000	1,645,000	120,000	207,000	182,000	182,000	159,000	92,000
1980	774,000	3,410,000	1,602,000	29,000	1,631,000	116,000	207,000	182,000	182,000	159,000	92,000
1981	771,000	3,405,000	1,601,000	29,000	1,630,000	116,000	207,000	182,000	182,000	159,000	92,000
1982	767,000	3,397,000	1,591,000	29,000	1,620,000	114,000	207,000	182,000	182,000	159,000	92,000
1983	761,000	3,386,000	1,572,000	29,000	1,601,000	115,000	207,000	182,000	182,000	159,000	92,000
1984	752,000	3,369,000	1,546,000	29,000	1,575,000	114,000	207,000	182,000	182,000	159,000	92,000
1985	752,000	3,369,000	1,550,000	29,000	1,579,000	113,000	207,000	182,000	182,000	159,000	92,000
1986	753,000	3,370,000	1,558,000	29,000	1,587,000	111,000	207,000	182,000	182,000	159,000	92,000
1987	751,000	3,364,000	1,550,000	29,000	1,579,000	112,000	207,000	182,000	182,000	159,000	92,000
1988	749,000	3,360,000	1,546,000	29,000	1,575,000	112,000	207,000	182,000	182,000	159,000	92,000
1989	749,000	3,360,000	1,549,000	29,000	1,578,000	112,000	207,000	182,000	182,000	159,000	92,000
1990	747,000	3,358,000	1,545,000	29,000	1,574,000	112,000	207,000	182,000	182,000	159,000	92,000
1991	746,000	3,356,000	1,541,000	29,000	1,570,000	112,000	207,000	182,000	182,000	159,000	92,000
1992	746,000	3,356,000	1,541,000	29,000	1,570,000	112,000	207,000	182,000	182,000	159,000	92,000
1993	746,000	3,356,000	1,541,000	29,000	1,570,000	112,000	207,000	182,000	182,000	159,000	92,000
1994	746,000	3,356,000	1,541,000	29,000	1,570,000	112,000	207,000	182,000	182,000	159,000	92,000
1995	746,000	3,356,000	1,541,000	29,000	1,570,000	112,000	207,000	182,000	182,000	159,000	92,000
1996	746,000	3,356,000	1,541,000	29,000	1,570,000	112,000	207,000	182,000	182,000	159,000	92,000
1997	746,000	3,356,000	1,541,000	29,000	1,570,000	112,000	207,000	182,000	182,000	159,000	92,000
1998	746,000	3,356,000	1,541,000	29,000	1,570,000	112,000	207,000	182,000	182,000	159,000	92,000
1999	746,000	3,356,000	1,541,000	29,000	1,570,000	112,000	207,000	182,000	182,000	159,000	92,000
2000 1/	746,000	3,356,000	1,541,000	29,000	1,570,000	112,000	207,000	182,000	182,000	159,000	92,000

1/ And each year thereafter for the remainder of the project repayment period.

TABLE B-9 (Continued)

ACTUAL AND PROJECTED MINIMUM OPERATION, MAINTENANCE, POWER, AND REPLACEMENT COSTS ALLOCATED TO TRANSPORTATION FOR EACH AQUEDUCT REACH

(in dollars)

CALENDAR YEAR	CALIFORNIA AQUEDUCT (Continued)											
	MOJAVE DIVISION (Continued)				SANTA ANA DIVISION						WEST BRANCH	
	Reach 22C	Reach 23A	Reach 24	Subtotal	Reach 25	Reach 26A	Reach 28D	Reach 28E	Reach 28F	Subtotal	Reach 29A	Reach 29B
	(47)	(48)	(49)	(50)	(51)	(52)	(53)	(54)	(55)	(56)	(57)	(58)
1960	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0	0	0
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	531,000	42,000
1972	1,141,000	48,000	105,000	2,245,000	62,000	288,000	40,000	30,000	143,000	563,000	544,000	43,000
1973	1,122,000	49,000	105,000	2,202,000	60,000	291,000	39,000	30,000	143,000	563,000	547,000	43,000
1974	1,137,000	49,000	105,000	2,221,000	60,000	276,000	39,000	31,000	144,000	550,000	551,000	44,000
1975	1,140,000	49,000	106,000	2,234,000	61,000	292,000	39,000	31,000	145,000	568,000	551,000	44,000
1976	1,142,000	49,000	107,000	2,243,000	61,000	294,000	39,000	31,000	146,000	571,000	555,000	44,000
1977	1,134,000	49,000	106,000	2,234,000	61,000	295,000	39,000	31,000	146,000	572,000	554,000	44,000
1978	1,135,000	49,000	106,000	2,233,000	61,000	295,000	39,000	31,000	146,000	572,000	554,000	44,000
1979	1,140,000	49,000	106,000	2,237,000	61,000	294,000	39,000	31,000	146,000	571,000	554,000	44,000
1980	1,133,000	49,000	106,000	2,226,000	61,000	296,000	39,000	31,000	146,000	573,000	551,000	44,000
1981	1,133,000	49,000	106,000	2,226,000	61,000	296,000	39,000	31,000	146,000	573,000	553,000	44,000
1982	1,133,000	49,000	106,000	2,224,000	61,000	298,000	39,000	31,000	146,000	575,000	553,000	44,000
1983	1,132,000	49,000	106,000	2,224,000	61,000	301,000	39,000	31,000	146,000	578,000	552,000	44,000
1984	1,127,000	49,000	106,000	2,218,000	61,000	304,000	39,000	31,000	146,000	581,000	552,000	44,000
1985	1,126,000	49,000	106,000	2,216,000	61,000	300,000	39,000	31,000	146,000	577,000	552,000	44,000
1986	1,126,000	49,000	106,000	2,214,000	61,000	297,000	39,000	31,000	146,000	574,000	552,000	44,000
1987	1,124,000	49,000	106,000	2,213,000	61,000	298,000	39,000	31,000	146,000	575,000	552,000	44,000
1988	1,122,000	49,000	106,000	2,211,000	61,000	302,000	39,000	31,000	146,000	579,000	552,000	44,000
1989	1,122,000	49,000	106,000	2,211,000	61,000	301,000	39,000	31,000	146,000	578,000	552,000	44,000
1990	1,120,000	49,000	106,000	2,209,000	61,000	303,000	39,000	31,000	146,000	580,000	553,000	44,000
1991	1,121,000	49,000	106,000	2,210,000	61,000	303,000	39,000	31,000	146,000	580,000	552,000	44,000
1992	1,121,000	49,000	106,000	2,210,000	61,000	303,000	39,000	31,000	146,000	580,000	552,000	44,000
1993	1,121,000	49,000	106,000	2,210,000	61,000	303,000	39,000	31,000	146,000	580,000	552,000	44,000
1994	1,121,000	49,000	106,000	2,210,000	61,000	303,000	39,000	31,000	146,000	580,000	552,000	44,000
1995	1,121,000	49,000	106,000	2,210,000	61,000	303,000	39,000	31,000	146,000	580,000	552,000	44,000
1996	1,121,000	49,000	106,000	2,210,000	61,000	303,000	39,000	31,000	146,000	580,000	552,000	44,000
1997	1,121,000	49,000	106,000	2,210,000	61,000	303,000	39,000	31,000	146,000	580,000	552,000	44,000
1998	1,121,000	49,000	106,000	2,210,000	61,000	303,000	39,000	31,000	146,000	580,000	552,000	44,000
1999	1,121,000	49,000	106,000	2,210,000	61,000	303,000	39,000	31,000	146,000	580,000	552,000	44,000
2000[1/]	1,121,000	49,000	106,000	2,210,000	61,000	303,000	39,000	31,000	146,000	580,000	552,000	44,000

1/ And each year thereafter for the remainder of the project repayment period.

TABLE B-9 (Continued)

ACTUAL AND PROJECTED MINIMUM OPERATION, MAINTENANCE, POWER, AND REPLACEMENT COSTS ALLOCATED TO TRANSPORTATION FOR EACH AQUEDUCT REACH

(in dollars)

CALENDAR YEAR	CALIFORNIA AQUEDUCT (Continued)											GRAND TOTAL
	WEST BRANCH (Continued)					COASTAL BRANCH					Total	
	Reach 29C	Reach 29D	Reach 29E	Reach 30	Subtotal	Reach 31A	Reach 33A	Reach 34	Reach 35	Subtotal		
	(59)	(60)	(61)	(62)	(63)	(64)	(65)	(66)	(67)	(68)	(69)	(70)
1960	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0	0	81,652
1963	0	0	0	0	0	0	0	0	0	0	0	148,613
1964	0	0	0	0	0	0	0	0	0	0	0	155,574
1965	0	0	0	0	0	0	0	0	0	0	0	335,983
1966	0	0	0	0	0	0	0	0	0	0	0	369,084
1967	0	0	0	0	0	0	0	0	0	0	893,000	1,189,000
1968	0	0	0	0	0	99,000	0	0	0	99,000	3,829,000	4,145,000
1969	0	0	0	0	0	120,000	0	0	0	120,000	4,076,000	4,426,000
1970	0	0	0	0	0	118,000	0	0	0	118,000	4,769,000	5,119,000
1971	263,000	101,000	98,000	171,000	1,206,000	138,000	0	0	0	138,000	9,528,000	9,879,000
1972	270,000	99,000	85,000	161,000	1,202,000	139,000	0	0	0	139,000	12,753,000	13,091,000
1973	264,000	100,000	88,000	175,000	1,217,000	138,000	0	0	0	138,000	12,799,000	13,138,000
1974	251,000	101,000	61,000	176,000	1,184,000	140,000	0	0	0	140,000	12,907,000	13,252,000
1975	257,000	101,000	77,000	177,000	1,207,000	141,000	0	0	0	141,000	12,940,000	13,287,000
1976	260,000	102,000	81,000	177,000	1,219,000	142,000	0	0	0	142,000	12,923,000	13,271,000
1977	261,000	102,000	83,000	177,000	1,221,000	141,000	0	0	0	141,000	12,912,000	13,259,000
1978	263,000	102,000	84,000	177,000	1,224,000	141,000	0	0	0	141,000	12,933,000	13,278,000
1979	261,000	102,000	83,000	177,000	1,221,000	141,000	0	0	0	141,000	12,937,000	13,282,000
1980	269,000	102,000	85,000	177,000	1,228,000	145,000	254,000	11,000	32,000	442,000	13,215,000	13,691,000
1981	269,000	102,000	84,000	177,000	1,229,000	145,000	241,000	11,000	32,000	429,000	13,193,000	13,668,000
1982	272,000	102,000	87,000	177,000	1,235,000	144,000	221,000	11,000	32,000	408,000	13,150,000	13,624,000
1983	278,000	102,000	91,000	177,000	1,244,000	144,000	211,000	11,000	32,000	398,000	13,119,000	13,591,000
1984	279,000	102,000	92,000	177,000	1,246,000	144,000	210,000	11,000	32,000	397,000	13,055,000	13,526,000
1985	274,000	102,000	88,000	177,000	1,237,000	143,000	202,000	11,000	32,000	388,000	13,038,000	13,509,000
1986	269,000	102,000	84,000	177,000	1,228,000	143,000	203,000	11,000	32,000	389,000	13,067,000	13,538,000
1987	274,000	102,000	84,000	177,000	1,233,000	143,000	201,000	11,000	32,000	387,000	13,015,000	13,485,000
1988	281,000	102,000	88,000	177,000	1,244,000	143,000	199,000	11,000	32,000	385,000	13,005,000	13,474,000
1989	281,000	102,000	88,000	177,000	1,244,000	143,000	198,000	11,000	32,000	384,000	13,008,000	13,477,000
1990	281,000	102,000	89,000	177,000	1,246,000	143,000	197,000	11,000	32,000	383,000	13,007,000	13,476,000
1991	282,000	102,000	90,000	177,000	1,247,000	142,000	197,000	11,000	32,000	382,000	12,999,000	13,468,000
1992	282,000	102,000	90,000	177,000	1,247,000	142,000	197,000	11,000	32,000	382,000	12,999,000	13,468,000
1993	282,000	102,000	90,000	177,000	1,247,000	142,000	197,000	11,000	32,000	382,000	12,998,000	13,466,000
1994	282,000	102,000	90,000	177,000	1,247,000	142,000	197,000	11,000	32,000	382,000	12,998,000	13,466,000
1995	282,000	102,000	90,000	177,000	1,247,000	142,000	197,000	11,000	32,000	382,000	12,998,000	13,466,000
1996	282,000	102,000	90,000	177,000	1,247,000	142,000	197,000	11,000	32,000	382,000	12,998,000	13,466,000
1997	282,000	102,000	90,000	177,000	1,247,000	142,000	197,000	11,000	32,000	382,000	12,998,000	13,466,000
1998	282,000	102,000	90,000	177,000	1,247,000	142,000	197,000	11,000	32,000	382,000	12,998,000	13,466,000
1999	282,000	102,000	90,000	177,000	1,247,000	142,000	197,000	11,000	32,000	382,000	12,998,000	13,466,000
2000 1/	282,000	102,000	90,000	177,000	1,247,000	142,000	197,000	11,000	32,000	382,000	12,998,000	13,466,000

1/ And each year thereafter for the remainder of the project repayment period.

TABLE B-10

ACTUAL AND PROJECTED VARIABLE OPERATION, MAINTENANCE, POWER, AND REPLACEMENT COSTS ALLOCATED TO TRANSPORTATION

(in dollars)

CALENDAR YEAR	NORTH BAY AQUEDUCT			SOUTH BAY AQUEDUCT		CALIFORNIA AQUEDUCT					
	Reach 1	Reach 3		Reach 1		Reach 1	Reach 4	Reach 14A	Reach 15A	Reach 16A	Reach 17C
	Calhoun Pumping Plant	Cordelia Pumping Plant	Total	South Bay and Del Valle Pumping Plants 1/	Total	Delta Pumping Plant	Dos Amigos Pumping Plant	Buena Vista Pumping Plant	Wheeler Ridge Pumping Plant	Wind Gap Pumping Plant	Tehachapi Pumping Plant
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1960	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	39,872	39,872	0	0	0	0	0	0
1963	0	0	0	61,468	61,468	0	0	0	0	0	0
1964	0	0	0	79,540	79,540	0	0	0	0	0	0
1965	0	0	0	155,007	155,007	0	0	0	0	0	0
1966	0	0	0	206,342	206,342	0	0	0	0	0	0
1967	0	0	0	307,000	307,000	56,000	0	0	0	0	0
1968	0	14,000	14,000	529,000	529,000	273,000	140,000	0	0	0	0
1969	0	14,000	14,000	515,000	515,000	298,000	215,000	0	0	0	0
1970	0	15,000	15,000	562,000	562,000	536,000	321,000	0	0	0	0
1971	0	18,000	18,000	616,000	616,000	640,000	437,000	130,000	113,000	224,000	766,000
1972	0	19,000	19,000	492,000	492,000	812,000	633,000	547,000	549,000	1,119,000	4,102,000
1973	0	20,000	20,000	498,000	498,000	1,060,000	739,000	664,000	674,000	1,381,000	5,065,000
1974	0	31,000	31,000	613,000	613,000	1,570,000	1,000,000	812,000	849,000	1,702,000	6,180,000
1975	0	34,000	34,000	616,000	616,000	1,466,000	1,126,000	918,000	990,000	1,990,000	7,022,000
1976	0	36,000	36,000	623,000	623,000	1,292,000	1,258,000	1,022,000	1,088,000	2,228,000	7,801,000
1977	0	37,000	37,000	602,000	602,000	1,337,000	1,361,000	1,148,000	1,233,000	2,535,000	8,900,000
1978	0	36,000	36,000	564,000	564,000	1,604,000	1,416,000	1,274,000	1,395,000	2,881,000	9,950,000
1979	0	38,000	38,000	555,000	555,000	1,679,000	1,518,000	1,438,000	1,576,000	3,292,000	11,049,000
1980	8,000	51,000	59,000	528,000	528,000	1,952,000	1,568,000	1,524,000	1,624,000	3,448,000	11,748,000
1981	9,000	52,000	61,000	517,000	517,000	2,097,000	1,650,000	1,637,000	1,741,000	3,699,000	12,733,000
1982	9,000	54,000	63,000	505,000	505,000	2,154,000	1,719,000	1,725,000	1,820,000	3,892,000	13,475,000
1983	10,000	55,000	65,000	484,000	484,000	2,275,000	1,762,000	1,775,000	1,903,000	4,016,000	13,931,000
1984	9,000	55,000	64,000	453,000	453,000	2,192,000	1,749,000	1,801,000	1,912,000	4,054,000	14,119,000
1985	9,000	57,000	66,000	456,000	456,000	2,406,000	1,858,000	1,920,000	2,037,000	4,319,000	15,103,000
1986	10,000	61,000	71,000	456,000	456,000	3,114,000	1,964,000	2,056,000	2,172,000	4,630,000	16,302,000
1987	10,000	61,000	71,000	445,000	445,000	2,577,000	2,016,000	2,124,000	2,245,000	4,802,000	16,997,000
1988	11,000	61,000	72,000	434,000	434,000	2,477,000	2,078,000	2,225,000	2,347,000	5,016,000	17,830,000
1989	12,000	64,000	76,000	441,000	441,000	2,663,000	2,069,000	2,298,000	2,431,000	5,194,000	18,491,000
1990	12,000	65,000	77,000	448,000	448,000	2,769,000	2,176,000	2,315,000	2,442,000	5,192,000	18,588,000
1991	12,000	65,000	77,000	457,000	457,000	2,718,000	2,166,000	2,308,000	2,424,000	5,201,000	18,543,000
1992	12,000	65,000	77,000	459,000	459,000	2,718,000	2,166,000	2,308,000	2,424,000	5,201,000	18,543,000
1993	12,000	65,000	77,000	464,000	464,000	2,720,000	2,166,000	2,308,000	2,424,000	5,201,000	18,543,000
1994	12,000	65,000	77,000	468,000	468,000	2,722,000	2,166,000	2,308,000	2,424,000	5,201,000	18,543,000
1995	12,000	65,000	77,000	469,000	469,000	2,722,000	2,166,000	2,308,000	2,424,000	5,201,000	18,543,000
1996	12,000	65,000	77,000	471,000	471,000	2,722,000	2,166,000	2,308,000	2,424,000	5,201,000	18,543,000
1997	12,000	65,000	77,000	472,000	472,000	2,722,000	2,166,000	2,308,000	2,424,000	5,201,000	18,543,000
1998	12,000	65,000	77,000	472,000	472,000	2,722,000	2,166,000	2,308,000	2,424,000	5,201,000	18,543,000
1999 2/	12,000	65,000	77,000	472,000	472,000	2,722,000	2,166,000	2,308,000	2,424,000	5,201,000	18,543,000
2000 2/	12,000	65,000	77,000	472,000	472,000	2,722,000	2,166,000	2,308,000	2,424,000	5,201,000	18,543,000

Footnotes on Sheet 2.

TABLE B-10 (Continued)

ACTUAL AND PROJECTED VARIABLE OPERATION, MAINTENANCE, POWER, AND REPLACEMENT COSTS ALLOCATED TO TRANSPORTATION

(in dollars)

CALENDAR YEAR	CALIFORNIA AQUEDUCT (Continued)									GRAND TOTAL
	Reach 18A	Reach 22C	Reach 26A	Reach 29A	Reach 29C	Reach 29E	Reach 31A	Reach 33A	Total	
	Cottonwood Powerplant	Pearblossom Pumping Plant	Devil Canyon Powerplant	Oso Pumping Plant	Pyramid Powerplant	Castaic Powerplant	Las Perillas and Badger Hill Pumping Plants	Devil's Den Sawtooth and Polonio PP's and San Luis Obispo Pwp		
	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
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	39,872
1963	0	0	0	0	0	0	0	0	0	61,468
1964	0	0	0	0	0	0	0	0	0	79,540
1965	0	0	0	0	0	0	0	0	0	155,007
1966	0	0	0	0	0	0	0	0	0	206,342
1967	0	0	0	0	0	0	0	0	56,000	363,000
1968	0	0	0	0	0	0	56,000	0	469,000	1,012,000
1969	0	0	0	0	0	0	88,000	0	601,000	1,130,000
1970	0	0	0	0	0	0	92,000	0	949,000	1,526,000
1971	0	0	0	101,000	262,000-	235,000-	107,000	0	2,021,000	2,655,000
1972	17,000-	494,000	662,000-	317,000	763,000-	810,000-	97,000	0	6,418,000	6,929,000
1973	21,000-	543,000	874,000-	393,000	974,000-	978,000-	107,000	0	7,979,000	8,497,000
1974	35,000-	647,000	1,051,000-	489,000	1,549,000-	2,059,000-	163,000	0	8,718,000	9,362,000
1975	8,000-	756,000	923,000-	538,000	1,671,000-	1,828,000-	171,000	0	10,547,000	11,197,000
1976	9,000-	809,000	1,023,000-	603,000	1,869,000-	2,000,000-	187,000	0	11,387,000	12,046,000
1977	4,000-	831,000	1,141,000-	676,000	2,086,000-	2,173,000-	185,000	0	12,802,000	13,441,000
1978	28,000-	931,000	1,242,000-	748,000	2,257,000-	2,374,000-	181,000	0	14,479,000	15,079,000
1979	47,000-	1,091,000	1,435,000-	800,000	2,545,000-	2,663,000-	184,000	0	15,937,000	16,530,000
1980	99,000-	1,083,000	1,443,000-	778,000	2,403,000-	2,741,000-	187,000	69,000	17,295,000	17,882,000
1981	106,000-	1,241,000	1,703,000-	913,000	2,557,000-	2,934,000-	188,000	85,000	18,684,000	19,262,000
1982	142,000-	1,408,000	1,841,000-	963,000	2,584,000-	2,906,000-	189,000	111,000	19,983,000	20,551,000
1983	142,000-	1,540,000	1,892,000-	973,000	2,400,000-	2,828,000-	189,000	122,000	21,224,000	21,773,000
1984	174,000-	1,559,000	1,901,000-	987,000	2,489,000-	2,867,000-	187,000	174,000	21,303,000	21,820,000
1985	219,000-	1,687,000	2,358,000-	1,036,000	2,873,000-	3,311,000-	205,000	208,000	22,018,000	22,540,000
1986	269,000-	1,822,000	2,713,000-	1,126,000	3,280,000-	3,903,000-	212,000	279,000	23,512,000	24,039,000
1987	268,000-	1,805,000	2,645,000-	1,202,000	3,246,000-	4,107,000-	219,000	322,000	24,043,000	24,559,000
1988	253,000-	1,783,000	2,454,000-	1,313,000	3,075,000-	4,042,000-	223,000	346,000	25,814,000	26,320,000
1989	270,000-	1,809,000	2,507,000-	1,372,000	3,163,000-	4,240,000-	242,000	431,000	26,820,000	27,337,000
1990	265,000-	1,801,000	2,466,000-	1,396,000	3,111,000-	4,151,000-	253,000	505,000	27,434,000	27,959,000
1991	270,000-	1,821,000	2,425,000-	1,375,000	3,047,000-	4,081,000-	251,000	501,000	27,485,000	28,019,000
1992	270,000-	1,821,000	2,425,000-	1,375,000	3,047,000-	4,081,000-	251,000	501,000	27,485,000	28,021,000
1993	270,000-	1,821,000	2,425,000-	1,375,000	3,047,000-	4,081,000-	251,000	501,000	27,487,000	28,028,000
1994	270,000-	1,821,000	2,425,000-	1,375,000	3,047,000-	4,081,000-	251,000	501,000	27,489,000	28,034,000
1995	270,000-	1,821,000	2,425,000-	1,375,000	3,047,000-	4,081,000-	251,000	501,000	27,489,000	28,035,000
1996	270,000-	1,821,000	2,425,000-	1,375,000	3,047,000-	4,081,000-	251,000	501,000	27,489,000	28,037,000
1997	270,000-	1,821,000	2,425,000-	1,375,000	3,047,000-	4,081,000-	251,000	501,000	27,489,000	28,038,000
1998	270,000-	1,821,000	2,425,000-	1,375,000	3,047,000-	4,081,000-	251,000	501,000	27,489,000	28,038,000
1999 2/	270,000-	1,821,000	2,425,000-	1,375,000	3,047,000-	4,081,000-	251,000	501,000	27,489,000	28,038,000
2000 2/	270,000-	1,821,000	2,425,000-	1,375,000	3,047,000-	4,081,000-	251,000	501,000	27,489,000	28,038,000

1/ The relatively minor estimated costs of Del Valle Pumping Plant have been combined with those of South Bay Pumping Plant to simplify the allocation procedure.
2/ And thereafter for the remainder of the project repayment period.

TABLE B-11

ALLOCATED CAPITAL COSTS TO EACH CONTRACTOR

(in dollars)

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 County FC & WD	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	92	107	433	632	126	294	420
1953	0	0	0	352	431	1,834	2,617	347	813	1,160
1954	0	0	0	880	1,141	5,147	7,168	438	1,018	1,456
1955	0	0	0	1,036	1,375	6,349	8,760	212	490	702
1956	0	0	0	9,336	12,558	64,537	86,431	121	282	403
1957	16,594	10,040	26,634	22,871	30,544	653,961	707,376	173	407	580
1958	35,425	14,483	49,908	68,185	68,285	733,965	870,435	895	2,094	2,989
1959	24,036	6,429	30,465	152,299	141,952	477,093	771,344	12,438	31,961	44,399
1960	16,526	10,425	26,951	298,408	279,157	1,052,455	1,630,020	30,711	80,498	111,209
1961	28,515	19,810	48,325	892,638	833,030	1,990,365	3,716,033	17,888	45,039	62,927
1962	5,038	4,446	9,484	557,550	592,148	1,685,872	2,835,570	20,207	48,750	68,957
1963	10,027	8,184	18,211	612,578	1,101,202	3,322,671	5,036,451	86,140	204,517	290,657
1964	60,920	17,075	77,995	702,654	1,177,202	7,412,802	9,292,658	161,696	382,652	544,348
1965	200,641	21,424	222,065	318,692	420,037	3,093,295	3,832,024	276,501	651,066	927,567
1966	471,130	48,489	519,619	554,787	521,729	2,130,212	3,206,728	597,732	1,401,775	1,999,507
1967	2,281,248	299,752	2,581,000	884,419	812,586	2,215,885	3,912,890	1,163,300	2,732,861	3,896,161
1968	257,226	243,774	501,000	639,049	584,190	1,682,139	2,905,378	238,069	573,646	811,715
1969	169,717	152,283	322,000	104,371	97,960	401,289	603,620	106,823	257,248	364,071
1970	143,220	119,780	303,000	20,618	19,992	179,814	220,424	71,885	175,158	247,043
1971	128,054	108,946	237,000	30,997	30,736	97,178	158,911	116,383	280,887	397,270
1972	20,506	29,494	50,000	52,995	59,746	259,832	372,573	273,495	646,855	920,350
1973	17,516	26,484	44,000	61,029	74,144	367,786	502,959	176,518	419,689	596,207
1974	17,914	27,086	45,000	621	656	5,184	6,461	283,336	704,037	987,373
1975	77,627	117,373	195,000	630	664	5,205	6,499	803,629	2,085,761	2,889,390
1976	275,182	320,818	596,000	0	0	0	0	2,626,009	6,581,991	9,208,000
1977	561,242	553,758	1,115,000	0	0	0	0	4,309,027	11,523,973	15,833,000
1978	1,155,085	1,106,915	2,262,000	0	0	0	0	3,513,340	11,395,660	14,909,000
1979	2,953,676	2,621,324	5,575,000	0	0	0	0	2,770,004	9,100,996	11,871,000
1980	161,930	148,070	310,000	0	0	0	0	568,867	1,721,133	2,290,000
1981	19,506	29,494	49,000	0	0	0	0	64,780	291,220	356,000
1982	11,146	16,854	28,000	0	0	0	0	8,714	20,345	29,059
1983	0	0	0	0	0	0	0	17,823	41,610	59,433
1984	0	0	0	0	0	0	0	36,453	85,103	121,556
1985	0	0	0	0	0	0	0	27,990	65,343	93,333
1986	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0
TOTAL	9,159,647	6,083,011	15,242,657	5,987,087	6,861,572	27,845,303	40,693,962	18,382,070	51,555,172	69,937,242

TABLE B-11 (Continued)

ALLOCATED CAPITAL COSTS TO EACH CONTRACTOR

(in dollars)

CALENDAR YEAR	SAN JOAQUIN VALLEY									
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Hacienda Water District	Kern County Water Agency		Kings County (Assumed)	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
					Municipal and Industrial	Agriculture				
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1952	89	406	20	59	982	9,647	20	15	763	12,001
1953	249	1,117	57	164	3,016	28,853	56	39	2,087	35,638
1954	312	1,405	72	205	3,849	36,489	70	49	2,621	45,072
1955	149	675	32	100	1,833	17,304	35	23	1,262	21,413
1956	86	390	16	58	2,132	17,965	18	16	685	21,366
1957	126	560	24	82	4,540	36,762	22	21	936	43,073
1958	638	2,882	137	425	14,868	127,700	137	79	5,196	152,062
1959	3,132	9,654	484	1,422	29,723	287,645	498	462	18,067	351,087
1960	5,290	11,571	564	1,703	32,536	338,725	574	566	21,285	412,814
1961	5,995	22,056	1,084	3,251	55,524	564,112	1,110	637	40,772	694,541
1962	9,654	39,716	1,927	5,851	82,562	872,166	1,974	1,737	72,927	1,088,514
1963	52,928	230,934	11,851	34,019	401,179	4,402,686	12,127	8,310	437,056	5,591,090
1964	102,688	361,949	18,711	53,320	655,704	7,336,063	19,144	13,488	687,813	9,248,880
1965	181,938	587,141	30,026	86,494	1,176,718	13,026,753	30,732	25,442	1,109,120	16,254,364
1966	405,543	1,047,254	49,995	154,272	2,153,664	24,390,505	51,178	46,587	1,905,876	30,204,874
1967	785,804	1,024,673	48,387	150,948	2,342,808	28,544,407	49,524	45,652	1,853,965	34,846,168
1968	135,845	268,842	13,439	39,606	1,407,295	13,353,454	13,749	14,121	501,557	15,747,908
1969	54,926	98,140	4,875	14,458	849,319	8,009,833	4,990	6,671	182,498	9,225,710
1970	31,199	36,157	1,750	5,327	290,177	2,920,251	1,789	2,596	66,259	3,355,505
1971	53,554	53,986	2,745	7,954	227,947	2,340,040	2,806	4,513	101,639	2,795,184
1972	105,805	46,154	2,382	6,800	116,949	1,678,484	2,439	4,423	87,630	2,051,066
1973	7,907	28,082	1,443	4,136	54,180	558,698	1,479	2,707	53,214	711,846
1974	79	359	18	53	2,432	7,192	19	35	684	10,871
1975	83	376	19	55	5,094	6,741	20	37	717	13,142
1976	0	0	0	0	8,468	0	0	0	0	8,468
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	6,200	28,026	1,456	4,129	44,965	502,513	1,489	0	53,397	642,175
1983	12,681	57,323	2,977	8,445	91,967	1,027,796	3,045	0	109,214	1,313,448
1984	25,935	117,240	6,089	17,270	188,098	2,102,089	6,227	0	223,371	2,686,319
1985	19,914	90,017	4,677	13,261	144,423	1,614,006	4,780	0	171,506	2,062,584
1986	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0
TOTAL	2,008,749	4,167,085	205,257	613,867	10,392,952	114,158,879	210,051	178,226	7,712,117	139,647,183

TABLE B-11 (Continued)

ALLOCATED CAPITAL COSTS TO EACH CONTRACTOR

(in dollars)

CALENDAR YEAR	SOUTHERN CALIFORNIA								
	Antelope Valley-East Kern Water Agency	Coachella Valley County Water District	Crestline-Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Irrigation District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)
1952	3,349	985	288	1,622	76	1,896	457	7,573	1,776
1953	11,075	3,292	962	5,434	261	6,329	1,508	25,577	5,979
1954	14,627	4,106	1,189	6,775	329	7,933	1,969	30,643	7,254
1955	7,143	1,864	536	3,085	157	3,631	946	13,193	3,181
1956	8,531	2,099	588	3,452	177	4,114	1,120	13,953	3,420
1957	20,118	5,055	1,432	8,334	423	9,874	2,651	34,404	8,378
1958	50,646	12,097	3,372	19,960	1,021	23,840	6,627	78,309	19,370
1959	72,857	16,856	4,878	27,810	1,423	33,003	9,532	107,318	26,761
1960	78,903	21,178	6,386	34,932	1,688	40,808	10,456	151,780	36,228
1961	140,237	44,869	13,517	74,012	3,325	86,906	19,108	325,942	76,881
1962	160,703	39,783	11,227	65,625	3,045	79,324	20,808	230,536	59,190
1963	597,443	152,761	43,820	251,978	12,398	303,773	78,736	933,447	233,857
1964	1,129,261	226,571	60,684	373,714	19,816	462,290	143,771	1,106,432	304,759
1965	1,982,336	398,242	107,596	656,887	33,995	810,264	252,679	1,924,756	533,211
1966	4,054,330	833,194	221,656	1,374,321	70,511	1,701,457	523,774	3,897,098	1,090,221
1967	5,877,337	1,329,451	365,532	2,192,899	106,265	2,687,541	781,439	6,679,407	1,843,091
1968	7,686,409	2,037,788	621,457	3,361,397	154,028	3,975,542	1,089,352	12,388,152	3,305,791
1969	7,152,473	2,646,375	836,128	4,365,322	149,148	5,019,849	1,016,444	18,668,794	4,519,838
1970	2,568,553	1,272,604	417,070	2,099,243	49,758	2,312,088	340,403	12,277,070	2,506,277
1971	1,760,727	558,244	170,740	920,848	31,943	1,075,926	231,371	3,965,790	1,022,970
1972	885,414	215,543	65,182	355,537	15,094	421,939	112,656	1,243,795	332,927
1973	162,856	37,750	9,730	62,267	2,957	77,248	21,661	178,916	48,100
1974	47,996	10,404	2,672	17,158	847	21,282	6,264	48,089	13,133
1975	113,491	20,674	5,231	34,102	1,902	42,698	14,284	88,393	25,390
1976	212,340	38,511	9,742	63,520	3,554	79,525	26,676	164,647	47,289
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	48,166	8,654	2,190	14,274	807	18,038	6,049	37,001	10,661
1983	98,516	17,701	4,478	29,197	1,649	36,889	12,376	75,682	21,810
1984	201,488	36,202	9,159	59,711	3,372	75,451	25,310	154,787	44,606
1985	154,705	27,797	7,032	45,847	2,589	57,931	19,435	118,846	34,247
1986	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0
TOTAL	35,302,030	10,020,650	3,004,474	16,529,263	672,558	19,477,389	4,777,862	64,970,330	16,186,596

TABLE B-11 (Continued)

TABLE B-11 (Continued)

ALLOCATED CAPITAL COSTS TO EACH CONTRACTOR

(in dollars)

CALENDAR YEAR	SOUTHERN CALIFORNIA (Continued)					FUTURE CONTRACTORS			GRAND TOTAL
	San Gorgonio Pass Water District	The Metropolitan Water District of S. California	Upper Santa Clara Valley Water Agency	Ventura County Flood Control District	Total	South Bay	Southern California	Total	
	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)
1952	932	76,347	831	387	96,519	80	299	379	109,951
1953	3,131	255,225	2,720	1,278	322,771	362	1,013	1,375	363,561
1954	3,835	320,648	3,704	1,750	404,762	1,049	1,221	2,270	460,728
1955	1,702	147,285	1,875	887	185,485	1,301	530	1,831	218,191
1956	1,865	166,409	2,306	1,098	209,132	12,474	572	13,046	330,378
1957	4,541	400,193	5,382	2,553	503,338	31,776	1,408	33,184	1,314,185
1958	10,639	964,035	13,867	6,596	1,210,379	38,236	3,247	41,483	2,327,256
1959	15,085	1,396,956	21,476	10,145	1,744,100	60,271	4,540	64,811	3,006,206
1960	19,991	1,802,087	25,101	11,712	2,241,250	132,105	6,221	138,326	4,560,570
1961	42,323	3,468,612	42,666	19,971	4,358,369	336,176	13,220	349,396	9,229,591
1962	33,921	3,495,400	61,067	28,218	4,288,847	264,434	10,013	274,447	8,565,819
1963	133,552	12,292,249	193,292	91,757	15,319,063	669,057	39,772	708,829	26,964,301
1964	180,652	19,501,611	376,887	177,498	24,063,946	987,905	50,775	1,038,680	44,266,507
1965	323,063	35,937,535	713,657	331,571	44,005,792	434,488	89,098	523,586	65,765,398
1966	662,694	77,410,455	1,562,592	712,414	94,114,717	838,782	181,180	1,019,962	131,065,407
1967	1,099,850	143,824,747	3,019,865	1,369,659	171,177,083	1,745,509	310,189	2,055,698	218,469,000
1968	1,937,109	207,199,601	4,018,147	1,848,446	249,623,219	1,502,797	573,983	2,076,780	271,666,000
1969	2,574,703	257,410,962	4,269,237	1,933,748	310,563,021	189,389	788,189	977,578	322,056,000
1970	1,371,857	157,971,255	1,884,801	806,763	185,877,742	21,492	435,794	457,286	190,461,000
1971	542,404	73,334,133	848,919	370,072	84,834,087	19,042	176,506	195,548	88,618,000
1972	185,324	20,363,231	360,159	161,959	24,718,760	32,471	57,780	90,251	28,203,000
1973	29,343	5,370,008	117,880	46,561	6,165,277	43,821	7,890	51,711	8,072,000
1974	8,024	1,647,819	38,085	14,939	1,876,712	431	2,152	2,583	2,929,000
1975	15,603	1,699,752	34,322	16,541	2,112,383	435	4,151	4,586	5,221,000
1976	29,066	3,178,581	64,343	31,008	3,948,802	0	7,730	7,730	13,769,000
1977	0	0	0	0	0	0	0	0	16,948,000
1978	0	0	0	0	0	0	0	0	17,171,000
1979	0	0	0	0	0	0	0	0	17,446,000
1980	0	0	0	0	0	0	0	0	2,600,000
1981	0	0	0	0	0	0	0	0	405,000
1982	6,532	720,023	14,596	7,035	894,026	0	1,740	1,740	1,595,000
1983	13,359	1,472,670	29,853	14,387	1,828,567	0	3,552	3,552	3,205,000
1984	27,324	3,011,966	61,057	29,427	3,739,860	0	7,265	7,265	6,555,000
1985	20,981	2,312,620	46,880	22,593	2,871,503	0	5,580	5,580	5,033,000
1986	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0
TOTAL	9,299,405	1,037,152,415	17,835,567	8,070,973	1,243,299,512	7,363,883	2,785,610	10,149,493	1,518,970,049

TABLE B-12

CAPITAL COST COMPONENTS OF EACH CONTRACTOR*

(in dollars)

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 County FC & WD	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	91,876	89,493	315,135	496,904	0	0	0
1964	0	0	0	98,965	138,181	460,837	697,983	7,296	17,988	25,284
1965	0	0	0	124,788	189,802	785,892	1,100,482	12,969	31,459	44,428
1966	18,493	0	18,493	136,501	208,221	921,535	1,266,257	21,832	52,395	74,227
1967	39,553	0	39,553	156,890	231,099	1,014,946	1,402,935	37,150	88,430	125,580
1968	139,586	21,407	160,993	189,395	266,731	1,112,114	1,568,240	53,338	126,969	180,307
1969	150,866	32,097	182,963	212,881	292,348	1,185,877	1,691,106	58,992	140,953	199,945
1970	158,308	38,775	197,083	216,717	296,643	1,203,473	1,716,833	61,595	147,375	208,970
1971	166,343	44,027	210,370	217,474	297,520	1,211,358	1,726,352	63,293	151,663	214,956
1972	171,958	48,805	220,763	275,524	298,868	1,215,619	1,790,011	65,790	157,893	223,683
1973	172,457	50,098	222,955	277,848	301,488	1,227,012	1,806,348	71,793	172,275	244,068
1974	173,625	51,259	224,884	280,525	304,739	1,243,140	1,828,404	79,427	190,431	269,858
1975	174,410	52,447	226,857	280,551	304,768	1,243,367	1,828,686	91,852	221,304	313,156
1976	177,414	57,594	235,408	280,579	304,796	1,243,595	1,828,970	217,008	522,685	739,693
1977	189,881	71,662	261,543	280,579	304,796	1,243,595	1,828,970	332,160	811,309	1,143,469
1978	214,492	95,944	310,436	280,579	304,796	1,243,595	1,828,970	521,114	1,316,642	1,837,756
1979	265,144	144,483	409,627	280,579	304,796	1,243,595	1,828,970	675,176	1,816,348	2,491,524
1980	394,665	259,430	654,095	280,579	304,796	1,243,595	1,828,970	796,642	2,215,432	3,012,074
1981	401,765	265,924	667,690	280,579	304,796	1,243,595	1,828,970	821,587	2,290,905	3,112,492
1982	402,621	267,217	669,838	280,579	304,796	1,243,595	1,828,970	824,428	2,303,676	3,128,104
1983	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	824,811	2,304,567	3,129,378
1984	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	825,592	2,306,392	3,131,984
1985	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	827,191	2,310,123	3,137,314
1986	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	828,418	2,312,989	3,141,407
1987	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	828,418	2,312,989	3,141,407
1988	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	828,418	2,312,989	3,141,407
1989	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	828,418	2,312,989	3,141,407
1990	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	828,418	2,312,989	3,141,407
1991	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	828,418	2,312,989	3,141,407
1992	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	828,418	2,312,989	3,141,407
1993	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	828,418	2,312,989	3,141,407
1994	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	828,418	2,312,989	3,141,407
1995	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	828,418	2,312,989	3,141,407
1996	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	828,418	2,312,989	3,141,407
1997	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	828,418	2,312,989	3,141,407
1998	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	828,418	2,312,989	3,141,407
1999	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	828,418	2,312,989	3,141,407
2000	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	828,418	2,312,989	3,141,407
2001	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	828,418	2,312,989	3,141,407
2002	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	828,418	2,312,989	3,141,407
2003	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	828,418	2,312,989	3,141,407
2004	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	828,418	2,312,989	3,141,407
2005	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	828,418	2,312,989	3,141,407
2006	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	828,418	2,312,989	3,141,407
2007	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	828,418	2,312,989	3,141,407
2008	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	828,418	2,312,989	3,141,407
2009	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	828,418	2,312,989	3,141,407
2010	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	828,418	2,312,989	3,141,407
2011	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	828,418	2,312,989	3,141,407
2012	403,109	267,956	671,065	280,579	304,796	1,243,595	1,828,970	828,418	2,312,989	3,141,407
2013	403,109	267,956	671,065	181,975	214,903	928,459	1,325,337	828,418	2,312,989	3,141,407
2014	403,109	267,956	671,065	153,236	166,615	782,758	1,102,609	821,122	2,295,001	3,116,123
2015	403,109	267,956	671,065	120,594	114,994	457,703	693,291	815,450	2,281,530	3,096,980
2016	384,216	267,956	652,172	105,928	96,576	322,060	524,564	806,586	2,260,594	3,067,180
2017	363,557	267,956	631,513	80,624	73,698	228,649	382,971	791,269	2,224,558	3,015,827
2018	263,523	246,549	510,072	40,631	38,065	131,481	210,177	775,080	2,186,020	2,961,100
2019	252,243	235,859	488,102	11,969	12,449	57,718	82,136	769,426	2,172,036	2,941,462
2020	244,401	229,181	473,582	7,325	8,153	40,121	55,599	766,823	2,165,614	2,932,437
2021	236,767	223,929	460,696	6,414	7,276	32,237	45,927	765,125	2,161,326	2,926,451
2022	231,151	219,151	450,302	5,055	5,929	27,976	38,960	762,629	2,155,096	2,917,725
2023	230,252	217,858	448,110	2,731	3,309	16,583	22,623	756,625	2,140,714	2,897,339
2024	229,484	216,697	446,181	54	57	455	566	748,991	2,122,558	2,871,549
2025	228,694	215,509	444,208	28	29	228	285	736,566	2,091,685	2,828,251
2026	225,295	210,352	435,657	0	0	0	0	611,410	1,790,304	2,401,714
2027	213,228	195,294	409,522	0	0	0	0	496,258	1,501,680	1,997,938
2028	188,617	172,012	360,629	0	0	0	0	307,304	996,347	1,303,651
2029	137,965	123,473	261,438	0	0	0	0	153,242	496,641	649,883
2030	8,444	8,526	16,970	0	0	0	0	31,776	97,557	129,333
2031	1,344	2,032	3,376	0	0	0	0	6,831	22,084	28,915
2032	489	739	1,228	0	0	0	0	3,990	9,313	13,303
2033	0	0	0	0	0	0	0	3,608	8,422	12,030
2034	0	0	0	0	0	0	0	2,826	6,597	9,423
2035	0	0	0	0	0	0	0	1,228	2,866	4,094

* Unadjusted for prior overpayments or underpayments of charges.

TABLE B-12 (Continued)

CAPITAL COST COMPONENTS OF EACH CONTRACTOR*

(in dollars)

CALENDAR YEAR	SAN JOAQUIN VALLEY									
					Kern County Water Agency					
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Hacienda Water District	Municipal and Industrial	Agriculture	Kings County (Assumed)	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
	(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	58,633	0	0	0	0	58,633
1966	0	0	0	0	110,233	0	0	0	0	110,233
1967	0	0	0	0	204,672	0	0	0	0	204,672
1968	26,744	46,788	8,278	5,414	308,480	313,904	7,785	3,773	107,731	828,897
1969	33,973	55,332	8,278	6,664	370,191	644,648	8,388	4,101	117,342	1,248,917
1970	41,201	63,876	8,278	8,329	407,433	784,086	8,607	4,266	127,355	1,453,431
1971	48,429	72,827	8,278	9,579	420,158	1,041,406	8,685	4,594	136,967	1,750,923
1972	55,658	81,370	8,278	10,828	430,153	1,559,415	8,808	4,758	146,979	2,306,247
1973	62,886	89,508	8,278	12,077	435,281	1,798,547	8,915	5,086	156,590	2,577,168
1974	70,114	98,052	8,278	13,743	437,657	2,014,103	8,979	5,250	172,209	2,828,385
1975	77,342	106,596	8,278	14,992	437,764	2,241,784	8,980	5,579	187,828	3,089,143
1976	84,571	115,139	8,278	16,242	437,987	2,537,501	8,981	5,742	203,447	3,417,888
1977	91,799	123,684	8,278	17,491	438,358	2,849,383	8,981	6,070	219,467	3,763,511
1978	91,799	132,227	8,278	19,157	438,358	3,167,329	8,981	6,399	235,085	4,107,613
1979	91,799	140,772	8,278	20,407	438,358	3,477,865	8,981	6,563	250,704	4,443,727
1980	91,799	149,315	8,278	21,656	438,358	3,795,137	8,981	6,891	266,323	4,786,738
1981	91,799	157,860	8,278	23,322	438,358	4,153,499	8,981	7,055	281,941	5,171,093
1982	91,799	166,810	8,278	24,571	438,358	4,484,243	8,981	7,383	297,561	5,527,984
1983	91,799	174,540	8,278	25,821	440,330	4,860,792	9,047	7,548	313,179	5,931,334
1984	91,799	183,491	8,278	27,070	444,363	5,200,293	9,141	7,876	328,799	6,301,150
1985	91,799	192,035	8,278	28,736	452,611	5,531,037	9,454	8,039	344,417	6,666,406
1986	91,799	200,579	8,278	29,985	458,944	5,859,087	9,664	8,367	360,437	7,027,140
1987	91,799	209,123	8,278	31,234	458,944	6,193,199	9,664	8,532	376,056	7,386,829
1988	91,799	217,667	8,278	32,484	458,944	6,505,082	9,664	8,860	391,675	7,724,453
1989	91,799	226,211	8,278	34,149	458,944	6,730,069	9,664	9,188	407,294	7,975,596
1990	91,799	234,754	8,278	35,399	458,944	6,967,854	9,664	9,352	440,534	8,256,578
1991	91,799	234,754	8,278	35,399	458,944	6,967,854	9,664	9,352	440,534	8,256,578
1992	91,799	234,754	8,278	35,399	458,944	6,967,854	9,664	9,352	440,534	8,256,578
1993	91,799	234,754	8,278	35,399	458,944	6,967,854	9,664	9,352	440,534	8,256,578
1994	91,799	234,754	8,278	35,399	458,944	6,967,854	9,664	9,352	440,534	8,256,578
1995	91,799	234,754	8,278	35,399	458,944	6,967,854	9,664	9,352	440,534	8,256,578
1996	91,799	234,754	8,278	35,399	458,944	6,967,854	9,664	9,352	440,534	8,256,578
1997	91,799	234,754	8,278	35,399	458,944	6,967,854	9,664	9,352	440,534	8,256,578
1998	91,799	234,754	8,278	35,399	458,944	6,967,854	9,664	9,352	440,534	8,256,578
1999	91,799	234,754	8,278	35,399	458,944	6,967,854	9,664	9,352	440,534	8,256,578
2000	91,799	234,754	8,278	35,399	458,944	6,967,854	9,664	9,352	440,534	8,256,578
2001	91,799	234,754	8,278	35,399	458,944	6,967,854	9,664	9,352	440,534	8,256,578
2002	91,799	234,754	8,278	35,399	458,944	6,967,854	9,664	9,352	440,534	8,256,578
2003	91,799	234,754	8,278	35,399	458,944	6,967,854	9,664	9,352	440,534	8,256,578
2004	91,799	234,754	8,278	35,399	458,944	6,967,854	9,664	9,352	440,534	8,256,578
2005	91,799	234,754	8,278	35,399	458,944	6,967,854	9,664	9,352	440,534	8,256,578
2006	91,799	234,754	8,278	35,399	458,944	6,967,854	9,664	9,352	440,534	8,256,578
2007	91,799	234,754	8,278	35,399	458,944	6,967,854	9,664	9,352	440,534	8,256,578
2008	91,799	234,754	8,278	35,399	458,944	6,967,854	9,664	9,352	440,534	8,256,578
2009	91,799	234,754	8,278	35,399	458,944	6,967,854	9,664	9,352	440,534	8,256,578
2010	91,799	234,754	8,278	35,399	458,944	6,967,854	9,664	9,352	440,534	8,256,578
2011	91,799	234,754	8,278	35,399	458,944	6,967,854	9,664	9,352	440,534	8,256,578
2012	91,799	234,754	8,278	35,399	458,944	6,967,854	9,664	9,352	440,534	8,256,578
2013	91,799	234,754	8,278	35,399	458,944	6,967,854	9,664	9,352	440,534	8,256,578
2014	91,799	234,754	8,278	35,399	458,944	6,967,854	9,664	9,352	440,534	8,256,578
2015	91,799	234,754	8,278	35,399	400,311	6,967,854	9,664	9,352	440,534	8,197,945
2016	91,799	234,754	8,278	35,399	348,711	6,967,854	9,664	9,352	440,534	8,146,345
2017	91,799	234,754	8,278	35,399	254,272	6,967,854	9,664	9,352	440,534	8,051,906
2018	91,799	234,754	8,278	35,399	150,465	6,967,854	1,879	9,352	440,534	7,940,314
2019	91,799	234,754	8,278	35,399	88,754	6,967,854	1,276	9,352	440,534	7,878,000
2020	91,799	234,754	8,278	35,399	51,511	6,967,854	1,057	9,352	440,534	7,840,538
2021	91,799	234,754	8,278	35,399	38,787	6,967,854	979	9,352	440,534	7,827,736
2022	91,799	234,754	8,278	35,399	28,791	6,967,854	856	9,352	440,534	7,817,617
2023	91,799	234,754	8,278	35,399	23,664	6,967,854	749	9,352	440,534	7,812,383
2024	91,799	234,754	8,278	35,399	21,287	6,967,854	685	9,352	440,534	7,809,942
2025	91,799	234,754	8,278	35,399	21,180	6,967,854	684	9,352	440,534	7,809,834
2026	91,799	234,754	8,278	35,399	20,957	6,967,854	683	9,352	440,534	7,809,610
2027	91,799	234,754	8,278	35,399	20,586	6,967,854	683	9,352	440,534	7,809,239
2028	91,799	234,754	8,278	35,399	20,586	6,967,854	683	9,352	440,534	7,809,239
2029	91,799	234,754	8,278	35,399	20,586	6,967,854	683	9,352	440,534	7,809,239
2030	91,799	234,754	8,278	35,399	20,586	6,967,854	683	9,352	440,534	7,809,239
2031	91,799	234,754	8,278	35,399	20,586	6,967,854	683	9,352	440,534	7,809,239
2032	91,799	234,754	8,278	35,399	20,586	6,967,854	683	9,352	440,534	7,809,239
2033	91,799	234,754	8,278	35,399	18,614	6,967,854	617	9,352	440,534	7,807,201
2034	91,799	234,754	8,278	35,399	14,581	6,967,854	484	9,352	440,534	7,803,035
2035	91,799	234,754	8,278	35,399	6,333	6,967,854	210	9,352	440,534	7,794,513

* Unadjusted for prior overpayments or underpayments of charges.

TABLE B-12 (Continued)

CAPITAL COST COMPONENTS OF EACH CONTRACTOR*

(in dollars)

CALENDAR YEAR	SOUTHERN CALIFORNIA								
	Antelope Valley-East Kern Water Agency	Coachella Valley County Water District	Crestline-Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Irrigation District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)
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	26,950	0	0	0	0	0	0	48,463	0
1964	53,149	14,178	4,101	35,282	1,132	27,942	7,152	89,395	34,296
1965	102,564	24,113	6,762	39,333	2,001	48,214	13,456	137,912	35,421
1966	189,594	41,577	11,480	68,138	3,491	83,745	24,537	222,313	58,802
1967	367,378	78,113	21,199	128,403	6,583	158,354	47,505	393,203	106,608
1968	626,254	136,618	37,280	224,905	11,262	276,635	81,915	686,983	187,684
1969	963,308	225,976	64,532	372,304	18,015	450,965	129,684	1,230,211	332,645
1970	1,276,948	342,020	101,197	563,726	24,555	671,089	174,256	2,048,848	530,843
1971	1,389,580	397,825	119,486	655,780	26,737	772,475	189,183	2,587,204	640,745
1972	1,466,789	422,304	126,973	696,160	28,138	819,655	199,329	2,761,107	685,603
1973	1,505,615	431,756	129,832	711,750	28,800	838,157	204,268	2,815,647	700,201
1974	1,512,757	433,412	130,259	714,481	28,930	841,544	205,218	2,823,493	702,311
1975	1,514,861	433,868	130,376	715,233	28,967	842,477	205,493	2,825,602	702,887
1976	1,519,838	434,774	130,605	716,729	29,050	844,350	206,119	2,829,478	704,001
1977	1,529,149	436,463	131,032	719,514	29,206	847,837	207,289	2,836,698	706,074
1978	1,529,149	436,463	131,032	719,514	29,206	847,837	207,289	2,836,698	706,074
1979	1,529,149	436,463	131,032	719,514	29,206	847,837	207,289	2,836,698	706,074
1980	1,529,149	436,463	131,032	719,514	29,206	847,837	207,289	2,836,698	706,074
1981	1,529,149	436,463	131,032	719,514	29,206	847,837	207,289	2,836,698	706,074
1982	1,529,149	436,463	131,032	719,514	29,206	847,837	207,289	2,836,698	706,074
1983	1,531,262	436,842	131,128	720,140	29,241	848,628	207,555	2,838,320	706,542
1984	1,535,582	437,618	131,324	721,420	29,314	850,245	208,048	2,841,639	707,498
1985	1,544,414	439,206	131,726	724,038	29,461	853,553	209,208	2,848,426	709,454
1986	1,551,201	440,424	132,034	726,049	29,575	856,094	210,060	2,853,637	710,957
1987	1,551,201	440,424	132,034	726,049	29,575	856,094	210,060	2,853,637	710,957
1988	1,551,201	440,424	132,034	726,049	29,575	856,094	210,060	2,853,637	710,957
1989	1,551,201	440,424	132,034	726,049	29,575	856,094	210,060	2,853,637	710,957
1990	1,551,201	440,424	132,034	726,049	29,575	856,094	210,060	2,853,637	710,957
1991	1,551,201	440,424	132,034	726,049	29,575	856,094	210,060	2,853,637	710,957
1992	1,551,201	440,424	132,034	726,049	29,575	856,094	210,060	2,853,637	710,957
1993	1,551,201	440,424	132,034	726,049	29,575	856,094	210,060	2,853,637	710,957
1994	1,551,201	440,424	132,034	726,049	29,575	856,094	210,060	2,853,637	710,957
1995	1,551,201	440,424	132,034	726,049	29,575	856,094	210,060	2,853,637	710,957
1996	1,551,201	440,424	132,034	726,049	29,575	856,094	210,060	2,853,637	710,957
1997	1,551,201	440,424	132,034	726,049	29,575	856,094	210,060	2,853,637	710,957
1998	1,551,201	440,424	132,034	726,049	29,575	856,094	210,060	2,853,637	710,957
1999	1,551,201	440,424	132,034	726,049	29,575	856,094	210,060	2,853,637	710,957
2000	1,551,201	440,424	132,034	726,049	29,575	856,094	210,060	2,853,637	710,957
2001	1,551,201	440,424	132,034	726,049	29,575	856,094	210,060	2,853,637	710,957
2002	1,551,201	440,424	132,034	726,049	29,575	856,094	210,060	2,853,637	710,957
2003	1,551,201	440,424	132,034	726,049	29,575	856,094	210,060	2,853,637	710,957
2004	1,551,201	440,424	132,034	726,049	29,575	856,094	210,060	2,853,637	710,957
2005	1,551,201	440,424	132,034	726,049	29,575	856,094	210,060	2,853,637	710,957
2006	1,551,201	440,424	132,034	726,049	29,575	856,094	210,060	2,853,637	710,957
2007	1,551,201	440,424	132,034	726,049	29,575	856,094	210,060	2,853,637	710,957
2008	1,551,201	440,424	132,034	726,049	29,575	856,094	210,060	2,853,637	710,957
2009	1,551,201	440,424	132,034	726,049	29,575	856,094	210,060	2,853,637	710,957
2010	1,551,201	440,424	132,034	726,049	29,575	856,094	210,060	2,853,637	710,957
2011	1,551,201	440,424	132,034	726,049	29,575	856,094	210,060	2,853,637	710,957
2012	1,551,201	440,424	132,034	726,049	29,575	856,094	210,060	2,853,637	710,957
2013	1,524,251	440,424	132,034	714,153	29,575	856,094	210,060	2,805,175	699,155
2014	1,498,153	428,247	127,933	703,104	28,444	828,152	202,908	2,764,243	688,900
2015	1,448,334	410,311	125,272	686,716	27,575	807,880	196,604	2,715,724	675,536
2016	1,361,607	398,847	120,554	657,911	26,084	772,350	185,523	2,631,324	652,155
2017	1,183,423	362,311	110,835	597,646	22,993	697,740	162,555	2,460,434	604,348
2018	924,947	303,907	94,753	501,144	18,314	579,459	128,145	2,166,654	523,273
2019	587,493	214,449	67,502	353,745	11,560	405,129	80,375	1,623,427	378,312
2020	274,253	98,404	30,837	162,323	5,020	185,005	35,804	804,789	180,114
2021	161,421	42,600	12,548	70,269	2,838	83,619	20,877	266,433	70,212
2022	84,412	18,121	5,061	29,889	1,437	36,439	10,731	92,531	25,354
2023	45,586	8,668	2,202	14,299	775	17,937	5,792	37,990	10,755
2024	38,445	7,013	1,775	11,558	645	14,550	4,842	30,144	8,646
2025	36,341	6,557	1,658	10,816	608	13,617	4,567	28,035	8,070
2026	31,364	5,650	1,429	9,320	525	11,744	3,941	24,159	6,956
2027	22,052	3,962	1,002	6,535	370	8,257	2,771	16,939	4,882
2028	22,052	3,962	1,002	6,535	370	8,257	2,771	16,939	4,882
2029	22,052	3,962	1,002	6,535	370	8,257	2,771	16,939	4,882
2030	22,052	3,962	1,002	6,535	370	8,257	2,771	16,939	4,882
2031	22,052	3,962	1,002	6,535	370	8,257	2,771	16,939	4,882
2032	22,052	3,962	1,002	6,535	370	8,257	2,771	16,939	4,882
2033	19,340	3,582	906	5,909	334	7,466	2,505	15,317	4,414
2034	15,419	2,806	709	4,628	262	5,849	1,962	11,999	3,458
2035	6,784	1,219	308	2,011	114	2,541	852	5,211	1,502

* Unadjusted for prior overpayments or underpayments of charges.

TABLE B-12 (Continued)

CAPITAL COST COMPONENTS OF EACH CONTRACTOR*

(in dollars)

CALENDAR YEAR	SOUTHERN CALIFORNIA (Continued)					FUTURE CONTRACTOR			GRAND TOTAL
	San Gorgonio Pass Water Agency	The Metropolitan Water District of Southern California	Upper Santa Clara Valley Water Agency	Ventura County Flood Control District	Total	South Bay	Southern California	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	590,878	0	0	666,291	40,786	0	40,786	1,203,981
1964	19,187	1,129,900	17,298	8,149	1,441,161	70,125	0	70,125	2,234,553
1965	20,321	1,985,058	33,825	15,933	2,465,017	113,445	0	113,445	3,782,005
1966	34,488	3,560,941	65,120	30,472	4,394,698	132,498	0	132,498	5,996,806
1967	63,548	6,455,436	133,540	61,712	8,521,682	169,279	0	169,279	10,463,701
1968	111,334	13,279,441	266,412	121,941	16,049,264	245,820	32,995	278,815	19,066,516
1969	196,377	22,365,267	442,610	202,996	26,995,390	311,719	58,165	369,884	30,688,205
1970	309,780	33,652,891	629,819	287,792	40,613,764	320,024	92,727	412,751	44,602,832
1971	369,336	40,580,024	712,469	323,169	48,764,613	320,966	111,836	432,802	53,100,016
1972	393,720	43,795,770	749,695	339,397	52,484,640	321,801	119,576	441,377	57,466,721
1973	401,847	44,684,709	765,488	346,498	53,568,568	323,225	122,110	445,335	58,864,442
1974	403,134	44,924,188	770,657	348,540	53,838,924	325,147	122,456	447,603	59,438,058
1975	403,485	44,996,446	772,327	349,195	53,921,218	325,165	122,550	447,715	59,826,775
1976	404,169	45,070,981	773,832	349,920	54,013,846	325,184	122,732	447,916	60,683,721
1977	405,444	45,210,363	776,653	351,279	54,187,001	325,184	123,071	448,255	61,632,749
1978	405,444	45,210,363	776,653	351,279	54,187,001	325,184	123,071	448,255	62,720,031
1979	405,444	45,210,363	776,653	351,279	54,187,001	325,184	123,071	448,255	63,809,104
1980	405,444	45,210,363	776,653	351,279	54,187,001	325,184	123,071	448,255	64,917,133
1981	405,444	45,210,363	776,653	351,279	54,187,001	325,184	123,071	448,255	65,415,501
1982	405,444	45,210,363	776,653	351,279	54,187,001	325,184	123,071	448,255	65,790,152
1983	405,730	45,241,937	777,293	351,588	54,226,206	325,184	123,148	448,332	66,235,285
1984	406,315	45,306,515	778,602	352,219	54,306,390	325,184	123,303	448,487	66,688,046
1985	407,514	45,438,591	781,279	353,509	54,470,383	325,184	123,622	448,806	67,222,944
1986	408,433	45,540,001	783,336	354,500	54,596,301	325,184	123,867	449,051	67,713,934
1987	408,433	45,540,001	783,336	354,500	54,596,301	325,184	123,867	449,051	68,073,623
1988	408,433	45,540,001	783,336	354,500	54,596,301	325,184	123,867	449,051	68,411,247
1989	408,433	45,540,001	783,336	354,500	54,596,301	325,184	123,867	449,051	68,662,390
1990	408,433	45,540,001	783,336	354,500	54,596,301	325,184	123,867	449,051	68,943,372
1991	408,433	45,540,001	783,336	354,500	54,596,301	325,184	123,867	449,051	68,943,372
1992	408,433	45,540,001	783,336	354,500	54,596,301	325,184	123,867	449,051	68,943,372
1993	408,433	45,540,001	783,336	354,500	54,596,301	325,184	123,867	449,051	68,943,372
1994	408,433	45,540,001	783,336	354,500	54,596,301	325,184	123,867	449,051	68,943,372
1995	408,433	45,540,001	783,336	354,500	54,596,301	325,184	123,867	449,051	68,943,372
1996	408,433	45,540,001	783,336	354,500	54,596,301	325,184	123,867	449,051	68,943,372
1997	408,433	45,540,001	783,336	354,500	54,596,301	325,184	123,867	449,051	68,943,372
1998	408,433	45,540,001	783,336	354,500	54,596,301	325,184	123,867	449,051	68,943,372
1999	408,433	45,540,001	783,336	354,500	54,596,301	325,184	123,867	449,051	68,943,372
2000	408,433	45,540,001	783,336	354,500	54,596,301	325,184	123,867	449,051	68,943,372
2001	408,433	45,540,001	783,336	354,500	54,596,301	325,184	123,867	449,051	68,943,372
2002	408,433	45,540,001	783,336	354,500	54,596,301	325,184	123,867	449,051	68,943,372
2003	408,433	45,540,001	783,336	354,500	54,596,301	325,184	123,867	449,051	68,943,372
2004	408,433	45,540,001	783,336	354,500	54,596,301	325,184	123,867	449,051	68,943,372
2005	408,433	45,540,001	783,336	354,500	54,596,301	325,184	123,867	449,051	68,943,372
2006	408,433	45,540,001	783,336	354,500	54,596,301	325,184	123,867	449,051	68,943,372
2007	408,433	45,540,001	783,336	354,500	54,596,301	325,184	123,867	449,051	68,943,372
2008	408,433	45,540,001	783,336	354,500	54,596,301	325,184	123,867	449,051	68,943,372
2009	408,433	45,540,001	783,336	354,500	54,596,301	325,184	123,867	449,051	68,943,372
2010	408,433	45,540,001	783,336	354,500	54,596,301	325,184	123,867	449,051	68,943,372
2011	408,433	45,540,001	783,336	354,500	54,596,301	325,184	123,867	449,051	68,943,372
2012	408,433	45,540,001	783,336	354,500	54,596,301	325,184	123,867	449,051	68,943,372
2013	401,889	44,949,123	783,336	354,500	53,899,769	284,398	123,867	408,265	67,702,421
2014	396,033	44,410,101	766,038	346,351	53,186,507	255,059	123,867	378,926	66,711,808
2015	388,112	43,554,943	749,510	338,567	52,131,286	211,740	123,867	335,607	65,126,174
2016	373,945	41,979,061	718,216	324,028	50,201,605	192,687	123,867	316,554	62,908,420
2017	344,385	38,584,566	649,696	292,788	46,074,620	155,906	123,867	279,773	58,436,610
2018	296,500	32,260,561	516,923	232,559	38,547,039	79,364	90,872	170,236	50,338,938
2019	211,556	23,174,734	340,725	151,504	27,600,911	13,465	65,702	79,167	39,069,778
2020	96,654	11,887,111	153,516	66,708	13,982,538	5,161	31,140	36,301	25,321,395
2021	38,497	4,959,977	70,867	31,331	5,831,689	4,218	12,030	16,248	17,108,747
2022	14,713	1,744,232	33,641	15,103	2,111,664	3,383	4,291	7,674	13,343,942
2023	6,586	851,292	17,848	8,001	1,027,731	1,959	1,757	3,716	12,211,902
2024	5,299	615,814	12,679	5,960	757,380	38	1,411	1,449	11,887,067
2025	4,948	543,556	11,009	5,305	675,086	19	1,317	1,336	11,759,000
2026	4,264	469,021	9,504	4,580	582,457	0	1,135	1,135	11,230,573
2027	2,990	329,638	6,683	3,220	409,301	0	796	796	10,626,796
2028	2,990	329,638	6,683	3,220	409,301	0	796	796	9,883,616
2029	2,990	329,638	6,683	3,220	409,301	0	796	796	9,130,657
2030	2,990	329,638	6,683	3,220	409,301	0	796	796	8,365,639
2031	2,990	329,638	6,683	3,220	409,301	0	796	796	8,251,627
2032	2,990	329,638	6,683	3,220	409,301	0	796	796	8,233,867
2033	2,703	298,064	6,042	2,912	370,094	0	719	719	8,190,044
2034	2,118	233,487	4,734	2,281	289,912	0	564	564	8,102,934
2035	920	101,410	2,056	991	125,919	0	245	245	7,924,771

* Unadjusted for prior overpayments or underpayments of charges.

TABLE B-13

MINIMUM OPERATION, MAINTENANCE, POWER AND REPLACEMENT COMPONENTS OF EACH CONTRACTOR*

(in dollars)

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 County FC & WD	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	18,453	16,871	0	35,324	0	0	0
1963	0	0	0	33,586	30,707	73,123	137,416	0	0	0
1964	0	0	0	35,159	32,146	76,548	143,853	0	0	0
1965	0	0	0	69,272	67,384	173,579	310,235	0	0	0
1966	0	0	0	73,368	72,296	195,371	341,040	0	0	0
1967	0	0	0	61,132	61,235	185,834	308,201	0	0	0
1968	32,000	0	32,000	61,758	61,853	188,305	311,926	29,318	68,450	97,768
1969	31,000	0	31,000	69,729	69,493	206,565	345,787	32,475	75,815	108,290
1970	31,000	0	31,000	71,460	70,696	209,422	351,578	33,471	78,137	111,608
1971	31,000	0	31,000	72,277	71,476	211,283	355,036	36,239	84,600	120,839
1972	31,000	0	31,000	68,358	67,858	202,667	338,883	35,712	83,376	119,088
1973	31,000	0	31,000	68,773	68,273	203,655	340,701	35,763	83,492	119,255
1974	31,000	0	31,000	70,638	70,060	207,911	348,609	36,433	85,052	121,485
1975	31,000	0	31,000	70,518	70,250	208,368	349,136	36,408	84,992	121,400
1976	31,000	0	31,000	70,323	70,074	207,946	348,343	36,352	84,861	121,213
1977	31,000	0	31,000	69,994	69,770	207,226	346,990	36,177	84,454	120,631
1978	31,000	0	31,000	69,673	69,480	206,532	345,685	36,229	84,576	120,805
1979	31,000	0	31,000	69,616	69,428	206,407	345,451	36,187	84,475	120,662
1980	79,334	83,666	163,000	69,487	69,308	206,123	344,918	119,809	299,396	419,205
1981	79,334	83,666	163,000	69,250	69,093	205,611	343,954	115,889	290,242	406,131
1982	79,334	83,666	163,000	68,948	68,816	204,953	342,717	109,731	275,870	385,601
1983	78,936	83,064	162,000	68,713	68,601	204,439	341,753	106,715	268,832	375,547
1984	78,936	83,064	162,000	68,334	68,255	203,615	340,204	106,314	267,893	374,207
1985	78,936	83,064	162,000	68,372	68,289	203,699	340,360	103,825	262,082	365,907
1986	78,936	83,064	162,000	68,687	68,577	204,384	341,648	104,301	263,192	367,493
1987	78,936	83,064	162,000	68,089	68,030	203,082	339,201	103,483	261,281	364,764
1988	78,936	83,064	162,000	67,749	67,719	202,341	337,809	102,814	259,720	362,534
1989	78,936	83,064	162,000	67,787	67,754	202,424	337,965	102,525	259,042	361,567
1990	78,936	83,064	162,000	67,816	67,780	202,486	338,082	102,248	258,392	360,640
1991	78,936	83,064	162,000	67,787	67,754	202,424	337,965	102,125	258,110	360,235
1992	78,936	83,064	162,000	67,787	67,754	202,424	337,965	102,125	258,110	360,235
1993	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
1994	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
1995	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
1996	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
1997	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
1998	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
1999	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2000	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2001	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2002	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2003	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2004	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2005	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2006	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2007	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2008	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2009	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2010	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2011	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2012	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2013	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2014	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2015	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2016	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2017	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2018	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2019	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2020	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2021	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2022	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2023	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2024	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2025	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2026	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2027	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2028	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2029	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2030	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2031	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2032	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2033	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2034	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218
2035	78,936	83,064	162,000	67,551	67,539	201,911	337,001	102,121	258,097	360,218

* Unadjusted for prior overpayments or underpayments of charges.

TABLE B-13 (Continu d)

MINIMUM OPERATION, MAINTENANCE, POWER AND REPLACEMENT COMPONENTS OF EACH CONTRACTOR*

(in dollars)

CALENDAR YEAR	SAN JOAQUIN VALLEY									
					Kern County Water Agency					
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Hacienda Water District	Municipal and Industrial	Agriculture	Kings County (Assumed)	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
	(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	20,724	60,736	3,068	8,946	106,562	1,228,932	3,141	3,090	113,980	1,549,179
1969	22,946	63,770	3,212	9,395	113,114	1,310,886	3,285	3,284	119,445	1,649,337
1970	23,654	67,644	3,389	9,966	133,552	1,477,577	3,467	3,577	126,345	1,849,171
1971	25,400	69,780	3,467	10,279	158,757	1,740,848	3,547	3,666	129,746	2,145,690
1972	25,228	67,752	3,359	9,981	158,237	1,723,972	3,435	3,492	125,810	2,121,266
1973	25,265	68,253	3,383	10,055	159,321	1,735,180	3,462	3,534	126,744	2,135,197
1974	25,737	69,727	3,459	10,269	162,023	1,765,563	3,538	3,642	129,529	2,173,487
1975	25,718	69,306	3,437	10,209	161,533	1,760,323	3,514	3,592	128,707	2,166,337
1976	25,675	68,786	3,406	10,131	160,877	1,753,359	3,445	3,523	127,682	2,156,425
1977	25,553	68,562	3,394	10,098	160,545	1,748,850	3,473	3,505	127,256	2,151,236
1978	25,590	68,729	3,403	10,124	160,861	1,752,161	3,481	3,529	127,575	2,155,453
1979	25,559	68,591	3,396	10,104	160,700	1,750,156	3,475	3,519	127,310	2,152,810
1980	25,885	68,725	3,402	10,124	160,789	1,753,903	3,483	3,535	127,568	2,157,413
1981	25,769	68,655	3,398	10,113	160,640	1,752,314	3,479	3,533	127,434	2,155,435
1982	25,756	68,483	3,390	10,088	160,289	1,748,082	3,469	3,520	127,105	2,150,182
1983	25,744	68,430	3,388	10,080	160,093	1,746,359	3,466	3,519	127,004	2,148,083
1984	25,672	68,103	3,370	10,031	159,405	1,739,325	3,449	3,492	126,382	2,139,229
1985	25,611	68,154	3,373	10,038	159,493	1,739,654	3,452	3,498	126,478	2,139,751
1986	25,736	68,717	3,402	10,122	160,422	1,749,804	3,481	3,554	127,552	2,152,790
1987	25,681	68,015	3,365	10,018	159,239	1,736,727	3,444	3,489	126,215	2,136,093
1988	25,530	67,792	3,355	9,986	158,848	1,732,447	3,432	3,468	125,789	2,130,647
1989	25,539	67,825	3,357	9,990	158,907	1,733,030	3,433	3,475	125,851	2,131,407
1990	25,553	67,894	3,360	10,001	158,995	1,734,191	3,437	3,480	125,983	2,132,894
1991	25,469	67,842	3,358	9,993	158,890	1,732,585	3,434	3,475	125,885	2,130,931
1992	25,469	67,842	3,358	9,993	158,890	1,732,585	3,434	3,475	125,885	2,130,931
1993	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
1994	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
1995	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
1996	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
1997	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
1998	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
1999	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2000	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2001	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2002	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2003	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2004	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2005	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2006	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2007	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2008	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2009	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2010	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2011	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2012	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2013	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2014	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2015	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2016	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2017	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2018	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2019	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2020	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2021	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2022	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2023	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2024	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2025	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2026	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2027	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2028	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2029	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2030	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2031	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2032	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2033	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2034	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537
2035	25,465	67,825	3,357	9,991	158,862	1,732,278	3,434	3,473	125,852	2,130,537

* Unadjusted for prior overpayments or underpayments of charges.

TABLE B-13 (Continued)

MINIMUM OPERATION, MAINTENANCE, POWER AND REPLACEMENT COMPONENTS OF EACH CONTRACTOR*

(in dollars)

CALENDAR YEAR	SOUTHERN CALIFORNIA								
	Antelope Valley-East Kern Water Agency	Coachella Valley County Water District	Crestline-Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Irrigation District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)
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	114,164	20,512	5,190	33,829	1,910	42,751	14,340	87,697	25,271
1969	121,175	21,771	5,509	35,908	2,028	45,377	15,222	93,085	26,825
1970	146,740	26,372	6,673	43,506	2,455	54,949	18,435	112,770	32,494
1971	317,110	57,183	14,470	94,322	5,310	118,753	39,834	244,493	70,366
1972	404,434	120,205	31,641	198,269	7,740	245,162	54,983	595,179	165,619
1973	406,719	119,583	31,490	197,245	7,738	243,849	55,108	592,518	164,936
1974	411,725	120,993	31,845	199,576	7,827	246,777	55,758	596,359	166,063
1975	411,964	121,193	31,905	199,907	7,836	247,162	55,811	599,835	167,021
1976	410,777	121,134	31,903	199,804	7,820	247,019	55,843	600,043	167,055
1977	410,860	120,914	31,838	199,438	7,822	246,582	55,693	599,076	166,795
1978	411,337	121,027	31,868	199,629	7,831	246,817	55,753	599,564	166,935
1979	411,569	121,210	31,913	199,931	7,835	247,196	55,742	600,201	167,121
1980	409,809	120,694	31,784	199,075	7,807	246,129	55,561	598,286	166,568
1981	409,389	120,620	31,762	198,951	7,801	245,973	55,508	597,964	166,476
1982	407,917	120,353	31,694	198,514	7,776	245,420	55,322	597,123	166,230
1983	406,432	120,056	31,621	198,023	7,751	244,805	55,137	596,287	165,987
1984	403,548	119,394	31,453	196,933	7,701	243,434	54,776	593,898	165,298
1985	403,713	119,394	31,455	196,933	7,703	243,439	54,796	593,314	165,135
1986	404,887	119,604	31,509	197,284	7,722	243,878	54,944	593,778	165,272
1987	403,107	119,228	31,413	196,659	7,693	243,095	54,719	592,314	164,848
1988	402,319	119,029	31,364	196,333	7,682	242,682	54,619	592,053	164,768
1989	402,532	119,068	31,373	196,397	7,684	242,762	54,647	592,069	164,775
1990	402,342	118,977	31,350	196,244	7,682	242,575	54,622	591,973	164,747
1991	401,947	118,934	31,335	196,176	7,675	242,484	54,573	591,788	164,692
1992	401,947	118,934	31,335	196,176	7,675	242,484	54,573	591,788	164,692
1993	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
1994	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
1995	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
1996	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
1997	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
1998	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
1999	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2000	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2001	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2002	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2003	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2004	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2005	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2006	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2007	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2008	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2009	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2010	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2011	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2012	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2013	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2014	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2015	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2016	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2017	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2018	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2019	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2020	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2021	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2022	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2023	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2024	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2025	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2026	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2027	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2028	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2029	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2030	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2031	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2032	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2033	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2034	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685
2035	401,918	118,929	31,334	196,167	7,675	242,473	54,569	591,766	164,685

* Unadjusted for prior overpayments or underpayments of charges.

TABLE B-13 (Continued)

MINIMUM OPERATION, MAINTENANANCE, POWER AND REPLACEMENT COMPONENTS OF EACH CONTRACTOR*

(in dollars)

CALENDAR YEAR	SOUTHERN CALIFORNIA (Continued)					FUTURE CONTRACTOR			GRAND TOTAL
	San Gorgonio Pass Water Agency	The Metropolitan Water District of Southern California	Upper Santa Clara Valley Water Agency	Ventura County Flood Control District	Total	South Bay	Southern California	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	35,324
1963	0	0	0	0	0	11,197	0	11,197	148,613
1964	0	0	0	0	0	11,721	0	11,721	155,574
1965	0	0	0	0	0	25,748	0	25,748	335,983
1966	0	0	0	0	0	28,054	0	28,054	369,084
1967	0	0	0	0	0	25,713	0	25,713	333,914
1968	15,480	1,711,561	34,594	16,674	2,123,973	26,037	4,117	30,154	4,145,000
1969	16,431	1,817,323	36,721	17,697	2,255,072	32,143	4,371	36,514	4,426,000
1970	19,309	2,207,559	44,465	21,430	2,737,757	32,593	5,293	37,886	5,119,000
1971	43,163	5,987,135	129,837	61,035	7,182,061	32,895	11,479	44,374	9,879,000
1972	94,590	8,303,098	135,895	64,434	10,421,799	31,548	27,416	58,964	13,091,000
1973	94,192	8,337,156	137,234	65,067	10,452,835	31,706	27,306	59,012	13,138,000
1974	95,256	8,382,224	137,811	65,332	10,517,546	32,388	27,445	59,873	13,252,000
1975	95,450	8,417,160	138,235	65,537	10,559,016	32,460	27,651	60,111	13,287,000
1976	95,421	8,413,263	138,085	65,465	10,553,472	32,385	27,662	60,047	13,271,000
1977	95,234	8,411,338	138,164	65,504	10,549,258	32,271	27,614	59,885	13,259,000
1978	95,319	8,425,044	138,472	65,653	10,565,249	32,170	27,638	59,808	13,278,000
1979	95,459	8,429,879	138,500	65,665	10,572,261	32,149	27,667	59,816	13,282,000
1980	95,267	8,412,104	138,317	65,578	10,546,779	32,107	27,578	59,685	13,691,000
1981	95,010	8,406,685	138,219	65,529	10,539,887	32,029	27,564	59,593	13,664,000
1982	94,812	8,394,443	138,018	65,433	10,523,055	31,926	27,519	59,445	13,624,000
1983	94,587	8,380,514	137,774	65,313	10,504,287	31,847	27,483	59,330	13,591,000
1984	94,085	8,338,816	136,997	64,939	10,451,272	31,717	27,371	59,088	13,526,000
1985	94,087	8,330,231	136,842	64,863	10,441,905	31,731	27,346	59,077	13,509,000
1986	94,245	8,339,750	137,030	64,955	10,454,858	31,844	27,367	59,211	13,538,000
1987	93,962	8,315,645	136,586	64,742	10,424,011	31,635	27,296	58,931	13,485,000
1988	93,811	8,316,128	136,644	64,773	10,422,209	31,518	27,283	58,801	13,474,000
1989	93,440	8,314,580	136,714	64,803	10,425,244	31,532	27,285	58,817	13,477,000
1990	93,772	8,317,768	136,711	64,801	10,423,564	31,542	27,278	58,820	13,476,000
1991	93,741	8,313,347	136,618	64,756	10,418,066	31,532	27,271	58,803	13,468,000
1992	93,741	8,313,347	136,618	64,756	10,418,066	31,532	27,271	58,803	13,468,000
1993	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
1994	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
1995	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
1996	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
1997	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
1998	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
1999	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2000	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2001	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2002	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2003	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2004	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2005	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2006	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2007	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2008	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2009	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2010	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2011	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2012	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2013	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2014	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2015	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2016	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2017	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2018	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2019	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2020	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2021	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2022	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2023	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2024	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2025	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2026	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2027	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2028	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2029	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2030	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2031	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2032	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2033	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2034	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000
2035	93,736	8,312,908	136,609	64,752	10,417,521	31,453	27,270	58,723	13,466,000

* Unadjusted for prior overpayments or underpayments of charges.

TABLE B-14

UNIT VARIABLE OPERATION, MAINTENANCE, POWER, AND REPLACEMENT CHARGES[1/]

(in dollars per acre-foot)

CALENDAR YEAR	NORTH BAY AQUEDUCT		SOUTH BAY AQUEDUCT	CALIFORNIA AQUEDUCT					
	Reach 1	Reach 3	Reach 1	Reach 1	Reach 4	Reach 14A	Reach 15A	Reach 16A	Reach 17C
	Calhoun Pumping Plant	Cordelia Pumping Plant	South Bay and Del Valle Pumping Plants[2/]	Delta Pumping Plant	Dos Amigos Pumping Plant	Buena Vista Pumping Plant	Wheeler Ridge Pumping Plant	Wind Gap Pumping Plant	Tehachapi Pumping Plant
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1962			4.4769818						
1963			4.8610518						
1964			3.8037397						
1965			4.5665508						
1966			3.7596706						
1967			5.6560787	1.9853228					
1968		15.5555556	6.1036273	1.3162970	2.7962124				
1969		7.3684211	5.7125846	1.1266541	2.5628598				
1970		5.3571429	6.5847539	1.6635630	3.2263673				
1971		4.7368421	6.7320119	1.4308071	2.7619067	4.3212206	5.8447476	8.8648366	19.5527116
1972		3.9583333	5.0334364	.8745184	1.6586028	2.7334469	3.8906713	6.2755259	15.1063179
1973		3.4482759	5.1059681	.9697555	1.7319577	2.7753939	3.9071038	6.2724009	14.9892438
1974		4.6268657	6.2583431	1.2501732	2.1349520	3.2177255	4.4060921	6.8350015	15.6923466
1975		4.4155844	5.9796217	1.0318305	1.9027570	2.9527687	4.1382895	6.5720163	15.1945690
1976		4.1860465	5.7332995	.8083983	1.6652170	2.6810994	3.8155885	6.1490281	14.5321473
1977		3.8541667	5.4336325	.7524505	1.5800270	2.5901805	3.7325231	6.1311356	14.5842932
1978		3.4285714	5.1356861	.8204604	1.5983114	2.6032810	3.7624002	6.2053748	14.6987593
1979		3.3043478	4.9702285	.7878623	1.5490000	2.5773306	3.7633783	6.2896947	14.8569163
1980	.4155844	4.4955844	4.7610487	.8441348	1.5655761	2.5604665	3.6755241	6.0883546	14.4218830
1981	.4137931	4.1956113	4.6128831	.8391605	1.5390171	2.5208876	3.6213752	6.0033303	14.3275873
1982	.3688525	3.9688525	4.4305665	.8026929	1.4795266	2.4376646	3.5040082	5.8262496	14.0015028
1983	.3696858	3.7543012	4.2146537	.7917400	1.4377723	2.3541293	3.3932149	5.6265370	13.5113333
1984	.3040541	3.4469112	3.8706881	.7160920	1.3165742	2.1861776	3.1628543	5.2715022	12.7606589
1985	.2748092	3.3148092	3.8673084	.7397364	1.3387415	2.2093279	3.1873805	5.2997638	12.8369055
1986	.2739726	3.3239726	3.9829538	.9039531	1.5006109	2.3779428	3.3598734	5.4927581	13.1611516
1987	.2424242	3.1130124	3.6679151	.7071699	1.2850516	2.1386797	3.0952187	5.1807752	12.7245937
1988	.2222222	2.9333333	3.4906469	.6447453	1.2088173	2.0537881	2.9990815	5.0588484	12.5468992
1989	.2060086	2.9007454	3.4829286	.6686338	1.2101933	2.0539456	3.0011692	5.0651896	12.5856838
1990	.1910828	2.7910828	3.4625162	.6781781	1.2337907	2.0714668	3.0106260	5.0482242	12.5240989
1991	.1910828	2.7910828	3.4090624	.6626682	1.2138834	2.0450859	2.9726488	5.0033375	12.4220212
1992	.1910828	2.7910828	3.3319379	.6617808	1.2129960	2.0441985	2.9717614	5.0024501	12.4211338
1993	.1910828	2.7910828	3.2769402	.6613821	1.2125973	2.0437998	2.9713627	5.0020514	12.4207351
1994	.1910828	2.7910828	3.2325575	.6611289	1.2123441	2.0435466	2.9711095	5.0017982	12.4204819
1995	.1910828	2.7910828	3.2097209	.6608079	1.2120231	2.0432256	2.9707885	5.0014772	12.4201609
1996	.1910828	2.7910828	3.1927453	.6604872	1.2117024	2.0429049	2.9704678	5.0011565	12.4198402
1997	.1910828	2.7910828	3.1708052	.6601669	1.2113821	2.0425846	2.9701475	5.0008362	12.4195199
1998	.1910828	2.7910828	3.1708052	.6601669	1.2113821	2.0425846	2.9701475	5.0008362	12.4195199
1999	.1910828	2.7910828	3.1708052	.6601669	1.2113821	2.0425846	2.9701475	5.0008362	12.4195199
2000[3/]	.1910828	2.7910828	3.1708052	.6601669	1.2113821	2.0425846	2.9701475	5.0008362	12.4195199

Footnotes shown on Sheet 2.

TABLE B-14 (Continued)

UNIT VARIABLE OPERATION, MAINTENANCE, POWER, AND REPLACEMENT CHARGES[1/]

(in dollars per acre-foot)

CALENDAR YEAR	CALIFORNIA AQUEDUCT (Continued)							
	Reach 18A	Reach 22C	Reach 26A	Reach 29A	Reach 29C	Reach 29E	Reach 31A	Reach 33A
	Cottonwood Powerplant	Pearblossom Pumping Plant	Devil Canyon Powerplant	Oso Pumping Plant	Pyramid Powerplant	Castaic Powerplant	Las Perillas and Badger Hill Pumping Plants	Devil's Den, Sawtooth and Polonio PP's and San Luis Obispo Pwp
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1962								
1963								
1964								
1965								
1966								
1967								
1968							6.2744733	
1969							5.4767671	
1970							5.7608026	
1971				20.9633261	17.3041082	14.0219853	5.5851257	
1972	15.0120364	18.1283428	13.2369943	16.2236954	13.5342347	10.6791060	4.1142990	
1973	14.8915053	17.8010210	13.5502374	16.0638952	13.4005099	10.7261867	4.0479750	
1974	15.5462857	18.7029068	12.5891004	16.7611991	13.3754068	8.8748604	4.7513244	
1975	15.1659132	18.3413698	13.7292754	16.2011172	13.0748310	9.6548123	4.4286063	
1976	14.5042682	17.4864049	13.0062830	15.5184083	12.4614898	9.1903089	4.2094347	
1977	14.5732939	17.3004682	12.8531654	15.5662804	12.5360654	9.3794704	3.9307259	
1978	14.6296747	17.3837866	13.0224946	15.6761538	12.7269835	9.6249320	3.7659761	
1979	14.7515311	17.6868281	13.1052375	15.8062458	12.7861912	9.6261105	3.6399091	
1980	14.2188173	16.8863247	12.6572947	15.2665253	12.6576880	9.6818982	3.5486090	34.9122454
1981	14.1363641	16.7974213	12.4823256	15.2648627	12.6398755	9.6278644	3.4227846	29.1803604
1982	13.7722365	16.4573788	12.3282892	14.9386379	12.4240408	9.5960922	3.2458817	20.0640635
1983	13.3038881	15.9482188	12.1410790	14.4115091	12.1911372	9.5747990	3.1044390	15.4276713
1984	12.5285534	14.9626311	11.4946719	13.6309525	11.4362607	8.9082649	2.8481057	14.5259580
1985	12.5682960	14.9817438	11.0508331	13.7097676	11.2891761	8.4995561	2.8617727	11.2488695
1986	12.8548673	15.2683393	11.0866380	14.0649159	11.4322809	8.2996057	2.9536609	11.3826639
1987	12.4271474	14.7694081	10.7439128	13.6147663	11.2108561	8.1693098	2.6871003	10.4837105
1988	12.2730384	14.5405717	10.8522596	13.4490567	11.3362355	8.5589921	2.5377804	9.2824198
1989	12.3004368	14.5560534	10.8332376	13.4941126	11.3998267	8.5924374	2.5289944	9.0494180
1990	12.2503097	14.4568821	10.8362578	13.4446396	11.3932054	8.6493874	2.4956361	8.6020448
1991	12.1467918	14.3594285	10.8342068	13.3287142	11.3194824	8.6284174	2.4657537	8.5237948
1992	12.1459044	14.3585411	10.8333194	13.3278268	11.3185950	8.6275300	2.4648663	8.5229074
1993	12.1455057	14.3581424	10.8329207	13.3274281	11.3181963	8.6271313	2.4644676	8.5225087
1994	12.1452525	14.3578892	10.8326675	13.3271749	11.3179431	8.6268781	2.4642144	8.5222555
1995	12.1449315	14.3575682	10.8323465	13.3268539	11.3176221	8.6265571	2.4638934	8.5219345
1996	12.1446108	14.3572475	10.8320258	13.3265332	11.3173014	8.6262364	2.4635727	8.5216138
1997	12.1442905	14.3569272	10.8317055	13.3262129	11.3169811	8.6259161	2.4632524	8.5212935
1998	12.1442905	14.3569272	10.8317055	13.3262129	11.3169811	8.6259161	2.4632524	8.5212935
1999 [3/]	12.1442905	14.3569272	10.8317055	13.3262129	11.3169811	8.6259161	2.4632524	8.5212935
2000 [3/]	12.1442905	14.3569272	10.8317055	13.3262129	11.3169811	8.6259161	2.4632524	8.5212935

1/ Rates as shown constitute the total rate, cumulative from the Sacramento-San Joaquin Delta, applicable to deliveries downstream from the indicated pumping and power recovery plants.

2/ The relatively minor estimated costs of the Del Valle Pumping Plant have been combined with those of the South Bay Pumping Plant to simplify the allocation procedure. The increase in the unit rate in 1967 reflects use of commercial power, rather than power currently supplied by the Bureau of Reclamation.

3/ And each year thereafter for the remainder of the project repayment period.

TABLE B-15

VARIABLE OPERATION, MAINTENANCE, POWER AND REPLACEMENT COMPONENTS OF EACH CONTRACTOR*

(in dollars)

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 County FC & WD	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	2,212	37,660	0	39,872	0	0	0
1963	0	0	0	8,414	53,054	0	61,468	0	0	0
1964	0	0	0	6,364	73,176	0	79,540	0	0	0
1965	0	0	0	11,867	74,743	68,397	155,007	0	0	0
1966	0	0	0	20,708	55,853	129,781	206,342	0	0	0
1967	0	0	0	27,778	105,184	230,038	363,000	0	0	0
1968	14,000	0	14,000	45,777	91,555	537,119	674,451	0	0	0
1969	14,000	0	14,000	50,271	88,545	502,707	641,523	0	0	0
1970	15,000	0	15,000	65,948	106,672	579,459	751,979	0	0	0
1971	18,000	0	18,000	75,398	114,445	592,417	782,260	0	0	0
1972	19,000	0	19,000	62,415	90,098	442,943	595,456	0	0	0
1973	20,000	0	20,000	69,441	95,992	449,326	614,759	0	0	0
1974	31,000	0	31,000	92,624	122,663	550,734	766,021	0	0	0
1975	34,000	0	34,000	95,674	122,582	526,207	744,463	0	0	0
1976	36,000	0	36,000	98,612	122,120	504,530	725,262	0	0	0
1977	37,000	0	37,000	99,979	120,626	478,160	698,765	0	0	0
1978	36,000	0	36,000	100,659	118,635	451,940	671,234	0	0	0
1979	38,000	0	38,000	103,341	118,788	437,380	659,549	0	0	0
1980	56,195	2,805	59,000	104,743	118,074	418,972	641,749	34,913	41,893	76,806
1981	57,690	3,310	61,000	106,097	119,934	405,934	631,965	29,180	67,115	96,295
1982	59,533	3,467	63,000	106,334	120,511	389,890	616,735	40,128	92,295	132,423
1983	61,007	3,993	65,000	105,367	119,696	370,889	595,952	46,283	106,450	152,733
1984	60,321	3,679	64,000	100,637	114,574	340,620	555,831	65,366	151,070	216,436
1985	62,153	3,847	66,000	104,417	119,114	340,323	563,854	84,366	194,607	278,973
1986	66,479	4,521	71,000	111,523	127,853	350,499	589,875	113,827	262,938	376,765
1987	66,152	4,848	71,000	106,370	122,141	322,777	551,288	131,047	301,930	432,977
1988	66,000	6,000	72,000	104,719	120,428	307,177	532,324	143,877	332,311	476,188
1989	68,493	7,107	75,000	107,971	124,340	313,464	545,775	140,988	417,179	558,167
1990	69,777	7,223	77,000	110,801	127,766	318,552	557,119	215,052	496,337	711,389
1991	69,777	7,223	77,000	115,908	130,908	320,452	567,268	213,095	491,823	704,918
1992	69,777	7,223	77,000	119,950	132,944	319,866	572,760	213,072	491,772	704,844
1993	69,777	7,223	77,000	124,524	135,665	321,140	581,329	213,062	491,749	704,811
1994	69,777	7,223	77,000	129,302	135,768	323,255	588,325	213,056	491,734	704,790
1995	69,777	7,223	77,000	134,808	134,809	320,972	590,589	213,048	491,715	704,763
1996	69,777	7,223	77,000	140,480	134,096	319,275	593,851	213,040	491,697	704,737
1997	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
1998	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
1999	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2000	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2001	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2002	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2003	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2004	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2005	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2006	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2007	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2008	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2009	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2010	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2011	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2012	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2013	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2014	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2015	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2016	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2017	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2018	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2019	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2020	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2021	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2022	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2023	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2024	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2025	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2026	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2027	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2028	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2029	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2030	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2031	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2032	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2033	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2034	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711
2035	69,777	7,223	77,000	145,857	133,174	317,080	596,111	213,032	491,679	704,711

* Unadjusted for prior overpayments or underpayments of charges.

TABLE B-15 (Continued)

VARIABLE OPERATION, MAINTENANCE, POWER AND REPLACEMENT COMPONENTS OF EACH CONTRACTOR*

(in dollars)

CALENDAR YEAR	SAN JOAQUIN VALLEY									
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Hacienda Water District	Kern County Water Agency		Kings County (Assumed)	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
					Municipal and Industrial	Agriculture				
	(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	23,217	32,156	8,389	3,635	0	173,433	4,474	3,027	75,218	323,549
1969	25,740	34,855	7,689	4,100	0	319,571	4,613	2,817	75,092	474,477
1970	32,436	50,654	9,678	6,453	92,596	453,104	6,776	4,325	102,599	759,021
1971	37,421	49,438	8,285	6,353	115,032	529,420	6,353	4,006	94,457	850,765
1972	31,681	33,172	4,976	4,312	84,239	515,210	4,312	2,536	60,871	741,309
1973	35,217	38,104	5,196	5,022	94,683	617,304	4,849	3,006	67,720	871,101
1974	46,088	51,452	6,406	7,046	124,713	845,524	6,404	4,001	91,802	1,183,436
1975	47,387	49,852	5,709	6,850	124,521	857,736	6,279	3,508	89,239	1,191,081
1976	49,251	47,125	4,995	6,494	119,543	876,824	5,828	2,830	84,594	1,197,484
1977	49,920	48,033	4,740	6,636	123,447	930,519	6,005	2,784	86,585	1,258,669
1978	47,928	51,945	4,795	7,352	133,132	1,038,933	6,393	3,200	93,821	1,387,499
1979	46,227	53,595	4,647	7,591	138,879	1,128,342	6,196	3,152	96,967	1,485,596
1980	45,068	57,457	4,697	8,140	147,163	1,237,907	6,262	3,546	104,111	1,614,351
1981	43,469	59,714	4,618	8,619	153,679	1,331,874	6,156	3,608	108,346	1,720,083
1982	41,223	60,660	4,439	8,729	158,825	1,387,493	5,918	3,612	109,929	1,780,828
1983	39,427	61,681	4,313	8,914	163,347	1,455,656	5,791	3,642	112,434	1,855,165
1984	36,171	59,379	3,950	8,557	162,292	1,443,585	5,266	3,437	108,091	1,830,727
1985	36,344	63,188	4,016	9,238	176,585	1,553,509	5,355	3,624	115,132	1,966,991
1986	37,513	73,979	4,502	10,805	205,010	1,784,373	6,002	4,611	135,055	2,261,850
1987	34,127	66,052	3,854	9,638	196,048	1,676,615	5,141	3,677	120,666	2,115,818
1988	32,231	64,670	3,627	9,429	200,539	1,678,532	4,835	3,481	118,223	2,115,567
1989	32,118	67,287	3,631	9,923	211,036	1,739,290	4,841	3,744	123,077	2,194,947
1990	31,695	71,190	3,702	10,447	226,619	1,816,436	4,935	3,865	135,717	2,304,646
1991	31,315	70,042	3,641	10,318	223,710	1,791,630	4,856	3,777	133,527	2,272,816
1992	31,303	69,991	3,639	10,310	223,605	1,790,712	4,852	3,772	133,430	2,271,614
1993	31,299	69,967	3,637	10,307	223,557	1,790,300	4,851	3,770	133,386	2,271,074
1994	31,295	69,953	3,637	10,305	223,528	1,790,038	4,849	3,769	133,358	2,270,732
1995	31,292	69,934	3,635	10,302	223,489	1,789,706	4,849	3,766	133,323	2,270,096
1996	31,287	69,916	3,635	10,300	223,451	1,789,374	4,847	3,764	133,287	2,269,861
1997	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
1998	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
1999	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2000	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2001	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2002	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2003	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2004	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2005	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2006	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2007	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2008	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2009	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2010	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2011	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2012	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2013	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2014	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2015	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2016	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2017	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2018	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2019	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2020	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2021	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2022	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2023	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2024	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2025	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2026	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2027	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2028	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2029	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2030	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2031	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2032	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2033	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2034	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427
2035	31,283	69,898	3,633	10,296	223,413	1,789,042	4,846	3,763	133,253	2,269,427

* Unadjusted for prior overpayments or underpayments of charges.

TABLE B-15 (Continued)

VARIABLE OPERATION, MAINTENANCE, POWER AND REPLACEMENT COMPONENTS OF EACH CONTRACTOR*

(in dollars)

CALENDAR YEAR	SOUTHERN CALIFORNIA								
	Antelope Valley-East Kern Water Agency	Coachella Valley County Water District	Crestline-Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Irrigation District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)
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	300,444	94,323	10,519	145,106	2,553	152,364	24,338	603,290	140,422
1973	372,288	103,246	15,487	160,208	4,321	190,470	43,791	644,434	155,827
1974	466,389	119,698	21,694	187,029	6,219	245,009	66,228	627,011	154,844
1975	530,905	128,390	26,596	201,755	7,886	282,458	84,625	711,534	179,852
1976	538,190	132,896	30,428	209,835	9,281	311,260	100,041	700,285	182,088
1977	728,665	145,689	35,119	224,906	10,637	349,469	119,794	717,977	190,227
1978	833,990	160,660	40,331	243,371	13,460	391,137	136,641	753,717	204,451
1979	929,348	177,983	46,162	265,303	15,343	440,400	151,349	786,446	217,546
1980	983,343	183,790	48,970	287,068	16,352	459,308	158,969	783,651	220,237
1981	1,060,227	203,333	53,583	319,151	17,954	497,202	165,396	800,878	228,428
1982	1,119,684	219,311	57,271	345,607	19,005	524,989	169,675	790,994	235,470
1983	1,166,749	231,999	60,124	366,408	19,957	547,024	172,152	778,985	241,608
1984	1,177,583	235,929	60,748	374,056	20,171	549,128	169,887	737,509	237,939
1985	1,251,458	254,524	65,171	404,508	21,742	584,287	178,220	709,033	240,908
1986	1,371,513	278,038	70,845	442,779	23,653	632,111	190,253	733,703	257,211
1987	1,414,268	286,984	72,814	465,236	24,357	645,423	191,627	778,526	264,300
1988	1,465,400	300,291	75,902	494,379	25,404	668,868	196,861	854,560	282,159
1989	1,546,164	318,383	80,204	531,296	26,939	705,969	204,926	919,904	296,830
1990	1,618,266	333,953	83,851	550,805	28,176	734,412	211,930	988,245	312,085
1991	1,681,114	331,703	83,285	547,093	27,939	729,459	210,139	1,061,753	312,026
1992	1,680,992	331,682	83,280	547,059	27,937	729,415	210,123	1,061,666	312,000
1993	1,680,437	331,673	83,278	547,043	27,937	729,394	210,115	1,061,627	311,989
1994	1,680,901	331,667	83,276	547,034	27,935	729,382	210,112	1,061,601	311,981
1995	1,680,857	331,660	83,275	547,021	27,935	729,365	210,106	1,061,570	311,972
1996	1,680,813	331,653	83,272	547,009	27,934	729,349	210,100	1,061,539	311,963
1997	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
1998	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
1999	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2000	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2001	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2002	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2003	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2004	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2005	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2006	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2007	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2008	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2009	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2010	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2011	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2012	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2013	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2014	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2015	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2016	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2017	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2018	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2019	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2020	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2021	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2022	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2023	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2024	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2025	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2026	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2027	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2028	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2029	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2030	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2031	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2032	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2033	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2034	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954
2035	1,680,768	331,645	83,271	546,998	27,933	729,332	210,095	1,061,507	311,954

* Unadjusted for prior overpayments or underpayments of charges.

TABLE B-15 (Continued)

VARIABLE OPERATION, MAINTENANCE, POWER AND REPLACEMENT COMPONENTS OF EACH CONTRACTOR*

(in dollars)

CALENDAR YEAR	SOUTHERN CALIFORNIA (Continued)					FUTURE CONTRACTOR			GRAND TOTAL
	San Gorgonio Pass Water Agency	The Metropolitan Water District of Southern California	Upper Santa Clara Valley Water Agency	Ventura County Flood Control District	Total	South Bay	Southern California	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	39,872
1963	0	0	0	0	0	0	0	0	61,468
1964	0	0	0	0	0	0	0	0	79,540
1965	0	0	0	0	0	0	0	0	155,007
1966	0	0	0	0	0	0	0	0	206,342
1967	0	0	0	0	0	0	0	0	363,000
1968	0	0	0	0	0	0	0	0	1,012,000
1969	0	0	0	0	0	0	0	0	1,130,000
1970	0	0	0	0	0	0	0	0	1,526,000
1971	0	981,538	22,437	0	1,003,975	0	0	0	2,655,000
1972	18,140	3,981,250	39,550	0	5,512,299	0	60,936	60,936	6,929,000
1973	30,263	5,147,346	61,138	0	6,928,809	0	62,331	62,331	8,497,000
1974	44,390	5,318,061	66,560	0	7,323,632	0	57,911	57,911	9,362,000
1975	56,858	6,861,820	91,722	0	9,164,301	0	63,155	63,155	11,197,000
1976	66,448	7,541,864	104,769	0	10,027,425	0	59,829	59,829	12,046,000
1977	77,851	8,661,421	125,685	0	11,387,440	0	59,126	59,126	13,441,000
1978	90,399	9,909,146	147,262	0	12,924,465	0	59,902	59,902	15,079,000
1979	104,354	10,981,955	170,382	0	14,286,571	0	60,284	60,284	16,530,000
1980	114,827	11,970,430	194,605	9,681	15,431,831	0	58,223	58,223	17,882,000
1981	131,020	12,986,035	212,776	19,256	16,695,239	0	57,418	57,418	19,262,000
1982	144,825	14,009,620	236,063	28,789	17,901,303	0	56,711	56,711	20,551,000
1983	156,293	15,010,740	257,563	38,299	19,048,301	0	55,849	55,849	21,773,000
1984	161,600	15,071,697	259,231	44,542	19,100,130	0	52,876	52,876	21,820,000
1985	176,785	15,402,679	262,637	50,997	19,613,349	0	50,833	50,833	22,540,000
1986	196,962	16,151,891	273,057	66,397	20,688,513	0	50,997	50,997	24,039,000
1987	206,771	16,628,118	288,379	81,692	21,338,495	0	49,422	49,422	24,559,000
1988	219,563	18,059,240	320,106	111,267	23,074,000	0	49,921	49,921	26,320,000
1989	235,809	18,530,694	337,683	137,477	23,872,278	0	49,833	49,833	27,337,000
1990	250,104	18,615,237	358,949	172,987	24,259,000	0	49,846	49,846	27,959,000
1991	248,418	18,583,582	358,082	172,568	24,347,161	0	49,837	49,837	28,019,000
1992	248,403	18,581,797	358,045	172,550	24,344,949	0	49,833	49,833	28,021,000
1993	248,396	18,580,995	358,028	172,543	24,343,955	0	49,831	49,831	28,028,000
1994	248,392	18,580,486	358,018	172,537	24,343,322	0	49,831	49,831	28,034,000
1995	248,386	18,579,840	358,005	172,531	24,342,523	0	49,829	49,829	28,035,000
1996	248,381	18,579,195	357,991	172,525	24,341,724	0	49,827	49,827	28,037,000
1997	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
1998	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
1999	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2000	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2001	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2002	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2003	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2004	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2005	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2006	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2007	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2008	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2009	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2010	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2011	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2012	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2013	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2014	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2015	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2016	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2017	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2018	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2019	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2020	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2021	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2022	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2023	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2024	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2025	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2026	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2027	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2028	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2029	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2030	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2031	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2032	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2033	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2034	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000
2035	248,374	18,578,551	357,978	172,519	24,340,925	0	49,826	49,826	28,038,000

* Unadjusted for prior overpayments or underpayments of charges.

TABLE B-16

TOTAL TRANSPORTATION CHARGES OF EACH CONTRACTOR*

(in dollars)

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 County FC & WD	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	20,685	54,531	0	75,196	0	0	0
1963	0	0	0	133,476	173,654	388,258	695,788	0	0	0
1964	0	0	0	140,488	243,503	537,385	921,376	7,296	17,988	25,284
1965	0	0	0	205,927	331,929	1,027,868	1,565,724	12,969	31,459	44,428
1966	18,893	0	18,893	230,572	336,370	1,246,687	1,813,629	21,832	52,395	74,227
1967	39,653	0	39,653	245,800	397,518	1,430,818	2,074,136	37,150	88,430	125,580
1968	185,586	21,407	206,993	296,940	420,139	1,837,538	2,554,617	82,656	195,419	278,075
1969	195,466	32,097	227,563	332,881	450,386	1,895,149	2,678,416	91,467	216,768	308,235
1970	204,308	38,775	243,083	354,025	474,011	1,992,354	2,820,390	95,066	225,512	320,578
1971	215,343	44,027	259,370	365,149	483,441	2,015,058	2,863,648	99,532	236,263	335,795
1972	221,458	48,805	270,263	406,297	456,824	1,861,229	2,724,350	101,502	241,269	342,771
1973	223,857	50,098	273,955	416,062	465,753	1,879,993	2,761,808	107,556	255,767	363,323
1974	235,625	51,259	286,884	443,787	497,462	2,001,785	2,943,034	115,860	275,483	391,343
1975	239,410	52,447	291,857	446,743	497,600	1,977,942	2,922,285	128,260	306,296	434,556
1976	244,814	57,594	302,408	449,514	496,990	1,956,071	2,902,575	253,360	607,546	860,906
1977	257,881	71,662	329,543	450,552	495,192	1,928,981	2,874,725	368,337	895,763	1,264,100
1978	281,492	95,944	377,436	450,911	492,911	1,902,067	2,845,889	557,343	1,401,218	1,958,561
1979	334,144	144,483	478,627	453,576	493,012	1,887,382	2,833,970	711,363	1,900,823	2,612,186
1980	530,194	345,901	876,095	454,809	492,178	1,868,690	2,815,677	951,364	2,556,721	3,508,085
1981	538,790	352,900	891,690	455,926	493,823	1,855,140	2,804,889	966,656	2,648,262	3,614,918
1982	541,488	354,350	895,838	455,861	494,123	1,938,438	2,788,422	974,287	2,671,841	3,646,128
1983	543,052	355,013	898,065	454,659	493,093	1,818,923	2,766,675	977,809	2,679,849	3,657,658
1984	542,366	354,699	897,065	449,550	487,625	1,787,830	2,725,005	997,272	2,725,355	3,722,627
1985	544,194	354,867	899,065	453,368	492,199	1,787,617	2,733,184	1,015,382	2,766,812	3,782,194
1986	548,524	355,541	904,065	460,789	501,226	1,798,478	2,760,493	1,046,546	2,839,119	3,885,665
1987	548,197	355,868	904,065	455,038	494,967	1,769,454	2,719,459	1,062,948	2,876,200	3,939,148
1988	548,045	357,020	905,065	453,047	492,943	1,753,113	2,699,103	1,075,109	2,905,020	3,980,129
1989	550,938	358,127	909,065	456,337	496,890	1,759,483	2,712,710	1,111,931	2,989,210	4,101,141
1990	551,422	358,243	910,065	459,196	500,342	1,764,633	2,724,171	1,145,718	3,067,718	4,213,436
1991	551,422	358,243	910,065	464,274	503,458	1,766,471	2,734,203	1,143,638	3,062,922	4,206,560
1992	551,422	358,243	910,065	468,316	505,494	1,765,885	2,739,695	1,143,615	3,062,871	4,206,486
1993	551,422	358,243	910,065	472,654	508,000	1,766,646	2,747,300	1,143,601	3,062,835	4,206,436
1994	551,422	358,243	910,065	477,432	508,103	1,768,761	2,754,296	1,143,595	3,062,820	4,206,415
1995	551,422	358,243	910,065	482,938	507,144	1,766,478	2,756,560	1,143,587	3,062,801	4,206,388
1996	551,422	358,243	910,065	488,610	506,431	1,764,781	2,759,822	1,143,579	3,062,783	4,206,362
1997	551,422	358,243	910,065	493,987	505,509	1,762,586	2,762,082	1,143,571	3,062,765	4,206,336
1998	551,422	358,243	910,065	493,987	505,509	1,762,586	2,762,082	1,143,571	3,062,765	4,206,336
1999	551,422	358,243	910,065	493,987	505,509	1,762,586	2,762,082	1,143,571	3,062,765	4,206,336
2000	551,422	358,243	910,065	493,987	505,509	1,762,586	2,762,082	1,143,571	3,062,765	4,206,336
2001	551,422	358,243	910,065	493,987	505,509	1,762,586	2,762,082	1,143,571	3,062,765	4,206,336
2002	551,422	358,243	910,065	493,987	505,509	1,762,586	2,762,082	1,143,571	3,062,765	4,206,336
2003	551,422	358,243	910,065	493,987	505,509	1,762,586	2,762,082	1,143,571	3,062,765	4,206,336
2004	551,422	358,243	910,065	493,987	505,509	1,762,586	2,762,082	1,143,571	3,062,765	4,206,336
2005	551,422	358,243	910,065	493,987	505,509	1,762,586	2,762,082	1,143,571	3,062,765	4,206,336
2006	551,422	358,243	910,065	493,987	505,509	1,762,586	2,762,082	1,143,571	3,062,765	4,206,336
2007	551,422	358,243	910,065	493,987	505,509	1,762,586	2,762,082	1,143,571	3,062,765	4,206,336
2008	551,422	358,243	910,065	493,987	505,509	1,762,586	2,762,082	1,143,571	3,062,765	4,206,336
2009	551,422	358,243	910,065	493,987	505,509	1,762,586	2,762,082	1,143,571	3,062,765	4,206,336
2010	551,422	358,243	910,065	493,987	505,509	1,762,586	2,762,082	1,143,571	3,062,765	4,206,336
2011	551,422	358,243	910,065	493,987	505,509	1,762,586	2,762,082	1,143,571	3,062,765	4,206,336
2012	551,422	358,243	910,065	493,987	505,509	1,762,586	2,762,082	1,143,571	3,062,765	4,206,336
2013	551,422	358,243	910,065	395,383	415,616	1,447,450	2,258,449	1,143,571	3,062,765	4,206,336
2014	551,422	358,243	910,065	366,644	367,328	1,301,749	2,035,721	1,136,275	3,044,777	4,181,052
2015	551,422	358,243	910,065	334,042	315,707	976,694	1,626,403	1,130,603	3,031,306	4,161,909
2016	532,429	358,243	891,172	319,336	297,289	841,051	1,457,676	1,121,739	3,010,370	4,132,109
2017	512,270	354,243	870,513	294,032	274,411	747,640	1,316,083	1,106,422	2,974,334	4,080,756
2018	412,236	336,836	749,072	254,039	238,778	650,472	1,143,289	1,090,233	2,935,796	4,026,029
2019	400,956	326,146	727,102	225,377	213,162	576,709	1,015,248	1,084,579	2,921,812	4,006,391
2020	393,514	319,468	712,982	220,733	208,866	559,112	988,711	1,081,976	2,915,390	3,997,366
2021	385,480	314,216	699,696	219,822	207,989	551,228	979,039	1,080,278	2,911,102	3,991,380
2022	379,464	309,438	689,302	218,463	206,642	546,967	972,072	1,077,782	2,904,872	3,982,654
2023	378,965	308,145	687,110	216,139	204,022	535,574	955,735	1,071,778	2,890,490	3,962,268
2024	378,197	306,984	685,181	213,462	200,770	519,446	933,678	1,064,144	2,872,334	3,936,478
2025	377,412	305,796	683,208	213,436	200,742	519,219	933,397	1,051,719	2,841,461	3,893,180
2026	374,008	300,649	674,657	213,408	200,713	518,991	933,112	926,563	2,540,080	3,466,643
2027	361,941	286,581	648,522	213,408	200,713	518,991	933,112	811,411	2,251,456	3,062,867
2028	337,330	262,299	599,629	213,408	200,713	518,991	933,112	622,457	1,746,123	2,368,580
2029	286,674	213,760	500,438	213,408	200,713	518,991	933,112	468,395	1,246,417	1,714,812
2030	157,157	98,813	255,970	213,408	200,713	518,991	933,112	346,929	847,333	1,194,262
2031	150,057	92,319	242,376	213,408	200,713	518,991	933,112	321,984	771,860	1,093,844
2032	149,202	91,026	240,228	213,408	200,713	518,991	933,112	319,143	759,089	1,078,232
2033	148,713	90,287	239,000	213,408	200,713	518,991	933,112	318,761	758,198	1,076,959
2034	148,713	90,287	239,000	213,408	200,713	518,991	933,112	317,979	756,373	1,074,352
2035	148,713	90,287	239,000	213,408	200,713	518,991	933,112	316,381	752,642	1,069,023

* Unadjusted for prior overpayments or underpayments of charges. In addition to the Transportation Charge, each contractor shall pay the Delta Water Charge. The latter charge may be estimated by applying $3.50 to each acre-foot of entitlement through calendar year 1969, and $7.87 to each acre-foot of entitlement thereafter.

TABLE B-16 (Continued)

TOTAL TRANSPORTATION CHARGES OF EACH CONTRACTOR*

(in dollars)

CALENDAR YEAR	SAN JOAQUIN VALLEY									
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Hacienda Water District	Kern County Water Agency		Kings County (Assumed)	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
					Municipal and Industrial	Agriculture				
	(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	58,633	0	0	0	0	58,633
1966	0	0	0	0	110,233	0	0	0	0	110,233
1967	0	0	0	0	204,672	0	0	0	0	204,672
1968	70,385	139,680	19,735	17,995	415,042	1,716,269	15,400	9,890	296,929	2,701,625
1969	82,659	153,957	19,179	20,159	483,305	2,275,105	16,246	10,202	311,879	3,372,731
1970	97,691	182,174	21,345	24,748	633,581	2,714,767	18,850	12,168	356,299	4,061,623
1971	111,450	192,045	20,030	26,211	693,947	3,311,674	18,585	12,266	361,170	4,747,378
1972	112,567	182,294	18,613	25,121	672,629	3,798,597	16,555	10,786	333,660	5,168,822
1973	123,368	195,865	16,857	27,154	689,285	4,151,031	17,226	11,626	351,054	5,583,466
1974	141,339	214,231	18,143	31,058	724,393	4,625,190	18,921	12,893	393,540	6,185,308
1975	150,445	225,754	17,424	32,051	723,818	4,859,843	18,773	12,679	405,774	6,446,561
1976	159,498	231,050	16,679	32,867	718,407	5,167,684	18,294	12,095	415,723	6,772,297
1977	167,372	240,279	16,412	34,225	722,350	5,528,752	18,459	12,359	433,308	7,173,416
1978	165,217	252,901	16,476	36,633	732,351	5,958,423	18,855	13,128	456,481	7,650,465
1979	163,585	262,958	16,321	38,102	737,937	6,356,363	18,652	13,234	474,981	8,082,133
1980	162,752	275,497	16,377	39,920	746,309	6,786,947	18,726	13,972	498,002	8,558,502
1981	161,137	286,229	16,294	42,054	752,677	7,237,687	18,616	14,196	517,721	9,046,911
1982	158,774	295,953	16,107	43,388	757,472	7,619,818	18,368	14,515	534,595	9,458,994
1983	156,970	304,651	15,979	44,815	763,770	8,062,807	18,264	14,709	552,617	9,934,582
1984	153,442	310,972	15,598	45,658	766,060	8,383,203	17,896	14,805	563,272	10,271,106
1985	153,754	323,377	15,667	48,012	788,689	8,824,200	18,261	15,161	586,027	10,773,148
1986	155,044	343,275	16,182	50,912	824,376	9,393,264	19,147	16,532	623,044	11,441,780
1987	151,607	343,190	15,497	50,890	814,231	9,606,541	18,249	15,698	622,937	11,638,740
1988	149,560	350,129	15,260	51,899	818,331	9,916,061	17,931	15,809	635,687	11,970,667
1989	149,456	361,323	15,266	54,062	828,887	10,202,389	17,938	16,407	656,222	12,301,950
1990	149,047	373,838	15,340	55,887	844,558	10,518,481	18,036	16,697	702,234	12,694,118
1991	148,583	372,638	15,277	55,710	841,544	10,492,069	17,954	16,604	699,946	12,660,325
1992	148,471	372,587	15,275	55,702	841,439	10,491,151	17,950	16,599	699,849	12,659,123
1993	148,563	372,546	15,272	55,697	841,363	10,490,432	17,949	16,595	699,772	12,658,189
1994	148,559	372,532	15,272	55,695	841,334	10,490,170	17,947	16,594	699,744	12,657,947
1995	148,556	372,513	15,270	55,692	841,295	10,489,838	17,947	16,591	699,709	12,657,411
1996	148,551	372,495	15,270	55,690	841,257	10,489,506	17,945	16,589	699,673	12,656,976
1997	148,547	372,477	15,268	55,686	841,219	10,489,174	17,944	16,588	699,639	12,656,542
1998	148,547	372,477	15,268	55,686	841,219	10,489,174	17,944	16,588	699,639	12,656,542
1999	148,547	372,477	15,268	55,686	841,219	10,489,174	17,944	16,588	699,639	12,656,542
2000	148,547	372,477	15,268	55,686	841,219	10,489,174	17,944	16,588	699,639	12,656,542
2001	148,547	372,477	15,268	55,686	841,219	10,489,174	17,944	16,588	699,639	12,656,542
2002	148,547	372,477	15,268	55,686	841,219	10,489,174	17,944	16,588	699,639	12,656,542
2003	148,547	372,477	15,268	55,686	841,219	10,489,174	17,944	16,588	699,639	12,656,542
2004	148,547	372,477	15,268	55,686	841,219	10,489,174	17,944	16,588	699,639	12,656,542
2005	148,547	372,477	15,268	55,686	841,219	10,489,174	17,944	16,588	699,639	12,656,542
2006	148,547	372,477	15,268	55,686	841,219	10,489,174	17,944	16,588	699,639	12,656,542
2007	148,547	372,477	15,268	55,686	841,219	10,489,174	17,944	16,588	699,639	12,656,542
2008	148,547	372,477	15,268	55,686	841,219	10,489,174	17,944	16,588	699,639	12,656,542
2009	148,547	372,477	15,268	55,686	841,219	10,489,174	17,944	16,588	699,639	12,656,542
2010	148,547	372,477	15,268	55,686	841,219	10,489,174	17,944	16,588	699,639	12,656,542
2011	148,547	372,477	15,268	55,686	841,219	10,489,174	17,944	16,588	699,639	12,656,542
2012	148,547	372,477	15,268	55,686	841,219	10,489,174	17,944	16,588	699,639	12,656,542
2013	148,547	372,477	15,268	55,686	841,219	10,489,174	17,944	16,588	699,639	12,656,542
2014	148,547	372,477	15,268	55,686	841,219	10,489,174	17,944	16,588	699,639	12,656,542
2015	148,547	372,477	15,268	55,686	782,586	10,489,174	17,944	16,588	699,639	12,597,909
2016	148,547	372,477	15,268	55,686	730,986	10,489,174	17,944	16,588	699,639	12,546,309
2017	148,547	372,477	15,268	55,686	636,547	10,489,174	17,944	16,588	699,639	12,451,870
2018	148,547	372,477	15,268	55,686	532,740	10,489,174	10,159	16,588	699,639	12,340,278
2019	148,547	372,477	15,268	55,686	471,029	10,489,174	9,556	16,588	699,639	12,277,964
2020	148,547	372,477	15,268	55,686	433,786	10,489,174	9,337	16,588	699,639	12,240,502
2021	148,547	372,477	15,268	55,686	421,062	10,489,174	9,259	16,588	699,639	12,227,700
2022	148,547	372,477	15,268	55,686	411,066	10,489,174	9,136	16,588	699,639	12,217,581
2023	148,547	372,477	15,268	55,686	405,939	10,489,174	9,029	16,588	699,639	12,212,367
2024	148,547	372,477	15,268	55,686	403,562	10,489,174	8,965	16,588	699,639	12,209,906
2025	148,547	372,477	15,268	55,686	403,455	10,489,174	8,964	16,588	699,639	12,209,798
2026	148,547	372,477	15,268	55,686	403,232	10,489,174	8,963	16,588	699,639	12,209,574
2027	148,547	372,477	15,268	55,686	402,861	10,489,174	8,963	16,588	699,639	12,209,203
2028	148,547	372,477	15,268	55,686	402,861	10,489,174	8,963	16,588	699,639	12,209,203
2029	148,547	372,477	15,268	55,686	402,861	10,489,174	8,963	16,588	699,639	12,209,203
2030	148,547	372,477	15,268	55,686	402,861	10,489,174	8,963	16,588	699,639	12,209,203
2031	148,547	372,477	15,268	55,686	402,861	10,489,174	8,963	16,588	699,639	12,209,203
2032	148,547	372,477	15,268	55,686	402,861	10,489,174	8,963	16,588	699,639	12,209,203
2033	148,547	372,477	15,268	55,686	400,889	10,489,174	8,897	16,588	699,639	12,207,165
2034	148,547	372,477	15,268	55,686	396,856	10,489,174	8,764	16,588	699,639	12,202,999
2035	148,547	372,477	15,268	55,686	388,608	10,489,174	8,490	16,588	699,639	12,194,477

* Unadjusted for prior overpayments or underpayments of charges. In addition to the Transportation Charge, each contractor shall pay the Delta Water Charge. The latter charge may be estimated by applying $3.50 to each acre-foot of entitlement through calendar year 1969, and $7.87 to each acre-foot of entitlement thereafter.

TABLE B-16 (Continued)

TOTAL TRANSPORTATION CHARGES OF EACH CONTRACTOR*

(in dollars)

CALENDAR YEAR	SOUTHERN CALIFORNIA								
	Antelope Valley-East Kern Water Agency	Coachella Valley County Water District	Crestline-Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Irrigation District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)
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	26,950	0	0	0	0	0	0	48,463	0
1964	53,149	14,178	4,101	35,282	1,132	27,942	7,152	89,395	34,296
1965	102,668	24,113	6,762	39,333	2,001	48,214	13,456	137,912	35,421
1966	189,594	41,577	11,480	68,138	3,491	83,745	24,537	222,313	58,802
1967	367,378	78,113	21,199	128,403	6,583	158,354	47,505	393,203	106,608
1968	740,418	157,130	42,470	258,734	13,172	319,386	96,255	774,680	212,955
1969	1,084,483	247,747	70,041	408,212	20,043	496,342	144,906	1,323,296	359,470
1970	1,423,688	368,392	107,870	607,232	27,010	726,038	192,691	2,161,618	563,337
1971	1,706,690	455,008	133,956	750,102	32,047	891,228	229,017	2,831,697	711,111
1972	2,172,067	636,832	169,133	1,039,535	38,431	1,217,181	278,650	3,959,576	991,644
1973	2,284,622	654,585	176,809	1,069,203	40,859	1,272,476	303,157	4,052,599	1,020,964
1974	2,390,371	674,103	183,798	1,101,086	42,976	1,333,330	327,204	4,046,863	1,023,218
1975	2,457,630	683,451	188,877	1,116,895	44,689	1,372,097	345,929	4,136,971	1,049,760
1976	2,568,805	688,804	192,936	1,126,368	46,151	1,402,629	361,883	4,129,806	1,053,144
1977	2,668,674	703,066	197,989	1,143,858	47,665	1,443,888	382,776	4,153,751	1,063,096
1978	2,774,376	718,150	203,231	1,162,514	50,497	1,485,791	399,683	4,189,979	1,077,460
1979	2,870,066	735,656	209,107	1,184,748	52,384	1,535,433	414,420	4,223,345	1,090,741
1980	2,922,901	740,947	211,786	1,205,657	53,365	1,553,274	421,819	4,218,635	1,092,879
1981	2,998,765	760,416	216,377	1,237,616	54,961	1,591,012	428,193	4,235,540	1,100,978
1982	3,056,750	776,127	219,997	1,263,635	55,987	1,618,246	432,246	4,224,815	1,107,774
1983	3,104,443	788,897	222,873	1,284,971	56,949	1,640,457	434,844	4,213,592	1,114,137
1984	3,116,413	792,941	223,525	1,292,419	57,186	1,642,807	432,761	4,173,046	1,110,735
1985	3,209,389	813,124	228,352	1,325,479	58,906	1,681,279	442,224	4,150,773	1,115,497
1986	3,327,701	838,066	234,388	1,366,112	60,950	1,732,083	455,257	4,181,118	1,133,440
1987	3,358,576	846,536	236,261	1,387,944	61,625	1,744,612	456,406	4,224,477	1,140,105
1988	3,418,920	859,744	239,300	1,416,761	62,661	1,767,644	461,540	4,300,250	1,157,884
1989	3,499,497	877,875	243,611	1,453,742	64,198	1,804,825	469,633	4,365,610	1,172,562
1990	3,571,409	893,354	247,235	1,473,098	65,433	1,833,081	476,612	4,433,855	1,187,789
1991	3,634,262	891,061	246,654	1,469,318	65,189	1,828,037	474,772	4,507,178	1,187,675
1992	3,634,140	891,040	246,649	1,469,284	65,187	1,827,993	474,756	4,507,091	1,187,649
1993	3,634,056	891,026	246,646	1,469,259	65,187	1,827,961	474,744	4,507,030	1,187,631
1994	3,634,020	891,020	246,644	1,469,250	65,185	1,827,949	474,741	4,507,004	1,187,623
1995	3,633,976	891,013	246,643	1,469,237	65,185	1,827,932	474,735	4,506,973	1,187,614
1996	3,633,932	891,006	246,640	1,469,225	65,184	1,827,916	474,729	4,506,942	1,187,605
1997	3,633,887	890,998	246,639	1,469,214	65,183	1,827,899	474,724	4,506,910	1,187,596
1998	3,633,887	890,998	246,639	1,469,214	65,183	1,827,899	474,724	4,506,910	1,187,596
1999	3,633,887	890,998	246,639	1,469,214	65,183	1,827,899	474,724	4,506,910	1,187,596
2000	3,633,887	890,998	246,639	1,469,214	65,183	1,827,899	474,724	4,506,910	1,187,596
2001	3,633,887	890,998	246,639	1,469,214	65,183	1,827,899	474,724	4,506,910	1,187,596
2002	3,633,887	890,998	246,639	1,469,214	65,183	1,827,899	474,724	4,506,910	1,187,596
2003	3,633,887	890,998	246,639	1,469,214	65,183	1,827,899	474,724	4,506,910	1,187,596
2004	3,633,887	890,998	246,639	1,469,214	65,183	1,827,899	474,724	4,506,910	1,187,596
2005	3,633,887	890,998	246,639	1,469,214	65,183	1,827,899	474,724	4,506,910	1,187,596
2006	3,633,887	890,998	246,639	1,469,214	65,183	1,827,899	474,724	4,506,910	1,187,596
2007	3,633,887	890,998	246,639	1,469,214	65,183	1,827,899	474,724	4,506,910	1,187,596
2008	3,633,887	890,998	246,639	1,469,214	65,183	1,827,899	474,724	4,506,910	1,187,596
2009	3,633,887	890,998	246,639	1,469,214	65,183	1,827,899	474,724	4,506,910	1,187,596
2010	3,633,887	890,998	246,639	1,469,214	65,183	1,827,899	474,724	4,506,910	1,187,596
2011	3,633,887	890,998	246,639	1,469,214	65,183	1,827,899	474,724	4,506,910	1,187,596
2012	3,633,887	890,998	246,639	1,469,214	65,183	1,827,899	474,724	4,506,910	1,187,596
2013	3,606,437	890,998	246,639	1,457,318	65,183	1,827,899	474,724	4,458,448	1,175,794
2014	3,580,739	876,821	242,538	1,446,269	64,052	1,799,957	467,572	4,417,516	1,165,539
2015	3,531,228	866,885	239,877	1,429,881	63,183	1,779,685	461,258	4,368,999	1,152,175
2016	3,444,293	849,421	235,159	1,401,076	61,692	1,744,155	450,187	4,284,597	1,128,794
2017	3,266,509	812,885	225,440	1,340,811	58,601	1,669,545	427,219	4,113,707	1,080,987
2018	3,007,633	754,381	209,358	1,244,309	53,922	1,551,264	392,809	3,819,927	999,912
2019	2,670,579	665,023	182,107	1,096,910	47,168	1,376,934	345,039	3,276,700	854,951
2020	2,356,334	584,978	145,442	905,488	40,628	1,156,810	300,468	2,458,062	656,753
2021	2,244,307	493,174	127,153	813,434	38,446	1,055,424	285,541	1,919,706	546,851
2022	2,167,198	468,695	119,666	773,054	37,045	1,008,244	275,395	1,745,804	501,993
2023	2,128,272	454,242	116,807	757,464	36,383	989,742	270,456	1,691,263	487,394
2024	2,121,131	457,587	116,380	754,733	36,253	986,355	269,506	1,683,417	485,285
2025	2,119,026	457,131	116,263	753,981	36,216	985,422	269,231	1,681,308	484,709
2026	2,114,050	456,224	116,034	752,485	36,133	983,549	268,605	1,677,432	483,595
2027	2,104,738	454,536	115,607	749,700	35,978	980,062	267,435	1,670,212	481,521
2028	2,104,738	454,536	115,607	749,700	35,978	980,062	267,435	1,670,212	481,521
2029	2,104,738	454,536	115,607	749,700	35,978	980,062	267,435	1,670,212	481,521
2030	2,104,738	454,536	115,607	749,700	35,978	980,062	267,435	1,670,212	481,521
2031	2,104,738	454,536	115,607	749,700	35,978	980,062	267,435	1,670,212	481,521
2032	2,104,738	454,536	115,607	749,700	35,978	980,062	267,435	1,670,212	481,521
2033	2,102,626	454,156	115,511	749,074	35,942	979,271	267,169	1,668,590	481,053
2034	2,098,305	453,380	115,314	747,793	35,870	977,654	266,626	1,665,272	480,097
2035	2,089,470	451,793	114,913	745,176	35,722	974,346	265,516	1,658,484	478,141

* Unadjusted for prior overpayments or underpayments of charges. In addition to the Transportation Charge, each contractor shall pay the Delta Water Charge. The latter charge may be estimated by applying $3.50 to each acre-foot of entitlement through calendar year 1969, and $7.87 to each acre-foot of entitlement thereafter.

TABLE B-16 (Continued)

TOTAL TRANSPORTATION CHARGES OF EACH CONTRACTOR*

(in dollars)

CALENDAR YEAR	SOUTHERN CALIFORNIA					FUTURE CONTRACTOR			GRAND TOTAL
	San Gorgonio Pass Water Agency	The Metropolitan Water District of Southern California	Upper Santa Clara Valley Water Agency	Ventura County Flood Control District	Total	South Bay	Southern California	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	75,196
1963	0	590,878	0	0	666,291	51,983	0	51,983	1,414,062
1964	19,187	1,129,900	17,298	8,149	1,441,161	81,846	0	81,846	2,469,667
1965	20,321	1,985,058	33,825	15,933	2,465,017	139,193	0	139,193	4,272,995
1966	34,488	3,560,941	65,120	30,472	4,394,698	160,552	0	160,552	6,572,232
1967	63,548	6,955,436	133,640	61,712	8,521,682	194,992	0	194,992	11,160,615
1968	127,414	14,991,002	301,006	138,615	18,173,237	271,857	37,112	308,969	24,223,516
1969	213,308	24,182,590	479,331	220,693	29,250,462	343,862	62,536	406,398	36,244,205
1970	329,689	35,860,450	674,284	309,222	43,351,521	352,617	98,020	450,637	51,247,832
1971	413,099	47,548,747	863,743	384,204	56,950,649	353,861	123,315	477,176	65,634,016
1972	506,550	56,080,118	925,140	403,881	68,418,738	353,349	207,928	561,277	77,486,721
1973	526,302	58,173,211	963,460	411,595	70,950,212	354,931	211,747	566,678	80,499,442
1974	543,280	58,624,473	975,028	413,872	71,680,102	357,535	207,852	565,387	82,052,058
1975	555,794	60,275,426	1,002,284	414,732	73,644,535	357,625	213,356	570,981	84,310,775
1976	566,038	61,026,108	1,016,686	415,385	74,594,743	357,569	210,223	567,792	86,000,721
1977	578,529	62,283,122	1,040,502	416,783	76,123,699	357,455	209,811	567,266	88,332,749
1978	591,162	63,544,553	1,062,387	416,932	77,676,715	357,354	210,611	567,965	91,077,031
1979	605,257	64,622,197	1,085,535	416,944	79,045,833	357,333	211,022	568,355	93,621,104
1980	615,338	65,592,897	1,109,575	426,538	80,165,611	357,291	208,872	566,163	96,490,133
1981	631,474	66,603,083	1,127,648	436,064	81,422,127	357,213	208,053	565,266	98,345,501
1982	645,081	67,614,426	1,150,734	445,501	82,611,359	357,110	207,301	564,411	99,965,152
1983	656,810	68,633,191	1,172,630	455,200	83,778,794	357,031	206,480	563,511	101,599,285
1984	662,001	68,717,028	1,174,830	461,700	83,857,792	356,901	203,550	560,451	102,034,046
1985	678,386	69,171,501	1,180,758	469,369	84,525,637	356,915	201,801	558,716	103,271,944
1986	699,640	70,031,642	1,193,423	485,852	85,739,672	357,028	202,231	559,259	105,290,934
1987	709,166	70,483,764	1,208,301	500,934	86,358,807	356,819	200,585	557,404	106,117,623
1988	721,807	71,415,369	1,240,090	530,540	88,092,510	356,702	201,071	557,773	108,205,247
1989	738,082	72,389,275	1,257,733	556,780	88,893,823	356,716	200,985	557,701	109,476,390
1990	752,309	72,473,006	1,278,996	592,288	89,278,865	356,726	200,991	557,717	110,378,372
1991	750,592	72,436,930	1,278,036	591,824	89,361,528	356,716	200,975	557,691	110,430,372
1992	750,577	72,439,145	1,277,999	591,806	89,359,316	356,716	200,971	557,687	110,432,372
1993	750,565	72,433,904	1,277,973	591,795	89,357,777	356,637	200,968	557,605	110,437,372
1994	750,561	72,433,395	1,277,963	591,789	89,357,144	356,637	200,968	557,605	110,443,372
1995	750,555	72,432,749	1,277,950	591,783	89,356,345	356,637	200,966	557,603	110,444,372
1996	750,550	72,432,104	1,277,936	591,777	89,355,546	356,637	200,964	557,601	110,446,372
1997	750,543	72,431,460	1,277,923	591,771	89,354,747	356,637	200,963	557,600	110,447,372
1998	750,543	72,431,460	1,277,923	591,771	89,354,747	356,637	200,963	557,600	110,447,372
1999	750,543	72,431,460	1,277,923	591,771	89,354,747	356,637	200,963	557,600	110,447,372
2000	750,543	72,431,460	1,277,923	591,771	89,354,747	356,637	200,963	557,600	110,447,372
2001	750,543	72,431,460	1,277,923	591,771	89,354,747	356,637	200,963	557,600	110,447,372
2002	750,543	72,431,460	1,277,923	591,771	89,354,747	356,637	200,963	557,600	110,447,372
2003	750,543	72,431,460	1,277,923	591,771	89,354,747	356,637	200,963	557,600	110,447,372
2004	750,543	72,431,460	1,277,923	591,771	89,354,747	356,637	200,963	557,600	110,447,372
2005	750,543	72,431,460	1,277,923	591,771	89,354,747	356,637	200,963	557,600	110,447,372
2006	750,543	72,431,460	1,277,923	591,771	89,354,747	356,637	200,963	557,600	110,447,372
2007	750,543	72,431,460	1,277,923	591,771	89,354,747	356,637	200,963	557,600	110,447,372
2008	750,543	72,431,460	1,277,923	591,771	89,354,747	356,637	200,963	557,600	110,447,372
2009	750,543	72,431,460	1,277,923	591,771	89,354,747	356,637	200,963	557,600	110,447,372
2010	750,543	72,431,460	1,277,923	591,771	89,354,747	356,637	200,963	557,600	110,447,372
2011	750,543	72,431,460	1,277,923	591,771	89,354,747	356,637	200,963	557,600	110,447,372
2012	750,543	72,431,460	1,277,923	591,771	89,354,747	356,637	200,963	557,600	110,447,372
2013	743,999	71,840,582	1,277,923	591,771	88,658,215	315,851	200,963	516,814	109,206,421
2014	738,143	71,301,560	1,260,625	583,622	87,944,953	286,512	200,963	487,475	108,215,808
2015	730,222	70,446,402	1,244,097	575,838	86,889,732	243,193	200,963	444,156	106,630,174
2016	716,055	68,870,520	1,212,803	561,299	84,960,051	224,140	200,963	425,103	104,412,420
2017	686,995	65,476,025	1,144,283	530,059	80,833,066	187,359	200,963	388,322	99,940,610
2018	638,610	59,152,020	1,011,610	469,830	73,305,485	110,817	167,968	278,785	91,842,938
2019	553,666	50,066,193	835,312	388,775	62,359,357	44,918	142,798	187,716	80,573,778
2020	440,764	38,778,570	648,103	303,979	48,740,984	36,614	108,236	144,850	66,825,395
2021	380,607	31,851,436	565,454	268,602	40,590,135	35,671	89,126	124,797	58,612,747
2022	356,823	28,635,691	528,228	252,374	36,870,110	34,836	81,387	116,223	54,847,942
2023	348,696	27,742,751	512,435	245,272	35,786,177	33,412	78,853	112,265	53,715,902
2024	347,409	27,507,273	507,266	243,231	35,515,826	31,491	78,507	109,998	53,391,067
2025	347,058	27,435,015	505,596	242,576	35,433,532	31,472	78,413	109,885	53,263,000
2026	346,374	27,360,480	504,091	241,851	35,340,903	31,453	78,231	109,684	52,734,573
2027	345,100	27,221,097	501,270	240,491	35,167,747	31,453	77,892	109,345	52,130,796
2028	345,100	27,221,097	501,270	240,491	35,167,747	31,453	77,892	109,345	51,387,616
2029	345,100	27,221,097	501,270	240,491	35,167,747	31,453	77,892	109,345	50,634,657
2030	345,100	27,221,097	501,270	240,491	35,167,747	31,453	77,892	109,345	49,869,639
2031	345,100	27,221,097	501,270	240,491	35,167,747	31,453	77,892	109,345	49,755,627
2032	345,100	27,221,097	501,270	240,491	35,167,747	31,453	77,892	109,345	49,737,867
2033	344,813	27,189,523	500,629	240,183	35,128,540	31,453	77,815	109,268	49,694,044
2034	344,228	27,124,946	499,321	239,552	35,048,358	31,453	77,660	109,113	49,606,934
2035	343,030	26,992,869	496,643	238,262	34,884,365	31,453	77,341	108,794	49,428,771

* Unadjusted for prior overpayments of underpayments of charges. In addition to the Transportation Charge, each contractor shall pay the Delta Water Charge. The latter charge may be estimated by applying $3.50 to each acre-foot of entitlement through calendar year 1969, and $7.87 to each acre-foot of entitlement thereafter.

APPENDIX C

DEVELOPMENT and STATUS

STATE WATER PROJECT

ABSTRACT

Appendix C to Bulletin 132-67, "The California State Water Project in 1967", is a 32-page capsule of the Project's development as detailed each year in the parent bulletin of the series. In addition to historical background, the summary contains: a status report on construction progress, and on project benefits already being realized; and, a concise description of each facility -- with individual location maps.

THE CALIFORNIA STATE WATER PROJECT

The State Water Project is an amazing venture. It is the first statewide water resources development in the United States, and is the largest single water development in the world to be financed at one time. It is the first water project which will construct four reservoirs having recreation as their primary purpose. The Project contains the highest dam in the United States. Oroville Dam will tower 770 feet above its foundation when completed late this year. The Project will have the largest underground powerplant in the nation -- the Oroville Powerplant -- which, in conjunction with its companion powerplant downstream at Thermalito, will produce power enough for a city of one million people. The Project's largest pumping plant will lift more water higher than any other in existence, raising 110 million gallons an hour in a single lift up the Tehachapi Mountains.

CALIFORNIA'S WATER PROBLEM

California is a land of contrast -- in topography, climate, and population distribution. From its lowest point, 282 feet below sea level in Death Valley, one has to travel only 85 miles to reach the State's highest point, Mount Whitney, towering 14,495 feet above sea level. The State's rainfall ranges from more than 100 inches per year in the mountainous northwest corner to about 2 inches per year in the desert areas of the southeast. Eighty percent of the people in California live in metropolitan areas from Sacramento to the Mexican border; however, 70 percent of the State's water supply originates north of the latitude of San Francisco Bay.

In the last 25 years, the State's population has grown from 6,900,000 to more than 19,000,000 and, in the next 25 years, is expected to pass 35,000,000. California is also the greatest agricultural state in the nation -- farm income is valued at $4 billion annually -- with 95 percent of the worth of its product grown on lands which would be almost totally unproductive were it not for irrigation.

A soaring population, a prosperous agricultural economy, and ever-expanding industries emphasize the magnitude of California's water problem and the importance of wise water management.

HISTORICAL SOLUTION TO CALIFORNIA'S WATER PROBLEM

California appears to have an adequate gross supply to meet foreseeable water requirements. An average of 30 million acre-feet, or 42 percent of the State's mean annual runoff, still wastes to the ocean from uncontrolled streams along California's north coast.

The historical solution to California's water problem has been one of conserving the sporadic stream runoff in surface storage reservoirs and transporting the regulated supplies to areas of use. Such imported supplies supplement pumpage from underlying ground water basins. Larger storage works and longer conveyance systems have been required to meet the continuing demands for water.

The historical development of California's water resources has been accomplished by many diverse private and governmental agencies. Mining companies, mutual water companies, irrigation and reclamation districts, municipalities, power companies, and federal agencies have all contributed to water development. Today there are some 4,000 separate organizations in California which have something to do with water.

The first serious entry of the State of California in water resources planning and development began in 1920 and continued through the early 30's. These activities accelerated with the beginning of the worst 7-year drought in recorded history in 1928, and culminated in the passage of the State Central Valley Project Act by the 1933 Legislature. The Act authorized construction of a water project which would develop and distribute additional water supplies within California's great Central Valley. The Act also authorized issuance of $170 million in revenue bonds. The Act was approved by the people in a special election on December 19, 1933. However, because of the economic depression at that time, and because of the limitation then existing as to the amount of bonds that could be issued, the bonds could not be sold. Certain units of the project were taken over by the Federal Government under the Public Works Administration program of that period. Construction began by the Bureau of Reclamation of the U. S. Department of Interior in 1937. Federal Central Valley Project water first became available for irrigation in 1940, in Contra Costa County. The federal project has since been expanded and is still under construction by the Bureau of Reclamation.

Following World War II, indications were that California's population increase of the war years was going to continue, if not accelerate. The State Legislature in 1945 and 1947 authorized and financed planning studies to insure that developed water supplies kept pace with the State's growing demands. These studies resulted in a report entitled "The California Water Plan" in 1957 -- a broad outline for the "ultimate" control, protection, conservation, distribution, and utilization of California's water resources for all beneficial uses and in all areas of the State. The Plan was adopted by the Legislature in 1959 as a guide for future water development by all concerned levels of government -- local, state, and federal.

AUTHORIZATION OF FACILITIES FOR CONSTRUCTION

Early in the preparation of the California Water Plan, evidence pointed to the fact that the State itself would have to enter the field of water project construction if impending water demands were to be satisfied. This realization led to the formulation of the Feather River Project (and the Sacramento-San Joaquin Delta Diversion Projects), from which evolved the State Water Project now under construction.

In May 1951, State Engineer A. D. Edmonston presented the first feasibility report on the Feather River Project. As a result, the Legislature in 1951 authorized the construction of several facilities, including the following which are presently part of the Project:

Oroville Area: all works except the Thermalito Afterbay.
South Bay Aqueduct: all works including Del Valle features.
California Aqueduct: all works except the Coastal Branch, San Luis reservoir and O'Neill Forebay.

Continuing engineering and financial feasibility studies resulted in another Feather River Project report in February 1955. On this basis, the Legislature in 1956 authorized the following facilities:

Oroville Area: Thermalito Afterbay
California Aqueduct: San Luis reservoir and O'Neill Forebay.

The Legislature in 1957 authorized the following facilities on the basis of the above 1955 report and the Department's report on the Salinity Control Barrier Investigation:

Upper Feather Area: all dams and reservoirs.
North Bay Aqueduct: all works.

The Legislature in 1959 authorized the following facilities on the basis of the Department's report on the Investigation of Alternative Aqueduct Systems to Serve Southern California:

California Aqueduct: Costal Branch

The above facilities were authorized for construction under the State Central Valley Project Act. These facilities were reauthorized for construction by the Legislature's enactment of the Burns-Porter Act in 1959, effective upon the ratification by the voters on November 8, 1960. In addition, the following facilities, which are presently part of the Project, were initially authorized by the Burns-Porter Act:

Delta Facilities: all works presently contemplated (dredging of natural channels were authorized in 1951).
Local Projects: the provision of $130 million in state loans and grants to local agencies under the Davis-Grunsky Program.
San Joaquin Drainage Facilities: all works.

Pursuant to the Department's authority under the State Central Valley Project Act and the Burns-Porter Act, the following facilities were also authorized for construction by administrative action in 1964:

Upper Feather Area: Grizzly Valley Pipeline.
Upper Eel River Development: all works.

FUNDS AVAILABLE FOR CONSTRUCTION

Construction funds for the State Water Project were first made available in 1957, when the Legislature appropriated over $25 million in state tideland oil revenues to initiate relocation of highways and railroads around the Oroville reservoir site. Year-to-year appropriations were made through 1960, to permit continuation of Oroville relocations and to permit initial construction of the South Bay and California Aqueducts in 1959. Eventually, about $103 million of project expenditures were financed by special legislative appropriations.

An assured source of project funds was established with the ratification of the Burns-Porter Act on November 8, 1960. The act authorized issuance of $1.75 billion in general obligation bonds, backed by the State's credit, and appropriated all moneys in the California Water Fund and all accruals thereto, for the construction of the "State Water Facilities" authorized therein. Furthermore, the Act indirectly provided funds for certain additional facilities, such as the Upper Eel River Development subsequently authorized by the Department, through a unique "offset" provision. The effect of this provision is to reserve authorized bonds for the construction of such additional facilities, in an amount equal to the expenditures from the California Water Fund on the State Water Facilities. Presently, about $11 million is deposited annually in the California Water Fund.

The Burns-Porter Act recognizes the continued effectiveness of the State Central Valley Project Act -- including the Department's authority to cooperate with the United States; to issue revenue bonds for project construction; and, to execute repayment contracts for the sale of project services.

Three important decisions were rendered by the California Supreme Court in 1963, bearing on the availability of funds for project construction expenditures.

In Metropolitan Water District v. Marquardt, the Court upheld the validity of the Burns-Porter Act against the various constitutional objections levied against it, and upheld the validity of all the provisions of the water supply contract between the State and The Metropolitan Water District of Southern California.

In California Water Resources Development Finance Committee v. Betts, the validity of certain waiver provisions proposed to be included on the general obligation bonds was upheld. In so doing, the Court decided that certain surplus project revenues could be used to underwrite general obligation bonds, other than those authorized by the Burns-Porter Act, or revenue bonds.

In Warne v. Harkness, the Court upheld the authority of the Department to issue revenue bonds, under the provisions of the State Central Valley Project Act, for the costs of construction of Oroville power facilities of the State Water Project.

The funds provided by the Burns-Porter Act are not the only ones available for future construction costs of the State Water Project. Other anticipated funds include:

	(in $ millions)
1. Revenue bonds, to be supported by revenues from the sale of Oroville-Thermalito power, under a repayment contract currently being negotiated.....	210
2. Federal contributions, for project costs of Oroville and Del Valle Dams and reservoirs allocable to flood control, under executed agreements with the United States.....	74
3. Reimbursements from State tideland oil revenues, for project costs allocable to recreation and fish and wildlife enhancement, a statewide responsibility under the Davis-Dolwig Act.....	95
4. Advance payments by the Project's water contractors, for requested aqueduct capacity in excess of that which the State would otherwise construct in project aqueducts.....	70
5. Payments by the City of Los Angeles Department of Light and Power, for the estimated equalization of benefits to be realized from cooperative power development of the California Aqueduct, West Branch, under an executed agreement.....	35
6. Miscellaneous project income, including rental of project lands prior to construction, sale of project lands, interest earnings, etc.....	22
Total other anticipated funds.....	506

Not all of these funds would be applied to finance construction costs. The Burns-Porter Act has been interpreted to prohibit the use of moneys provided thereby for the payment of service on general obligation bonds. However, continuing project revenues derived from the sale of project services (such as from the water contracts) are not sufficient to cover bond service during the early years of the project construction period. Therefore, the Department will apply certain of the above-listed funds to such "interest during construction" costs which cannot be covered by project revenues -- even though the Act guarantees the payment of all general obligation bond service from the General Fund. The avoidance of project demands on the General Fund has been deemed essential to maintaining the high rating of the State in the bond market.

The sale of securities under the Burns-Porter Act was delayed by the litigation which was decided by the California Supreme Court in 1963. The first issue of securities consisted of the sale of $50 million of bond anticipation notes on November 1, 1963. As of May 1, 1967, $750 million in Water Bonds have been sold at an average interest cost of 3.709 percent -- well below the 4 percent rate contemplated at the time the Act was ratified.

PROJECT WATER CONTRACTING PROGRAM

The securement of guaranteed repayment of State Water Project costs allocable to water supply was undoubtedly the most remarkable and successful program of its kind ever undertaken. Within about five years, negotiations had been concluded with local water agencies throughout most of the State, representing many diverse interests; contracts had been executed with 30 agencies having local taxing powers and adequate financial resources to guarantee repayment of over $2 billion in project costs, with interest; and, design capacities based upon contractual needs had been firmly established, well in advance of aqueduct construction (except for the South Bay Aqueduct).

After considerable study by legislative committees, guidelines for the water contracting program were established by the Contracting Principles adopted and announced by Governor Brown on January 20, 1960. The program was actually initiated during the spring of 1960, when negotiations began with The Metropolitan Water District of Southern California. This "prototype" contract was executed between the District and the Department, acting for the State, on November 4, 1960 -- four days prior to the ratification of the Burns-Porter Act. However, the contract was not to become effective until after legislative and judicial review.

The 1961 Legislature did not produce any enactment that conflicted with the contract provisions, and the validity of the contract was upheld in the State Supreme Court 1963 decision of Metropolitan Water District v. Marquardt. Reservations that might have been held by potential contracting agencies were removed by the court decision, and the Department's contract negotiation position was firmly established.

When the initial contracting period ended on December 31, 1963, long-term contracts had been executed with 30 local agencies, committing 3,468,000 acre-feet of the original "minimum project yield" of 4,000,000 acre-feet annually. The "minimum project yield" is a contractual term which identifies the limit of the total maximum annual entitlements to be delivered for all agencies.

Each of the 30 contracting agencies had an option on a proportionate share of the 532,000 acre-feet of the minimum project yield remaining uncommitted as of December 31, 1963, if it could be demonstrated that the additional water could be put to beneficial use within a reasonable period of time. However, the June 1963 United States Supreme Court decision in the case of Arizona v. California redefined the rights to the waters of the Colorado River. The Department decided to propose an increase of the minimum project yield to provide an additional annual entitlement of 500,000 acre-feet to The Metropolitan Water District of Southern California (including Metropolitan's 270,000 acre-foot pro rata share of the original project yield remaining uncommitted), to help compensate for a definite loss created by the court decision. The necessary actions were taken to gain approval to increase the minimum project yield by 230,000 acre-feet by September 30, 1964 -- the end of the option period.

Options were eventually exercised by 18 of the contracting agencies (other than Metropolitan) increasing their annual entitlements to project water by 462,800 acre-feet. This amount, together with the additional 500,000 acre-feet provided Metropolitan, left 29,300 acre-feet of the enlarged minimum project yield uncommitted.

During the initial contracting period ending December 31, 1963, and the option period ending September 30, 1964, the 30 contracting agencies had specific rights to increase their maximum annual entitlements to project water. The State, however, was not prevented from executing additional contracts after the end of the option period and, in 1965, accepted the Oak Flat Water District in western Stanislaus County as the 31st contracting agency -- with a maximum annual entitlement of 5,700 acre-feet. In November 1965, one of the previous separate contracting agencies merged its entitlement with that of Metropolitan, reverting the total number of contracting agencies to 30.

The Upper Santa Clara Valley Water Agency's contract was amended January 24, 1966, increasing that Agency's maximum annual entitlement from 26,500 acre-feet to 41,500 acre-feet. The amendment thus reduced the uncommitted remainder of the minimum project yield from 23,600 acre-feet to 8,600 acre-feet.

FEATHER RIVER AREA	MAXIMUM ANNUAL ENTITLEMENT Acre-Feet
Plumas County Flood Control & Water Conservation District	2,700
County of Butte	27,500
City of Yuba City	9,600
Subtotal	39,800
NORTH BAY	
Napa County Flood Control & Water Conservation District	25,000
Solano County Flood Control & Water Conservation District	42,000
Subtotal	67,000
SOUTH BAY	
Alameda County Flood Control & Water Conservation District, Zone 7	46,000
Alameda County Water District	42,000
Santa Clara County Flood Control & Water District	100,000
Subtotal	188,000

SAN JOAQUIN VALLEY	MAXIMUM ANNUAL ENTITLEMENT Acre-feet
Oak Flat Water District	5,700
Empire West Side Irrigation District	3,000
Tulare Lake Basin Water Storage District	110,000
Hacienda Water District	8,500
Dudley Ridge Water District	57,700
Devil's Den Water District	12,700
Kern County Water Agency	1,153,400
Subtotal	1,351,000
CENTRAL COASTAL	
San Luis Obispo County Flood Control & Water Conservation District	25,000
Santa Barbara County Flood Control & Water Conservation District	57,700
Subtotal	82,700

SOUTHERN CALIFORNIA	MAXIMUM ANNUAL ENTITLEMENT Acre-Feet
Mojave Water Agency	50,800
Antelope Valley-East Kern Water Agency	138,400
Palmdale Irrigation District	17,300
Littlerock Creek Irrigation District	2,300
Crestline-Lake Arrowhead Water Agency	5,800
San Bernardino Valley Municipal Water District	98,000
Desert Water Agency	38,100
Coachella Valley County Water District	23,100
San Gorgonio Pass Water Agency	17,300
Ventura County Flood Control District	20,000
Upper Santa Clara County Valley Water Agency	41,500
San Gabriel Valley Municipal Water District	28,800
The Metropolitan Water District of Southern California	2,011,500
Subtotal	2,492,900
TOTAL	4,221,400

Negotiations with Kings County are now nearing completion for a maximum annual entitlement of 4,000 acre-feet out of the remaining 8,600 acre-feet. Negotiations are also under way with Southern California interests regarding the remaining 4,600 acre-feet of the minimum project yield.

PROJECT POWER CONTRACTING PROGRAM

Delivery of project water entitlements will require considerably more electric energy for aqueduct pumping and associated use (about $13 billion kilowatt-hours annually) than will be generated in aqueduct powerplants (about 4 billion kilowatt-hours annually) -- or in all project-associated powerplants (about 6 billion kilowatt-hours annually), including Oroville-Thermalito power generation.

Hydroelectric powerplants, such as Oroville and Thermalito, are capable of reaching full capacity operation quickly and are therefore ideally suited to meet peak demand portions of varied powerloads. This ability makes hydroelectric generation more valuable than thermal electric generation. In contrast, power requirements of aqueduct pumping plants eventually will be essentially continuous.

Since the basic plan of the power contracting program is to deliver project water at the lowest possible cost, project operating revenues will be maximized by selling Oroville-Thermalito power to utility companies serving a diversified powerload. Project operating costs will be minimized through the purchase of less expensive power from sources having excess capacity and energy, during certain time periods, and the purchase of surplus energy from other sources.

The negotiation of power purchase contracts commenced in October 1964 following completion of a preliminary study made by the Fluor Corporation relative to the most economic and reliable sources of pumping power. Two years later, the terms of all power purchase contracts had been negotiated. These contracts include:

1. Suppliers' Contract, with the Pacific Gas and Electric Company, the Southern California Edison Company, the City of Los Angeles Department of Water and Power and the San Diego Gas and Electric Company, for a supplemental power supply and transmission service to the project pumping plants.

2. Intertie Contract, with the above-named utilities, excluding the City of Los Angeles Department of Water and Power, for the transmission of Pacific Northwest power between the Oregon-California border and distribution points in California.

3. Assignments and agreements relating to Canadian Entitlement Power exchanges, with the City of Seattle, City of Tacoma, and Puget Sound Power and Light Company for the assignment of 300,000 kilowatts of power to the Project.

4. BPA Power Sales Contract, with the Bonneville Power Administration for the purchase of surplus Pacific Northwest energy for the Project.

The Suppliers' Contract was executed November 18, 1966. Approval of the remaining contracts listed above is being delayed by Congressional Committees due to objections concerning related contracts.

Negotiations are well under way with the California utilities listed in (2) above for the sale of firm Oroville-Thermalito power. Contract execution is anticipated during 1967.

PROJECT DRAINAGE CONTRACTING PROGRAM

One-half of all irrigated lands in California lie within the San Joaquin Valley. In this important agricultural area, the long-time application of irrigation water is contributing to a toxic concentration of salts which endangers crops, threatens the quality of water in the ground and in the streams, and imperils the soil itself. Individual farms and districts have taken measures to dispose of drainage water beyond their respective borders. However, with continued, intensified irrigation, the once local waste water disposal problems have grown as a cancer until they threaten widespread areas throughout the entire valley.

The 1957 Legislature appropriated funds to initiate a comprehensive investigation concerning the problems resulting from inadequate drainage in the San Joaquin Valley, and plans for their solution. As a result, the Department presented a comprehensive report to the 1965 Legislature, "Bulletin 127, San Joaquin Valley Drainage Investigation, San Joaquin Master Drain" January 1965.

The report made recommendations as to the size, location, and construction of a master drain which would carry agricultural waste waters from the Valley -- including those originating from the federal San Luis service area. (The federal San Luis Act requires that this area shall be adequately served by either: a master drain to be constructed by the State; or, by a separate federal interceptor drain, to be constructed by the Bureau of Reclamation.) The report also recommended that a valley-wide district be created to contract with the State for drainage service and for the repayment of the State's reimbursable costs of construction, operation, maintenance, and replacement of facilities needed to provide such service.

In line with the report's recommendations, the Department and the Bureau of Reclamation negotiated a contract covering federal participation in a master drain. However, state legislation has not as yet been introduced which would authorize the formation of a valley-wide district. In view of the absence of a repayment contract with such a district, the stated unwillingness and/or inability of individual local districts to assume repayment of the State's costs, and the impending requirements for the provision of a drainage facility serving the federal San Luis service area, the Department notified all concerned, in March 1967, that the State was not in a position to proceed with construction of a master drain at that time. The Department suggested that the Bureau of Reclamation proceed at once with construction of a federal interceptor drain, as provided for in the federal San Luis Act.

Notwithstanding the present situation, the Department envisions the eventual formation of a master district and is reserving funds to finance a drainage facility in the San Joaquin Valley, as contemplated under the Burns-Porter Act.

NONREIMBURSABLE PROGRAMS

Project costs are allocated among project purposes. Project purposes are divided into two major categories: reimbursable and nonreimbursable. Reimbursable costs are those allocable to the previously discussed purposes of water supply, hydroelectric power generation, and drainage benefit -- and determine the charges paid by project customers. Nonreimbursable costs are those allocable to the purposes of flood control, recreation, and fish and wildlife enhancement -- and are supported by appropriations from general tax funds, as being in the interest of public health and welfare.

Flood Control

The Federal Government has assumed the responsibility of reimbursing the State for flood control expenditures made for the State Water Project.

The State and the United States executed a contract in March 1962, whereby the Federal Government agreed to contribute 22 percent of the actual capital costs of Oroville Dam and reservoir (exclusive of the Oroville-Thermalito power features) for the purpose of flood control -- the total contribution not to exceed $85 million. At the end of 1966, the Federal Government had contributed more than $47 million under the contract. The State has estimated that eventual flood control contribution will total about $67 million.

Another contract, executed in May 1966, provides a federal contribution for the costs of Del Valle Dam and reservoir on the South Bay Aqueduct. The contract provides for federal payments equivalent to 30.7 percent of the actual capital costs of the Dam and reservoir, but not to exceed about $4 million. In addition, $776,000 would be contributed for the capitalized value of annual operating costs allocable to flood control. However, the present estimate of the total capital costs of Del Valle Dam and reservoir allocable to flood control is about $6 million due to cost estimate increases since the contract was negotiated. The Department is seeking to have the present contractual limitation increased in order to reflect the full costs properly allocable to the purpose.

Recreation and Fish and Wildlife Enhancement

The California Legislature has declared it to be the policy of this State to assume responsibility for the costs of state water projects which are allocable to the purposes of recreation and fish and wildlife enhancement.

The Davis-Dolwig Act, originally enacted during the 1961 Legislative Session, declares recreation and fish and wildlife enhancement to be among the purposes of all state water projects. Furthermore, it provides that costs allocated by the Department to these purposes will be nonreimbursable by project water and power customers, in view of the statewide benefits involved.

Developments for recreation and fish and wildlife enhancement are not included among the project facilities authorized by the Burns-Porter Act -- except for the four dams and reservoirs in the Upper Feather Area which were authorized primarily for these purposes. Project funds, generally, cannot be properly used to finance the costs of these developments. (However, an enactment prior to the Davis-Dolwig Act allows the Department to purchase lands required for recreation developments concurrently with other water project lands, with any available funds -- including project funds.) The costs of recreation developments associated with the State Water Project are being financed primarily by the State General Fund under Davis-Dolwig Act procedures. The total cost to be so financed has been estimated to be more than $165 million for construction, and about $2 million, annually, for related operation and maintenance activities.

New legislation enacted during the 1966 Legislative Session significantly supplemented the Davis-Dolwig Act to provide a source of reimbursement to the Project for the costs of project facilities initially financed by project funds and allocable to the purposes of recreation and fish and wildlife enhancement. This important new law annually reserved up to $5 million of the State's tideland oil revenues for such costs. To the extent the Legislature approves the Department's allocations and expenditures, by subsequent enactments, the reserved funds will be released to the Department for expenditure on state water projects.

The multiple-purpose capital costs of the State Water Project which will be allocable to recreation and fish and wildlife enhancement have been estimated to total about $108 million. With the potential $5-million annual reimbursement, it will take until the year 2005 to fully repay project funds used to finance these costs.

PROJECT ACCOMPLISHMENTS TO DATE

Though the State Water Project is still under construction, significant water supply, recreation, and flood control benefits have been realized from project facilities through the end of 1966.

The South Bay Aqueduct has delivered 131,401 acre-feet of water from the federal Central Valley Project to contracting agencies in Alameda and Santa Clara Counties. In addition, 53,884 acre-feet have been delivered from Frenchman Dam and Lake to the Last Chance Creek Water District, in Plumas County. This delivery includes both water to satisfy the District's existing water rights and project water conserved by the facility. The annual water amount delivered to each agency is shown below:

Calendar Year	Alameda County: Flood Control and Water Conservation District, Zone 7	Alameda County: Water District	Santa Clara County Flood Control and Water District	Last Chance Creek Water District
		(in acre-feet)		
1962	494	8,412		9,383
1963	1,731	10,914		9,811
1964	1,673	19,238		11,596
1965	2,605	16,407	15,014	10,079
1966	5,511	14,864	34,538	13,015
TOTAL	12,014	69,835	49,552	53,884

Completed project reservoirs in Plumas County have received 1,185,400 visitor-days of use by recreationists and fishermen. The use at each facility is shown below:

Recreation Season (May - November)	Frenchman Dam and Lake	Antelope Dam and Lake
	(in visitor-days)	
1962	30,000	
1963	105,000	
1964	320,000	11,600
1965	474,000	25,800
1966	114,000	105,000
TOTAL	1,043,000	142,400

Oroville Dam, which will be the nation's highest dam when completed in 1967, averted a recurrence during the Christmas 1964 flood of the disastrous Christmas 1955 flood in which 36 lives were lost in the Yuba City area. The unfinished dam effectively reduced the record peak flow of the Feather River by 100,000 cubic feet per second. The U. S. Corps of Engineers estimated that this reduction in flood crest prevented $30,000,000 in damages. This benefit amounts to about 45 percent of the total federal contributions expected to be received for the costs of Oroville Dam allocable to flood control.

CONSTRUCTION AND DESCRIPTION OF PROJECT FACILITIES

The design and construction of the State Water Project has been unequaled in the history of water resources development. The current year's construction budget for the Project is equivalent to the expenditure of almost $1 million daily. Since ratification of the Burns-Porter Act, through 1966, the Department expended $694 million in construction contracts. Prior to 1961, another $50 million had been spent on relocation of utilities, and other preconstruction activities in the Oroville Area, and for a start on construction of the California and South Bay Aqueducts. This volume of $694 million is, in a short six years, about 56 percent of the total construction expenditures by the Bureau of Reclamation for the Central Valley Project in the past 29 years.

By the end of 1966, the Project's construction record shows: five dams completed; five dams under construction; 42 miles of the South Bay Aqueduct completed; 137 miles of the California Aqueduct under construction, including 15 miles of tunnels; work accomplished in various stages on three powerplants and five pumping plants; and, hydroelectric machinery and appurtenances being manufactured for the Project in plants throughout the country.

The following pages present a brief description of works, and the construction status as of April 1, 1967, for each facility of the State Water Project. (For presentation, the 444-mile main line of the California Aqueduct is subdivided into five divisions, as indicated in the sketch to the left.) These facility descriptions are preceded by a summary map portraying the overall construction status of the entire Project.

OROVILLE DAM

CONSTRUCTION PROGRESS AND SERVICE AREA DELIVERY DATES

UPPER FEATHER AREA
$16,619,000

36%
53%
11%

OROVILLE AREA
$333,451,000

1%
21%
78%

1968

NORTH SAN JOAQUIN DIVISION
$93,485,000

12%
23%
65%

PERIPHERAL CANAL

UPPER EEL RIVER DEVELOPMENT

1980

1968

1962

1965

1968

12%
88%

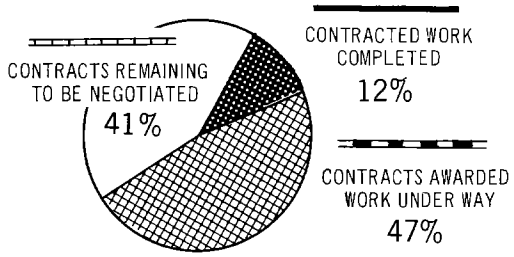
NORTH BAY AQUEDUCT
$8,513,000

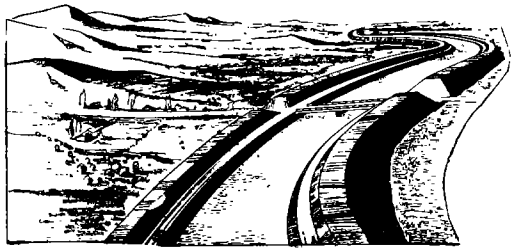
8%
39%
53%

SOUTH BAY AQUEDUCT
$45,336,000

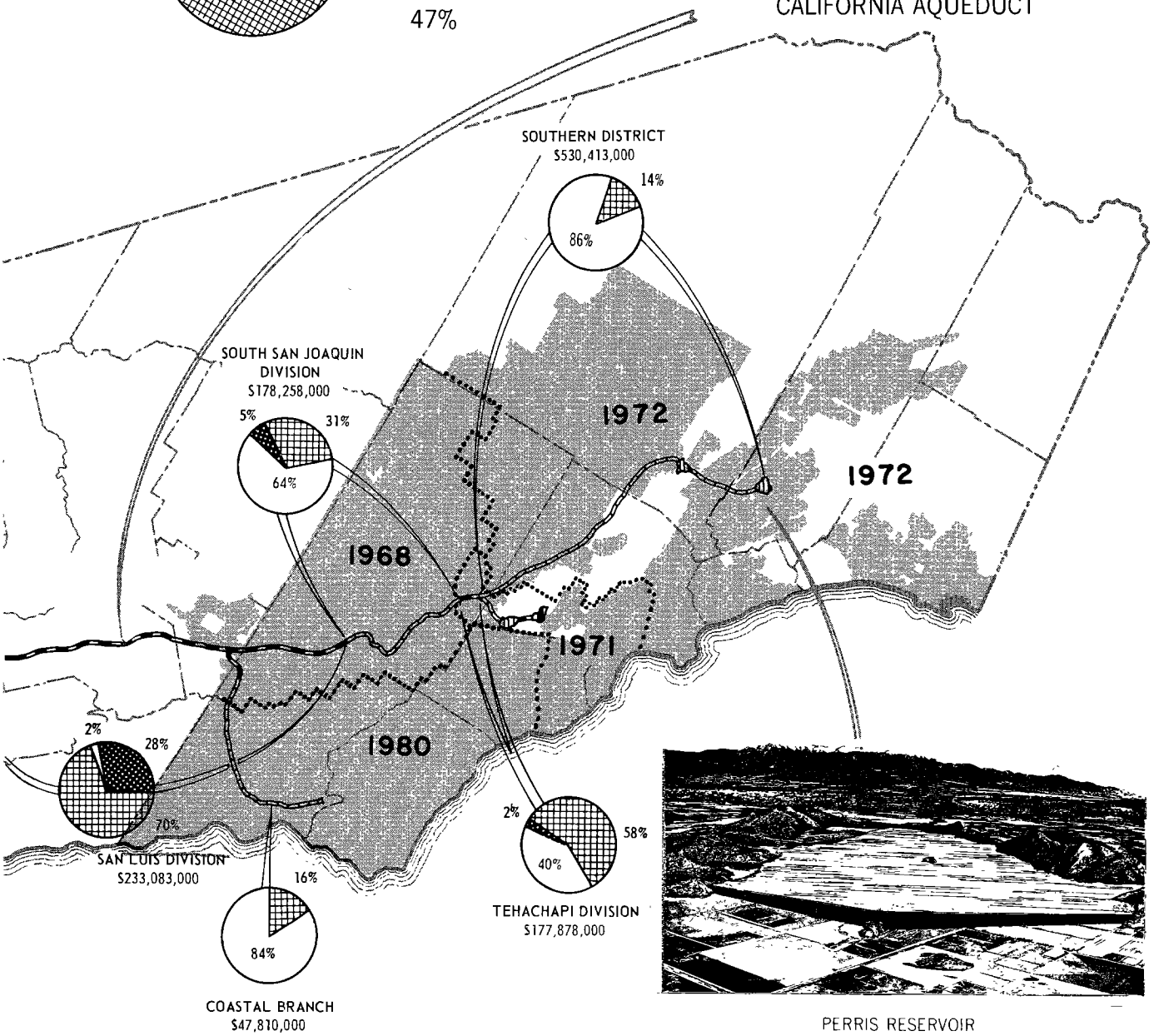
TOTAL STATE WATER PROJECT

$1,664,846,000





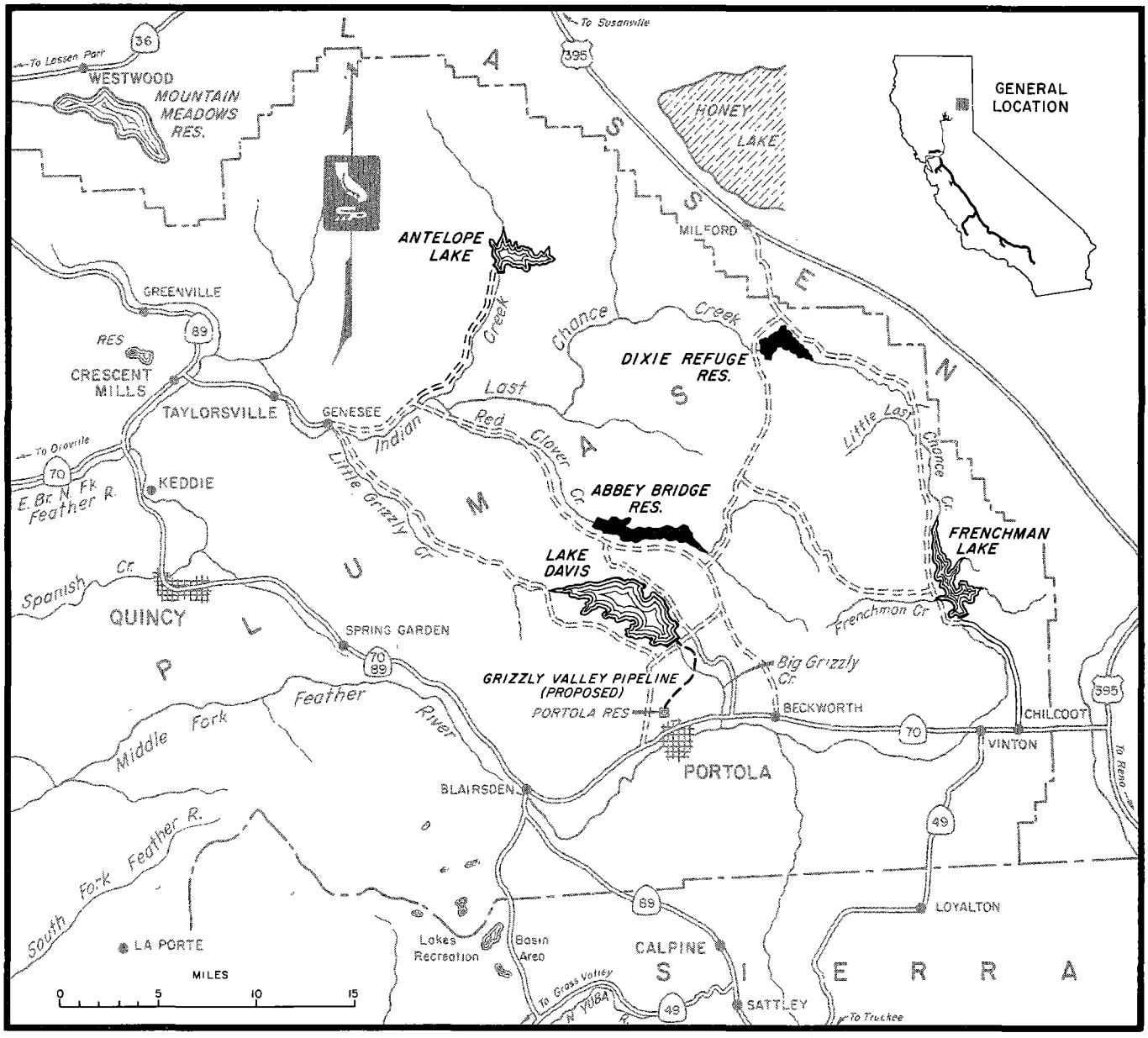
CALIFORNIA AQUEDUCT



PERRIS RESERVOIR

UPPER FEATHER AREA

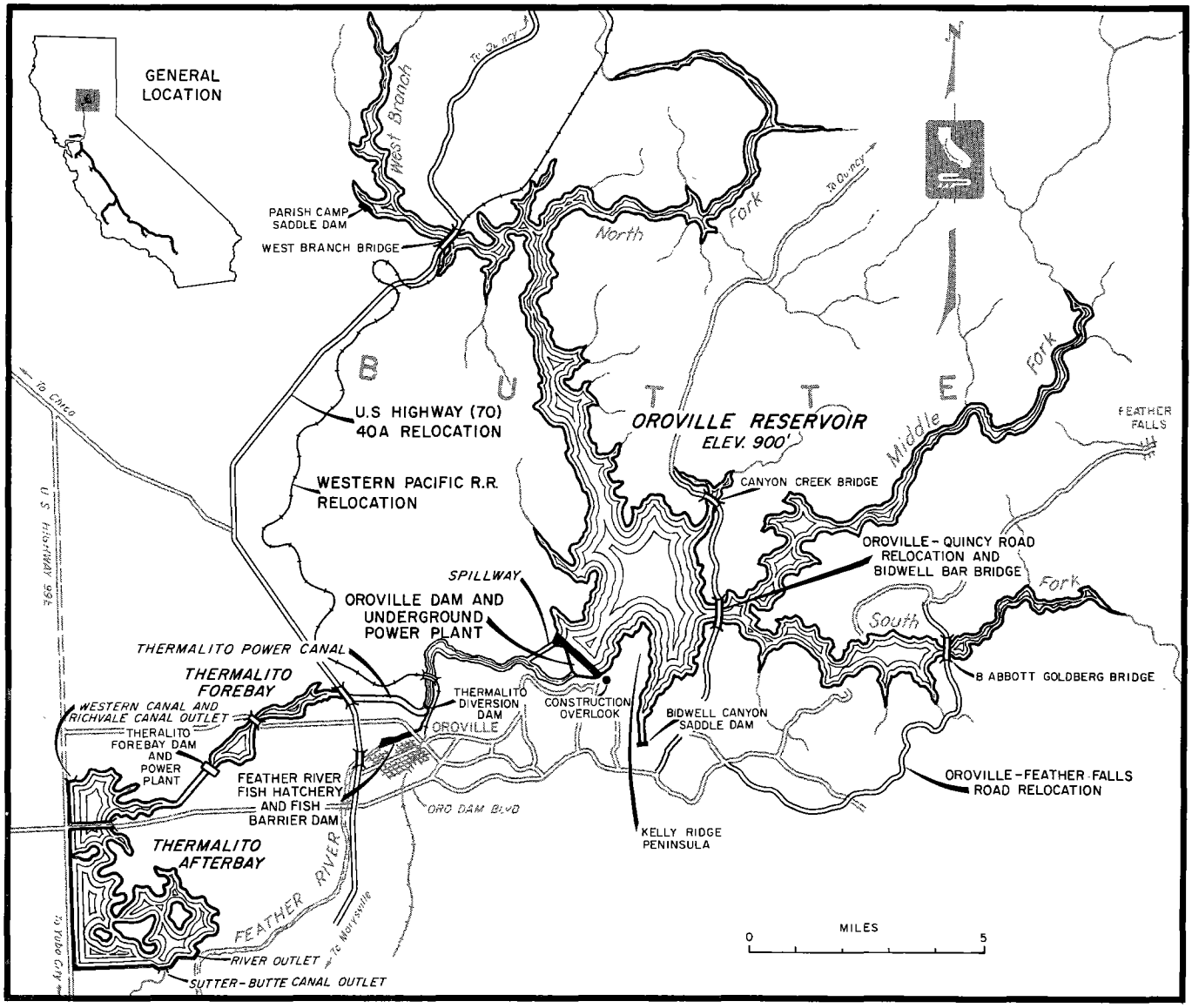
Each of the five units in the Upper Feather Area consists of an earthfill dam, a reservoir, and related recreation features. The Grizzly Valley unit also includes the proposed Grizzly Valley Pipeline, which may be constructed in the future to convey water from the dam to the existing Portola Reservoir.



Frenchman Dam was completed in 1961, and Antelope Dam was completed in 1964. The Grizzly Valley Dam has been topped-out and storage of water has begun. Some of the reservoir clearing, general cleanup and miscellaneous items remain to be completed during 1967. Construction schedules for Abbey Bridge and Dixie Refuge Dams and reservoirs are still to be established.

OROVILLE AREA

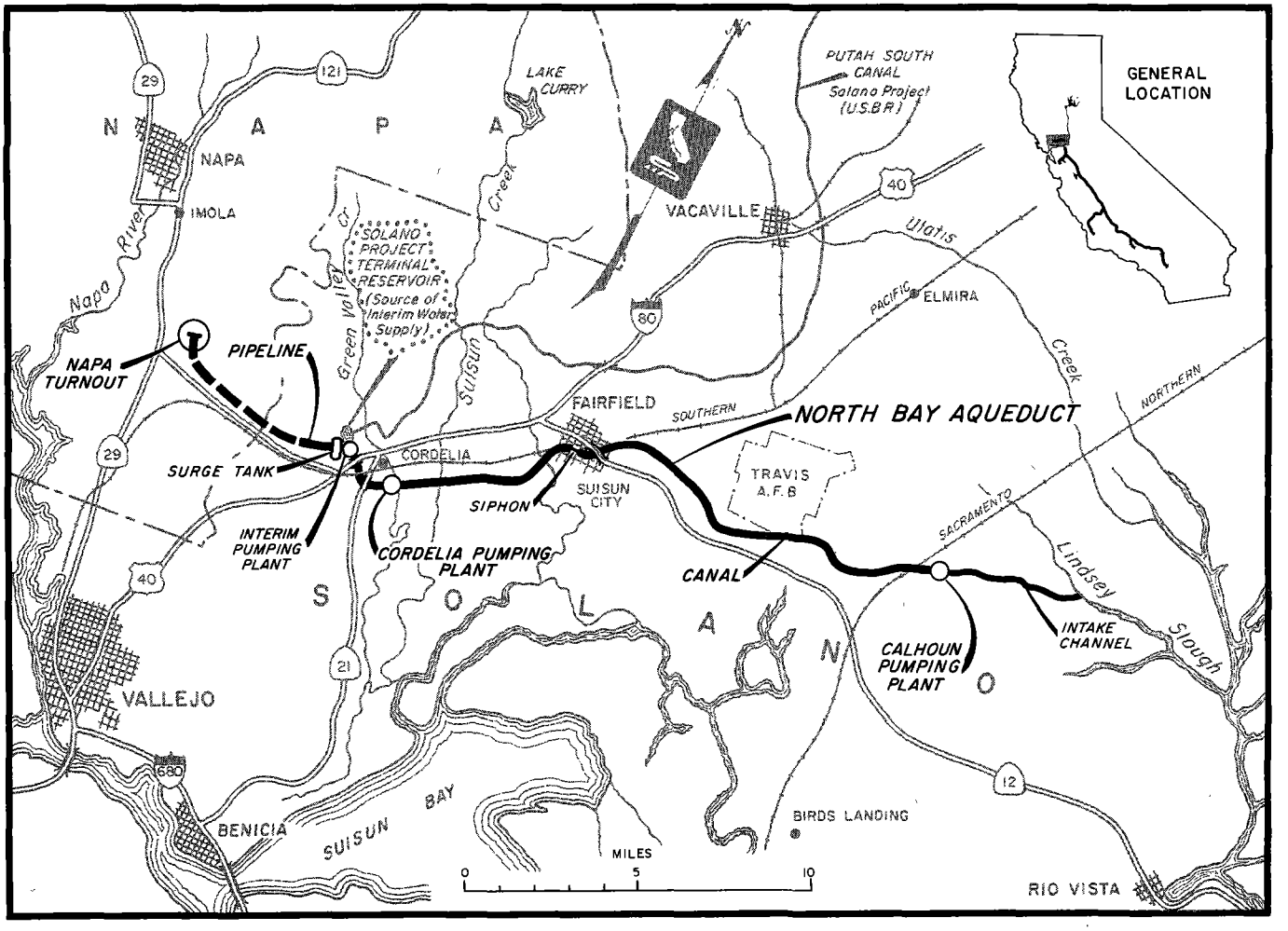
Oroville Powerplant, the largest underground hydroelectric installation in the United States, is located in the left abutment of Oroville Dam, the highest dam in the nation. During onpeak power periods, releases from Oroville will be diverted into the Thermalito facilities by the Diversion Dam and will be conveyed through the Power Canal, Forebay and Powerplant into Thermalito Afterbay. The afterbay will release water to help maintain minimum flow in the Feather River and will be used to store water for reuse during the pump-back operation into Oroville reservoir. Feather River Fish Barrier Dam will divert migrating salmon and steelhead into the Feather River Fish Hatchery.



The Oroville Dam embankment, which is presently being placed at the rate of about two million cubic yards per month, will be completed in November of this year. Clearing of the reservoir site is about 86 percent complete; construction of the spillway near 70 percent complete; Thermalito Powerplant, 80 percent complete; Thermalito Forebay, Afterbay and Power Canal, 65 percent complete; the B. Abbott Goldberg Bridge, 90 percent complete; and, the Oroville-Feather Falls Road, 85 percent complete. Most of the major facilities will be completed this year. Initial power operation at Oroville is expected in March 1968.

NORTH BAY AQUEDUCT

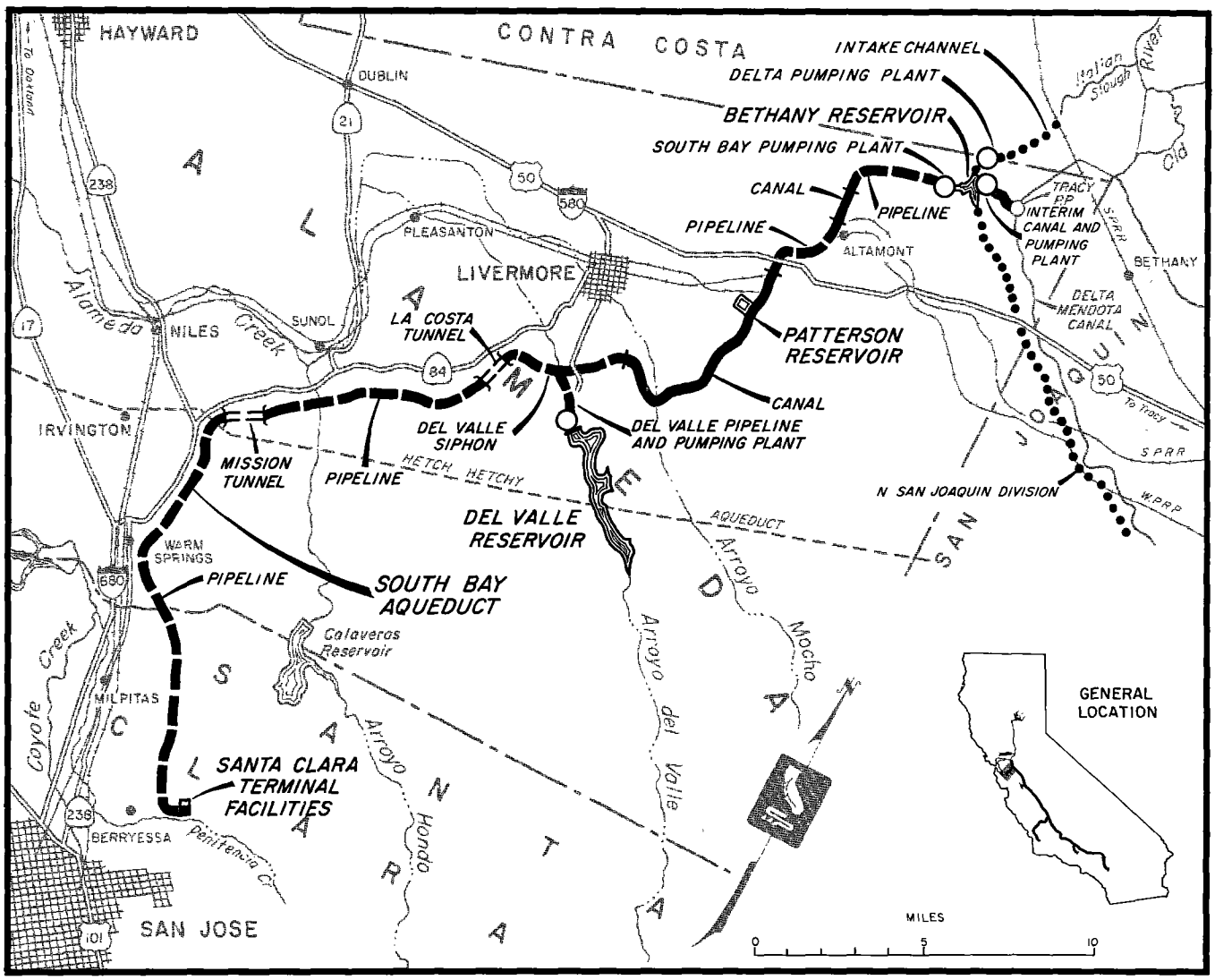
The total length of the North Bay Aqueduct is approximately 28 miles. Project water will be diverted from the Sacramento-San Joaquin Delta to the Calhoun Pumping Plant. This plant will lift the water about 30 feet to a canal which will convey a portion of the water to service areas in Solano County. The remaining water will be lifted an additional 396 feet at the Cordelia Pumping Plant and delivered through a six-mile, 36-inch diameter pipeline to the Napa turnout reservoir in Napa County. Prior to delivery of project water in about 1980, non-project water from the federal Solano Project terminal reservoir will be conveyed by the interim pumping plant, and the 24-inch diameter interim pipeline, to the surge tank downstream from the Cordelia Pumping Plant. The interim facilities, surge tank, pipeline downstream from the surge tank, and Napa turnout reservoir all constitute Phase I of the North Bay Aqueduct. Phase II will include the remaining facilities required to deliver project water to Napa and Solano Counties from the Delta.



Construction of the interim facilities, the terminal reservoir, and four miles of the 36-inch pipeline is scheduled to start this year. Water will be conveyed from the Solano Project to the turnout reservoir in March 1968. The remaining aqueduct will be ready for project water from the Delta early in 1980. This date may be advanced, if mutually agreed upon by Solano and Napa Counties.

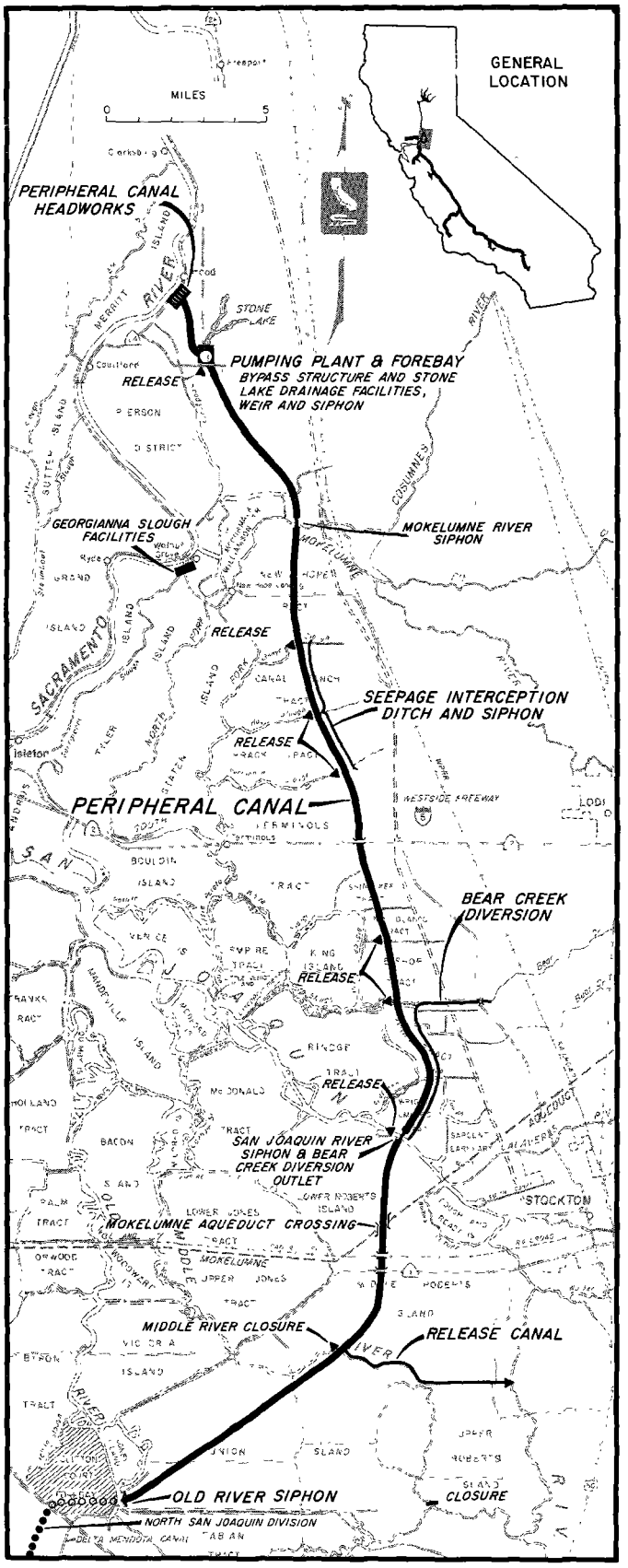
SOUTH BAY AQUEDUCT

The South Bay Pumping Plant lifts water about 600 feet from Bethany reservoir and conveys it to various turnouts along 44 miles of pipelines, canals, and tunnels -- ending at a terminal facility in Santa Clara County. A portion of the water will be conveyed through 9,000 feet of 60-inch pipeline, and lifted as much as 40 feet into Del Valle reservoir by the Del Valle Pumping Plant. The water will be released during periods of peak demands. At the present time, water for South Bay deliveries is purchased from the federal Central Valley Project and is being diverted from the Delta-Mendota Canal through the Interim Intake canal and the Interim Pumping Plant into Bethany reservoir of the California Aqueduct.



Nonproject water has been delivered to contractors in Alameda County since June 1962, and in Santa Clara County since June 1965. Project water deliveries are scheduled to commence in July of this year through the first two units of the Delta Pumping Plant. Construction of Del Valle Dam began in March 1966. Advertising of bids for construction of the pumping plant and branch pipeline will take place in the early fall of this year.

PERIPHERAL CANAL

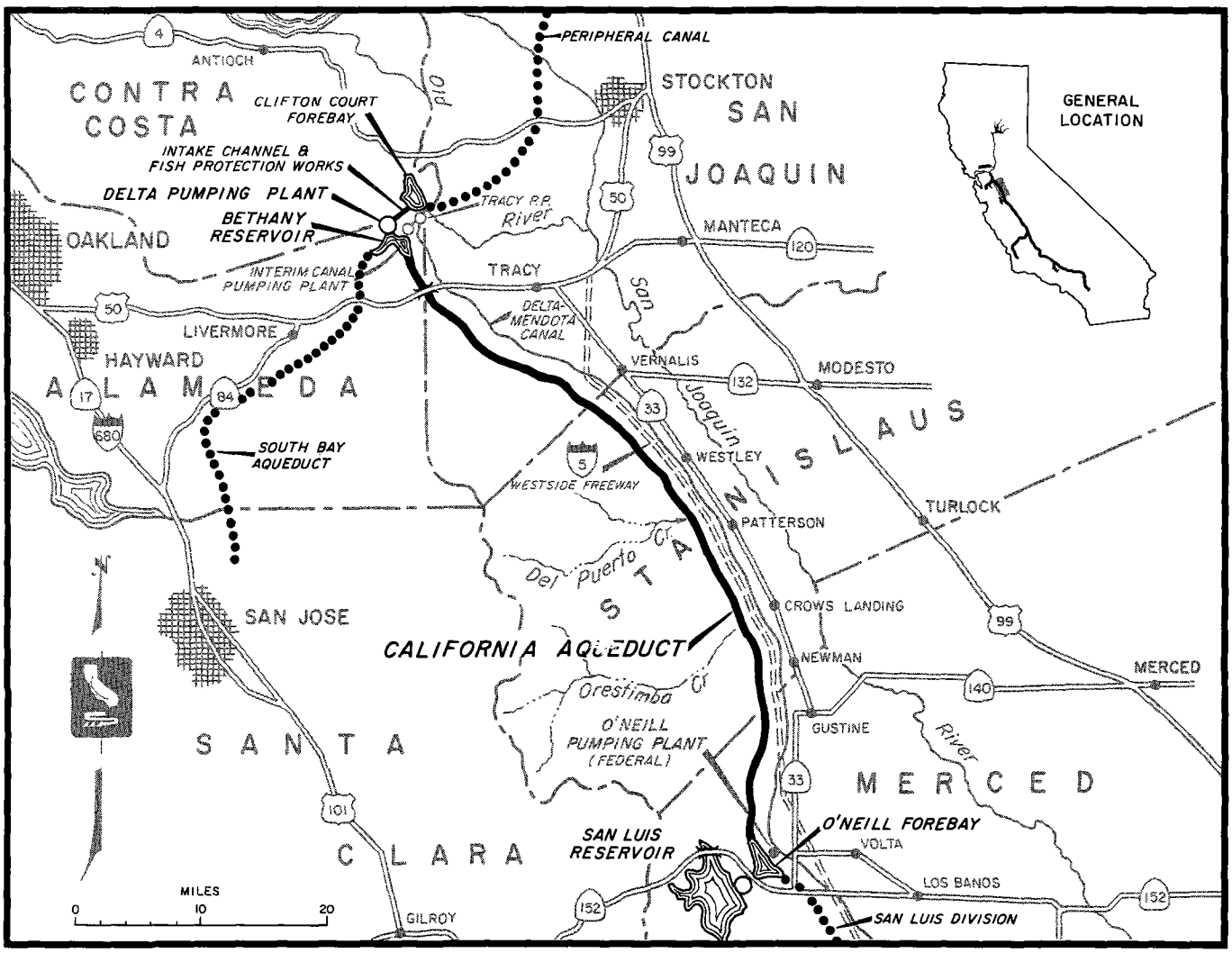


● The Peripheral Canal will begin with an intake and fish screen structure located on the Sacramento River near Hood, followed by a low-lift pumping plant located near Lambert Road. The Canal will traverse the eastern edge of the northern Delta, pass beneath the Mokelumne River in a siphon, and continue toward Stockton where it will be siphoned beneath the San Joaquin River, then proceed southwesterly across the southern Delta and be siphoned beneath the Old River. The Canal will divide at this point into two branches: the easterly branch terminating at the Tracy Pumping Plant of the federal Central Valley Project; the westerly branch terminating at the Clifton Court Forebay of the California Aqueduct.

● Alignment studies leading to final route selection are expected to be completed this year. Right-of-way acquisition is tentatively scheduled to start next year and will be coordinated with the requirements for the Westside Freeway.

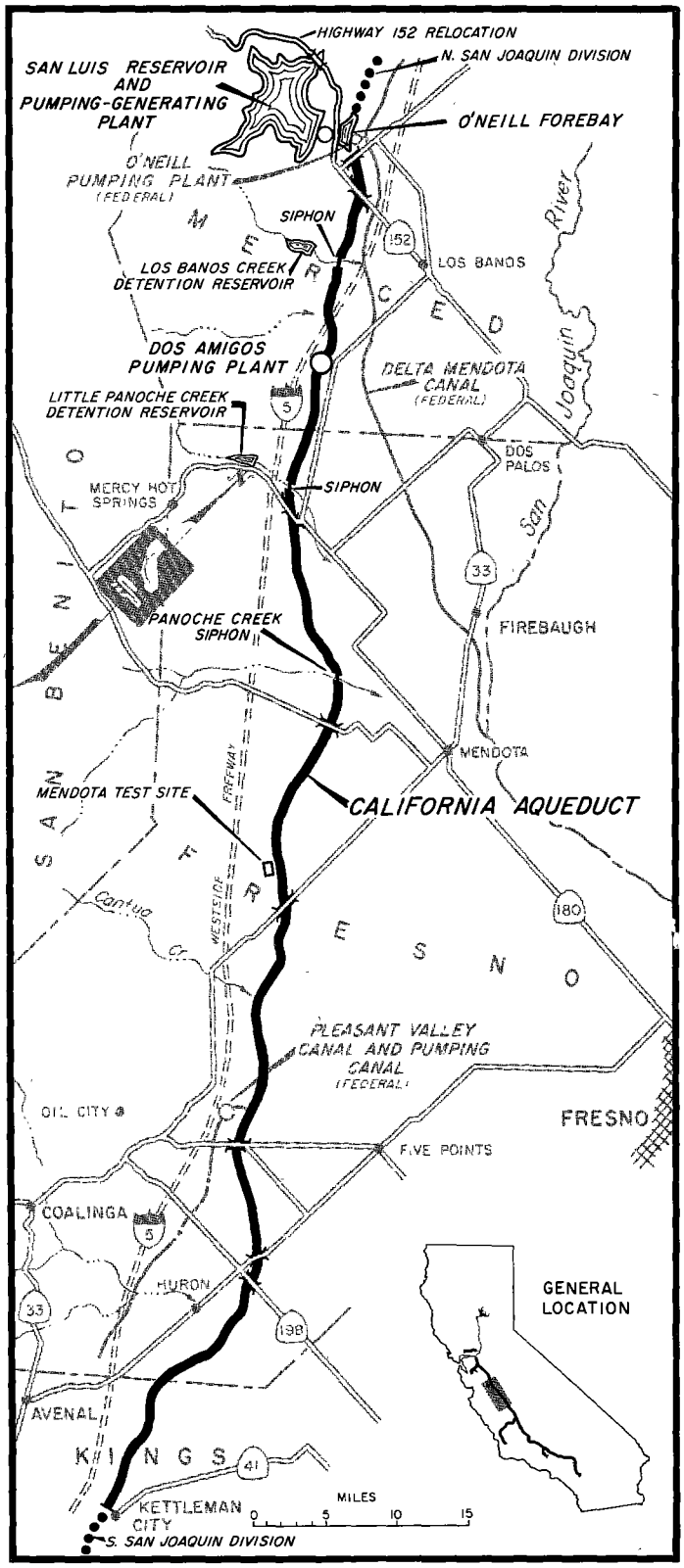
NORTH SAN JOAQUIN DIVISION

The North San Joaquin division is that portion of the California Aqueduct from Clifton Court Forebay in the Sacramento-San Joaquin Delta to O'Neill Forebay. The major features will consist of Clifton Court Forebay, an intake channel, fish protection works, the Delta Pumping Plant, Bethany reservoirs, and a concrete-lined canal 65 miles long. Water will be lifted 244 feet, from the Delta to the head of the canal. Project water for the South Bay Aqueduct will be diverted from Bethany reservoir.



● Construction of Clifton Court Forebay is presently scheduled to begin during the summer of 1967 and to be completed early in 1969. The Intake Channel is now holding water diverted from Italian Slough until Clifton Court Forebay becomes operational. The first two of eleven pump units for the Delta Pumping Plant will be operational this year and will pump project water to Bethany reservoir to supply the South Bay Aqueduct. The Bethany Dams are scheduled for completion by the end of 1967. The canal will be operational, and ready to deliver water to O'Neill Forebay in November 1967.

SAN LUIS DIVISION

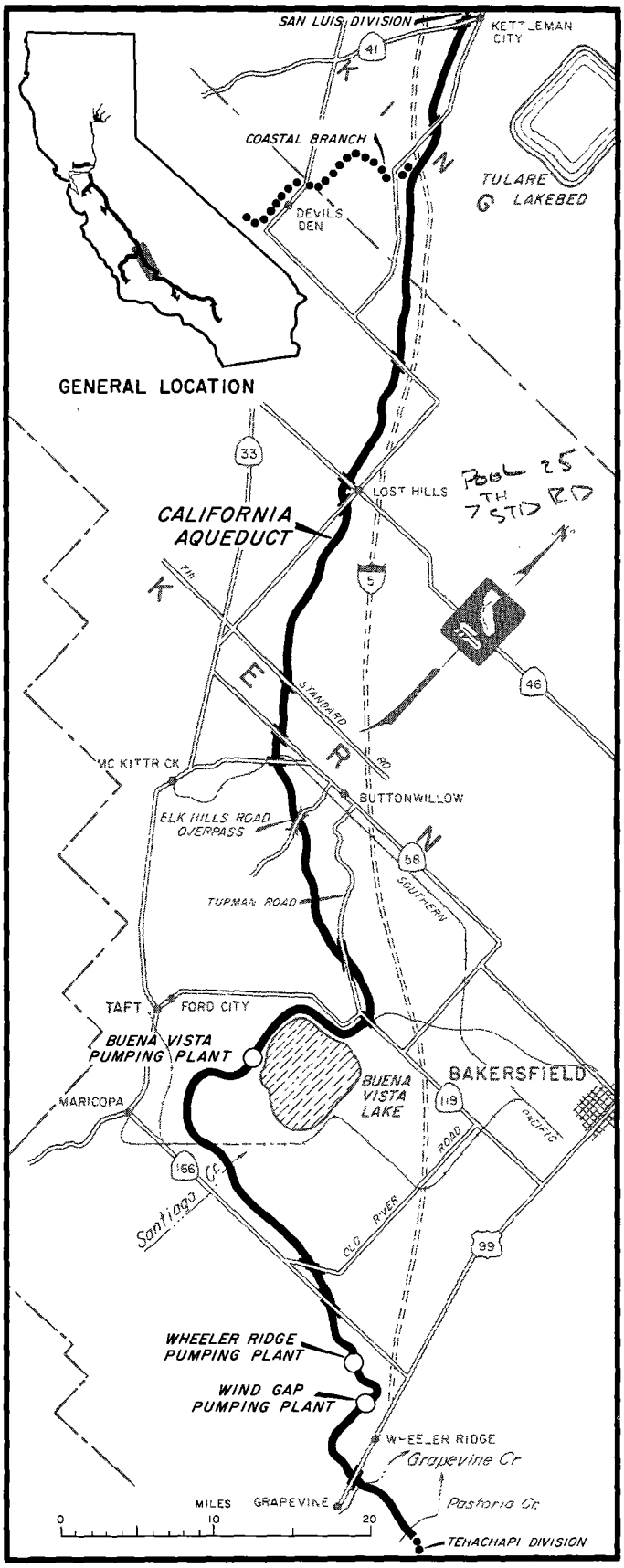


● The San Luis division includes those facilities of the San Luis Unit of the federal Central Valley Project which will be jointly used by the State Water Project. The major features will consist of O'Neill Dam and Forebay, San Luis Pumping-Generating Plant, San Luis Dam and reservoir, Dos Amigos Pumping Plant, and 104 miles of canal extending from the Forebay to near Kettleman City. The canal will be protected from floods occurring in Los Banos Creek and Little Panoche Creek by earth embankment dams which create detention reservoirs on each creek. Surplus water, originating in the Delta, will be pumped from O'Neill Forebay a maximum of 320 feet through the Pumping-Generating Plant and conserved in San Luis reservoir. Power will be generated by water released from the reservoir. Dos Amigos Pumping Plant will lift the conveyed water about 117 feet.

● Construction will be completed in about October of this year for San Luis Dam, reservoir, and Pumping-Generating Plant; O'Neill Dam and Forebay; Dos Amigos Pumping Plant; and the canal from Panoche Creek to Kettleman City. The canal from O'Neill Forebay to Dos Amigos Pumping Plant was completed in November 1966, from Dos Amigos Pumping Plant to Panoche Creek, in May 1967. Los Banos and Panoche Creek Detention Dams and reservoirs were completed in 1966. Delivery of project water will begin early in 1968.

SOUTH SAN JOAQUIN DIVISION

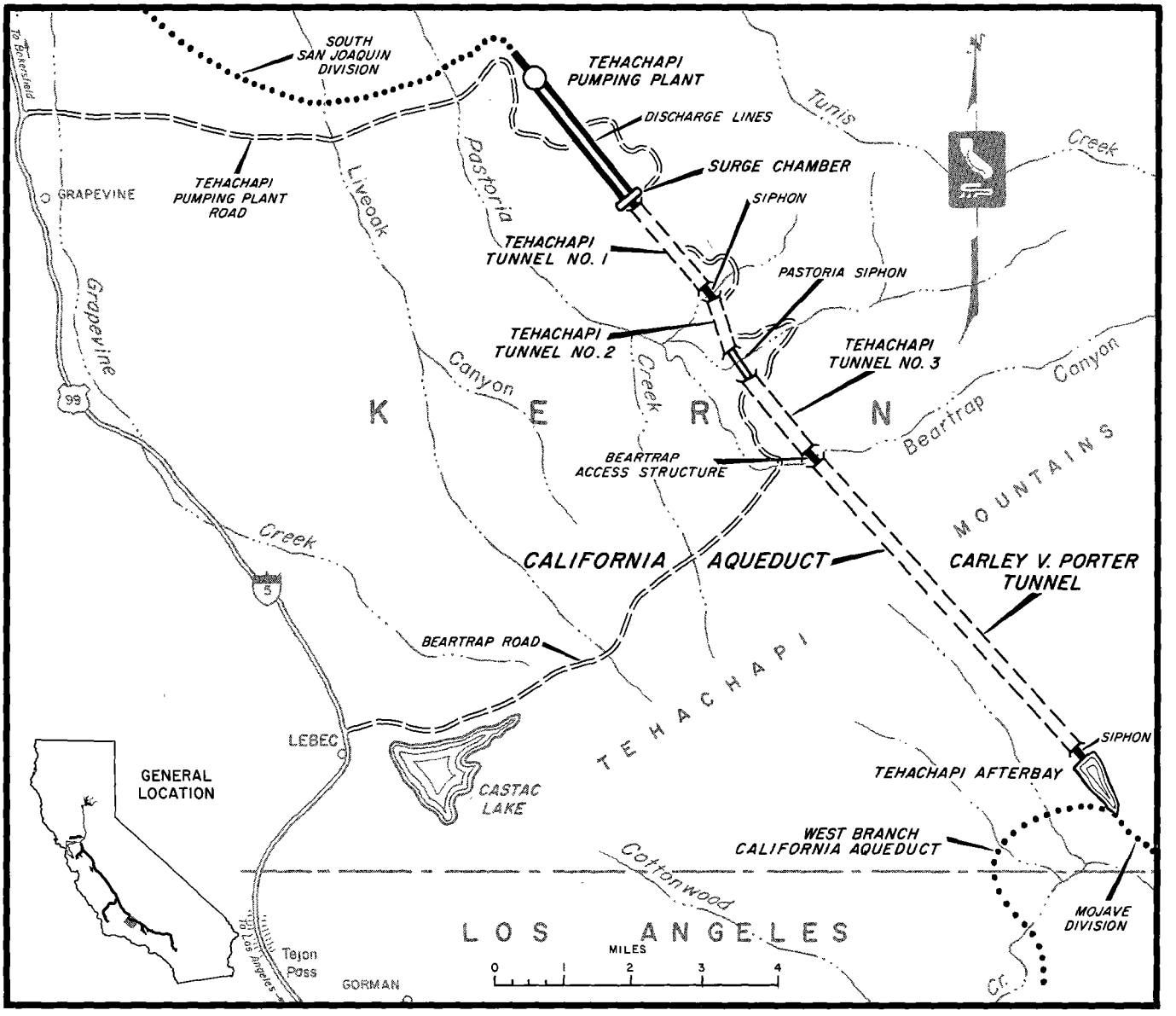
The South San Joaquin division is that portion of the California Aqueduct from near Kettleman City to the Tehachapi Pumping Plant. The major features will consist of three pumping plants -- Buena Vista, Wheeler Ridge, and Wind Gap -- and about 120 miles of canal. The three pumping plants will lift the conveyed water a total of 956 feet.



- The first 45 miles of canal from Kettleman City to 7th Standard Road will be completed for delivery of project water in May 1968. The contract for construction of the canal from 7th Standard Road to Tupman was awarded in March 1967. The contract from Tupman to Buena Vista Pumping Plant will be awarded in June 1967. Excavation for all three plants and intake channels will be completed this summer and construction of the plants should be under way this fall. The majority of the preconsolidation ponds have been completed, which will allow construction of the canal to meet scheduled water deliveries to Tehachapi Pumping Plant in 1971.

TEHACHAPI DIVISION

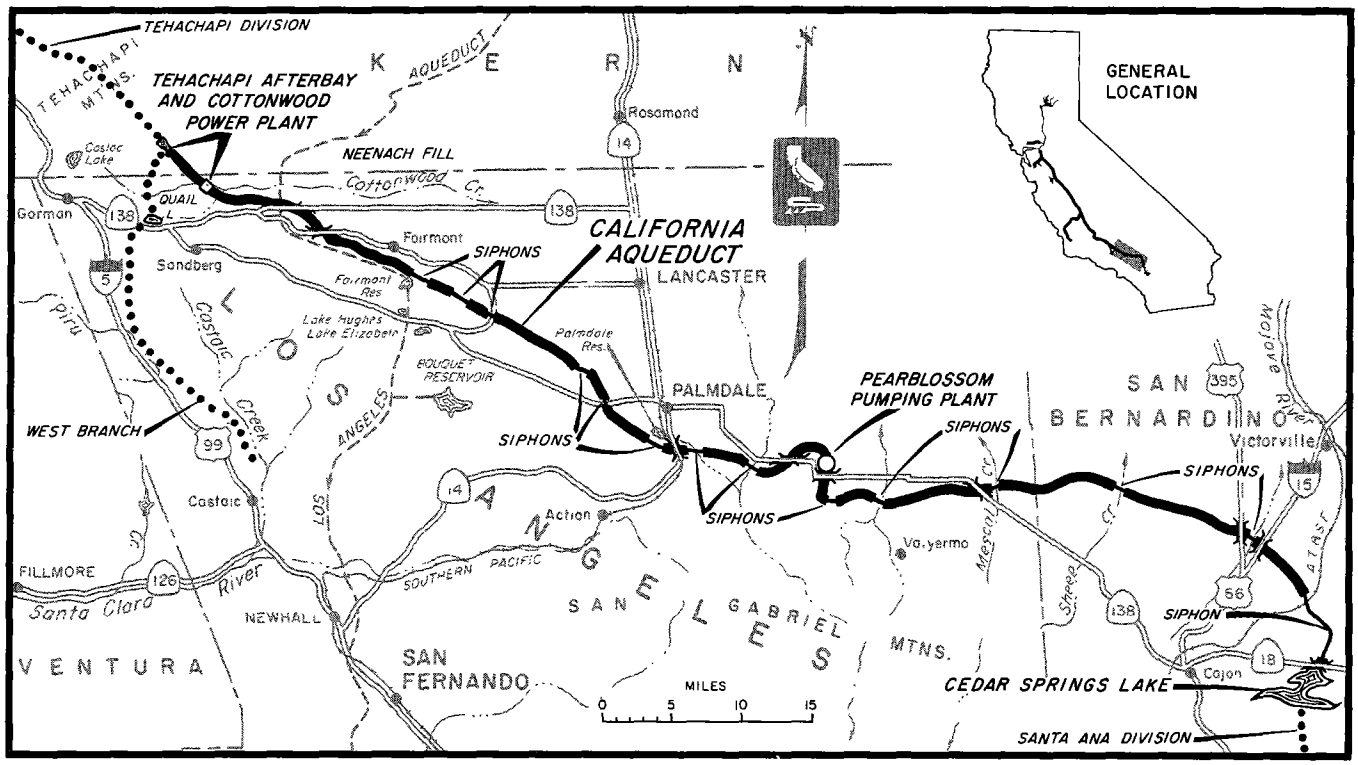
The Tehachapi division is an 11-mile section of the California Aqueduct, from the intake of the Tehachapi Pumping Plant to, and including, the Tehachapi Afterbay. The major features of the division will be the Tehachapi Pumping Plant, which will lift project water 1,938 feet through twin 150-inch discharge lines, and the four tunnels: Tehachapi Tunnels 1, 2, and 3 and the Carley V. Porter Tunnel.



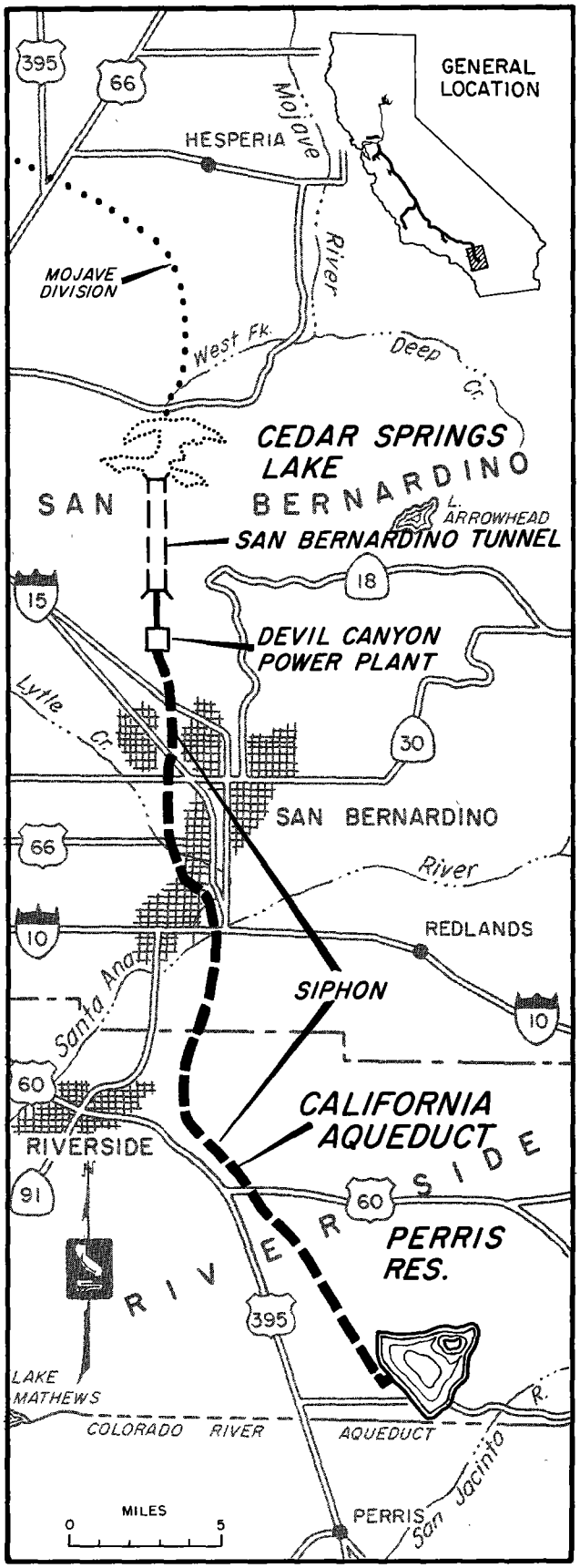
The Tehachapi Pumping Plant site excavation is under way. The excavation for the discharge lines was started this year. Construction of the Carley V. Porter Tunnel is scheduled for completion in 1969. Construction on Tehachapi Tunnels 1, 2, and 3; Pastoria Access Road; and Pastoria fill began in November 1966. The other features in the Tehachapi division have been scheduled to permit project water deliveries through the Tehachapi Mountains in 1971.

MOJAVE DIVISION

The Mojave division is a 104-mile section of the California Aqueduct, from the Tehachapi Afterbay through Cedar Springs Lake. The major features include Cottonwood Powerplant, Pearblossom Pumping Plant, and Cedar Springs Dam and Lake. The powerplant will have a power drop of about 140 feet and the pumping plant will lift water about 545 feet into the Lake which will regulate inflow from the Aqueduct to meet delivery schedules, and provide emergency storage in case of aqueduct outages.



Completion of the Neenach Aqueduct embankment will allow construction to start by September 1967 on the Aqueduct from Cottonwood to Fairmont. Site development for Cottonwood Powerplant will be completed late this year. Site development for Pearblossom Pumping Plant will start in June 1967. The remaining features are in the design stage. Water deliveries through the division are scheduled to commence in 1972.

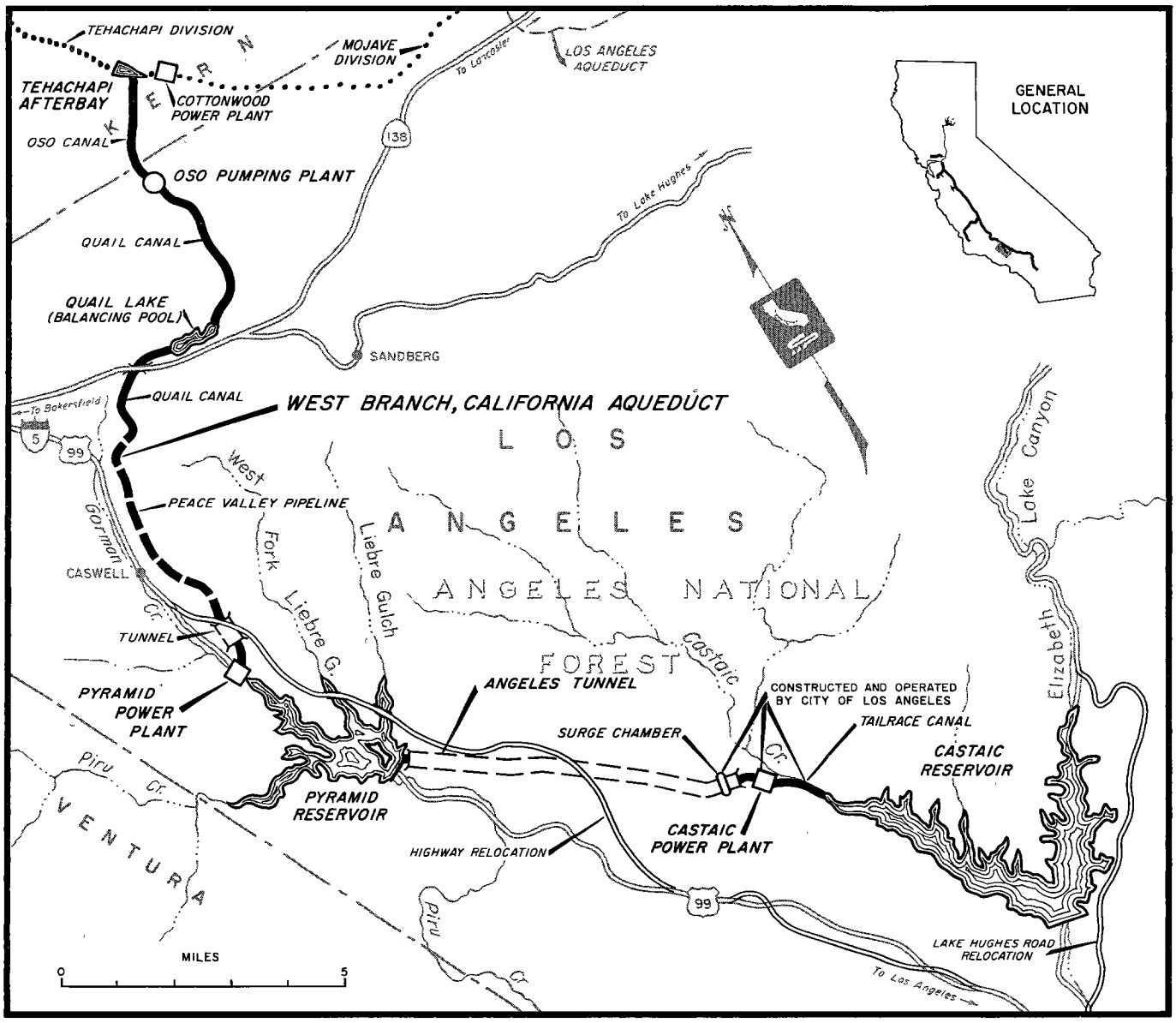


● The Santa Ana division is a 35-mile section of the California Aqueduct from the intake of the San Bernardino Tunnel to, and including Perris reservoir, the Aqueduct's eastern terminus. Major features of the division are the San Bernardino Tunnel, Devil Canyon Powerplant, over 29 miles of pipeline, and Perris Dam and reservoir. The powerplant will generate through a head of about 1,435 feet. The reservoir will regulate inflow from the Aqueduct and provide emergency storage in case of Aqueduct outages.

● Design for Devil Canyon site development began in May 1966. Construction will start late in 1968. Construction of the San Bernardino Tunnel and intake tower will begin about September 1967. Design for the pipeline was started in February 1967 and construction is scheduled for completion late in 1971. Perris Dam and reservoir should be under construction early in 1969. Water deliveries through the division are scheduled to commence in 1972.

WEST BRANCH

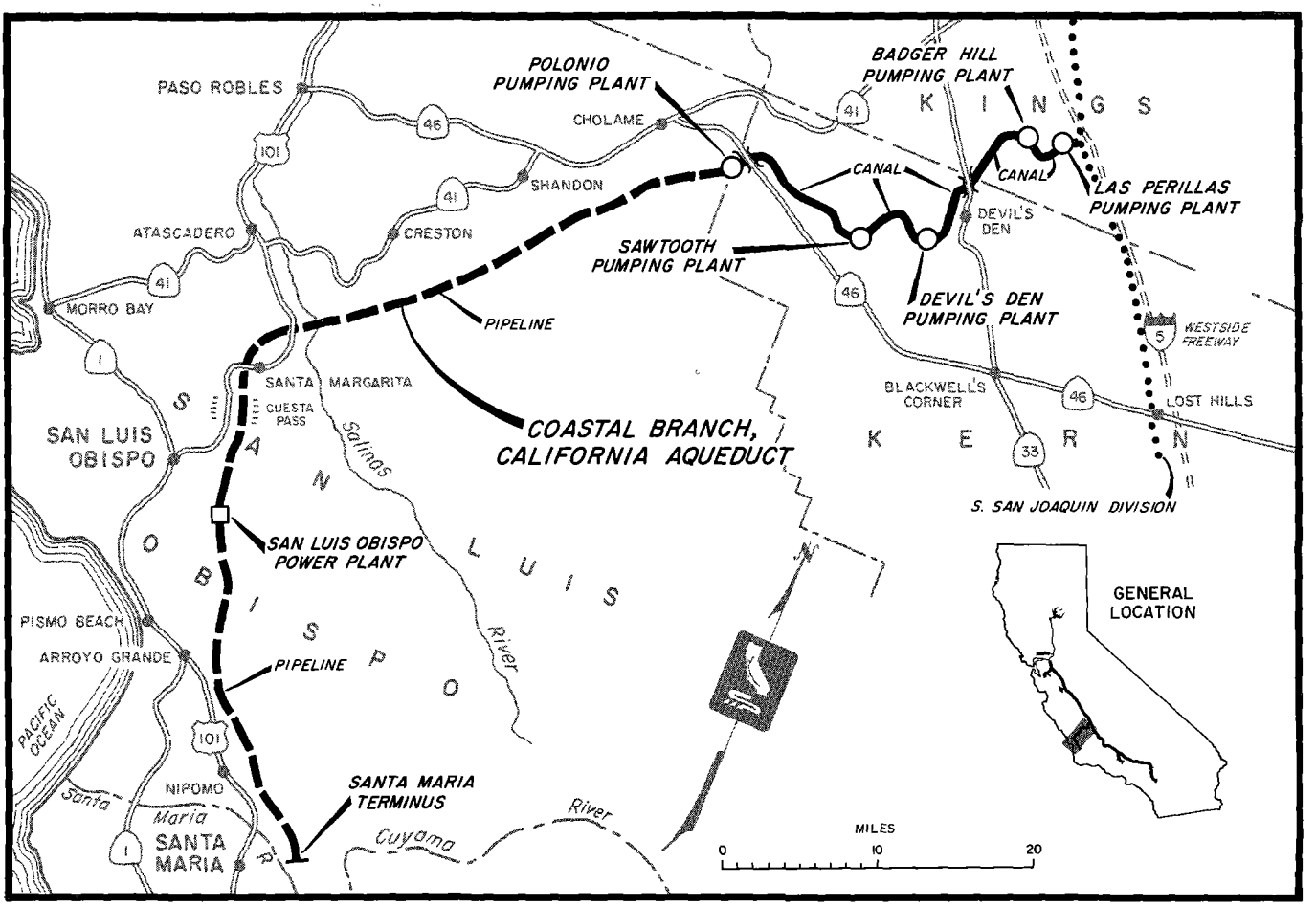
The West Branch of the California Aqueduct will extend from Tehachapi Afterbay to, and including, Castaic reservoir. It will include Oso Pumping Plant, Pyramid and Castaic Powerplants, Pyramid and Castaic Dams and reservoirs, and about 21 miles of canal, pipeline, and tunnel. The reservoirs will regulate inflow from the Aqueduct to meet downstream delivery schedules and will provide emergency storage.



Site development for Oso Pumping Plant and the Castaic Dam diversion tunnel will be completed in late fall of this year. Quail Canal, Peace Valley Pipeline, and Pyramid Dam and Powerplant are in the design stage. Castaic Dam and reservoir will be under construction this summer. Angeles Tunnel is approximately 10 percent completed. The remainder of the contracts on the West Branch have been scheduled to allow water deliveries in 1971.

COASTAL BRANCH

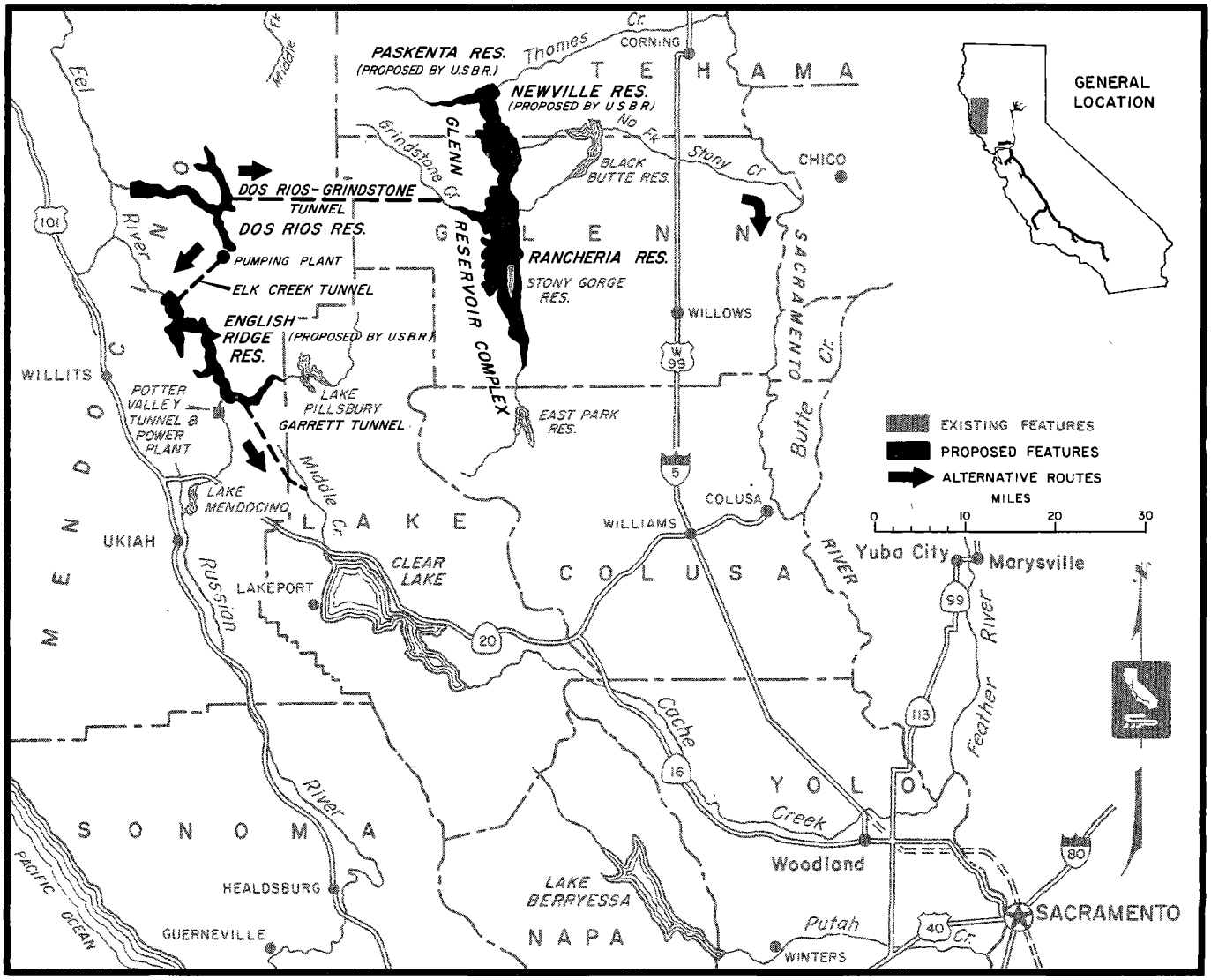
The Coastal Branch will extend about 100 miles from the main line of the California Aqueduct, near the boundary between Kings and Kern Counties, to a terminus near the Santa Maria River which forms a portion of the boundary between San Luis Obispo and Santa Barbara Counties. Las Perillas and Badger Hill Pumping Plants will lift water from the main line 206 feet to supply agricultural service areas. Water destined for the Central Coastal counties will continue through a succession of three pumping plants -- Devil's Den, Sawtooth, and Polonio -- and be lifted an additional 1,550 feet across the summit of the Temblor Range. The water will then flow through a pipeline to near the City of San Luis Obispo, where it will be dropped about 730 feet through the San Luis Obispo Powerplant, and then continue through a pipeline to the Santa Maria terminus.



Construction of 15 miles of the Coastal Branch canal, to the intake channel for Devil's Den Pumping Plant, will be completed in November 1967. This portion of the branch is scheduled to be operable in January 1968. Equipment testing will begin at Las Perillas and Badger Hill Pumping Plants this year, in preparation for operation early in 1968. Water deliveries to San Luis Obispo and Santa Barbara Counties through Devil's Den Pumping Plant are not scheduled to commence until about 1980. The latter date may be modified if mutually agreed upon by the contracting parties.

UPPER EEL RIVER DEVELOPMENT

The Upper Eel River Development is authorized as an additional conservation facility of the State Water Project. The Development will consist of conservation works on the Middle Fork Eel River in Mendocino County and associated conveyance features to the Sacramento-San Joaquin Delta. Two conveyance routes from the Middle Fork Eel River are now under consideration: one, easterly by gravity flow tunnel to the Glenn Reservoir Complex on Stony and Thomes Creeks in Glenn and Tehama Counties; the other, southerly by pumped diversion to English Ridge Reservoir on the Upper Middle Fork of the Eel River, and thence by gravity flow tunnel to Clear Lake, Cache Creek, and the Sacramento River.



Advance planning studies on the Upper Eel River Development began in July 1964. The first phase of these studies, scheduled for completion June 20, 1967, has been directed toward a determination of the most favorable conveyance route. Final route selection will be established later this year when Department of Water Resources Bulletin 171 is released.

PROJECT STATISTICS 1/

SUMMARY OF PROJECT TOTALS

Dams (20).

Crest length	32	miles
Volume	256	million cubic yards

Reservoirs (20):

Storage	6,802,370	acre-feet
Shoreline	522	miles
Surface area	90.3	square miles

Powerplants (8):

Capacity	2.7	million kilowatts
Annual Output	6.2	billion kilowatt-hours

Pumping Plants (21):

Annual requirements	13.5	billion kilowatt-hours

Aqueduct Lengths:

Canals	480.7	miles
Pipelines	165.0	miles
Tunnels	20.6	miles
Channels and reservoirs	31.7	miles
Total length	698.0	miles

Total Project Costs $2,814,108,000

PUMPING PLANTS

Name	Number of Units	Static Head	Capacity (cubic feet per second)	Annual Energy Requirements (kilowatt-hours)
Oroville (pumped storage)	3	675	5,600	407,000,000
Thermalito (pumped storage)	3	102	9,000	62,000,000
Subtotal				469,000,000
North Bay Aqueduct:				
Calhoun	6	30	117	3,000,000
Cordelia	7	396	46	19,000,000
Subtotal				22,000,000
South Bay Aqueduct:				
South Bay	9	571	345	145,000,000
Del Valle	4	38	120	10,000,000
Subtotal				155,000,000
California Aqueduct (main line):				
Delta	11	244	10,300	1,317,000,000
San Luis	8	327	11,000	153,000,000
Dos Amigos	6	113	13,200	716,000,000
Buena Vista	10	205	5,365	735,000,000
Wheeler Ridge	9	233	4,926	783,000,000
Wind Gap	9	518	4,725	1,684,000,000
Tehachapi	14	1,938	4,410	6,162,000,000
Pearblossom	6	545	1,380	609,000,000
Subtotal				12,159,000,000
California Aqueduct (branches)				
Oso	8	227	3,128	433,000,000
Las Perillas	6	55	450	19,000,000
Badger Hill	6	151	450	53,000,000
Devil's Den	4	409	126	50,000,000
Sawtooth	4	331	126	40,000,000
Polonio	4	810	126	93,000,000
Subtotal				688,000,000
Peripheral Canal	15	11	21,800	48,000,000
TOTALS				13,541,000,000

POWERPLANTS

Name	Number of Units	Static Head	Installed Capacity (kilowatts)	Annual Output 2/ (kilowatt-hours)
Oroville	6	675	644,000	2,467,000,000
Thermalito	4	102	115,000	379,000,000
San Luis	8	327	424,000	119,000,000
Cottonwood	1	140	15,000	114,000,000
Devil Canyon	2	1,413	115,000	790,000,000
Pyramid	2	754	170,000	852,000,000
Castaic 3/	2	1,063	1,250,000	1,473,000,000
San Luis Obispo	1	730	5,900	42,000,000
TOTALS			2,738,900	6,236,000,000

AQUEDUCTS

Name	Length (miles) Total	Canal	Pipeline	Tunnel	Channel & Reservoir	Capacity (cubic feet per second)
North Bay Aqueduct	28.4	16.1	6.5	0	3.8	117 to 46
South Bay Aqueduct	50.7	11.1	32.2	1.5	5.9	300 to 184
Peripheral Canal	43.0	43.0	0	0	0	
Subtotal	122.1	72.2	38.7	1.5	9.7	
California Aqueduct (main line):						
North San Joaquin division	68.4	62.1	0	0	6.3	10,300 to 10,000
San Luis division	105.6	103.5	0	0	2.1	7,100 to 7,054 4/
South San Joaquin division	120.1	120.1	0	0	0	8,100 to 4,400
Tehachapi division	21.0	0.9	2.2	7.9	0	4,150
Mojave division	104.1	94.1	8.1	0	1.9	1,642 to 1,272
Santa Ana division	35.1	0	29.3	3.8	2.2	2,014 to 428
Subtotal	444.5	380.7	39.6	11.7	12.5	
California Aqueduct (branches):						
West Branch	31.4	7.8	6.7	7.4	9.5	3,114 to 3,105
Coastal Branch	100.0	20.0	80.0	0	0	450 to 102
Subtotal	131.4	27.8	86.7	7.4	9.5	
TOTALS	698.0	480.7	165.0	20.6	31.7	

DAMS AND RESERVOIRS

Name	Dams Height (feet)	Crest Elevation (feet) 2/	Crest Length (feet)	Volume (cubic yards)	Reservoirs Gross Capacity (acre-feet)	Surface Area (acres)	Shoreline (miles)
Frenchman	128	5,607	720	543,000	55,400	1,580	21
Antelope	105	5,025	1,320	380,000	22,500	930	15
Grizzly Valley	115	5,785	800	230,000	83,000	4,000	32
Abbey Bridge	110	5,468	1,150	478,000	45,000	1,950	12
Dixie Refuge	100	5,754	1,050	360,000	16,000	900	15
Oroville	770	927	6,920	80,000,000	3,484,000	15,500	167
Thermalito Diversion	246	205	1,280	155,000	13,500	330	10
Thermalito Forebay	71	231	15,900	1,500,000	11,400	600	10
Thermalito Afterbay	37	141	41,800	5,038,000	57,000	4,550	26
Clifton Court Forebay	N/A	14	36,500	3,100,000	29,000	2,500	9
Bethany	80	250	3,220	1,040,000	4,800	161	4
Del Valle	223	773	880	4,034,000	78,500	1,075	16
San Luis	320	554	18,480	77,000,000	2,095,000	13,800	65
O'Neill Forebay	70	233	13,500	3,000,000	58,000	2,000	14
Los Banos Creek	154	384	1,370	2,200,000	34,500	623	12
Little Panoche Creek	120	676	1,440	630,000	13,270	354	10
Cedar Springs	215	3,380	2,250	7,900,000	78,000	988	13
Perris	116	1,583	11,450	18,800,000	100,000	2,000	16
Pyramid	377	2,605	1,000	7,000,000	173,500	1,316	21
Castaic	335	1,535	5,200	43,000,000	350,000	2,630	34
TOTALS			166,030	256,468,000	6,802,370	57,787	522

COSTS

Feather River facilities:	
Upper Feather Area	$ 21,400,000
Oroville Area	474,757,000
North Bay Aqueduct	15,243,000
South Bay Aqueduct	66,693,000
Peripheral Canal (State share)	55,380,000
California Aqueduct:	
North San Joaquin division	160,942,000
San Luis division (State share)	197,380,000
South San Joaquin division	259,655,000
Tehachapi division	237,414,000
Mojave division	207,861,000
Santa Ana division	184,474,000
West Branch	335,265,000
Coastal Branch	75,193,000
Upper Eel River Development	348,356,000
Subtotal, facilities described herein	$2,682,244,000
Local Projects (Davis-Grunsky Program)	131,423,000
Unallocated Costs	443,000
San Joaquin Master Drain	42,229,000
Subtotal, facilities not described herein	131,866,000
TOTAL, STATE WATER PROJECT	$2,814,108,000

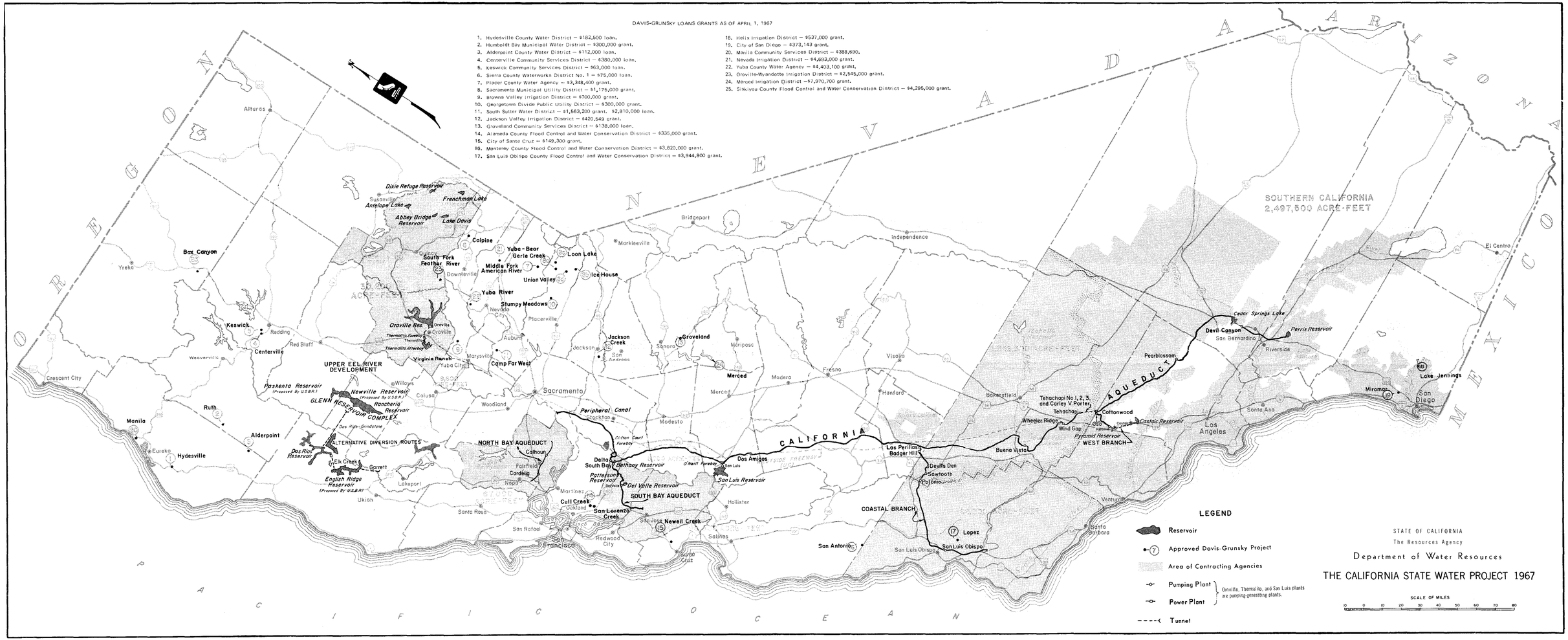
1/ The descriptive data in this summary excludes the facilities of the Upper Eel River Development and the conduit of the San Joaquin Drainage Facilities. The estimated costs for these works are included, however

2/ Under full project development

3/ Constructed and operated by the City of Los Angeles, with project water passing through the plant

4/ State share of the joint use canal.

5/ Above sea level


DAVIS-GRUNSKY LOANS GRANTS AS OF APRIL 1, 1967
1. Hydesville County Water District — $182,500 loan.
2. Humboldt Bay Municipal Water District — $300,000 grant.
3. Alderpoint County Water District — $112,000 loan.
4. Centerville Community Services District — $380,000 loan.
5. Keswick Community Services District — $63,000 loan.
6. Sierra County Waterworks District No. 1 — $75,000 loan.
7. Placer County Water Agency — $3,348,400 grant.
8. Sacramento Municipal Utility District — $1,175,000 grant.
9. Browns Valley Irrigation District — $700,000 grant.
10. Georgetown Divide Public Utility District — $300,000 grant.
11. South Sutter Water District — $1,563,200 grant. $2,810,000 loan.
12. Jackson Valley Irrigation District — $420,549 grant.
13. Groveland Community Services District — $138,000 loan.
14. Alameda County Flood Control and Water Conservation District — $335,000 grant.
15. City of Santa Cruz — $149,300 grant.
16. Monterey County Flood Control and Water Conservation District — $3,820,000 grant.
17. San Luis Obispo County Flood Control and Water Conservation District — $3,944,800 grant.
18. Helix Irrigation District — $537,000 grant.
19. City of San Diego — $373,143 grant.
20. Manila Community Services District — $388,690.
21. Nevada Irrigation District — $4,693,000 grant.
22. Yuba County Water Agency — $4,403,100 grant.
23. Oroville-Wyandotte Irrigation District — $2,545,000 grant.
24. Merced Irrigation District —$7,970,700 grant.
25. Siskiyou County Flood Control and Water Conservation District — $4,295,000 grant.
OREGON
NEVADA
ARIZONA
MEXICO
PACIFIC OCEAN
SOUTHERN CALIFORNIA
2,497,500 ACRE-FEET
Alturas
Susanville
Dixie Refuge Reservoir
Frenchman Lake
Antelope Lake
Abbey Bridge Reservoir
Lake Davis
Colpine
Yuba - Bear
Gerle Creek
Loon Lake
Ice House
Union Valley
Middle Fork American River
South Fork Feather River
Downieville
Yuba River
Stumpy Meadows
Nevada City
Placerville
Oroville Res.
Oroville
Thermalito Forebay
Thermalito Afterbay
Virginia Ranch
Marysville
Yuba City
Camp Far West
Auburn
Jackson
Jackson Creek
San Andreas
Sonora
Groveland
Merced
Madera
Fresno
Visalia
Hanford
Bakersfield
Bridgeport
Markleeville
Independence
Mariposa
Box Canyon
Yreka
Keswick
Redding
Red Bluff
Centerville
Weaverville
Crescent City
Ruth
Manila
Alderpoint
Eureka
Hydesville
Ukiah
Willows
Colusa
Woodland
Sacramento
Stockton
Modesto
Lakeport
Napa
Fairfield
Calhoun
Cordelia
Martinez
Oakland
Cull Creek
San Lorenzo Creek
San Jose
Newell Creek
Hollister
Salinas
Santa Cruz
San Rafael
San Francisco
Redwood City
Santa Rosa
UPPER EEL RIVER DEVELOPMENT
Paskenta Reservoir (Proposed By U.S.B.R.)
Newville Reservoir (Proposed By U.S.B.R.)
Rancheria Reservoir
GLENN RESERVOIR COMPLEX
Dos Rios Groundstore
ALTERNATIVE DIVERSION ROUTES
Dos Rios Reservoir
Elk Creek
Garrett
English Ridge Reservoir (Proposed By U.S.B.R.)
NORTH BAY AQUEDUCT
Peripheral Canal
Clifton Court Forebay
Delta
South Bay
Bethany Reservoir
Patterson Reservoir
Del Valle Reservoir
SOUTH BAY AQUEDUCT
CALIFORNIA AQUEDUCT
O'Neill Forebay
San Luis
Dos Amigos
San Luis Reservoir
COASTAL BRANCH
Las Perillas
Badger Hill
Devils Den
Sawtooth
Polonio
Lopez
San Luis Obispo
San Antonio
Buena Vista
Wheeler Ridge
Wind Gap
Tehachapi No. 1, 2, 3, and Carley V. Porter
Tehachapi
Cottonwood
Oso Pumping Plant
Castaic Reservoir
Pyramid Reservoir
WEST BRANCH
Peardblossom
Devil Canyon
San Bernardino
Cedar Springs Lake
Perris Reservoir
Riverside
Los Angeles
Santa Ana
Miramar
San Diego
Lake Jennings
El Centro
Ventura
Santa Barbara
LEGEND
Reservoir
Approved Davis-Grunsky Project
Area of Contracting Agencies
Pumping Plant
Power Plant
Oroville, Thermalito, and San Luis plants are pumping-generating plants.
Tunnel
STATE OF CALIFORNIA
The Resources Agency
Department of Water Resources
THE CALIFORNIA STATE WATER PROJECT 1967
SCALE OF MILES
0 10 20 30 40 50 60 70 80