

SAN DIEGO COUNTY
WATER AUTHORITY



SEVENTH ANNUAL REPORT
1953

SAN DIEGO COUNTY WATER AUTHORITY

SEVENTH ANNUAL REPORT

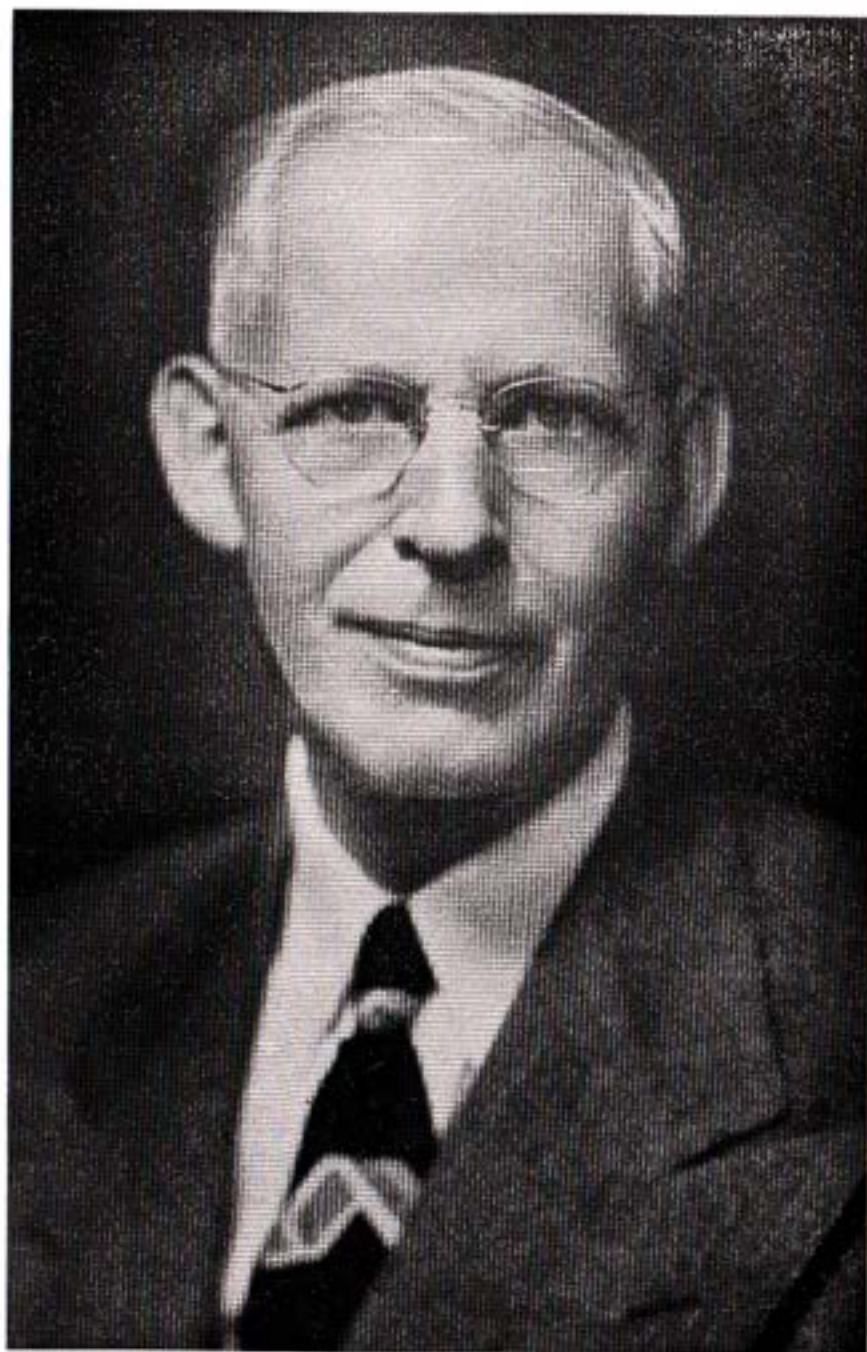
For Period

July 1, 1952 to June 30, 1953

RICHARD S. HOLMGREN
GENERAL MANAGER AND CHIEF ENGINEER

SAN DIEGO, CALIFORNIA

1953



J. L. BURKHOLDER
General Manager and Chief Engineer 1945-53

LETTER OF TRANSMITTAL

San Diego, California
December 31, 1953

Board of Directors
San Diego County Water Authority
325 Broadway
San Diego 1, California

Gentlemen:

Transmitted herewith is the Seventh Annual Report of the San Diego County Water Authority for the fiscal year ending June 30, 1953.

The year was saddened by the sudden death on April 6, 1953, of Joseph L. Burkholder, who, as General Manager and Chief Engineer, guided the Authority so well during its formative years, and who laid the foundation for a successful operative agency.

The report covers operation and maintenance of the Authority for the sixth year of delivery of Colorado River water to its member agencies, and a brief account of current activities of The Metropolitan Water District of Southern California, of which the Authority is a member.

Very truly yours,

RICHARD S. HOLMGREN
General Manager and Chief Engineer

BOARD OF DIRECTORS
June 30, 1953



Vice-Chairman
D. Maitland Bakewell
Santa Fe
Irrigation District



Chairman
Fred A. Heilbron
San Diego



Secretary
Delavan J. Dickson
National City



Paul Beermann
San Diego



W. Ray Coyle
South Bay
Irrigation District



J. William Fisher
San Diego



Otis P. Heald
Fallbrook Public
Utility District



Frank S. Jacobson
San Dieguito
Irrigation District



R. M. Levy
La Mesa, Lemon Grove
and Spring Valley
Irrigation District

BOARD OF DIRECTORS
June 30, 1953
Continued



Arthur H. Marston
San Diego



Jack E. McLean
Lakeside Irrigation
District



Carl M. Reed
Escondido



Merzel J. Shelton
La Mesa, Lemon Grove,
and Spring Valley
Irrigation District



Fred W. Simpson
San Diego



Raymond M. Wansley
San Diego



Bruce Watt
San Diego



Robert A. Weese
Oceanside



Arthur C. Wells
San Diego

ROSTER

DIRECTORS

July 1, 1952 to June 30, 1953

Chula Vista (to November 3, 1952)	Arthur L. Lynds
Escondido	Carl M. Reed
Fallbrook Public Utility District	Otis P. Heald
Lakeside Irrigation District	Jack E. McLean
La Mesa, Lemon Grove and Spring Valley Irrigation District	Mercel J. Shelton (From May 12, 1953) R. M. Levy
National City	Delavan J. Dickson
Occaside	(To March 25, 1953) Harold N. Beck Robert A. Weese
San Diego	Paul Beermann J. William Fisher Fred A. Heilbron Arthur H. Marston Fred W. Simpson Raymond M. Wansley Bruce Watt Arthur C. Wells
San Dieguito Irrigation District	Frank S. Jacobson
Santa Fe Irrigation District	D. Maitland Bakewell
South Bay Irrigation District (Annexed November 3, 1952)	(To June 2, 1953) Arthur L. Lynds W. Ray Coyle

OFFICERS OF THE BOARD

Chairman	Fred A. Heilbron
Vice-Chairman	(To June 2, 1953) Arthur L. Lynds D. Maitland Bakewell
Secretary	Delavan J. Dickson
Executive Secretary	Dorothy D. Miller

EXECUTIVE OFFICERS AND OPERATING STAFF

General Manager and Chief Engineer	(To April 6, 1953) J. L. Burkholder (From April 16, 1953) Richard S. Holmgren
General Counsel	W. H. Jennings
Assistant Chief Engineer	(To April 16, 1953) Richard S. Holmgren
Controller	Charles L. Royer
Treasurer	Harry L. Hall
Superintendent, Maintenance and Operation	A. B. Gale

COMMITTEES OF THE BOARD

June 30, 1953

ENGINEERING AND OPERATIONS

Mercel J. Shelton, Chairman
Paul Beermann
J. William Fisher
Frank S. Jacobson
Arthur H. Marston
Carl M. Reed
Robert A. Weese

FINANCE AND INSURANCE

Raymond M. Wansley, Chairman
W. Ray Coyle
Delavan J. Dickson
R. M. Levy
Jack E. McLean
Carl M. Reed
Arthur C. Wells

LEGAL AND CLAIMS

Delavan J. Dickson, Chairman
D. Maitland Bakewell
Otis P. Heald
R. M. Levy
Raymond M. Wansley
Bruce Watt
Arthur C. Wells

ORGANIZATION, PERSONNEL AND PUBLIC RELATIONS

Fred W. Simpson, Chairman
D. Maitland Bakewell
W. Ray Coyle
Frank S. Jacobson
Jack E. McLean
Bruce Watt
Robert A. Weese

WATER PROBLEMS

Arthur H. Marston, Chairman
J. William Fisher, Vice-Chairman
Paul Beermann
Otis P. Heald
Fred A. Heilbron
Mercel J. Shelton
Fred W. Simpson

ROLL OF DIRECTORS

Since formation of Authority

CITY OF ESCONDIDO

Carl M. Reed.....Oct. 18, 1950 to Present

FALLBROOK PUBLIC UTILITY DISTRICT

Emil J. Schmitz.....July 15, 1944 to July 11, 1949

Franz R. Sachse.....July 11, 1949 to Nov. 17, 1950

Otis P. Heald.....Dec. 8, 1950 to Present

LAKESIDE IRRIGATION DISTRICT

Allen G. Mitchell.....July 15, 1944 to Feb. 23, 1952

Jack E. McLean.....April 1, 1952 to Present

LA MESA, LEMON GROVE AND SPRING VALLEY

IRRIGATION DISTRICT

William H. Jennings.....July 15, 1944 to February 13, 1948

Mercel J. Shelton.....February 13, 1948 to Present

R. M. Levy.....May 12, 1953 to Present

CITY OF NATIONAL CITY

George V. Johnson.....July 15, 1944 to July 15, 1947

Delavan J. Dickson.....August 5, 1947 to Present

CITY OF OCEANSIDE

Harold N. Beck.....July 15, 1944 to March 25, 1953

Robert A. Weese.....March 25, 1953 to Present

CITY OF SAN DIEGO

Fred A. Heilbron.....July 15, 1944 to Present

Arthur H. Marston.....July 15, 1944 to Present

Fred W. Simpson.....July 15, 1944 to Present

Walter B. Whitcomb.....July 15, 1944 to April 19, 1951

Gerald E. Arnold.....July 27, 1948 to Aug. 17, 1950

J. William Fisher.....March 7, 1950 to Present

Raymond M. Wansley.....March 7, 1950 to Present

Bruce Watt.....August 14, 1950 to Present

Paul Beermann.....February 24, 1953 to Present

Arthur C. Wells.....February 24, 1953 to Present

SAN DIEGUITO IRRIGATION DISTRICT

Frank S. Jacobson.....December 22, 1948 to Present

SANTA FE IRRIGATION DISTRICT

D. Maitland Bakewell.....December 13, 1948 to Present

SOUTH BAY IRRIGATION DISTRICT

Arthur L. Lynds

(representing Chula Vista only).....July 15, 1944 to June 2, 1953

W. Ray Coyle.....June 2, 1953 to Present

Directors from agencies which have withdrawn from the Authority

CITY OF CORONADO

(Withdrawn from Authority May 10, 1946)

George F. Neal.....July 15, 1944 to May 10, 1946

RAMONA IRRIGATION DISTRICT

(Withdrawn from Authority August 21, 1946)

Albert C. Bisher.....July 15, 1944 to August 21, 1946

SAN DIEGO COUNTY WATER AUTHORITY

MEMBER AGENCIES AS OF JUNE 30, 1953

<i>Member Agency</i>	<i>Date of Entry</i>
Fallbrook Public Utility District.....	June 9, 1944
Lakeside Irrigation District.....	June 9, 1944
La Mesa, Lemon Grove and Spring Valley Irrigation District.....	June 9, 1944
City of National City.....	June 9, 1944
City of Oceanside.....	June 9, 1944
City of San Diego.....	June 9, 1944
San Dieguito Irrigation District.....	Dec. 13, 1948
Santa Fe Irrigation District.....	Dec. 13, 1948
City of Escondido.....	Oct. 9, 1950
South Bay Irrigation District City of Chula Vista.....	June 9, 1944
Area outside Chula Vista.....	Nov. 3, 1952

*Agencies which have withdrawn their corporate area
from the Authority*

Period of Membership

City of Coronado.....	June 9, 1944 to May 10, 1946
Ramona Irrigation District.....	June 9, 1944 to Aug. 21, 1946

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Inspection of First Pipe of Second Barrel of San Diego Aqueduct by Representatives of U. S. Bureau of Reclamation, Contractors, and the Authority



Contract between the U. S. Government and Authority for Construction of the Second Barrel of the Aqueduct being Signed by Mr. J. L. Burkholder and Witnessed by Messrs. F. A. Heilbron, W. H. Jennings, and Congressman Clinton D. McKinnon

FOREWORD

THE INFLUX of commerce and industry into lower California continues to spiral upward. The population of San Diego County alone increased 22,000 during the year.

Although there appears to be a resumption of drought, only 6.54 inches of rainfall in 1952-53 against a normal of 10.03 inches, it is heartening to know that excellent progress has been made in the construction of the Second Barrel of the San Diego Aqueduct. In view of the probable completion of the Aqueduct in September of 1954, the progress being made gives promise that should the drought condition continue, ample water to meet present-day needs will be available in the 1953-54 fiscal year. The amount of water in storage reservoirs of member agencies decreased rapidly, and at the end of the year totaled only 133,211 acre-feet, 29 per cent of storage capacity.

Economic Growth of San Diego County

The over-all number of employed persons reached an all-time high of 227,700, an increase of 17,100 employed persons. There were 54,300 persons employed in manufacturing industries during the year of 1952, resulting in a total industrial payroll of \$200,000,000 for San Diego County and the City of San Diego. The United States Navy, military and civilian, had a combined annual payroll of \$210,652,084. The total value of products produced by manufacturing industries for 1952 also reached an all-time high, totaling about \$461,000,000. Agricultural products produced in San Diego County increased \$1,167,025 over the 1952 figure. The total agricultural production amounted to \$84,023,267. Another interesting retail commercial factor in Southern California is the tremendous increase in tourist trade. It is estimated that \$75,000,000 was spent in San Diego County in the year of 1952 by tourists. Air traffic alone amounted to 390,428 persons.

The statistics quoted above are taken from the 1953 Annual Business Survey, compiled by the San Diego Chamber of Commerce for the fiscal year 1952-53.

Growth in Population

On April 1, 1953, the population within the boundaries of the Authority, based on data returned from member agencies, was estimated at 631,706 persons, approximately 89 per cent of the estimated total of 710,000 persons residing in San Diego County. Since the

Federal Census figure, estimated in 1950, the population within the Authority has shown an estimated gain of 59,940 persons annually. The growth in population within the Authority and the County areas is shown in Table 1.

TABLE 1
POPULATION—COUNTY AND AUTHORITY AREAS—1910 to 1953
(Includes Resident Military Personnel)

Year (as of April 1)	COUNTY		AUTHORITY		Per cent of County population in Authority
	Total population (1)	Average annual growth	Total population (2)	Average annual growth	
1910	61,665		46,000		74
1920	112,248	5,058	87,000	4,100	78
1930	209,659	9,741	173,000	8,600	82
1940	289,348	7,969	248,274	7,600	86
1946 (3)	502,804	26,746	(3) 440,659	20,361	88
1950	556,808	51,064	451,886	59,940	81
1953	710,000		631,706		89

- (1) County population from U.S. Census Bureau Reports.
- (2) Authority population based on U.S. Census Bureau Reports. Population in years prior to Authority organization in 1944 are for Authority area as of 1944. Population in later years is for Authority as then constituted.
- (3) Based on Special Census, U.S. Census Bureau, exclusive of emergency Military personnel due to World War II.

The major portion of this increase resulted from the annexation of the City of Escondido and the South Bay Irrigation District to the Authority, but a large increase also resulted from increases within the other member agencies. The largest growth percentagewise occurred in the City of El Cajon, where an estimated annual increase of approximately 33 per cent in population occurred in the three years since the U. S. Census estimate of 1952 was taken.

The area in acres within the boundaries of each member agency as of June 30, 1953, and the estimated population of 1953 are shown in Table 2 with the Federal Census figures for 1950 for comparison.

The City of El Cajon has the highest density of population, with

TABLE 2
POPULATION—AUTHORITY CONSTITUENT AREAS AND COUNTY
(Includes Resident Military Personnel)

Constituent Areas	Area 6/30/53	Population—U.S. Census			Annual Increase 1950-53	Density of Population 1953	
		1940 (1)	1950 (2)	1953 Estimate (5)			
							Per cent
Escondido	1,921	4,560	6,608	45	8,100	4.22	2,699
Fallbrook Public Utility District	8,192	2,300	5,500	139	7,500	.92	586
Lakeside Irrigation District	1,860	(4) 1,000	2,000	100	2,300	1.24	791
La Mesa, Lemon Grove & Spring Valley Irrigation District:							
In City of El Cajon	(3) (1,004)	(1,471)	(5,600)	281	(11,097)	11.05	7,072
In City of La Mesa	(3) (2,496)	(3,925)	(10,946)	178	(16,249)	6.51	4,166
In Crest Public Utility District	(386)	—	(928)	—	(1,300)	3.37	2,157
In unincorporated areas	(14,551)	(11,704)	(26,688)	128	(35,447)	2.44	1,562
Total	(6) 18,437	17,100	44,162	158	64,093	3.48	2,225
National City	4,096	10,344	21,199	105	27,973	6.83	4,371
Oceanside	7,803	4,651	12,880	177	19,887	2.55	1,631
San Diego	70,880	203,341	334,387	64	450,000	6.35	4,063
San Diego Irrigation District	4,020	(4) 2,400	6,223	159	7,553	1.88	1,202
Santa Fe Irrigation District	10,106	(4) 2,000	3,000	50	3,900	.39	247
South Bay Irrigation District:							
In Chula Vista	(3,498)	(5,138)	(15,927)	210	(24,200)	6.92	4,428
In unincorporated areas	(9,429)	(4) (5,800)	(13,000)	124	(16,200)	1.72	1,100
Total	12,927	10,938	28,927	164	40,400	3.13	2,000
Total Authority Area	140,242	258,634	464,886	80	631,706	4.50	2,883
San Diego County	2,725,100	289,348	556,808	92	710,000	.26	166

(1) Population in agencies other than cities was estimated from population of judicial townships.

(2) Population in agencies other than cities was furnished by agencies.

(3) Includes areas which are a part of the City but not of the Authority.

(4) Estimated.

(5) Estimated by Agencies.

(6) Does not include 19 acres of overlapping area in City of San Diego.

11.05 persons per acre. The lowest density of population occurs in the Santa Fe Irrigation District, with a density of only 0.39 persons per acre. The population density of San Diego County is 0.26 persons per acre.

Assessed Valuations

The Assessor of San Diego County reports that the total assessed valuation of taxable property within the County for the fiscal year 1952-53 was \$610,188,480, of which \$506,653,410 is within the boundaries of the San Diego County Water Authority. This represents an increase within the Authority of 12.6 per cent over the previous year. The average assessed valuation for the 140,242 acres within the Authority equals \$3,613, an increase of \$188 per acre over the average for the previous year. The assessed valuation for each member agency for the fiscal year 1952-53 is shown in Table 3, together with the assessed valuation for 1951-52 for comparison.

The assessed valuation of each member agency for the year 1953-54 was available prior to publication of this report and is included for general reference purposes.

Climatological Conditions

Rainfall during the fiscal year 1952-53 was disappointing inasmuch as the normal rainfall of 18.16 inches at Lindbergh Field, San Diego, in 1951-52 had indicated that the end of the long period of drought had ceased. The year 1952-53 did not follow through, but instead showed only a rainfall of 6.54 inches, one of the smallest yearly precipitations on record.

The estimated and measured rainfall for each year since 1800 is shown in Figure 1, together with alternating wet and dry periods, as shown by the accumulated departure from the mean.

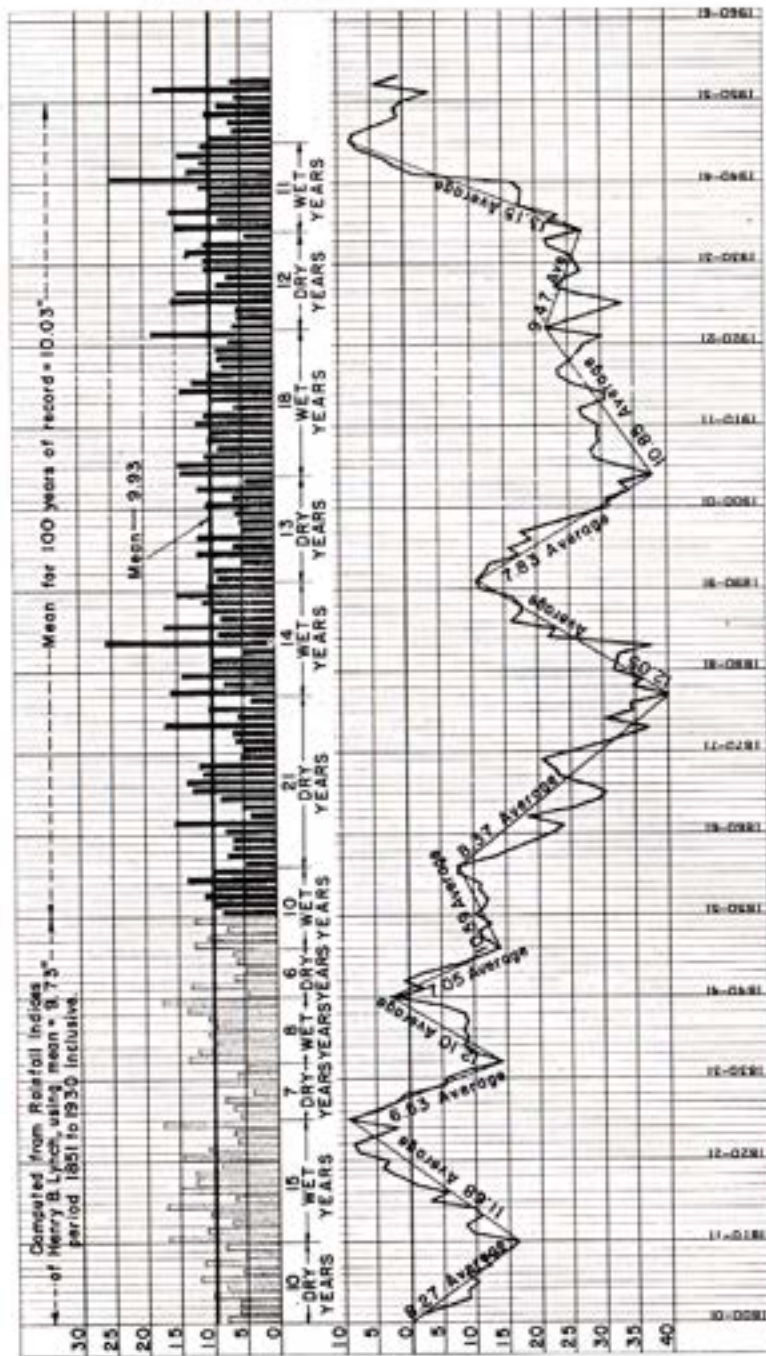
TABLE 3
ASSESSED VALUATIONS—AUTHORITY CONSTITUENT AREAS AND COUNTY

Agency	Area 6/30/53 Acres	Assessed Valuations Secured and Unsecured		Annual Increase		Assessed Valuation 1953-54
		1951-52	1952-53	Total	Per cent	
Escondido	1,921	\$ 6,514,900	\$ 7,347,020	\$3,825	12.8	\$ 8,492,910
Fallbrook Public Utility District	8,192	3,751,190	4,396,690	537	17.2	5,080,060
Lakeside Irrigation District	1,860	826,470	985,680	530	19.3	1,353,840
La Mesa, Lemon Grove and Spring Valley Irrigation District	18,437	42,750,760	50,063,670	2,715	17.1	67,338,930
National City	4,096	12,164,200	13,859,190	3,384	13.9	17,786,340
Oceanside	7,803	11,111,160	12,993,400	1,665	16.9	16,928,320
San Diego	70,880	339,517,885	378,428,820	5,339	11.5	457,906,330
San Dieguito Irrigation District	4,020	5,872,440	6,189,200	1,540	5.4	7,421,680
Santa Fe Irrigation District	10,106	4,822,950	5,125,370	507	6.3	6,033,880
South Bay Irrigation District	12,927	22,614,589	27,264,370	2,109	20.6	34,584,930
Total Authority Area	140,242	\$449,946,544	\$506,653,410	\$3,613	12.6	\$622,927,240
San Diego County	1,250,048 (1)	\$544,045,805	\$610,188,480	\$ 488	12.2	\$747,351,600

(1) Excluding 1,475,052 acres of tax-exempt lands in San Diego County as of October 30, 1949.

(2) Includes area excluded from Authority but not from Authority.

(3) Does not include 19 acres of overlapping area in La Mesa, Lemon Grove and Spring Valley Irrigation District.



CLIMATOLOGICAL YEAR JULY 1 - JUNE 30
 Figure 1. Rainfall Record at San Diego, California.

CHRONOLOGY OF PERTINENT EVENTS

- 10-23-23 Preliminary studies of Colorado River as a source of additional water supply were begun by City of Los Angeles.
- 9-17-24 Colorado River Aqueduct Association organized at Pasadena, California.
- 6- 2-25 City of Los Angeles issued \$2,000,000 Colorado River project bonds for preliminary surveys and investigations.
- 4-15-26 City of San Diego filed application with the Division of Water Resources of the State of California for a permit to divert 155 c.f.s. from the Colorado River annually.
- 7-29-27 Metropolitan Water District Act enacted by California Legislature permitting noncontiguous cities and districts to cooperate in acquisition of domestic water supplies.
- 12- 6-28 The Metropolitan Water District of Southern California organized with eleven member cities.
- 4-24-30 Metropolitan Water District contracted with the United States for storage of water and for 36 per cent of the power generated at Hoover Dam.
- 8-18-31 Seven Party Water Agreement of 1930 signed by representatives of Palo Verde Irrigation District, Imperial Irrigation District, Coachella Valley County Water District, Metropolitan Water District of Southern California, City of Los Angeles, City of San Diego and County of San Diego fixing the priorities of the respective water rights in the Colorado River.
- 9-29-31 A construction bond issue of \$220,000,000 was approved by Metropolitan Water District electors.
- 1-25-33 Construction work on Colorado River Aqueduct was started on Coachella Tunnel at Fargo Adit.
- 2-15-33 Contract executed between Secretary of the Interior and The City of San Diego providing for 250,000 acre-feet of storage capacity in Boulder Reservoir, and for the delivery of 112,000 acre-feet of water to San Diego City and/or County each year at a point in the Colorado River immediately above Imperial Dam.

- 10- 2-34 Contract executed between Secretary of the Interior and The City of San Diego, providing for construction of capacity in All-American Canal Project for the diversion and carriage of 155 c.f.s. allotment of Colorado River Water to The City and/or County of San Diego.
- 8-31-41 Initial stage of Colorado River Aqueduct construction completed and water system placed in operating status.
- 5-17-43 County Water Authority Act as introduced in the California Legislature by Senator Ed Fletcher approved by the Governor of California and filed with the Secretary of State.
- 6- 9-44 The San Diego County Water Authority organized consisting of nine public agencies.
- 11-29-44 The President of the United States transmits a communication to the Senate approving the Report of the Committee on San Diego Water Problems, and advising that he has directed immediate construction by the Federal Government of an aqueduct connecting the Colorado River Aqueduct of The Metropolitan Water District with the water system of San Diego at its San Vicente Reservoir.
- 5-18-45 First contract on San Diego Aqueduct awarded by U.S. Navy for construction of Poway, Fire Hill, and San Vicente tunnels.
- 10-17-45 Contract executed between the U.S. Navy, acting for the Government, and The City of San Diego providing for the continuation of construction of the San Diego Aqueduct and lease of Aqueduct to The City of San Diego, with privilege of later transferring to the Authority.
- 5-10-46 The withdrawal of The City of Coronado from the Authority officially completed by filing of proceedings by Secretary of Authority in the office of the Secretary of State.
- 6-28-46 Board adopted Resolution No. 17, declaring intention to call an election to authorize incurring of bonded indebtedness of \$2,000,000 to construct distribution lines.
- 8-15-46 Proposed contract merging water rights of City of San Diego with those of the Metropolitan Water District approved by the Authority, and the General Manager and

- Chief Engineer authorized to execute same on behalf of Authority.
- 8-21-46 Withdrawal of Ramona Irrigation District from the Authority officially completed by filing of proceedings with Secretary of State.
- 9-23-46 Supplemental Agreement No. 1 covering assignment of City-Navy Lease Contract NOy-13300 to San Diego County Water Authority formally executed by parties thereto.
- 10- 4-46 Contract signed by representatives of the United States of America, San Diego County Water Authority, and Metropolitan Water District providing for merger of the right of the City and/or County of San Diego to 112,000 acre feet of water in the Colorado River, with the right of the Metropolitan Water District to 1,100,000 acre feet, if annexation of Authority to Metropolitan Water District was consummated.
- 11- 5-46 The Authority electors approved three propositions relative to proposed importation of Colorado River water: (1) annexation of corporate area of Authority to the Metropolitan Water District; (2) Supplemental Contract No. 1 transferring most of provisions of Aqueduct Lease-Purchase Contract from City to Authority; (3) incurring bonded indebtedness of \$2,000,000 for construction of branch lines. City of San Diego electors also approved Proposition No. 2.
- 12-17-46 The corporate area of the San Diego County Water Authority officially became annexed to The Metropolitan Water District of Southern California.
- 12-20-46 Authority sold its \$2,000,000 bond issue for branch lines to syndicate headed by Bank of America National Trust and Savings Association.
- 1-27-47 Comptroller-General reported to the Congress questioning legality of expenditures on Aqueduct.
- 5- 1-47 Committee on Expenditures in Executive Departments rendered report to Congress recommending completion of Aqueduct.
- 7- 2-47 Contract for construction of La-Mesa-Sweetwater Extension awarded by the Board of Directors of the Authority to American Pipe and Construction Company.

- 8-28-47 Contract for Easterly Section of Fallbrook-Oceanside Branch awarded by Board of Directors of the Authority to Edward Green.
- 11-13-47 Contract for Westerly Section of Fallbrook - Oceanside Branch awarded by Board of Directors of the Authority to American Pipe and Construction Company.
- 11-24-47 Initial flow of Colorado River water passed through San Diego Aqueduct and discharged into San Vicente Reservoir.
- 12-11-47 Water Authority took possession of San Diego Aqueduct for operation and maintenance on terms of informal interim agreement pending completion of the construction. The interim agreement was later replaced by Supplemental Agreement No. 3 to the Aqueduct Lease-Purchase Contract.
- 12-13-48 Corporate areas of the San Dieguito Irrigation District and the Santa Fe Irrigation District annexed to the Authority and The Metropolitan Water District of Southern California.
- 4-15-48 An Act of Congress (Public Law 482-80th Congress) was approved ratifying the actions of the executive branch of the Federal Government in proceeding with the construction of the San Diego Aqueduct.
- 4-25-49 Contract executed between the U.S. Bureau of Reclamation and the Authority relating to the investigation by the Bureau of the Second Barrel of the San Diego Aqueduct.
- 2-17-50 Contract executed between the City of San Diego and the Authority for the use of storage capacity by the Authority in San Vicente Reservoir.
- 8- 1-50 Fallbrook Public Utility District annexed additional area to the Authority.
- 10- 9-50 Corporate area of the City of Escondido annexed to the Authority and the Metropolitan Water District of Southern California.
- 1-19-51 Report by Bureau of Reclamation on "San Diego Project, Metropolitan Connection Enlargement" released in preliminary draft form for administrative use only.

- 4-13-51 First water delivered to City of Escondido through temporary connection.
- 10-11-51 Congress authorized construction of Second Barrel to San Diego Aqueduct by Public Law 171, 82d Congress.
- 11- 9-51 Contract executed between the United States and San Diego County Water Authority providing for preparation of designs and specifications by the Reclamation Bureau for construction of the Second Barrel of the San Diego Aqueduct prior to funds becoming available under Act of Congress.
- 4- 1-52 Contract NOy-13300, Supplemental Agreement No. 4, executed between the United States of America and San Diego County Water Authority for the completion of the San Diego Aqueduct by the construction of the Second Barrel.
- 11-3- 52 South Bay Irrigation District, comprising the incorporated area of the City of Chula Vista and adjacent unincorporated territory lying outside of the Authority, became a member agency. The City of Chula Vista withdrew as a member agency to become part of the South Bay Irrigation District.
- 12-18-52 The first section of pipe was laid in the Second Barrel of the San Diego Aqueduct.
- 4-6- 53 Mr. Joseph L. Burkholder, the first General Manager and Chief Engineer of the Authority, passed away after a brief illness. He was first employed in this capacity on January 1, 1945.
- 4-16-53 Mr. Richard S. Holmgren succeeded to the position of General Manager and Chief Engineer of the Authority, after serving in the capacity of Assistant Chief Engineer from April 1, 1945.

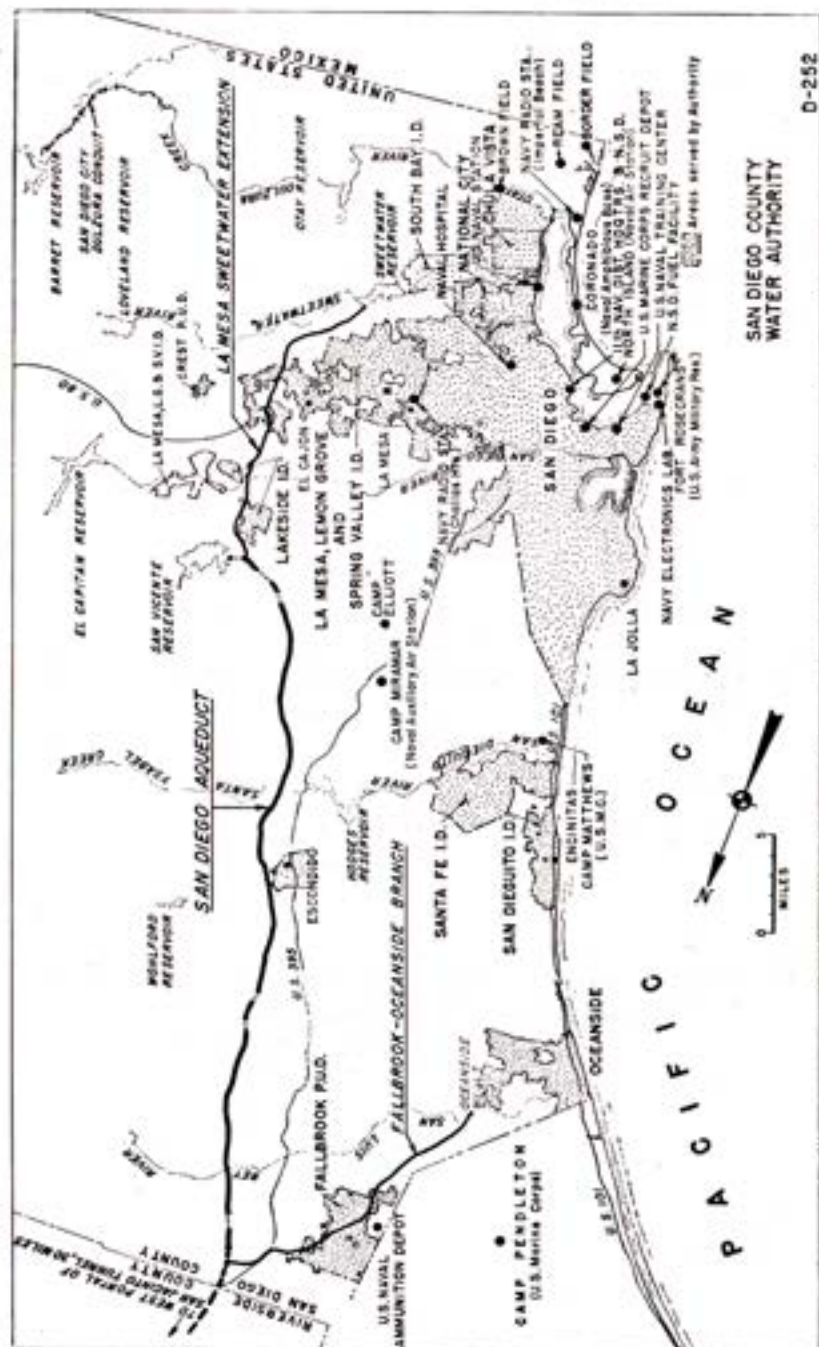


Figure 2. Areas in San Diego County Served by the San Diego County Water Authority through the San Diego Aqueduct and its Branches.

SECTION I

OPERATION AND MAINTENANCE

PURSUANT TO Contract NOy 13300, the Government transferred possession of the First Barrel of the San Diego Aqueduct to the Authority on January 1, 1953, after five years of operation of the Aqueduct by the Authority under Supplemental Agreement No. 3 to that contract.

The operation and maintenance of that portion of the Aqueduct lying northerly of Station 1920 + 00, a point on the north hillside overlooking the San Luis Rey River, has been transferred to the Metropolitan Water District as provided for in Contract NOy 13300. The Metropolitan Water District is reimbursing the Authority for one-half of the Authority's annual payments to the United States of America under the contract. When payment of true cost of the Aqueduct is completed and ownership is transferred to the Authority, ownership of that portion north of Station 1920 + 00 will be transferred to the Metropolitan Water District.

Authority-Operated System

No change occurred during the year in the water supply system operated by the Authority, which includes that part of the San Diego Aqueduct extending from a point 1,500 feet north of the San Luis Rey River (Station 1920 + 00) to the San Vicente Reservoir, the Fallbrook-Oceanside Branch, and the La Mesa-Sweetwater Extension.

The Cities of Escondido and San Diego and the Santa Fe and San Dieguito Irrigation Districts are supplied directly from the Aqueduct; the City of Oceanside and the Fallbrook Public Utility District are supplied from the 16-mile Fallbrook-Oceanside Branch; the La Mesa, Lakeside, and South Bay Irrigation Districts and the City of National City are supplied through the 16-mile La Mesa-Sweetwater Extension.

The locations of the pipe lines comprising the Authority system are shown in Figure 2.

Operating Personnel

All operation and maintenance work of the Authority continues to

be centered at the Escondido headquarters, and the operating force remains at seven men. In addition to regular maintenance and operating duties, the maintenance force constructed such new works as were required on the system, including two concrete vaults with meter installations therein, needed for measuring leakage discharge from Red Mountain and Oat Hills Tunnels.

Improvements were made to the maintenance headquarters, consisting of an additional room to the Superintendent's residence, and to the building to be occupied by the Bureau of Reclamation as headquarters while construction of the Second Barrel of the Aqueduct is in progress.

Automotive and Maintenance Equipment

The automotive equipment remained the same throughout the year. Except for one passenger car, garaged at San Diego, all equipment was housed and serviced at the Escondido maintenance headquarters.

Patrol of Aqueduct and Branch Lines

A daily patrol of the Aqueduct line was established when the Aqueduct was placed in operation in December 1947 and continued until April 1952. During this entire period the Aqueduct flow was maintained at maximum capacity with resulting high water levels and a minimum of freeboard at each open structure.

Frequent patrolling of the Aqueduct, especially during high flows, is necessary because of the 15 open structures in which the water level is at hydraulic gradient. If the flow at any of these structures exceeds the capacity of the pipe line directly downstream, the water level in the structure will rise, and if the flow is not reduced, it may overflow the walls of the structures with resulting damage to surrounding area. Such overflow of structures has resulted from reduced capacity due to bacterial growth in the pipe, and could occur if there were an air lock or a stoppage due to a foreign matter entering the pipe. A reduction in pipeline capacity normally does not occur instantaneously, but is indicated by a gradual rise of water level in the open structures providing a warning which permits a reduction in flow until remedial measures can be taken.

Following the wet winter of 1951-52, flow in the Aqueduct was substantially reduced, and the danger of overflowing open structures was diminished. Therefore, patrolling of the line was reduced to alternate

days, which schedule continued until February 1953. At that time the flow again was increased to capacity, and daily patrol of the line was resumed and is still in effect. An inspection trip over each of the branch lines is made once a week by a patrolman. On these trips the air valves are inspected and checked for proper operation.

Chlorination and Control of Bacterial Growth

The Authority does not assume the responsibility of treating water brought in through the Aqueduct so as to provide a safe potable water, and each member agency has been so notified. It has been found necessary, however, to treat the Aqueduct flow with heavy injections of chlorine during the summer months in order to prevent an accumulation of bacterial growth on the pipe walls with subsequent diminution in the carrying capacity of the Aqueduct.

Each year to date chlorination has been accomplished by a portable chlorinating installation, through which chlorine gas has been introduced directly into the flow of the pipe. Because of the low flow which the Aqueduct carried during the summer of 1952, no trouble was encountered and no chlorine gas was used in the Aqueduct.

Construction of a permanent chlorination station to house the chlorinating equipment and pipe connections from the building to the First and Second Barrels is included in the general contract for construction of the Second Barrel. The building will be located at the northerly bifurcation structure leading to Lilac Tunnel near the northerly end of the Authority's section of the Aqueduct.

Since more time was required to determine the chlorinating needs of the Aqueduct, chlorinating equipment and inside piping were not included in the Second-Barrel contract. The Authority will purchase and install this equipment upon completion of the chlorinating building.

Access and Patrol Roads

No changes were made during the year in the mileage of access roads used and maintained by the Authority. Permission to use the roads, on which the Authority has rights-of-way, was granted to the contractors during construction of the Second Barrel with the provision that they maintain the roads and upon completion of their contracts return them to the Authority in their original condition.

Because of the low rainfall during the 1952-53 fiscal year (only 6.54

inches—the lowest since the Authority began operation), road maintenance was at a minimum, consisting almost entirely of surface grading.

Valves and Metering Equipment

All valves and metering equipment operated smoothly during the year without breakdown. To assure this operation, the servicing and lubricating were placed on regular schedule.

Venturi meter charts were changed by patrolmen each Monday, and totalizer readings were noted on the charts when installed and when removed. They were then sent to the San Diego office to provide a basis for billing agencies for water delivered. The charts were then filed with Authority records.

Except for the addition of two small meters, installed to measure leakage discharge from Oat Hills and Red Mountain Tunnels, there was no change in meter installations of the Authority.

Miscellaneous Maintenance Activities

Careful examinations of all exposed steel pipe and fittings in the Aqueduct and branch-line structures were made periodically. Where evidence of corrosion was found, the steel was thoroughly wire brushed, prime coated, and painted with Inertol. Some work was required in 86 structures.

Small levees have been constructed and ditches have been dug at several places along the Aqueduct line to carry water away from structures and access roads. A concrete dip (Arizona Culvert) was constructed in a streambed, crossed by the road over Oat Hills, after a 24-inch steel culvert and road fill were washed out during a storm.

Work required of maintenance personnel to keep blowoff and air-valve structures on the Aqueduct unwatered was considerably reduced by drilling drainage holes through the floor of 38 structures. The outlet holes were drilled well above ground-water elevations to provide a means for condensation and rainwater to flow from the structures by gravity. Sump holes were enlarged in 35 other structures to provide easier access for the suction hose of portable pumping equipment.

A lawn-sprinkler system was installed at the Escondido property for watering shrubs surrounding the building occupied by the Bureau of Reclamation. Maintenance of grounds was continuous throughout

the year. Weeds and grass surrounding the Aqueduct structures were removed to lessen the danger of fire.

Authority Storage in San Vicente Reservoir

The right of the Authority to store water in San Vicente Reservoir was acquired through an agreement with the City of San Diego entered into in 1950. During the fiscal year 1952-53, a total of 1,956.4 acre-feet of water was placed in storage by the Authority to accounts of the City of Escondido, Fallbrook Public Utility District, La Mesa Irrigation District, and for replacement of Authority evaporation losses.

During the year 4,482.2 acre-feet of stored water was withdrawn, leaving a balance of 4,085.6 acre-feet stored in San Vicente Reservoir to the account of the Authority on June 30, 1953. Quantities of water in storage to the accounts of each Authority agency at the beginning and end of the year are shown in Table 4.

TABLE 4
AUTHORITY STORAGE IN SAN VICENTE RESERVOIR
(Fiscal Year 1952-53)

Agency	Total Quantity in Storage 7/1/52 (acre-feet)	Placed into Storage During Fiscal Year (acre-feet)	Withdrawn During Fiscal Year (acre-feet)	Total Quantity in Storage 6/30/53 (acre-feet)
Escondido	456.7	7.9	364.1	100.5
Fallbrook Public Utility District	3,830.1	360.6	1,194.8	2,995.9
Lakeside Irrigation District	0	0	0	0
La Mesa, Lemon Grove & Spring Valley Irrigation District	1,699.1	470.4	1,746.9	422.6
Oceanside	145.8	0	0	145.8
San Diego	0	0	0	0
San Dieguito Irrigation District	379.8	0	0	379.8
Santa Fe Irrigation District	0	0	0	0
South Bay I.D. & National City	0	0	0	0
Authority (for evaporation)	99.9	1,117.5	1,176.4	41.0
Totals	6,611.4	1,956.4	4,482.2	4,085.6

A chart showing the total amount of water in storage in the combined reservoirs of Authority member agencies by months from 1947 to 1953, the period during which Colorado River water has been brought into the Authority area, is shown in Figure 3.

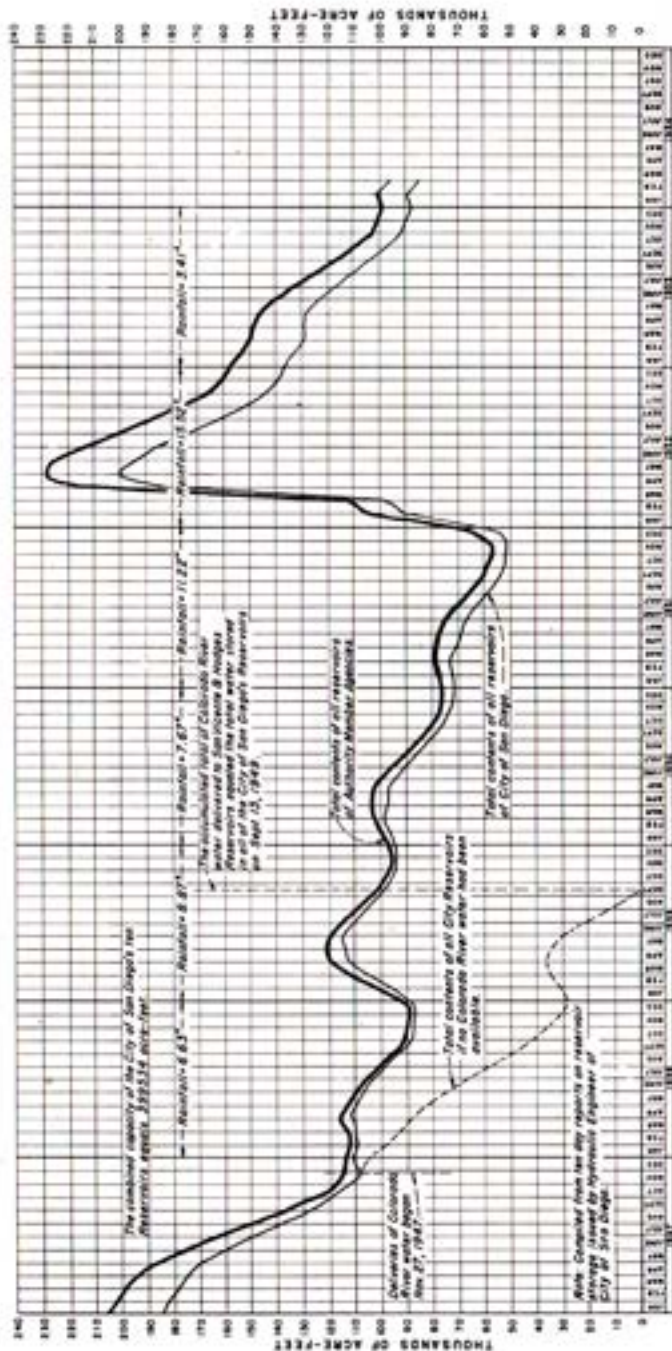


Figure 3. Amount of Water in Storage in Reservoirs of Authority Member Agencies.

3

TABLE 5

Constituent Areas	May	June	Total 6 months	Yearly total	Yearly average
Escondido	40.5	50.1	176.9	382.8	0.53
Fallbrook Public Utility District	419.7	469.2	1,737.3	3,566.1	4.93
Lakeside Irrigation District	9.7	11.3	41.2	80.2	0.11
La Mesa, Lemon Grove & Spr Valley Irrigation District	1,309.0	1,555.4	4,925.3	5,100.5	7.04
Oceanside	85.3	93.3	353.4	604.1	0.83
San Diego	5,000.0	5,000.0	20,684.9	20,684.9	28.57
San Dieguito Irrigation District	0	0	0	0	0
Santa Fe Irrigation District	0	0	0	0	0
South Bay I.D. & National City	0	0	0	0	0
Total Sales to Agencies	6,864.2	7,179.3	27,919.0	30,418.6	42.01
Total Sales to Others	0.7	1.3	2.3	49.4	.07
Total Sales to Agencies & Oth	6,846.9	7,180.6	27,921.3	30,468.0	42.08
Total to Authority Storage	36.0	641.3	1,167.6	1,612.8	2.23
Total from Authority Storage	-739.6	-1,833.2	-3,514.5	-3,514.5	-4.85
Total Deliveries from Aqueduct	6,161.3	5,988.7	25,574.4	28,566.3	39.46
Rate of Flow					
c.f.s. to Agencies & Others	111.6	120.7	77.8		42.1
c.f.s. to Authority Storage	0.6	10.8	3.2		2.2
c.f.s. from " "	-12.0	-30.8	-9.8		-4.8
Total deliveries from Aqueduct	100.2	100.7	71.2		39.5

28,652.3 acre-feet was delivered of 52.9 acre-feet from the Aqueduct.
33.1 acre-feet was delivered

TABLE 5
DELIVERIES AND SALES OF COLORADO RIVER WATER—FISCAL YEAR 1952-53
(All figures in acre-feet)

TABLE 5

Constituent Areas	July	August	Sept.	Oct.	Nov.	Dec.	Total 6 months	Jan.	Feb.	Mar.	Apr.	May	June	Total 6 months	Yearly total	Yearly average
Escondido	75.1	55.3	35.2	40.3	0	0	205.9	0	0	25.3	61.0	40.5	50.1	176.9	382.8	0.53
Fallbrook Public Utility District ..	247.0	362.4	470.0	333.5	368.2	47.7	1,828.8	3.4	227.4	317.5	300.1	419.7	469.2	1,737.3	3,566.1	4.93
Lakeside Irrigation District	8.3	9.4	8.9	7.3	3.3	1.8	39.0	1.9	4.8	4.8	8.7	9.7	11.3	41.2	80.2	0.11
La Mesa, Lemon Grove & Spring Valley Irrigation District	0	23.3	63.2	0	0	88.7	175.2	38.4	375.2	468.4	1,178.9	1,309.0	1,555.4	4,925.3	5,100.5	7.04
Oceanside	20.3	45.6	45.5	46.3	45.5	47.5	250.7	45.3	34.1	47.3	48.1	85.3	93.3	353.4	604.1	0.83
San Diego	0	0	0	0	0	0	0	0	694.8	4,990.1	5,000.0	5,000.0	5,000.0	20,684.9	20,684.9	28.57
San Dieguito Irrigation District ..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Fe Irrigation District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Bay I.D. & National City ..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Sales to Agencies	350.7	496.0	622.8	427.4	417.0	185.7	2,499.6	89.0	1,336.3	5,853.4	6,596.8	6,864.2	7,179.3	27,919.0	30,418.6	42.01
Total Sales to Others	0	8.0	16.3	14.1	8.7	0	47.1	0	0.2	0.1	0	0.7	1.3	2.3	49.4	.07
Total Sales to Agencies & Others	350.7	504.0	638.1	4,415.0	425.7	185.7	2,546.7	89.0	1,336.5	5,853.5	6,596.8	6,846.9	7,180.6	27,921.3	30,468.0	42.08
Total to Authority Storage	69.0	113.0	83.7	70.0	79.9	29.6	445.2	47.6	77.3	365.4	0	36.0	641.3	1,167.6	1,612.8	2.23
Total from Authority Storage (1)	0	0	0	0	0	0	0	0	0	-281.5	-660.2	-739.6	-1,833.2	-3,514.5	-3,514.5	-4.85
Total Deliveries from Aqueduct ..	419.7	617.0	722.8	511.5	505.6	215.3	2,991.9	136.6	1,413.8	5,937.4	5,936.6	6,161.3	5,988.7	25,574.4	28,566.3	39.46
Rate of Flow																
c.f.s. to Agencies & Others	5.7	8.2	10.7	7.2	7.2	3.0	7.0	1.4	24.1	95.2	110.8	111.6	120.7	77.8		42.1
c.f.s. to Authority Storage	1.1	1.8	1.4	1.1	1.3	0.5	1.2	0.8	1.4	5.9	0	0.6	10.8	3.2		2.2
c.f.s. from " " (1)	0	0	0	0	0	0	0	0	0	-4.6	-11.1	-12.0	-30.8	-9.8		-4.8
Total deliveries from Aqueduct	6.8	10.0	12.1	8.3	8.5	3.5	8.2	2.2	25.5	96.5	99.7	100.2	100.7	71.2		39.5

28,652.3 acre-feet was delivered into San Diego Aqueduct by The Metropolitan Water District at San Jacinto Reservoir. There was an estimated loss of 52.9 acre-feet from the Aqueduct.
33.1 acre-feet was delivered by The Metropolitan Water District to Contractors for construction of Second Barrel of Aqueduct.

Water Deliveries and Sales

The total amount of water sold by the Authority during the fiscal year 1952-53 was 30,468.0 acre-feet, a reduction of about 49 per cent from the 60,030.8 acre-feet sold in the previous fiscal year. The reduction in sales was due to the heavy rainfall of 1951-52 resulting in excellent runoff and a substantial increase in water reserves in storage. These reserves were used during the first half of 1952-53 with a reduction in demand for Colorado River water.

During and following the dry winter of 1952-53, storage reserves decreased rapidly. Beginning in March 1953 and continuing through June 1953, the Aqueduct operated at capacity with agencies receiving water on the basis of their preferential rights. For the entire year a total of 28,566.3 acre-feet of water, or an average flow of 39.5 c.f.s., was delivered from the Aqueduct, and 1,901.7 acre-feet of water was withdrawn from Authority storage in San Vicente Reservoir to make up the total sales of 30,468.0 acre-feet.

Monthly water sales to member agencies and deliveries from the Aqueduct are shown in Table 5. A monthly maximum of 7,180.6 acre-feet of water was sold in June 1953. A monthly minimum of 89.0 acre-feet was sold in January 1953.

The quantity of water in acre-feet delivered each year to member agencies, since Colorado River water was first delivered by the Authority on November 27, 1947, is shown in Table 6. Average deliveries from the Aqueduct in 1952-53 were the smallest since the beginning of operation.

Water Production of Authority Agencies

The total quantity of water diverted from local sources, such as streams, conservation reservoirs, and wells, together with water received from the San Diego Aqueduct, is referred to in this report as the water production of an agency. Production does not include water stored in conservation reservoirs awaiting transportation to and processing for the consumer. Water production of an agency is the water required by that agency not only to meet the demands of its consumers, but also the losses of water in transmission from its source and within the distribution system of the agency.

Production within the Authority area, as reported by member agencies, totaled 105,974.3 acre-feet of water in the 1952-53 fiscal year, an increase of 15,581.5 acre-feet or about 17 per cent above that of the previous year.

TABLE 6
DELIVERIES OF COLORADO RIVER WATER—1947 to 1953
(All figures in acre-feet)

Constituent Areas	(1) 1947-48	1948-49	1949-50	1950-51	1951-52	1952-53
Escondido	690.6	2,125.4	3,004.0	117.1	540.0	382.8
Fallbrook Public Utility District	0	3.5	30.4	3,979.2	2,209.7	3,566.1
Lakeside Irrigation District	4,256.3	8,080.1	4,792.6	8,282.5	5,514.8	5,100.5
La Mesa, Lemon Grove & Spring Valley Irrigation District	0	1.5	127.8	558.5	513.4	604.1
Oceanside	32,461.0	50,126.8	35,371.2	51,453.9	43,745.3	20,684.9
San Diego	—	451.3	1,655.0	1,043.8	691.0	0
San Diego Irrigation District	—	270.8	2,657.9	832.1	146.8	0
Santa Fe Irrigation District	3,636.6	10,510.7	10,973.2	12,964.7	6,649.0	0
South Bay I.D. & National City (California Water & Tel. Co.)	41,044.5	71,570.1	58,612.1	79,259.0	60,030.8	30,418.6
Total Sales to Agencies	0	0	0	0	0	49.4
Total Sales to Others	0	0	+10,652.0	+821.4	+5,763.2	+1,612.8
Total to Authority Storage	0	0	0	-6,265.5	-3,176.0	-3,514.5
Total from Authority Storage	41,044.5	71,570.1	69,264.1	73,814.9	62,618.0	28,566.3
Total Deliveries	98.3	98.9	81.0	109.5	82.7	42.1
Rate of Flow	0	0	+14.7	+1.1	+7.9	+2.2
c.f.s. to Agencies & Others	0	0	0	-8.6	-4.4	-4.8
c.f.s. to Authority Storage	98.3	98.9	95.7	102.0	86.2	39.5
c.f.s. from Authority Storage	0	0	0	0	0	0
Total deliveries from Aqueduct	98.3	98.9	95.7	102.0	86.2	39.5

(1) The operation of the Aqueduct was formally initiated on November 27, 1947.

TABLE 7
WATER PRODUCTION OF AUTHORITY AGENCIES—FISCAL YEAR 1952-53

Constituent Areas	TOTAL WATER PRODUCTION			LOCAL		COLORADO RIVER	
	ac. ft.	as m.g.d.	as c.f.s.	Amount ac. ft.	Per cent	Amount ac. ft.	Per cent
Escondido	1,238.1	1.11	1.71	855.3	69.1	382.8	30.9
Fallbrook Public Utility District	6,635.3	5.92	9.17	3,100.6	46.7	3,534.7	53.3
Lakeside Irrigation District	291.6	0.26	0.40	211.4	72.5	80.2	27.5
La Mesa, Lemon Grove and Spring Valley Irrigation District	13,524.3	12.07	18.68	8,607.4	63.6	4,916.9	36.4
National City	2,759.0	2.46	3.81	2,759.0	100.0	0	0
Oceanside	3,533.3	3.15	4.88	2,929.2	82.9	604.1	17.1
City of San Diego:							
Inside City	60,551.6	54.06	83.64	37,196.0	61.4	23,355.6	38.6
Outside City (not in Authority)	2,395.6	2.14	3.31	2,395.6	100.0	0	0
San Diego Irrigation District	3,139.0	2.80	4.33	3,139.0	100.0	0	0
Santa Fe Irrigation District	3,357.5	3.00	4.64	3,357.5	100.0	0	0
South Bay Irrigation District	8,549.0	7.63	11.81	8,549.0	100.0	0	0
Totals	105,974.3	94.60	146.38	73,100.0	69.0	32,874.3	31.0

NOTE: This table is a compilation of data furnished by member agencies. Figures include losses in transmission and distribution systems but not in conservation reservoirs.

TABLE 8
WATER PRODUCTION BY AUTHORITY AGENCIES—FISCAL YEARS 1941-42 to 1952-53
(All figures in acre-feet)

Agency	From Local Sources					(2) From Local and Authority Supplies						
	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53
South Bay I.D. and National City (Calif. W. and T. Co. Agent)	9,588	9,048	9,963	9,288	10,799	10,519	10,265	(1)11,293	(1)12,709	11,750	10,491	11,508
Escondido	547	663	668	711	707	835	954	801	858	1,034	1,033	1,238
Fallbrook Public Utility District	951	1,232	1,464	1,439	2,120	2,596	3,470	3,613	5,379	5,777	5,803	6,635
Lakeside Irrigation District	44	60	61	65	69	90	103	110	161	183	197	292
La Mesa, Lemon Grove and Spring Valley Irrigation District	4,903	6,455	7,316	7,423	8,920	9,790	10,290	9,325	10,204	11,412	9,858	13,524
Oceanside	1,189	1,508	1,713	1,881	2,304	2,519	2,787	2,641	2,977	3,035	2,955	3,533
City of San Diego:												
Inside City	34,506	43,966	49,742	53,473	56,266	49,431	51,078	49,693	51,410	54,935	53,784	60,352
Outside City	384	504	815	1,223	1,147	1,038	1,329	1,946	1,049	2,051	1,406	2,396
San Diegoito Irrigation District	1,917	2,280	2,521	2,611	2,966	3,369	3,034	2,403	2,899	3,039	2,326	3,139
Santa Fe Irrigation District	2,503	3,073	3,300	2,760	3,339	3,512	3,491	2,878	3,372	3,315	2,339	3,358
Totals	56,532	68,789	77,563	80,874	88,837	83,699	86,801	84,603	91,018	96,731	90,392	105,975

(1) Includes evaporation losses of Colorado River water in Sweetwater Reservoir.

(2) Delivery of Colorado River Water to original Authority Agencies started in 1947-48.

(3) Delivery of Colorado River Water to San Diegoito Irrigation District started in 1948-49.

(4) Delivery of Colorado River Water to Santa Fe Irrigation District started in 1948-49.

(5) Delivery of Colorado River Water to City of Escondido started in 1950-51.

TABLE 9
UNIT WATER PRODUCTION—PER ACRE AND PER CAPITA—1952-53

Area	Gross Area (1)	Total Production of water	Estimated area served by water system	Water production		Water production per capita
				ac. ft.	ac. ft./acre/yr.	
Escondido	1,921	1,238.1	1,660	0.75	8,100	0.15
Fallbrook Public Utility District	8,192	6,635.3	8,192	0.81	7,500	0.88
Lakeside Irrigation District	1,860	291.6	1,420	0.21	2,300	0.13
La Mesa, Lemon Grove and Spring Valley Irrigation District	18,456	13,524.3	13,834	0.98	64,093	0.21
National City	4,096	2,759.0	3,061	0.90	27,973	0.10
Oceanside	7,803	3,533.3	7,336	0.48	19,887	0.18
San Diego—Inside City	70,861	60,551.6	43,800	1.38	450,000	0.13
Outside City (not in Authority)	(2)	2,395.6	—	—	—	—
San Diegoito Irrigation District	4,020	3,139.0	3,990	0.79	7,553	0.42
Santa Fe Irrigation District	10,106	3,357.5	9,000	0.37	3,900	0.86
South Bay Irrigation District	12,927	8,549.0	6,511	1.31	40,400	0.21
Totals and Averages	140,242	105,974.3	98,804	1.07	631,706	0.17

(1) Does not include those areas which are a part of the agencies but not a part of the Authority.

(2) Not available.

(3) Does not include 19 acres of overlapping area in La Mesa, Lemon Grove and Spring Valley Irrigation District served with water by the District.

Water production of each agency and the division as to the source of water between local supplies and the Colorado River during 1952-53, are shown in Table 7. The City of San Diego used the largest amount of Colorado River water, with 23,356 acre-feet obtained from that source. The Fallbrook Public Utility District, with 53.3 per cent of its water obtained from the Authority, had the highest percentage use of Colorado River water.

The annual water production of member agencies of the Authority for the twelve-year period from July 1, 1941 to June 30, 1953 is shown in Table 8. Water production in the area has increased 87 per cent over the twelve-year period.

The unit water production of agencies, in terms of per acre of estimated gross area served and per capita, are shown in Table 9. The unit water production varies from a high of 1.30 acre-feet per acre in the South Bay Irrigation District area to a low of 0.21 acre-feet per acre in the Lakeside Irrigation District area. The average water production throughout the Authority area is shown as being 1.07 acre-feet per acre, a slight rise above the 1.00 acre-feet per year produced in 1951-52. The average per capita water production throughout the Authority in 1952-53 is 0.17 acre-feet per capita compared with 0.15 acre-feet per capita per year in 1951-52. Expressed differently, the average overall water requirements are being met with one acre-foot of water for every 5.9 persons in the Authority area.

Preferential Water Rights of Member Agencies

The preferential water rights of member agencies to purchase water from San Diego County Water Authority are determined from time to time by a procedure specifically set forth in the County Water Authority Act. In effect, such preferential rights bear the same relationship to the flow in the Aqueduct as the total of accumulated taxes and related sums paid by each agency to the Authority (excluding payments for water) bear to the total of similar amounts paid to the Authority by all of the agencies. Thus, the preferred right of an agency is a right to purchase a flow of water, which may vary from time to time with the total amount of tax payments collected by the Authority from that agency, and with the Aqueduct capacity available to the Authority for bringing in water.

Estimated minimum flows of Colorado River water from the present Aqueduct and from the Aqueduct when completed, to which each member agency has a preferential right to purchase as of June 30,

TABLE 10
ESTIMATED PREFERENTIAL RIGHT TO PURCHASE COLORADO RIVER WATER
as of June 30, 1953

Constituent Areas	Total Amount paid by each member agency to 6/30/53	Amount remaining to be paid under terms of annotation	Total contributions paid and contracted for	Preferential right to purchase		
				Percentage of aqueduct flow	First Barrel c.f.s.	Completed Aqueduct c.f.s.
Escondido	\$ 20,537.86	\$21,510.20	\$ 42,048.06	1.35	1.43	2.90
Fallbrook Public Utility District	24,421.03		24,421.03	.79	0.84	1.70
Lakeside Irrigation District	5,112.54		5,112.54	.16	0.17	0.34
La Mesa, Lemon Grove & Spring Valley Irrigation District	249,743.42		249,743.42	8.05	8.53	17.31
National City	83,052.70		83,052.70	2.68	2.84	5.76
Oceanside	72,256.76		72,256.76	2.33	2.47	5.01
San Diego	2,411,587.47		2,411,587.47	77.74	82.41	167.14
San Diego Irrigation District	29,179.10	7,682.89	36,861.99	1.19	1.26	2.56
Santa Fe Irrigation District	24,165.05	6,168.62	30,333.67	.98	1.04	2.11
South Bay Irrigation District	106,743.85	39,900.00	146,643.85	4.73	5.01	10.17
Total Authority	\$3,026,799.78	\$75,261.71	\$3,102,061.49	100.00	106.00	215.00

Based on the estimated maximum capacity of present single barrel aqueduct and the completed aqueduct.

1953, are shown in Table 10. In computing the rights shown, amounts still due under the terms of annexation from the City of Escondido, the San Dieguito Irrigation District, and the Santa Fe Irrigation District were included in determining preferential rights.

Water Quality

The Authority continues to deliver water on a wholesale basis without treatment or preparation for domestic use. Chlorine is intermittently injected into the pipe line, but only for the purpose of assuring full capacity of the Aqueduct through elimination of algae and bacterial growth on the interior wall of the pipe. For the same purpose, the Metropolitan Water District also intermittently chlorinates the water delivered to the Aqueduct from San Jacinto Reservoir.

The Metropolitan Water District takes water samples periodically at several points on the Colorado River Aqueduct to obtain analyses of the natural water in the Aqueduct for use in determining operation at the Weymouth Memorial Treatment Plant located at La Verne, California. One of the sampling stations is located at the south portal of San Jacinto Tunnel where water is diverted from the Colorado River Aqueduct into the San Diego Aqueduct. Chemical analyses of monthly water samples collected at this point are shown in Table 11. The average total hardness, expressed as p.p.m. of Ca Co₃ in the water samples taken during the year, is 294 p.p.m., slightly lower than the 308 p.p.m. in the previous year.

The City of San Diego takes weekly samples of water at the southerly extremity of the Aqueduct in Lakeside. These samples are analyzed in the laboratory at the City of San Diego's Alvarado Treatment Plant, and copies of the analyses are supplied to the Authority. In general, they show close agreement with those taken by Metropolitan Water District at San Jacinto.

Frequent readings of temperatures of water flowing in the San Diego Aqueduct were taken as a routine activity by Authority patrolmen. These readings showed a minimum water temperature of 58 degrees in December and a maximum water temperature of 80 degrees in June in the fiscal year 1952-53.

TABLE 11
CHEMICAL CHARACTER OF NATURAL COLORADO RIVER
WATER

Year Ending June 30, 1953

Samples taken at entrance to San Diego Aqueduct by M.W.D. and analyzed at District Laboratory

Month	Total Hardness as P.P.M. of CaCO ₃	Non Carbonate Hardness as P.P.M. of CaCO ₃	Alkalinity as P.P.M. of CaCO ₃		Magnesium as P.P.M. of Mg.	Hydrogen Ion Concentration	Temperature when sampled F°
			Total	Phenolphthalein			
July	311	192	119	2	29.5	8.4	77
August	298	189	109	1	28.5	8.3	81
September	285	186	99	0	27.5	8.3	85
October	284	173	111	1	26.0	8.3	76
November	275	164	111	0	25.0	8.2	68
December	276	159	117	2	24.0	8.4	56
January	280	166	114	3	25.5	8.5	—
February	282	165	117	3	25.5	8.5	—
March	281	157	124	1	23.5	8.4	—
April	313	187	126	0	27.0	8.2	53
May	323	193	130	0	27.5	8.3	66
June	315	193	122	1	28.0	8.3	70
Average	294	177	117	1	26.5	8.3	70
Maximum	323	193	130	3	29.5	8.5	85
Minimum	275	157	99	0	23.5	8.2	53

SECTION II

ENGINEERING

PREPARATION OF factual reports, required because of increasing demands by areas proposing to organize into water districts for annexation to the Authority, was the major engineering activity during the year. In addition, cooperation with personnel of the U. S. Navy, Eleventh Naval District, and the Bureau of Reclamation at Escondido was given wherever possible in solving local problems incidental to construction of the Second Barrel of the San Diego Aqueduct.

Areas Seeking Annexation

Whenever a request for annexation of an area with definite boundaries was received by the Authority, a factual report was prepared which briefly outlined basic data on the area, including present water supplies of the area, probable preferential right to Colorado River water, if annexed, and probable annexation charges. Such factual reports were prepared on the area comprising the proposed Rainbow Municipal Water District, Vista Irrigation District, proposed Vista Municipal Water District, proposed Escondido Municipal Water District, proposed Poway Municipal Water District, El Cajon Valley Irrigation District, City of Carlsbad, and proposed Carlsbad Irrigation District. Brief memorandums were prepared on several other areas. In those areas where the area was approved for annexation, the proposed district was required to submit legal boundary descriptions and detailed maps which were carefully checked. In many instances, revisions were required to provide a clear and correct legal description of the boundaries of the proposed district.

Changes In Corporate Area

Area within the corporate boundaries of the Authority was increased by 12,236 acres during the year, making a total of 140,242 acres on June 30, 1953. The areas within the boundaries of each of the Authority agencies, as of June 30, 1952, and the changes which occurred during the fiscal year 1952-53 are shown in Table 12.

The areas which were annexed to the Cities of Oceanside, Escondido,

and San Diego were automatically annexed to the Authority without action of its Board of Directors, as provided for in the Authority Act. The South Bay Irrigation District became a member agency after acceptance by the District's electors of the terms of annexation set forth by the Authority's Board of Directors. The South Bay Irrigation District includes within its boundaries the City of Chula Vista, one of the

TABLE 12
CONSTITUENT AREAS OF THE AUTHORITY
as of June 30

Constituent Areas	Area Within Authority—Acres			Per cent of total Authority area 6/30/53
	As of 6/30/52	Changes during year	As of 6/30/53	
	acres	acres	acres	
Escondido(1)	1,861	60	1,921	1.37
Fallbrook Public Utility District ..	8,192	0	8,192	5.84
Lakeside Irrigation District	1,560	300	1,860	1.33
La Mesa, Lemon Grove & Spring Valley Irrigation Dist.:(2)				
In City of El Cajon	(921)	(+83)	(1,004)	(0.72)
In City of La Mesa	(2,486)	(+10)	(2,496)	(1.78)
In Crest Public Utility Dist.	(386)	(0)	(386)	(0.27)
In unincorporated areas	(14,667)	(-97)	(14,570)	(10.39)
Total	18,460	-4	18,456	13.16
National City	4,260	-164	4,096	2.92
Oceanside	6,597	1,206	7,803	5.56
San Diego(1) (4)	69,587	1,274	70,861	50.53
San Dieguito Irrig. Dist. (2) (3)	4,020	0	4,020	2.87
Santa Fe Irrigation District	10,106	0	10,106	7.21
South Bay Irrigation District: (5)				
In Chula Vista	(3,363)	(+135)	(3,498)	(2.49)
In Unincorporated	(0)	(9,429)	(9,429)	(6.72)
Total	3,363	9,564	12,927	9.21
Total Authority Area (1)	128,006	12,236	140,242	100.00
San Diego County			2,725,100	

(1) Area revised from that in Sixth Annual Report, to conform with revised data received from agency.

(2) Does not include areas annexed to agencies without making the same a part of the Authority.

(3) Includes areas excluded from agency but still a part of the Authority.

(4) Does not include 19 acres of overlapping area in La Mesa, Lemon Grove and Spring Valley Irrigation District, served with water by District.

(5) South Bay I.D. became part of Authority on Nov. 3, 1952.

original member agencies of the Authority which withdrew to become a part of the South Bay Irrigation District, and a portion of Sweetwater Valley, lying directly east of Chula Vista and extending to Sweetwater Reservoir.

Permission was granted the Lakeside Irrigation District to annex 300 acres of land lying adjacent to and north of the Eucalyptus Hills section of the District in order that all lands served by the newly installed distribution system might be included within the District.

As previously noted, annexation of areas by city members of the Authority automatically annex those areas to the Authority. Agencies other than cities may annex areas for local purposes without their becoming part of the Authority, but inclusion of such areas within the Authority can only be accomplished by a formal request for annexation addressed to the Authority Board and acceptance of the Board's terms and conditions for such annexation.

The Lakeside Irrigation District, La Mesa, Lemon Grove and Spring Valley Irrigation District, and San Dieguito Irrigation District are the only agencies that have areas within their boundaries which are not part of the Authority.

Prior to revision of the Authority Act in 1951, member agencies could exclude areas from their boundaries without the areas being excluded from the Authority. There was no way in which areas could be excluded from the Authority except by the withdrawal of an entire agency. The revised Act provides a method by which areas excluded from a member agency are automatically excluded from the Authority. The San Dieguito Irrigation District is the only agency which has excluded lands that are still part of the Authority.

The acreage of lands lying within each agency's boundaries, divided as to those lying within and without the Authority, and the total area within Authority boundaries, are given in Table 13.

Leakage Into Red Mountain and Oat Hills Tunnels

During construction of the First Barrel of the San Diego Aqueduct, water was encountered in several of the tunnels with the heaviest flows at Oat Hills and Red Mountain Tunnels. Infiltration was not completely stopped by the tunnel concrete lining. Since the Authority is not permitted to develop water supplies within San Diego County, it was recommended by the General Counsel, W. H. Jennings, that leak-

TABLE 13
AREAS OF MEMBER AGENCIES LYING WITHIN
AND WITHOUT THE BOUNDARIES OF THE AUTHORITY
as of June 30, 1953

Member Agency	Total area lying within agency boundaries	Area with-in agency but not a part of Authority (1)	Area with-in agency and a part of Authority	Area excluded from agency but still a part of Authority	Total area within Authority's boundaries
	Acres	Acres	Acres	Acres	Acres
Escondido	1,921	0	1,921	0	1,921
Fallbrook P. U. D.	8,192	0	8,192	0	8,192
Lakeside Irrig. Dist. ..	2,008	148	1,860	0	1,860
La Mesa, Lemon Grove & Spring Valley I. D. (4)	22,542	4,086	18,456	(6) (3) 0	18,456
National City	4,096	0	4,096	(5) 0	4,096
Oceanside	7,803	0	7,803	0	7,803
San Diego (2)	70,861	0	70,861	0	70,861
San Dieguito I. D.	3,993	30	3,963	57	4,020
Santa Fe Irrig. Dist. ...	10,106	0	10,106	0	10,106
South Bay Irrig. Dist. .	12,927	0	12,927	0	12,927
Totals	144,449	4,264	140,185	57	140,242

NOTE: (1) An area when annexed to a city which is an independent agency of the Authority is automatically annexed to the Authority.
(2) Does not include 19 acres of overlapping area in La Mesa, Lemon Grove and Spring Valley Irrigation District.
(3) Does not include 223 acres annexed by City of San Diego.
(4) Does not include 106 acres annexed by City of San Diego.
(5) Does not include 164 acres annexed by City of San Diego and South Bay I.D.
(6) Does not include 4 acres of overlapping area in City of San Diego excluded in 1952.

age into the tunnels be discharged as quickly as possible below the tunnel outlets.

The low flow in the Aqueduct, during the summer and fall months of 1952, permitted frequent shutdowns for investigation. Low bulkheads, constructed of plank, were erected at the southerly end of Oat Hills and Red Mountain Tunnels to back up the water and provide a means for measuring leakage into the tunnels. Water delivery into the Aqueduct was stopped for 2-day periods monthly, from November 1952 to February 1953, and when the leakage flow passing the bulkheads was equalized, measurements were taken of the quantity flowing. Previous determination of leakage into Oat Hills Tunnel had been obtained during a shutdown in May of 1952, and it was found that

the leakage varied considerably during the period of observation. A chart was prepared, on which a curve was drawn showing the probable average leakage by months, on the basis of the observed flows. In February 1953, after removal of the temporary bulkheads, the Aqueduct flow was increased to full capacity.

The test procedure, observations, and chart, showing the probable leakage by months, were included in a report entitled *Inspection of Tunnels on San Diego Aqueduct*. On the strength of information contained in this report, the Board directed that suitable works be constructed so that leakage flows could be discharged from the Aqueduct to the nearest drainage channel at the downstream portal of each tunnel in amounts to be varied from month to month as shown on the chart. Plans were prepared for this construction. Material was purchased and instructions were given to the maintenance crew to proceed with construction of the works.

Access Roads

No change in mileage or location of access roads maintained by the Authority occurred during the year. However, in February the County Road Department requested permission to construct a county road across the Aqueduct in the vicinity of the Poway-Ramona Road. The profile of this road, as originally drawn, would have required an excessive depth of excavation in construction of the Second Barrel to provide sufficient cover where it crossed under the new road. After several conferences with County Engineers, a profile was accepted which resulted in a reduced grade on the proposed road and less excavation for the Second Barrel.

In several instances, assistance was given the Bureau of Reclamation in obtaining rights-of-way for the construction of the Second Barrel by agreement to changes in access roads used by patrolmen upon completion of construction.

Future San Diego City Service Connections

Notice was received from the City of San Diego that its studies indicated large quantities of water would be required from the Aqueduct at a point south of Hodges Reservoir and at Slaughterhouse Canyon. The City requested that outlets be provided during construction of the Second Barrel to provide for such future demand.

The Hodges Reservoir service outlet will ultimately divert water

to a proposed treatment plant, to be located south of the present Hodges Dam, from which point water will be delivered to the City of San Diego. The outlet will also deliver water to a future distribution system serving the area between Hodges and Linda Vista. The Slaughterhouse Canyon connection will supply a future City pipe line, tying the Aqueduct to the present City pipe line between San Vicente Reservoir and the Alvarado Treatment Plant, which will permit water to be diverted to the plant directly without going into San Vicente Reservoir. With this connection, the full head available between the Aqueduct and the treatment plant can be utilized, eliminating pumping which is now required during high-flow periods and low-reservoir levels.

After study and negotiation with the City, a 24-inch nozzle was inserted in the Second Barrel at Hodges Reservoir, which, together with a 20-inch nozzle already in place on the First Barrel, will provide sufficient capacity for the diversion. A 42-inch nozzle was installed in the Second Barrel at Slaughterhouse Canyon, and a similar nozzle will be placed later in the First Barrel. The nozzle is to be located between the metering structure and the north portal of San Vicente Tunnel. The metering structure is now being constructed in Slaughterhouse Canyon where future deliveries to the City will be measured. Connection by the City to the Aqueduct at this point will permit the flow of Colorado River water to the treatment plant to be varied without changes being made in delivery of Colorado River water to the City, since any excessive flows above the needs of the plant would be discharged into San Vicente Reservoir.

Miscellaneous Activities

In addition to the engineering projects outlined above, there were many minor routine activities, which, in the aggregate, required considerable time of the staff. These activities included the compilation of data pertaining to acreage, population, and estimates of probable future demands for Colorado River water, all of which were furnished to the Metropolitan Water District to assist in the planning of their expansion program.

A Cipoletti weir was designed for installation in the Aqueduct at San Vicente Tunnel to measure the quantity of water delivered into San Vicente Reservoir when Aqueduct flows are too small to be measured by the venturi meter at San Jacinto Reservoir. After the weir was

installed, its operation was turned over to the U. S. Geological Survey, which installed a stage recorder for measuring flow over the weir at all times. Frequent gagings of flow were made in the tunnel for the purpose of checking the flow over the weir at various heads to obtain head-discharge relationship.

In January 1953, a statement of the changes in Authority boundaries was prepared by the staff and filed by the Executive Secretary with the Metropolitan Water District, the San Diego County Assessor, and the State Board of Equalization. This statement enumerated all changes which have occurred within the Authority during the year, and formed the basis for preparation of an assessed valuation table compiled by the County Auditor for the fiscal year of 1953-54. In order to prepare the statement, it was necessary that a certificate be filed with the Authority by the City Clerk or Secretary of each member agency certifying as to all boundary changes in his respective city or district which occurred during the year. These certificates also confirmed that plans and boundary descriptions of all changes occurring in the year had been properly filed with the San Diego County Assessor, the State Board of Equalization, and the San Diego County Water Authority.



Laying First Pipe of Second Barrel of San Diego Aqueduct near Winchester



Placing 48-inch Steel Pipe Adjacent to State Highway No. 76, Near San Luis Rey River.



Filling Pipe Joints with Cement Mortar.

Vibrators Ready for Action

Construction Work on First Sections of the Second Barrel of the San Diego Aqueduct Within San Diego County

SECTION III CONSTRUCTION

THE MAIN construction activity during the year pertained to the construction of the Second Barrel of the San Diego Aqueduct. The work of the Engineering staff consisted mainly in assisting with special problems arising during construction and in the delivery of water to the contractors. Periodic inspection trips were made to the work sites under construction by Authority personnel.

San Diego Aqueduct

Plans and specifications for construction of the northerly portion of the Aqueduct were approved on June 19, 1952. Bids for this portion of the Aqueduct were advertised publicly, and they were received at the San Diego office of the Public Works Officer of the U. S. Navy on August 20, 1952.

Schedule No. 1, under Specification No. DC-3754, extending from San Jacinto Reservoir to the vicinity of Winchester, was awarded to R. V. Lloyd and Company on September 8, 1952 for an estimated cost of \$2,574,800. Pipe is being manufactured by American Pipe and Construction Company of South Gate, California. At the end of the year the contractor had 29,459 feet of pipe in place, and the contract was estimated to be 60 per cent complete with 38 per cent of time elapsed.

Schedule No. 2, covering construction of the line from Winchester to Murrietta, was awarded to Engineering Constructors, Inc., on September 8, 1952 at an estimated cost of \$2,065,021. Pipe is being manufactured by American Pipe and Construction Company of South Gate, California. At the end of the year 41,743 feet of pipe was laid, and the project was 81 per cent complete with 38 per cent of time elapsed.

Schedule No. 3, covering that portion of the Aqueduct from Murrietta to San Luis Rey, was awarded to Johnson Western Constructors of San Pedro, California, on September 8, 1952 at an estimated cost of \$3,192,826. Pipe for this section is being manufactured by United Concrete Pipe Corporation of Baldwin Park, California. On June 30, 1953 the contractor had laid 22,761 feet of pipe, and the contract was 45 per cent complete with 38 per cent of time elapsed.

Specification No. DC-3807, covering construction of a Siphon across

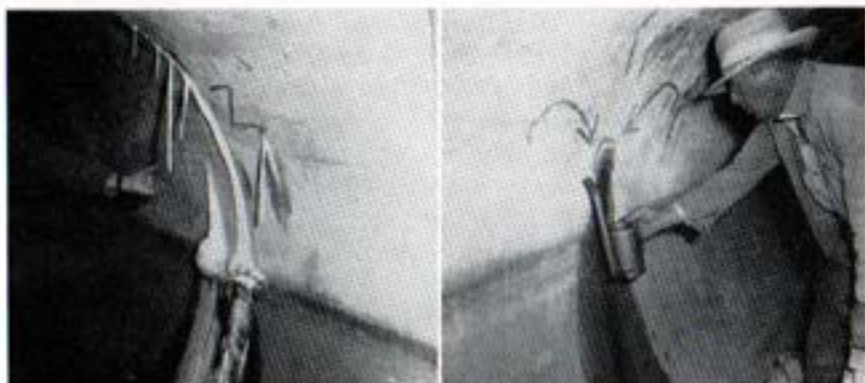
the San Luis Rey River Valley, was received from the Bureau of Reclamation and reviewed by the Public Works Officer of the Eleventh Naval District and the Authority staff on August 20, 1952. This portion of the Aqueduct, being the most northerly portion of that to be ultimately owned by the Authority, consists of 48-inch steel pipe varying in plate thickness from 5/16 to 13/16 inches. The pipe is coated internally with coal tar enamel and protected on the exterior with a coat of concrete gunite. Pipe is being fabricated in 30-foot lengths. The sections will be welded together and each joint tested in place. When completed and in service, the pipe will be under a pressure of 900 feet of water where it crosses under the San Luis Rey River Channel. A contract for the construction of the San Luis Rey Siphon was awarded to P. & J. Artukovich and M. Miller Company on October 30, 1952 at a unit price basis estimated to cost \$671,380. Construction began at the site on January 6, 1953. The first pipe was delivered on May 28, 1953. At the end of the fiscal year the contractor had 873 feet of pipe in place, and the project was 32 per cent complete with 53 per cent of time elapsed.

Specification No. DC-3822 and contract drawings for the construction of the Second Barrel from the southerly end of the San Luis Rey Siphon to the north portal of San Vicente Tunnel were received for review, approved and signed on September 24, 1952.

The contract for all three sections was awarded to S. A. Healy Company of Chicago, Illinois, on December 15, 1952. Construction work began on March 23, 1953. At the end of the fiscal year the contractor had excavated considerable length of trench extending southerly from San Luis Rey Siphon, but had laid no pipe. The pipe for this portion of the Aqueduct is being manufactured by the Basalt Rock Company of Fontana, California. On June 30, 1953 the contract was estimated to be 9 per cent complete with 27 per cent of time elapsed.

Meter Installations For Measuring Tunnel Leakage

Concrete vaults were constructed adjacent to each of the bifurcation structures at the downstream portals of Oat Hills and Red Mountain Tunnels. Small $\frac{3}{8}$ x $\frac{3}{4}$ -inch Hersey Meters, complete with strainers and valves, were installed in the vaults with a connection through the wall to the water channel within the structures. Water was discharged from the meter into a pipe leading to a nearby water course. Because of the small quantity of water discharged, some difficulty was experienced by meter stoppage from silt due to plugging of channels in the



Determination of Leakage into Red Mountain and Oat Hills Tunnels, and Provision for Discharging Leakage from Aqueduct

meters and valves. Large pipe strainers, filled with stainless steel wool, were made in the Authority's shop at Escondido and inserted in the line ahead of each valve and meter. They have been cleaned regularly, and very little difficulty has been experienced with stoppage since the strainers were installed.

Enlargement of the Superintendent's Residence

When the Authority acquired, from the contractor on the original Aqueduct construction, the buildings located at 660 Fifth Avenue, Es-

condido, and which now comprise the maintenance headquarters of the Authority, the building which was then used as an office was selected as the residence of the maintenance Superintendent. The building at that time was revamped into a residence without a change in the overall size, which permitted only one bedroom. During the year an additional bedroom was added at the request of the Superintendent, who agreed to an increase in rent sufficient to amortize the cost thereof over a reasonable period of time.

Architectural specifications and drawings were prepared by the Engineering staff, and the bulk of construction work was performed by the maintenance crew. Plumbing, electrical, and stucco work was completed by contract. The addition was completed on September 19, 1952.

Improvements to the Bureau of Reclamation Headquarters

Since the completion of the First Barrel, the Bureau of Reclamation has leased and is still occupying one of the Authority's buildings at the Escondido Maintenance Headquarters. A small staff has been continually housed in the building, engaged primarily in studies leading to the construction of the Second Barrel and other activities throughout San Diego County.

Upon authorization of the Second Barrel, the Bureau's personnel staff was substantially increased, necessitating additional room. To utilize the existing floor space more economically, a revised room layout was prepared by the Engineering staff of the Authority and the changes were authorized. All work was performed by maintenance personnel except plumbing, heating, and electrical work, which were installed under contracts. A new lease was entered into with the U. S. Bureau of Reclamation for the improved building and grounds.

Foundations were poured also for two quonset huts to be brought to the site by the Bureau to be used as additional storage and laboratory space. To provide a compound for parking the Bureau's automotive equipment, a fence was erected enclosing these buildings and a large part of the Authority's grounds.



Miscellaneous Maintenance Activities of Authority Personnel

SECTION IV

METROPOLITAN WATER DISTRICT

ALL WATER distributed by the San Diego County Water Authority is Colorado River water, obtained from the Metropolitan Water District Aqueduct at San Jacinto where the water is diverted from the Colorado River Aqueduct into the San Diego Aqueduct. The right to Colorado River water is made possible because the Authority is one of the constituent areas comprising the District, and since the Authority is the second largest constituent area of the Metropolitan Water District, its interest in the District is large. A brief summary of Metropolitan's operation during the past year and its financial status appear to warrant a place in this report. The Authority now has two Directors on the Board of Directors of the Metropolitan Water District.

Constituent Areas

The Metropolitan Water District, as of June 30, 1953, included the area of 21 organized agencies consisting of 13 cities, 7 municipal water districts, and one county water authority. The only change in number of agencies, which occurred within the Metropolitan Water District in the fiscal year of 1952-53, was the annexation of the Foothill Municipal Water District with an area of 13,824 acres. The communities of Altadena, La Canada, and La Crescenta are included within the Foothill District. As shown in Figure 4, there is included within the District's boundaries a total of 74 organized agencies including 49 cities, 1 county water authority, 5 county water districts, 10 irrigation districts, 7 municipal water districts, and 2 public utility districts.

Area and Assessed Valuations

At the close of the fiscal year the area of the District totaled 1,120,448 acres. This was an increase of 125,318 acres, or 13 per cent, which resulted primarily from annexation to existing member areas.

The assessed valuation of taxable property for the fiscal year 1952-53 was \$5,452,996,795, an increase of \$759,953,505, or a 16 per cent increase over the valuation of 1951-52. The average assessed valuation per acre within the District equaled about \$4,870.

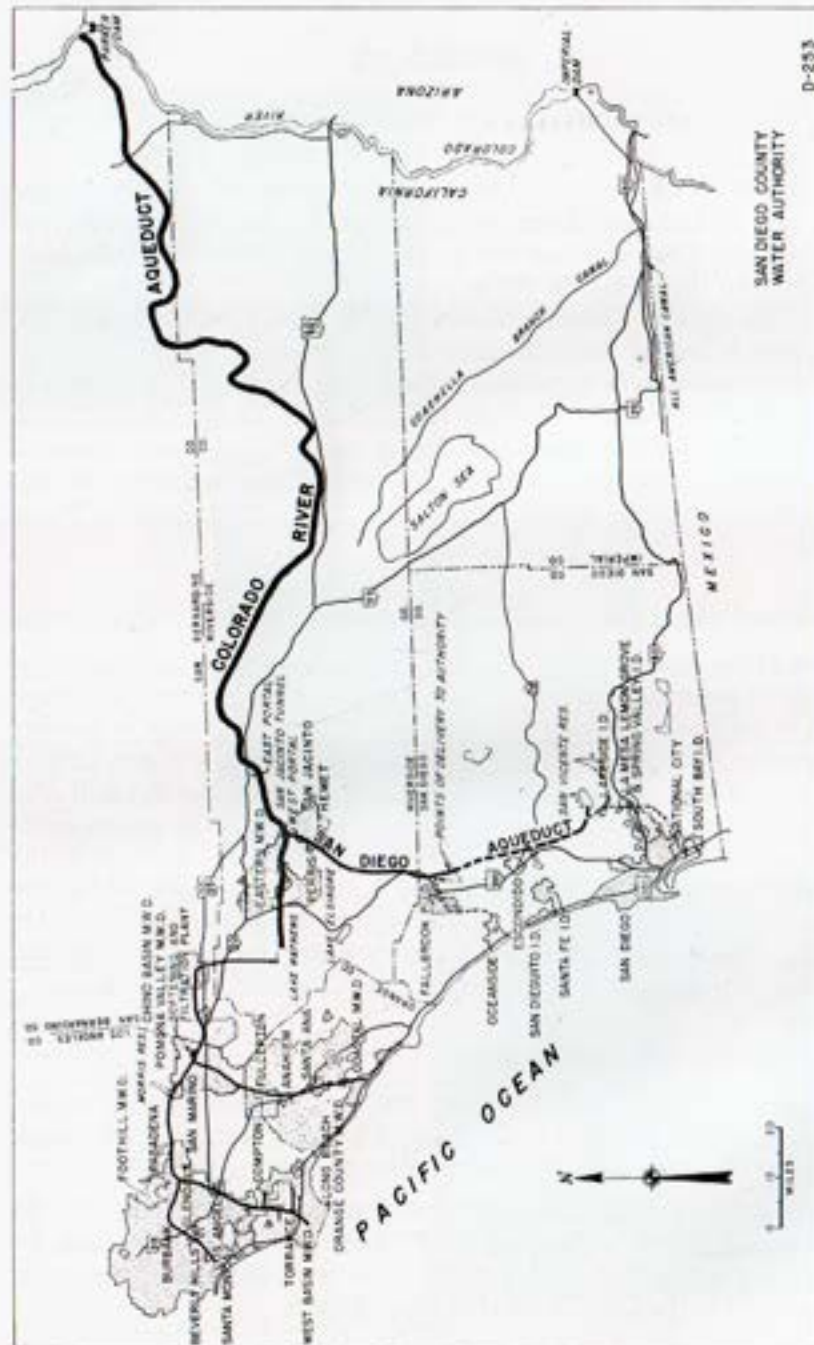


Figure 4. Colorado River Aqueduct System and Areas Served by Metropolitan Water District and San Diego County Water Authority.

The area in acres within the District's boundaries and the assessed valuation of taxable property therein for each year from 1929, the date the District levied its first tax to the present fiscal year, are shown in Table 14.

TABLE 14
ASSESSED VALUATIONS AND TAX RATES OF THE
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Fiscal Year	Area (acres)	Assessed Valuations Total (1)	Tax Rate	
			Per \$100 Secured	Per \$100 Unsecured
1929-30	—	\$2,439,836,920	\$0.04	\$0.00
1930-31	—	2,431,684,250	.03	.04
1931-32	—	2,382,184,445	.03	.03
1932-33	—	1,936,051,180	.04	.03
1933-34	—	1,654,403,890	.04	.04
1934-35	—	1,587,147,565	.10	.04
1935-36	—	1,783,531,020	.20	.10
1936-37	—	1,789,160,685	.37	.20
1937-38	—	1,827,765,725	.40	.37
1938-39	—	1,896,966,255	.40	.40
1939-40	—	1,910,152,190	.42	.40
1940-41	389,588	1,841,248,450	.49	.42
1941-42	399,875	1,900,599,934	.48	.49
1942-43	400,614	2,001,924,735	.48	.48
1943-44	401,190	2,005,496,430	.48	.48
1944-45	401,536	2,109,192,795	.48	.48
1945-46	402,779	2,159,731,425	.50	.48
1946-47	501,425	2,413,186,570	.48	.50
1947-48	546,573	3,443,212,822 (2)	.35	.48
1948-49	578,368	3,883,081,225	.34	.35
1949-50	585,184	4,181,812,855	.34	.34
1950-51	721,850	4,281,519,725	.31	.34
1951-52	995,130	4,693,043,290	.30	.31
1952-53	1,120,448	5,452,996,795	.28	.30
1953-54 (3)		6,015,554,200	.25	.28

(1) Includes secured, unsecured, and public utility valuations.

(2) First year in which Authority assessed valuation was included in District's assessed valuation.

(3) Data for 1953-54 were available before completion of report and are included for convenience of reader.

Tax Rate

The regular tax rate of the District for the fiscal year 1952-53 was 28c per \$100 of assessed valuation, a drop of 2c from the previous year. The tax rate of the District was 50c per \$100 in 1945-46, just

TABLE 15
METROPOLITAN WATER DISTRICT SPECIAL TAX RATES
ON AUTHORITY AREAS FOR ANNEXATION CHARGES

Agency & Area	Date of Annexation	Amount of Annexation Charge	Period of Special Tax Levies		Special Tax Levies to 6/30/52	Fiscal Year 1952-53		Remaining Balance of Balance of Annexation Fee 6/30/53
			First Year	Last Year		Special Tax Levy	Tax Rate €/ \$100	
Chula Vista								
Fallbrook Public Utility District (area as of 12-17-1946)	12-17-46	\$13,045,000.00	1947-48	1976-77	\$2,181,605.94	\$438,647.29	9¢	\$10,424,746.77
Lakeside Irrigation District (area as of 12-17-1946)								
La Mesa, Lemon Grove and Spring Valley Irrigation District (area as of 12-17-1946)								
National City								
Oceanside								
San Diego								
Escondido								
Fallbrook Public Utility District—1950 Annexation	10-9-50	386,000.00	1951-52	1980-81	13,055.83	12,908.71	17¢	360,055.46
Lakeside Irrigation District—1951 Annexation	8-1-50	34,600.00	1951-52	1980-81	8,016.80	977.61	14¢	25,605.59
La Mesa, Lemon Grove and Spring Valley Irrigation District—1951 Annexation	7-18-52	352.00	1951-52	1951-52	352.00	0	0	0
Crest Public Utility District—1951 Annexation								
San Diego Irrigation District—1951 Annexation	12-13-48	10,500.00	1949-50	1978-79	1,053.92	349.51	9¢	9,096.57
Santa Fe Irrigation District—1951 Annexation	5-14-52	9,875.00	1951-52	1951-52	9,875.00	0	0	0
South Bay Irrigation District—1951 Annexation	12-13-48	187,100.00	1949-50	1978-79	19,273.08	6,204.59	10¢	161,622.33
South Bay Irrigation District (not including City of Chula Vista)	12-13-48	167,000.00	1949-50	1978-79	17,042.28	5,655.64	11¢	144,302.08
Totals		\$14,289,797.00			\$2,250,274.85	\$464,743.35		\$11,574,778.80

prior to the annexation of the Authority. The tax rate has decreased 22c per \$100, a drop of 44 per cent in the 7-year period from 1945-46 to 1952-53. The regular tax rate of the District for each year since 1929-30, the first year in which the District levied a tax, is shown in Table 14. It should be noted that the unsecured valuation takes the tax rate of the previous year.

All areas which have annexed to the District since the date of its incorporation, except areas automatically annexed through annexation to a city member, have been required (as one of the terms of annexation) to assume the payment of a sum equal in amount to the taxes which the area would have paid the District had it been part of the District from the date of its incorporation, plus delinquent interest on such taxes at a rate of 4 per cent. The Metropolitan Water District has permitted the annexing areas to pay this annexation charge in approximately equal annual installments over a period of 30 years through a special tax levied in addition to the regular tax. The amount of the original annexation charge, the total amount of tax levies to June 30, 1952, and the tax levies and rates in 1952-53 for areas within the Authority, are shown in Table 15.

The District's special tax rate on the area comprising the original Authority annexation was 9c per \$100, and the rate of the latest agency annexed to the Authority, the City of Escondido, was 17c per \$100. The annexation of the South Bay Irrigation District to the Authority was completed on November 3, 1952, too late to be placed on the 1952-53 tax roll. The first District levy on this area will occur in 1953-54.

The areas comprising the Authority to June 30, 1953 have assumed an obligation to the Metropolitan Water District totaling \$14,289,797 in annexation charges, of which \$2,715,018.20 has already been levied by the District in special taxes.

Finances

The General Balance Sheet of the Metropolitan Water District, as of June 30, 1953, is shown in Table 16. During the year a total of \$5,159,000 in bonds was redeemed, but a \$10,000,000 issue of bonds was sold to provide funds for an extensive construction program now in progress. This resulted in a net increase of \$4,841,000 in the bonded indebtedness of the District. Outstanding bonds totaled \$178,034,000 on June 30, 1953. In addition to bonded indebtedness, contractual

TABLE 16
GENERAL BALANCE SHEET JUNE 30, 1953
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA
ASSETS

<i>Permanent Facilities:</i>			
Preliminary surveys, engineering and organization expense		\$ 4,631,317	
Original aqueduct construction	\$178,758,762		
Additional construction & improvements	13,460,360		
Morris Dam & appurtenant facilities	6,311,180		
San Diego Aqueduct (estimated)	7,000,000		
Parker Power Plant	5,303,480	210,833,783	\$215,465,100
Other construction costs:			
By Los Angeles	\$ 1,203,778		
By Pasadena	209,738	\$ 1,413,516	
Unused power & diverted water to 7/31/41	2,790,868		
Interest on M.W.D. bonds during construction period	34,767,174	\$ 38,971,559	
Less interest received on construction funds...		201,070	38,770,489
Contract obligations & commitments (in progress) ..			16,582,061
Inventories—Operation & Maintenance			368,850
<i>Cash:</i>			
On hand and on deposit		\$ 8,429,264	
Less outstanding demands		158,247	8,271,017
<i>Marketable Securities</i>			
<i>Accounts Receivable:</i>			
Uncollected tax assessments			34,828,863
Current year	\$ 400,485		
Prior years	416,554	\$ 817,039	
Interest accrued on government securities		63,579	
Cash with employees & others		2,425	
Water billings		371,453	
Sundry		56,432	1,310,929
<i>Accounts Receivable—Deferred:</i>			
Special charges—annexation		\$ 63,307,666	
Sundry		13,500	63,321,166
TOTAL ASSETS			\$378,918,479

TABLE 16 (Continued)
GENERAL BALANCE SHEET JUNE 30, 1953
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA
LIABILITIES

<i>Long Term Indebtedness:</i>			
Outstanding M.W.D. bonds		\$178,034,000	
Contract obligations:			
City of Pasadena	\$ 3,684,000		
San Diego County Water Authority	6,125,000	9,809,000	\$187,843,000
<i>Accounts Payable:</i>			
Bond interest—coupons not presented		\$ 83,975	
Bond interest—accrued—not due		2,639,699	2,723,674
Sundry supplies & materials	\$ 1,397,469		
Employees' medical fund	173,791		
Special deposits	7,873		1,579,133
<i>Contract Obligations & Commitments (in progress)</i>			
<i>Reserves for Depreciation, Etc.:</i>			
Depreciation of plant & equipment—Aqueduct		\$ 3,351,836	
Depreciation of plant & equipment—Parker Power House		1,898,239	
Replacement of automotive & construction equipment		40,367	
Reserve for industrial accident claims		28,214	
Reserve for fire, third party & automotive collision damage claims		84,033	5,402,691
<i>Capital Investment of Municipalities:</i>			
San Diego County Water Authority	\$ 10,112,825		
Other Municipalities	185,725,745		
Sub-Total	\$195,838,570		
Cities withdrawn & excluded	14,174	\$195,852,745	
Special charges—annexation		63,307,666	
Sub-Total		\$259,160,412	
<i>Cumulative Excess of Interest & Other Charges over Revenues:</i>			
This fiscal year	\$ 6,125,870		
Prior to this year	89,786,783	95,912,654	\$163,247,757
Funds collected & applied to construction	\$ 1,421,330		
Work contributed by municipalities (connections)	118,828	1,540,159	164,787,917
TOTAL LIABILITIES			\$378,918,479

TABLE 17
WATER SALES BY METROPOLITAN WATER DISTRICT
Fiscal Years 1941-42 to 1952-53

Year	To Member Municipalities						Total Acre feet
	Natural Water		Softened Water		Total to Agencies	To Others	
	Acre feet	Per cent	Acre feet	Per cent	Acre feet	Acre feet	
1941-42	0	0	9,372.6	100	9,372.6	70.7	9,443.3
1942-43	0	0	14,457.8	100	14,457.8	2,626.4	17,084.2
1943-44	0	0	15,874.9	100	15,874.9	3,301.8	19,176.7
1944-45	0	0	30,591.3	100	30,591.3	1,715.7	32,307.0
1945-46	0	0	46,685.8	100	46,685.8	1,264.2	47,950.0
1946-47	0	0	59,861.8	100	59,861.8	524.0	60,385.8
1947-48	41,093.5	36	71,995.4	64	113,088.9	116.8	113,255.7
1948-49	71,642.6	49	73,237.1	51	144,879.7	128.4	145,008.1
1949-50	69,308.0	49	72,936.0	51	142,244.0	23,371.6	165,615.6
1950-51	75,000.9	54	63,493.1	46	138,494.0	26,978.6	165,472.6
1951-52	66,674.3	44	84,616.1	56	151,290.4	42,464.2	193,754.6
1952-53	30,845.3	24	99,589.6	76	130,434.9	31,682.4	162,117.3

Water Rates

The base rate for natural Colorado River water delivered by the District continues to be \$10 per acre-foot. An additional charge of \$10 per acre-foot is made whenever treated water is delivered.

Water is sold to non-member agencies by contract at rates agreed upon at the time the contract is negotiated.

Water Production of Constituent Areas

The combined water production of the area within the Metropolitan District, for 1951-52 and 1952-53 and the source of such water, is given in Table 18. The total water production of agencies within the District was 910,762 acre-feet during the year, a 13.1 per cent increase over 1951-52. Of all water produced, 14.6 per cent had its source in the Colorado River.

Quality of Water

The maximum, minimum, and average p.p.m. of dissolved solids in Colorado River water, received at and delivered from the softening and filtration plant at La Verne during the fiscal year 1952-53, are given in Table 19. For the fiscal year of 1952-53, variations in chemi-

TABLE 18
WATER PRODUCTION—METROPOLITAN WATER DISTRICT CONSTITUENT AREAS

Constituent Area	Total Water Production			Source of Water Produced—1952-53			
	1951-52 amount ac. ft.	1952-53 amount ac. ft.	Per cent increase or decrease	M.W.D.			
				Amount ac. ft.	Per cent of total	Other Amount ac. ft.	Per cent of total
Anaheim	3,466	4,001	+15.4	2,844	71.1	1,157	28.9
Beverly Hills	8,302	9,447	+13.8	1,229	13.0	8,248	87.0
Burbank	18,420	21,261	+15.4	2,371	11.2	18,890	88.8
Chino Basin M.W.D.	69,015	68,544	-0.7	0	—	68,544	100.0
Coastal Municipal Water District	7,671	8,234	+7.3	4,740	57.6	3,494	42.4
Compton	4,569	5,140	+12.5	30	0.6	5,110	99.4
Fullerton	4,237	4,376	+3.3	2,504	57.2	1,872	42.8
Glendale	18,408	20,363	+10.6	1,189	5.8	19,174	94.2
Long Beach	35,300	37,640	+6.6	15,323	40.7	22,317	59.3
Los Angeles	399,149	443,774	+11.2	17,049	3.8	426,725	96.2
Pasadena	24,733	27,784	+12.3	18,083	65.1	9,701	34.9
Pomona Valley Municipal Water Dist.	45,904	46,641	+1.6	2,190	4.7	44,451	95.3
San Diego County Water Authority*	90,393	105,974	+17.2	32,874	31.0	73,100	69.0
San Marino	3,649	3,989	+9.3	0	—	3,989	100.0
Santa Ana	7,560	8,271	+9.4	6,498	78.6	1,773	21.4
Santa Monica	11,334	11,856	+4.6	11,483	96.9	373	3.1
Torrance	6,111	7,045	+15.3	4,789	68.0	2,256	32.0
West Basin Municipal Water District	46,993	76,392	+62.6	9,856	12.9	66,536	87.1
Totals	805,214	910,762	+13.1	133,052	14.6	777,710	85.4

NOTE: Quantities include total water diverted into agencies' transmission and distribution systems from sources of supply.
* The Metropolitan Water District delivered 28,550.7 acre-feet to San Diego County Water Authority in 1952-53, whereas the Authority reported 32,874.3 acre-feet of Colorado River water used. The difference was taken from Colorado River water stored in previous years.

cal character of natural Colorado River water are shown by months in Table 19.

The chemical analyses of natural Colorado River water in the Colorado River Aqueduct at San Jacinto, where water is diverted into the San Diego Aqueduct, is shown in Table 20.

TABLE 19
ANALYSIS OF COLORADO RIVER WATER
AVERAGE FOR YEAR ENDING JUNE 30, 1953
(By The Metropolitan Water District of Southern California
at La Verne Treatment Plant)

Constituent	Symbol	Colorado River Water	
		Natural	Softened
Silica	SiO ₂	6.3 p.p.m.	6.7 p.p.m.
Iron	Fe	Tr	Tr
Calcium	Ca	75 "	30 "
Magnesium	Mg	28 "	12 "
Sodium	Na	94 "	178 "
Potassium	K	4 "	4 "
Carbonate	CO ₃	1 "	4 "
Bicarbonate	HCO ₃	137 "	131 "
Sulfate	SO ₄	277 "	277 "
Chloride	Cl	77 "	81 "
Nitrate	NO ₃	0.2 "	0.2 "
Boron	B	0.16 "	0.16 "
Fluoride	F	0.3 "	0.3 "
Total dissolved solids		631 "	659 "
Hardness as CaCO ₃			
Total		303 "	125 "
Carbonate		114 "	113 "
Noncarbonate		189 "	12 "
Free carbon dioxide	CO ₂	0 "	0 "
Hydrogen ion concentration	pH	8.4 "	8.6 "
Electrical conductivity	ECX10*	1000	1065

TABLE 20
ANALYSIS OF COLORADO RIVER AQUEDUCT WATER
TAKEN AT WEST PORTAL OF SAN JACINTO TUNNEL
For Year Ending June 30, 1953

Constituent	Symbol	Average	Analyses	
			Maximum	Minimum
Silica	SiO ₂	10.1 p.p.m.	12.0 p.p.m.	8.4 p.p.m.
Iron	Fe	0.05 "	0.05 "	0 "
Calcium	Ca	74 "	84 "	69 "
Magnesium	Mg	26.5 "	29.5 "	23.5 "
Sodium	Na	87 "	99 "	75 "
Potassium	K	4 "	4 "	4 "
Carbonate	CO ₃	1 "	4 "	0 "
Bicarbonate	HCO ₃	140 "	159 "	121 "
Sulphate	SO ₄	261 "	288 "	231 "
Chloride	Cl	70 "	83 "	58 "
Nitrate	NO ₃	0.7 "	1.3 "	0.2 "
Total dissolved solids		604	661	548
Hardness as CaCO ₃				
Total		294	323	275
Carbonate		117	130	99
Noncarbonate		177	193	157
Alkalinity—Phenolphthalein		1	5	0
Alkalinity—Total		117	130	99
Hydrogen ion concentration	pH	8.3	8.5	8.2
Electrical conductivity	ECX10* @ 25° C	942	1035	877

NOTE: For analyses of monthly samples, see table 11.

SECTION V

LEGAL

IN ADDITION to advising the Authority's Board of Directors, its officers and staff, and its member agencies in matters affecting their relationship with the Authority, the major activity of the general counsel was in preparing legislative changes and additions to the Authority Act and in participating in the numerous conferences on contemplated annexations. Counsel repeatedly conferred with the general manager on preparation of correspondence, reports and other material to be issued over his signature, and prepared the various resolutions, ordinances, etc. for the Board's adoption.

Disposal of Water Infiltrating the Aqueduct

A contention that the Authority was intercepting local water by infiltration in one of its tunnels raised an interesting problem. As the Authority Act expressly limits the Authority's rights to acquire water to sources outside the County, no right in infiltrating water could be claimed. As the Aqueduct had been operated to the limit of its capacity from the time of its completion until the heavy rains of the 1951-52 season, no opportunity to inspect the tunnels for infiltration had occurred. When the reduction of the demands permitted a temporary de-watering, the opportunity was seized to inspect each of the tunnels for infiltration. Fortunately, infiltration in measurable quantities was discovered in only two of the tunnels (Oat Hills and Red Mountain)—and in neither of these were the quantities of legal significance. After conferences with the attorneys for the property owner advancing the contention, it was the recommendation of the Authority's counsel that the intercepted water be metered and discharged from the aqueduct at the location closest to the tunnel outlets. This solution appeared acceptable to all parties concerned.

Legislation

The California State Legislature met in its regular biennial general session early in January of 1953. The number of bills introduced established an all time record. One of these, containing amendments to the County Water Authority Act, was introduced by Assemblyman

Ralph Cloyd at the request of the Authority. Many others seriously affected the operations of the Authority and many of its member agencies. The defeat of those, the adoption of which would be harmful, is many times of greater import than the successful passage of those which would be of benefit. The Authority is a member of the Irrigation Districts Association of California, which maintains an office at Sacramento, during the sessions staffed by a legislative secretary, who reports to each member the introduction of all bills affecting their operations or administration. The Authority's counsel is a member of the staff of attorneys for this association and a member of its legislative committee. All bills affecting water districts or the water departments of cities are reviewed by this committee, and a recommendation on each of the bills is adopted and furnished the members of the Legislature and the Governor's office.

During the current session a great many bills were introduced the effect of which would either prevent or greatly impede and complicate the formation of new districts or the expansion of the existing ones. There were also a number of bills the purpose of which were to regulate and restrict the freedom of action of governing boards of public agencies. These bills were either opposed or their amendment to avoid impossible or impractical restrictions was urged upon their sponsors. The Authority's counsel appeared several times before legislative committees in opposition to dangerous bills or in support of their amendment. These efforts in the main were successful, and while some restrictive legislation was adopted it is thought that, generally, the operations of neither the Authority nor its member agencies were materially hampered.

Changes in Authority Act

The bill introduced by Assemblyman Ralph Cloyd at the request of the Authority, and ably guided by him through the legislative maze, amended provisions of the County Water Authority Act relating to annexations. Section 10 (c) (1) was changed to provide for the annexation of an over-all water district which might be formed to include within its boundaries either or both a member unit city or a member unit smaller water district, and the substitution of the larger over-all district as the water authority member in place of the city or smaller district included in its corporate area. With the trend in San Diego County to form expansive municipal water districts as vehicles for Authority membership, it appeared desirable to provide mechanics by

which such districts might include cities or water districts already a part of the Authority. With this change effective, Authority members can combine or can participate in the formation of larger districts in order that joint works can be financed and administration be simplified, and can merge their individual membership with that of the combined or larger district with a minimum of technical difficulty.

A new section (10 (c) (2)) was added to the Act to permit the annexation of less than the whole of the corporate area of an applying district where such district included in its boundaries non-contiguous, unwatered and tax-exempt lands such as impounding reservoirs, etc. not considered as desirable for inclusion within the Authority. Prior to this amendment the Authority was required to either accept or reject in its entirety the corporate area of an applicant water district.

These changes were adopted as Chapter 1236, Statutes of 1953. The County Water Authority Act, as so amended, is set forth in full in this report.

Annexations

While no annexations other than automatic annexations to Authority members were accomplished during the year, the formation of a number of large districts with annexation as their ultimate object required the close and time-consuming attention of the general counsel. The Authority's membership includes no municipal water districts, although the act under which such districts are formed has been carefully tailored to provide a vehicle for membership in both the Authority and the Metropolitan Water District. As the year drew to a close it appeared that the formation of such districts might be attempted by the Rainbow-Bonsall Heights area, the Escondido Mutual Water Company, the Vista Irrigation District, the Carlsbad-La Costa area, and the Poway Valley, together comprising area in excess of a hundred thousand acres.

The Authority continued free from litigation.

COUNTY WATER AUTHORITY ACT

An act to provide for the organization, incorporation and government of county water authorities, authorizing and empowering such authorities to acquire water and water rights, and to acquire, construct, operate and manage works and property, to incur bonded indebtedness therefor, to provide for the taxation of property therein, and the performance of certain functions relating thereto by officers of county within which any such authority may be located, to provide for addition of areas thereto, and the exclusion of areas therefrom.

[Chapter 545, Statutes of 1943, page 2090, as amended.]

The People of the State of California do enact as follows:

Section 1. This act shall be known as the County Water Authority Act.

Sec. 2. The term "public agencies," wherever appearing in this act, shall be deemed to mean and include any municipal corporation of the State of California, whether organized under a freeholders' charter or under the provisions of general law, any municipal water district, any municipal utility district, any public utility district, any county water district, any irrigation district, organized under the laws of the State of California, or any other public corporation or agency of the State of California of similar character, with power to acquire and distribute water.

Sec. 3. County water authorities may be organized and incorporated hereunder by two or more public agencies in any county, which public agencies need not be contiguous, and when so incorporated, such authorities shall exercise the powers herein expressly granted, together with such implied powers as are necessary to carry out the objects and purposes of such authorities. Each such authority when so organized, shall be a separate and independent political corporate entity.

Sec. 4. The procedure for organizing and incorporating a county water authority under the provisions of this act is as follows:

(1) Resolutions shall first be passed by the legislative bodies of the public agencies designated to be incorporated in the proposed authority, declaring that in their opinion public interest or necessity demands the creation and maintenance of a county water authority to be known as the "(giving the name) County Water Authority." Said resolutions shall contain a statement of the names of such public agencies as are intended to be incorporated in said authority. Certified copies of said resolutions shall be presented to the board of supervisors of the county within which said public agencies are located, requesting said board to call an election without delay for determining whether such authority shall be created.

If for any reason the legislative body of any public agency designated as intended to be incorporated fails or refuses to adopt the resolution above referred

to, then instead of said resolutions, a petition may be presented to the board of supervisors of said county on behalf of said public agency signed by qualified electors within the boundaries of any such public agency, in number to at least 10 per cent of the total vote cast at the last general State election within the territory of said public agency. Said petition shall contain substantially the same declarations and statements required to be contained in the resolutions hereinbefore mentioned. Such petition may be on separate papers but each paper shall contain the affidavit of the party who circulated it, certifying that each name signed thereto is the true signature of the person whose name it purports to be. The clerk of the board of supervisors of said county shall compare the signatures with the affidavits of registration and certify to the board of supervisors the sufficiency or insufficiency of said petition. If found and certified by said clerk as being sufficient such petition shall have all the force and effect of a resolution adopted by the legislative body of said public agency.

(2) Upon the receipt of the resolutions and petitions hereinbefore mentioned, said board of supervisors shall call an election within the territorial boundaries of the public agencies who have adopted such resolutions or on whose behalf a proper petition has been presented, for the purpose of determining whether the proposed county water authority shall be created and established.

(3) The board of supervisors of said county shall give notice of said election by publishing the same once a week for at least three weeks before the date of said election in a newspaper of general circulation, published within the proposed authority. In case no newspaper of general circulation is published within said proposed authority, said notice shall be posted for at least three weeks in not less than three public places within said proposed authority.

Said notice shall state, among other things, the name of the proposed authority and set forth the public agencies proposed to be included therein.

The ballot for said election shall contain such instructions as are required by law to be printed thereon, and in addition thereto there shall appear the following:

Shall the "(giving the name thereof) County Water Authority" be created and established?	Yes	
	No	

Said election and all matters pertaining thereto, not otherwise provided for herein, shall be held and conducted, and the results thereof ascertained, determined and declared in accordance with the general election laws of the State, as nearly as may be, and no person shall be entitled to vote at said election unless he or she be a qualified elector of one of the public agencies proposed to be incorporated in the proposed authority. Said election may be held on the same day as any other State, county or city election, and may be consolidated therewith.

The board of supervisors shall meet on Monday next succeeding the day of said election and canvass the votes cast thereat. They shall canvass the returns

of each public agency separately and shall order and declare said authority created and established consisting of the public agencies in which a majority of those who voted on the proposition voted in favor of the creation of said authority; provided, however, that the total number of electors in such approving public agencies be not less than two-thirds the number of the electors within the authority as first proposed, according to the register of voters used at said election.

The board of supervisors shall cause a certified copy of said order declaring the result of said election to be filed in the office of the Secretary of State, and with the legislative body of each of the public agencies in which said election was held. From and after the filing of said order in the office of the Secretary of State the establishment of said county water authority shall be deemed complete.

The board of supervisors calling the election shall make all provision for the holding thereof throughout the entire authority as proposed, and the cost thereof shall be a proper charge against the county. In case a special election is held exclusively on the proposition of organizing such an authority, the expenditure therefor shall be reimbursed to the county by means of a special tax on all of the taxable property within the public agencies which was proposed to be included in the authority, which tax shall be added to the next county tax bills by the proper officers of the county.

No informality in any proceeding or in the conduct of said election not substantially affecting adversely the legal rights of any citizen, shall be held to invalidate the incorporation of any county water authority, and any proceedings attacking the validity of said incorporation, shall be commenced within three months from the date of filing the aforesaid order with the Secretary of State, otherwise such incorporation and the legal existence of said county water authority shall be held to be valid and in every respect legal and incontestable.

Sec. 5. Any authority incorporated as herein provided shall have power:

- (1) To have perpetual succession.
- (2) To sue and be sued in all actions and proceedings and in all courts and tribunals of competent jurisdiction.
- (3) To adopt a corporate seal and alter it at pleasure.
- (4) To take by grant, purchase, bequest, devise or lease, and to hold, enjoy, lease, sell or otherwise dispose of any and all real and personal property of any kind within or without the authority and within and without the State necessary or convenient to the full exercise of its powers; also to acquire, construct or operate, control and use any and all works, facilities and means necessary or convenient to the exercise of its powers, both within and without the authority, and within and without the State, and to do and perform any and all things necessary or convenient to the full exercise of the powers herein granted.
- (5) To have and exercise the power of eminent domain and, in the manner provided by law for the condemnation of private property for public use, to take any property necessary to the exercise of the powers herein granted. In any proceeding relative to the exercise of such power of eminent domain, the

authority shall have the same rights, powers and privileges as a municipal corporation.

(6) To construct and maintain works and establish and maintain facilities across or along any public street or highway and in, upon or over any vacant public lands which are now, or may become the property of the State of California; provided, however, that the authority shall promptly restore any such street or highway to its former state of usefulness as nearly as may be, and shall not use the same in such manner as to completely or unnecessarily impair the usefulness thereof. The grant of the right to use such vacant State lands shall be effective upon the filing by such authority with the Division of State Lands of the Department of Finance, of an application showing the boundaries, extent and locations of the lands, rights of way, or easements desired for such purposes. If the land, rights of way or easement for which application shall be made is for the construction of any aqueduct, ditch, pipe line, conduit, tunnel or other works for the conveyance of water, or for roads, or for poles, or towers and wires for the conveyance of electrical energy or for telephonic or telegraphic communication, no compensation shall be charged the authority therefor, unless in the opinion of the Chief of such Division of State Lands the construction of such works will render the remainder of the legal subdivision through which such works are to be constructed valueless or unsalable, in which event the authority shall pay for the lands to be taken and for such portion of any legal subdivision which, in the opinion of said Chief of the Division of State Lands, are rendered valueless or unsalable. If the lands for which application is made are for purposes other than the construction of roads or for works for the conveyance of water, or electricity or telephonic or telegraphic communication, such authority shall pay to the State for such lands at a reasonable amount determined by the Division of State Lands. Upon filing such application, accompanied by map or plat showing the location or proposed location of such works and/or facilities, the fee title to so much of such State lands as shall be found by the Chief of the Division of State Lands of the Department of Finance to be necessary or convenient to enable such authority to construct or maintain its works and/or to establish or maintain its facilities, shall be conveyed to such authority by patent executed by the Governor of the State of California, attested by the Secretary of State with the Great Seal of said State affixed, and countersigned by the registrar of State lands; if an easement or right of way only over such lands be sought by such authority, such easement or right of way shall be evidenced by permit or grant executed by such Chief of the Division of State Lands. The Chief of the Division of State Lands may reserve in such patents, grants or permits, easements and rights of way across any lands therein described for the construction of streets, roads and highways. Before any such patent, grant or permit shall be executed any compensation due to the State under the provisions hereof, must be paid. In the event that the duties or titles of any of the officers herein mentioned shall be changed by lawful authority, the functions herein required to be performed shall be performed by the appropriate officer or officers of the State of California. No fee shall be exacted from such authority for any patent, permit or grant so issued or for any service rendered hereunder. In the use of streets or highways the authority shall be subject to the reasonable rules and regulations of the governmental agency in charge thereof, concerning excavations and the refilling of excavations, the relaying

of pavements and the protection of the public during periods of construction; provided, that the authority shall not be required to pay any license or permit fees, or file any bonds. The authority may be required to pay reasonable inspection fees.

(7) To borrow money and incur indebtedness and to issue bonds or other evidence of such indebtedness; provided, however, that no authority incorporated hereunder shall incur indebtedness which, in the aggregate, shall exceed fifteen (15) per cent of the taxable property of the authority as shown by the last equalized assessment roll of the county in which the authority is located.

(8) To levy and collect taxes for the purpose of carrying on the operations and paying the obligations of the authority; provided, however, that such taxes levied under this section exclusive of any tax levied to meet the bonded indebtedness of such authority and the interest thereon and exclusive of any tax levied to meet any obligation to the United States of America or to any board, department or agency thereof, shall not exceed five cents (\$0.05) on each such one hundred dollars (\$100) of assessed valuation.

(9) To enter into contracts, employ and retain personal services and employ laborers; to create, establish and maintain such offices and positions as shall be necessary and convenient for the transaction of the business of the authority, and to elect, appoint and employ such officers, attorneys, agents and employees therefor as shall be found by the board of directors to be necessary and convenient for the transaction of the business of the authority.

(10) To join with one or more other public corporations for the purpose of carrying out any of its powers, and for that purpose to contract with such other public corporation or corporations for the purpose of financing such acquisitions, constructions and operations. Such contracts may provide for contributions to be made by each party thereto and for the division and apportionment of the expenses of such acquisitions and operations, and the division and apportionment of the benefits, the services and products therefrom. Such contracts may contain such other and further covenants and agreements as may be necessary and convenient to accomplish the purposes hereof. The term "public corporation" as used in this subdivision shall be deemed to mean and include the United States or any public agency thereof or this or any other State or any political district, subdivision or public agency thereof.

(11) To acquire water and water rights within or without the State but not within the county in which the authority is organized and/or located; to develop, store and transport such water; to provide, sell and deliver water at wholesale for municipal, domestic and other beneficial uses and purposes; provided, each public agency, the area of which shall be a part of any authority incorporated hereunder, shall have a preferential right to purchase from the authority for distribution by such public agency, or any public utility therein empowered by said public agency for the purpose, for domestic, municipal and other beneficial uses within such public agency, a portion of the water served by the authority which shall, from time to time, bear the same ratio to all of the water supply of the authority as the total accumulation of amounts paid by such public agency to the authority on tax assessments and otherwise, excepting purchase of water, toward the capital cost and operating expense of the au-

thority's works shall bear to the total payments received by the authority on account of tax assessments and otherwise, excepting purchase of water, toward such capital cost and operating expense; also to provide, sell and deliver surplus water of the authority not needed or required for beneficial purposes by the public agencies, the corporate area of which is included in such authority, but giving preference to uses within the authority; provided, that the supplying of such surplus water shall, in every case, be subject to the paramount right of the authority to discontinue the same, in whole or in part, and to take and hold, or to provide, sell and deliver, such water for domestic, municipal or other beneficial uses within the authority upon one year's written notice to the purchaser or user of such surplus water, such notice to be given by the board of directors of the authority whenever it shall be determined and declared by resolution adopted by said board of directors by a two-thirds vote thereof that such water is needed or required by any public agency, the corporate area of which is included within said authority, for domestic, municipal or other beneficial uses therein; to fix the rates therefor, and to acquire, construct, operate and maintain any and all works, facilities, improvements and property necessary or convenient therefor.

(12) To cooperate and contract with United States under the Federal Reclamation Act of June 17, 1902, and all acts amendatory thereof or supplementary thereto, or any other act of Congress heretofore or hereafter enacted authorizing or permitting such cooperation, for the purposes of construction of works, necessary or proper for carrying out the purposes of said authority, or for the acquisition, purchase, extension, operation or maintenance of constructed works, or for a water supply, or for the assumption as principal or guarantor of indebtedness to the United States; also to borrow or procure money from the United States, or any agency thereof for the purpose of financing any of the operations of the authority.

Sec. 5 $\frac{1}{2}$. Any authority incorporated as herein provided shall also have power to invest any surplus money in the authority treasury, including such money in any sinking fund established for the purpose of providing for the payment of the principal or interest of any bonded or other indebtedness or for any other purpose, not required for the immediate necessities of the authority, in its own bonds, or in treasury notes, or bonds, of the United States, or of this State, and such investment may be made by direct purchase of any issue of such bonds or treasury notes, or part thereof, at the original sale of the same, or by the subsequent purchase of such bonds or treasury notes. Any bonds or treasury notes thus purchased and held may, from time to time, be sold and the proceeds reinvested in bonds or treasury notes, as above provided. Sales of any bonds or treasury notes thus purchased and held shall, from time to time, be made in season so that the proceeds may be applied to the purposes for which the money, with which the bonds or treasury notes were originally purchased, was placed in the treasury of the authority. The functions and duties authorized by this paragraph shall be performed by joint action of the Controller and Treasurer, with the approval of the attorney, under such rules and regulations as shall be prescribed by the board of directors of the authority.

Sec. 6. All powers, privileges and duties vested in or imposed upon any authority incorporated hereunder shall be exercised and performed by and

through a board of directors; provided, however, that the exercise of any and all executive, administrative and ministerial powers may be by said board of directors delegated and redelegated to any of the offices created hereby or by the board of directors acting hereunder.

The board of directors herein referred to shall consist of at least one representative from each public agency, the area of which shall lie within the authority. Such representatives shall be designated and appointed by the chief executive officers of said public agencies, respectively, with the consent and approval of the legislative bodies of the said public agencies, respectively.

Members of the board of directors shall hold office for a term of six years, and until their successors are appointed and qualified; provided, that the terms of the members of the first board shall be determined by lot so that the terms of not less than one-half of the members shall be for three years and the terms of the remainder shall be six years; provided, further, that every member shall be subject to recall by the voters of the public agency from which such member is appointed, in accordance with the recall provisions of the freeholders' charter or other law applicable to such public agency; and provided further, that any member may be recalled by the unanimous vote of the governing body of the public agency from which such member is appointed.

As a member of the board of directors, each representative shall be entitled to vote on all questions, orders, resolutions and ordinances coming before the board, and shall be entitled to cast one vote for each five million dollars (\$5,000,000), or major fractional part thereof, of assessed valuation of property taxable for authority purposes in the public agency represented by him as shown by the last equalized assessment roll of the county and evidenced by the certificate of the county auditor; provided, that each representative shall have at least one vote and no public agency shall have votes exceeding in number the total number of votes of all the other public agencies whose corporate areas are included in such authority. In lieu of one representative, any public agency may at its option designate and appoint several representatives not exceeding one additional representative for each fifty million dollars (\$50,000,000) of assessed valuation, but such representatives shall cast the vote to which such public agency would otherwise be entitled as a unit and as a majority of such representatives present shall determine. The affirmative votes of members representing more than fifty (50) per cent of the total number of votes of all the members shall be necessary, and, except as otherwise herein provided, shall be sufficient to carry any order, resolution or ordinance coming before the board of directors; provided, however, any meeting may be adjourned or recessed from day to day or from time to time, by vote of the director or directors present, irrespective of the number of directors present or the number of votes represented at such meeting. For the purposes of this section, the term "major fractional part" shall be deemed to mean a fractional part larger than one-half.

Members of the first board of directors so constituted shall convene at the call of the clerk of the board of supervisors in the meeting room of the board of supervisors at the county seat of said county, and immediately upon convening, such board of directors shall elect from its membership a chairman, a vice chairman, and a secretary, who shall serve for a period of two years, or until their respective successors shall be elected and qualified.

Sec. 7 (a) Whenever the board of directors of any authority incorporated under this act shall, by ordinance adopted by a vote of a majority of the aggregate number of votes of all the members of the board of directors, determine that the interests of said authority and the public interest or necessity demand the acquisition, construction or completion of any public improvement or works, necessary or convenient to carry out the objects or purposes of said authority the cost of which will be too great to be paid out of the ordinary annual income and revenue of the authority, said board of directors may order the submission of the proposition of incurring bonded indebtedness, for the purposes set forth in the said ordinance, to the qualified voters of such district, at an election held for that purpose. Any election held for the purpose of submitting any proposition or propositions of incurring such bonded indebtedness may be held separately, or may be consolidated or held concurrently with any other election authorized by law at which the qualified electors of the authority are entitled to vote. The declaration of public interest or necessity herein required and the provision for the holding of such election may be included within one and the same ordinance, which ordinance, in addition to such declaration of public interest or necessity, shall recite the objects and purposes for which the indebtedness is proposed to be incurred, the estimated cost of the public works or improvements, the amount of the principal of the indebtedness to be incurred therefor and the maximum rate of interest to be paid on such indebtedness, which rate shall not exceed six (6) per cent per annum, payable semiannually. Such ordinance shall also fix the date upon which such election shall be held and the manner of holding the same and the method of voting for or against incurring the proposed indebtedness. Such ordinance shall also fix the compensation to be paid the officers of the election and shall designate the precincts and polling places and shall appoint the officers of such election, which officers shall consist of one inspector, one judge and two clerks in each precinct. The description of precincts may be made by reference to any order or orders of the board of supervisors of the county in which the authority is situated, or by reference to any previous order or ordinance of the legislative body of any public agency, or by detailed description of such precincts. Precincts established by the board of supervisors of the county, to a number not exceeding six (6) may be consolidated for special elections held hereunder. In the event any bond election shall be called to be held concurrently with any other election or shall be consolidated therewith, the ordinance calling the election hereunder need not designate precincts or polling places or the names of officers of election, but shall contain reference to the act or order calling such other election and fixing the precincts and polling places and appointing election officers therefor.

(b) The ordinance provided for in subdivision (a) of this section shall be published once, at least ten (10) days before the date of the election therein called, in a newspaper of general circulation printed and published within the authority, and no other or further notice of such election or publication of the names of election officers or of the precincts or polling places need be given or made.

(c) The respective election boards shall conduct the election in their respective precincts in the manner prescribed by law for the holding of general elections, and shall make their returns to the secretary of the authority. At any

regular or special meeting of the board of directors held not earlier than five (5) days following the date of such election, the returns thereof shall be canvassed and the results thereof declared. In the event that any election held hereunder shall be consolidated with any primary or general election and the proposition to incur indebtedness shall be printed upon a ballot containing other propositions, the returns of the election held hereunder shall be made with the returns of the primary or general election to the board of supervisors or other bodies whose duty it shall be to canvass the returns thereof, and the results of the election held hereunder shall be canvassed at the time and in the manner provided by law for the canvass of the returns of such primary or general election. It shall be the duty of such canvassing body to promptly certify and transmit to the board of directors of the authority a statement of the result of the vote upon the proposition submitted hereunder. Upon receipt of such certificates, it shall be the duty of the board of directors to tabulate and declare the results of the election held hereunder.

(d) In the event that it shall appear from said returns that a two-thirds majority of the electors voting on any proposition submitted hereunder at such election voted in favor of such proposition, the authority shall thereupon be authorized to issue and sell bonds of the authority in the amount and for the purpose or purposes and object or objects provided for in such proposition in such ordinance, and at a rate of interest, not exceeding the rate recited in said ordinance.

(e) The board of directors shall prescribe the form of the bonds issued by the authority and of the interest coupons to be attached thereto. Such bonds shall mature serially at times and in amounts to be fixed by the board of directors; provided, that the payment of said bonds shall begin not later than 10 years from the date thereof and be completed in not more than 50 years from said date. The bonds shall be issued in such denominations as the board of directors may determine, except that no bonds shall be of less denomination than one hundred dollars (\$100), nor of a greater denomination than fifty thousand dollars (\$50,000), and shall be payable on the day and at the place or places fixed in such bonds and with interest at the rate specified therein, which rate shall not be in excess of six per cent (6%) per annum, and shall be payable semiannually.

The board of directors may provide for the call and redemption of any or all of said bonds on any interest payment date prior to their fixed maturity at not exceeding the par value thereof and accrued interest plus a premium of not exceeding 5 per cent upon the principal amount of said bonds in which event a statement to that effect shall be set forth in the ordinance calling the election and the call price fixed by the board of directors shall be set forth on the face of the bond. Notice of such redemption shall be published once a week for three successive weeks in a newspaper of general circulation printed and published within the authority or if there be no such newspaper printed and published within the authority then the publication shall be made in a newspaper of general circulation printed and published within the county in which the said authority is situated, the first publication of which shall be at least 30 days prior to the date fixed for such redemption. After the date fixed for such redemption, interest on said bonds thereafter shall cease.

Such bonds shall be signed by the chairman of said board of directors, or by such other officers as said board of directors shall, by resolution adopted by a majority vote of its members, authorize and designate for that purpose, and such bonds shall also be signed by the controller, or assistant controller, and countersigned by the secretary of said board of directors. The coupons of said bonds shall be numbered consecutively, and signed by said controller, or assistant controller by his lithographed or engraved signature. All such signatures and countersignatures excepting that of the controller, or assistant controller, on said bonds, may be printed, lithographed or engraved.

(f) In case of any of such officers, whose signatures or countersignatures appear on the bonds or coupons, shall cease to be such officer before the delivery of such bonds to the purchaser, such signatures or countersignatures shall nevertheless be valid and sufficient for all purposes, the same as if they had remained in office until the delivery of such bonds.

(g) Such bonds shall not be sold at a price less than the par value thereof, together with accrued interest to the date of delivery, nor until notice calling for bids therefor shall have been published in a newspaper of general circulation published and circulated in the county wherein the principal place of business of said authority shall be located. Said notice, calling for bids, shall state the time for the receipt of such bids, which shall not be less than twenty (20) days after the first publication thereof. Such notice may offer the bonds at a fixed interest rate or with the interest rate undetermined, in which event the bids shall contain a statement of the lowest rate of interest at which the bidder will take the bonds and pay par value or more therefor, together with accrued interest. Bids for such bonds shall be opened publicly and the results thereof publicly announced. Such bonds shall be sold to the highest bidder. "Highest bidder," as used in this subsection, shall mean the one which gives the authority the lowest net cost. Temporary, or interim, bonds or certificates, of any denomination whatsoever, to be signed by the controller or assistant controller, may be issued until the definitive bonds are executed and available for delivery.

(h) Such bonds may be issued and sold by said board of directors as they shall determine, and the proceeds thereof, excepting premium and accrued interest, shall be placed in the treasury of said authority to the credit of the proper improvement fund, and shall be applied exclusively to the purposes and objects mentioned in said ordinance; provided, that the interest on said bonds accruing during the construction period and for one year thereafter shall be deemed to be a construction cost within the meaning of the purposes and objects mentioned in said ordinance, and such interest may be paid from said proceeds of the sales of such bonds. Premium and accrued interest shall be placed in the fund to be applied to the payment of interest on, and the retirement of, the bonds so sold. For the purposes of this section, the construction period shall be deemed to end when the works, the construction of which shall have been authorized from the proceeds of any such bond issue, shall have been placed in operation to such extent as to result in the sale and delivery in the authority, of water transported and provided by means of such works.

(i) The board of directors may within ninety (90) days from the date of the election authorizing the issuance of bonds, cause to be brought in the name of the authority an action in the superior court of the county in which

said authority is located, to determine the validity of any such bonds and the sufficiency of the provision for the collection of an annual tax sufficient to pay the interest on such indebtedness as it falls due and to constitute a sinking fund for the payment of the principal thereof on or before maturity. Such action shall be in the nature of a proceeding in rem, and jurisdiction of all parties interested may be had by publication of summons for at least once a week for three (3) weeks in some newspaper of general circulation published in the county where the action is pending, such newspaper to be designated by the court having jurisdiction of the proceedings. Jurisdiction shall be complete within ten (10) days after the full publication of such summons in the manner herein provided. Anyone interested may at any time before the expiration of said ten (10) days appear and by proper proceedings contest the validity of such bonds and the sufficiency of the provision for the collection of an annual tax sufficient to pay the interest on such indebtedness as it falls due and to constitute a sinking fund for the payment of the principal thereof on or before maturity. Such action shall be speedily tried and judgment rendered declaring such bonds to be valid or invalid, and declaring the provision for the collection of an annual tax for said purposes, to be sufficient or insufficient. Either party may have the right to appeal to the Supreme Court at any time within thirty (30) days after the rendition of such judgment, which appeal must be heard and determined within three months from the time of taking such appeal. After the expiration of ninety (90) days from the date of the election authorizing the issuance of bonds, no action may be brought to contest or question the validity of said bonds and proceedings in relation thereto or the sufficiency of the provision for the collection of an annual tax sufficient to pay the interest on such indebtedness as it falls due and to constitute a sinking fund for the payment of the principal thereof on or before maturity. If there be more than one action or proceeding involving the validity of any of such bonds, or the sufficiency of the provision for the collection of an annual tax sufficient for the said purposes, they shall be consolidated and tried together. The court hearing any proceeding or action inquiring into the regularity, legality or correctness of the proceedings leading up to the issuance of bonds or the validity of such bonds or the sufficiency of such provision for the collection of an annual tax, must disregard any error, irregularity or omission which does not affect the substantial rights of the parties to said action or proceeding. The rules of pleading and practice provided by the Code of Civil Procedure, which are not inconsistent with the provisions of this act, are applicable to all actions or proceedings herein provided for. The motion for a new trial of any such action or proceeding must be heard and determined within ten (10) days from the filing of the notice of intention. The costs on any proceeding or action herein provided for may be allowed and apportioned between the parties or taxed to the losing party, in the discretion of the court.

(j) The board of directors, so far as practicable, shall fix such rate or rates for water as will result in revenue which will pay the operating expenses of the authority, provide for repairs and maintenance, and provide for the payment of the interest and principal of the bonded debt. If, however, from any cause, the revenues of the authority shall be inadequate to pay the interest or principal of any bonded debt as the same becomes due, the board of directors shall, at the time of fixing the tax levy and in the manner for such tax levy

provided, levy and collect annually until said bonds are paid or until there shall be a sum in the treasury of the authority set apart for that purpose sufficient to meet all sums coming due for principal and interest on such bonds, a tax sufficient to pay the annual interest on such bonds, or such part thereof as shall not be met from revenues of the authority, and also sufficient to pay such part of the principal of such bonds as shall become due before the time when money will be available from the next general tax levy, or such portion thereof as shall not be met from revenues of the authority; provided, however, that if the maturity of the indebtedness created by the issue of bonds be made to begin more than one year after the date of the issuance of such bonds, such tax shall be levied and collected at the time and in the manner aforesaid annually sufficient when added to revenues of the authority available for that purpose to pay the interest on such indebtedness as it falls due and also to constitute, together with the revenues of the authority available for such purpose, a sinking fund for the payment of the principal of such bonds on or before maturity. The taxes herein required to be levied and collected shall be in addition to all other taxes levied for authority purposes and shall be collected at the time and in the same manner as other authority taxes are collected and shall be used for no purpose other than the payment of such bonds and accruing interest.

(k) Coupon bonds issued hereunder, at the request of the holder, may be registered as to principal and interest in the holder's name on the books of the treasurer of the district, and the coupons surrendered and the principal and interest made payable only to the registered holder of the bond. For that purpose the treasurer of the authority shall detach and cancel the coupons, and shall endorse a statement on the bonds that the coupon sheet issued therewith has been surrendered by the holder, and the coupons canceled by such treasurer, and that the principal and the semiannual interest are thereafter to be paid to the registered holder, or order, by draft, check or warrant drawn payable at a place of payment specified in the bond, after which no transfer shall be valid unless made on such treasurer's books by the registered holder, or by his attorney duly authorized, and similarly noted on the bond. After such registration, the principal and interest of such bond shall be payable only to the registered owner. Bonds registered under this paragraph may, with the consent of the authority and the holders of the bonds, be reconverted into coupon bonds at the expense of the holder thereof, and again reconverted into registered bonds from time to time, as the board of directors of the authority and the holders of the bonds may determine. In converting coupon bonds into registered bonds, coupon bonds may be exchanged for registered bonds of one hundred dollars (\$100) each, or multiples thereof, but not exceeding fifty thousand dollars (\$50,000) each, in which event new registered bonds shall be issued at the expense of the holder. Coupon bonds may be exchanged for other coupon bonds of one hundred dollars (\$100) each, or multiples thereof, but not exceeding fifty thousand dollars (\$50,000) each, in which event new coupon bonds shall be issued at the expense of the holder.

For each conversion or reconversion of a coupon or registered bond, the treasurer of the authority shall be entitled to charge and collect such fee as the board of directors of the authority may prescribe from time to time.

(l) All bonds heretofore or hereafter issued by any county water authority

shall be legal investments for all trust funds, and for the funds of all insurance companies, banks, both commercial and savings and trust companies, and for the State school funds, and for all sinking funds under the control of the State Treasurer, and whenever any moneys or funds may by law now or hereafter enacted be invested in, or loaned upon the security of, bonds of cities, cities and counties, counties, or school districts in the State of California, such moneys or funds may be invested in, or loaned upon the security of, the bonds of such county water authority; and whenever bonds of cities, cities and counties, counties or school districts, by any law now or hereafter enacted, may be used as security for the faithful performance or execution of any court or private trust or of any other act, bonds of such county water authority may be so used.

Sec. 8. Any proposal to incur an indebtedness in excess of one million dollars (\$1,000,000), by contract other than by voting bonds, or expenditure of bond proceeds, for the acquisition, construction or completion of any public improvements or works or for the repayment of the costs thereof, and any proposal to purchase, lease, or otherwise acquire, rights, privileges or services by contract, the compensation for which shall be payable over a period of time exceeding five years, shall be submitted to the qualified electors of the authority for their approval and shall be voted upon at an election wherein proceedings shall be had, insofar as applicable, in the manner provided in this act for the authorization and issuance of the bonds of the authority, except that the vote of a majority of the electors voting upon the proposition shall be sufficient to authorize the incurring of such indebtedness. Notice of the election herein provided for shall contain in addition to the information required in the case of bond elections, a statement of the maximum amount of money to be paid under said contract, exclusive of penalties and interest, and for what purposes it is to be expended and the property, improvements, works, rights, privileges or services to be acquired thereby. The ballots at such election shall contain a brief statement of the general purposes of said contract and the amount of the obligation to be assumed as aforesaid, with the words "Contract—Yes" and "Contract—No." The board of directors may submit such contract or proposed contract to the superior court of the county wherein the authority is located to determine the validity thereof and the legal authority of the board to enter into such contract, whereupon the same proceedings shall be held as are herein provided in the case of the judicial determination of the validity of bonds issued pursuant to this act, and with like effect.

Sec. 9. (a) Immediately after equalization and not later than the fifteenth day of August of each year, it shall be the duty of the auditor of the county wherein such authority shall lie, to prepare and deliver to the controller of the authority a certificate showing the assessed valuation of all property within the authority, and also such assessed valuation segregated according to public agencies, the areas of which lie within the authority.

(b) On or before the twentieth day of August the board of directors of the authority shall by resolution determine the amount of money necessary to be raised by taxation during the fiscal year beginning the first day of July next preceding and shall fix the rate of taxation of the authority, designating the number of cents upon each one hundred dollars (\$100) assessed valuation of taxable property and shall levy a tax accordingly:

(1) Sufficient, when taken with other revenues available for the purpose, to meet interest and sinking fund requirements on all outstanding bonded indebtedness of said authority; and sufficient, when taken with other revenues available for the purpose, to meet the payment of the principal and interest on any refunding bonds, or any bonds the issuance of which may have been authorized by the electors and which bonds have not been sold but which, in the judgment of the board of directors, will be sold prior to the time when money will be available from the next subsequent tax levy, and in case such bonds are not so issued and sold or such tax for any other reason is not required for said purpose, the tax so levied shall be applied to the payment of interest and/or principal on any refunding bonds, or on any bonds authorized by the electors, then outstanding or subsequently issued and/or sold; and

(2) For all other authority purposes.

(c) The board of directors shall also cause to be computed and shall declare in said resolution the amount of money to be derived from the area of the authority lying within each separate public agency by virtue of the tax levy. In such resolution the board shall also fix and determine the times and proportional amounts of installments in which any public agency may elect to make payment in lieu of taxes as hereinafter provided. The board shall immediately cause certified copies of such resolution to be transmitted to the presiding officer of the governing body of each such public agency.

(d) On or before the twenty-fifth day of August of each year the governing body of each such public agency may elect to pay out of its funds available for that purpose all or any portion of the amount of tax which would otherwise be levied upon property within such public agency. Such election shall be made by order upon motion, which order shall recite that such payment shall be made in cash concurrently with the certification of such order to the controller of the authority, or that such payment shall be made in installments and the times wherein such installments shall be payable and the amounts thereof, which amounts shall be in accordance with the requirements of the board of directors of the authority as approved by resolution. In the event that any public agency shall elect to pay in cash, or by deferred installments, money or any part thereof which would otherwise be levied upon property within the public agency, it shall immediately certify to the controller of the authority a copy of such order and a statement showing its financial condition, the funds from which such payments shall be made and the sources of revenue to be used therefor; provided, however, that in the event any public agency shall elect to pay in cash all or any portion of the amount of tax which would otherwise be levied upon property within such public agency to meet interest and sinking fund requirements on the outstanding bonded indebtedness of said authority, such amount so elected to be paid shall be deposited with the treasurer of said authority on or before the twenty-seventh day of August next following such election; and provided, also, that unless such payment is so made in the case of interest and sinking fund requirements, and unless such election, as to all other taxes, shall provide for payments in accordance with the resolution of the board of directors as hereinbefore provided for, then such election shall be ineffective for any purpose.

(e) Before the first day of September the controller of the authority shall

cause to be prepared and transmitted to the auditor of the county in which the authority shall lie, a statement showing the tax rate to be applied to assessed property in each public agency, which rate shall be the rate fixed by resolution of the board of directors modified to the extent necessary to produce from each public agency only the amount of money apportioned thereto in said resolution, less any amount paid or undertaken to be paid by such public agency, or credited thereto as herein provided, but if any fraction of a cent occur, it must be taken as a full cent on each one hundred dollars (\$100).

(f) Upon receipt by the auditor of the county in which such authority shall lie, of a certified copy of the controller's statement showing the tax rate to be applied to assessed property in each public agency, and showing the public agencies, the assessed property in which is exempt therefrom, if any, it shall be the duty of the county officers to collect taxes for the benefit of the authority at the rate specified as herein provided. The taxes so levied shall be computed and collected at the same time and in the same manner required by law for the assessment, computation and collection of taxes for county purposes, and the property subject to such tax shall be subject to the same penalties for delinquency, and the same provisions of law relating to the sale of property for non-payment of county taxes and redemption thereof shall apply to the tax herein authorized. When so collected, such taxes shall be paid over to the treasurer of the authority, subject to the deduction herein authorized.

In consideration of services rendered hereunder, any county shall annually be entitled to deduct and retain for its own use and benefit an amount not exceeding 1 per cent on the first twenty-five thousand dollars (\$25,000) collected hereunder, and one-fourth of 1 per cent of any amount in excess of twenty-five thousand dollars (\$25,000) collected hereunder. The board of supervisors of each such county may provide such extra help as in their judgment may be necessary for the proper performance of duties hereunder.

(g) Whenever any real property situated in any authority organized hereunder and upon which a tax shall have been levied, as herein provided, shall be sold for taxes and shall be redeemed, the money paid for such redemption, except advertising costs, shall be apportioned and paid in part to such authority in the proportion which the tax due to such authority shall bear to the total tax for which such property shall have been sold. All taxes levied together with penalties, interests and costs under the provisions of this act shall be a lien upon the property upon which levied, and the enforcement of the collection of such tax shall be had in the same manner and by the same means as is or shall be provided by law for the enforcement of liens for county taxes, and all of the provisions of law relating to the enforcement of such taxes are hereby made a part of this act so far as applicable.

(h) Public agencies, the areas of which are included within any county water authority incorporated hereunder, are hereby authorized to pay to any such authority, out of funds derived from the sale of water or other funds not appropriated to some other use, such amounts as may be determined upon by the governing bodies thereof, respectively. Such payments may be made in avoidance of taxes as herein provided, or otherwise, and are hereby declared to be for a public purpose and shall not be deemed gratuitous or in the nature of gifts, but shall be deemed payments for water or services in connection with

the distribution of water. Any public agency making any such payment to any authority incorporated hereunder, whether in avoidance of taxes or otherwise, shall receive credit therefor and the amount of the payment so made by any public agency shall be deducted from the amount of taxes which would otherwise be levied against property lying therein as herein provided. In the event that payment so made by any public agency shall exceed the amount of taxes which would otherwise have been levied against property within such public agency, the amount of such excess without interest shall be carried over and applied in reduction of taxes levied, or which would otherwise have been levied during the ensuing year or years.

Any public agency, including a county, which shall have incurred expenses in negotiating contracts or in the investigation of or preliminary work upon any works or projects or in making payments on account of any such contracts, works, or projects, taken over by the authority, may receive, and the authority so taking over any such contracts, works or projects may make to such public agency, reimbursement for all such sums so expended, or to be expended, for expenses incurred in such negotiations for, investigation of, preliminary work upon, or payments made on account of the contracts, works or projects so taken over by the authority, to the extent that the board of directors of the authority shall find that such expenditures have benefited such authority, it being the intention of this provision to permit the authority to purchase, and the public agency to sell, assign and transfer such contracts, works or projects taken over by such authority. The sum so to be paid by such authority to such public agency shall be such amount as may be mutually agreed upon.

As an alternative to the purchase and sale of any contracts, works or projects taken over by the authority, as hereinabove provided, any public agency which shall have incurred expenses in negotiating contracts or in the investigation of or preliminary work upon any such works or projects or in making payments on account of any such contracts, works or projects taken over by the authority, may certify the amount thereof, without interest, to the board of directors of said authority at any time within four (4) years from the date of the incorporation of such authority, or the incurring of such expenses, if such authority be already incorporated, and if allowed by the board of directors, such amount shall be credited to the public agency which incurred the same, and such expenditures shall be considered as a payment of money made as herein provided for which deduction shall be made from the amount of taxes which would otherwise be levied against property lying within such public agency.

Any public agency which shall incur expenses in preliminary work in preparing for the incorporation of or in the incorporation of any authority hereunder likewise may certify the amount thereof, without interest, to the board of directors of said authority at any time within four (4) years from the date of the incorporation of such authority, and if allowed by the board of directors, such amount shall be credited to the public agency incurring the same, and shall be considered as a payment of money made as herein provided, for which deduction shall be made from the amount of taxes which would otherwise be levied against property lying within such public agency.

No such payments of money made in lieu of taxes or otherwise, or such credit allowed by such board of directors, as hereinabove provided, shall apply to

reduce the amount of taxes which would otherwise be levied against the property within such public agencies respectively, to meet interest and sinking fund requirements on outstanding bonded indebtedness of such authority.

Such certification and allowance shall be made on or before the first Monday in July, and the amount of money to be raised by taxation shall be computed with reference to the credit to be allowed as herein provided, but such credit may, in the discretion of the board of directors, be considered in connection with the amount of money to be raised by the next tax levy, or may be spread over subsequent years, not to exceed five.

(i) If any public agency shall fail to comply with the terms of the order relating to payments to be made to the authority in lieu of taxation, or if any public agency annexed to the authority shall fail to comply with the terms and conditions fixed by the board of directors and upon which such annexation occurred, the amount of the delinquency, plus a penalty of 8 per cent shall be added to the taxes to be collected during the ensuing fiscal year, from the property within such delinquent public agency, and thereafter for a period of two (2) years no order or ordinance shall be sufficient to exempt the property in said public agency from taxation hereunder unless it be accompanied by payment in cash of the amount which would otherwise be collected from owners of property within the public agency, together with all moneys due but unpaid under any previous order, or annexation provision.

(j) All provisions herein, or in any ordinance adopted pursuant hereto, relating to the respective times when the various acts pertaining to the levy of taxes are to be performed, are directory only, and failure to perform any such act or acts within the time so specified shall not impair the legal authority herein conferred to perform all subsequent acts relating to the levy of such taxes. In the event that any of the provisions of law respecting the time and manner of assessing property for purposes of taxation, of equalizing such assessments, of certifying such assessed valuations to the taxing authorities, of making the tax levies, of certifying such tax levies to the proper authorities for extension upon the tax rolls, and for enforcement and collection of such taxes or of performing any other act regarding the assessment, levy or collection of taxes be amended, changed, repealed or newly enacted, and as a result thereof, it should appear to the board of directors of the authority that the time schedule provided herein respecting the levy of authority taxes be no longer consistent with such modified tax procedure, then said board of directors by ordinance may prescribe a new schedule setting forth the times when the various acts herein required to be done in levying authority taxes shall be performed. Nothing contained in this paragraph shall relieve the board of directors of its duty to provide adequate funds, by annual tax levies if necessary, to meet the interest and principal requirements of the bonded debts as they fall due.

(k) For the purpose of assessing and collecting, under the provisions of Section 9(a) of Article XIII of the Constitution of the State of California, the taxes levied by any authority incorporated hereunder, the rate for taxes levied for the preceding tax year, as such phrase is employed in said section of the Constitution, shall be the rate fixed for such preceding tax year by the board of directors of such authority pursuant to Section 9, subdivision (b) of this act. In the event that any public agency, pursuant to the provisions of Section 9,

subdivision (d) of this act, shall elect to pay the whole or any portion of the amount of taxes to be derived from the area of the authority within such public agency, as such amount shall have been fixed by resolution of the board of directors, a refund shall be made by the authority to each taxpayer thereof who shall have theretofore paid any tax collected under the provisions of said section of the Constitution, in the proportion that such public agency shall have so elected to pay the amount so to be derived. The board of directors shall adopt regulations providing for the presentation and audit and payment of claims for such refunds. No claim for such refund shall be granted unless such claim shall have been filed within one year from the date when the right to such refund shall have accrued.

Sec. 10. (a) For the purposes of this section, the following definitions shall apply to the terms used herein; the term "city" shall mean and include any municipal corporation or municipality of the State of California, whether organized under a freeholder's charter or under the provisions of general law of the type and class of cities and incorporated towns; the term "water district" shall mean and include any municipal water district, municipal utility district, public utility district, county water district, irrigation district or any other public corporation or agency of the State of California of similar character.

(b) Territory may be annexed to any county water authority organized hereunder by one of the following methods:

(1) By annexation to, or consolidation with, the area of any city, the area of which, as a separate unit, shall have become a part of any county water authority organized hereunder, such annexation or consolidation to occur upon compliance with the provisions of law governing such annexation to, or consolidation with, the area of such city. Upon completion of such annexation to, or consolidation with, such city in compliance with the provisions of law applicable thereto, such territory shall become, and be, a part of such county water authority, and the taxable property therein shall be subject to taxation thereafter for the purposes of said county water authority, including the payment of bonds and other obligations of such authority at the time authorized or outstanding.

(2) By annexation to, or consolidation with, any city which, as a separate unit, shall have become a part of any water district the area of which water district, as a separate unit, shall have become a part of any county water authority organized hereunder, in instances where, under the applicable provisions of law governing the change of boundaries of such water district, such annexation or consolidation automatically will result in the enlargement of the area of such water district, such annexation or consolidation to occur upon compliance with the provisions of law governing such annexation to, or consolidation with, the area of such city. Upon completion of such annexation to, or consolidation with, such city in compliance with the provisions of law applicable thereto, such territory shall become, and be a part of such water district, and of such county water authority, and the taxable property therein shall be subject to taxation thereafter for the purposes of said water district and of said county water authority, including the payment of bonds and other obligations of such water district and of such county water authority at the time authorized or outstanding. If any such territory shall have been so annexed to, or consolidated with, any such city prior to the effective date of this subparagraph (2), under con-

ditions which would have resulted in the enlargement of the area of such county water authority had the foregoing provisions of this subparagraph (2) then been in effect, upon compliance with the following provisions of this subparagraph (2), such territory shall be annexed to, and shall become and be a part of, such county water authority, and shall be a part of such water district for all purposes, the last-mentioned provisions being as follows:

(aa) The governing body of such city, at any time after the effective date of this subparagraph (2), may adopt an ordinance which, after reciting that such territory has been annexed to, or consolidated with, such city by proceedings theretofore taken under statutory authority, and after referring to the applicable statutes and to the date and place of filing of the certificate or certificates evidencing such annexation or consolidation, shall describe such territory and shall determine and declare that the said territory shall be, and thereby is, annexed to such county water authority, and said ordinance shall further determine and declare that the said territory shall become and be, and thereby is, a part of such county water authority, and shall be, and thereby is, a part of such water district for all purposes.

(bb) The governing body, or clerk thereof, of such city shall file a certified copy of such ordinance with the Secretary of State of the State of California. Upon the filing of said certified copy of such ordinance in the Office of the Secretary of State, such territory shall become, and be, a part of such county water authority, and shall be a part of such water district for all purposes, and the taxable property therein shall be subject to taxation thereafter for the purposes of said county water authority and of said water district, including the payment of bonds and other obligations of such county water authority at the time authorized or outstanding.

(cc) Upon the filing in his office of the aforesaid certified copy of such ordinance, the Secretary of State shall, within 10 days, issue his certificate, describing such territory, reciting the filing of said certified copy of such ordinance in his office and the annexation of said territory to such county water authority, and declaring that the said territory is a part of said county water authority and of such water district. The Secretary of State shall transmit the original of his said certificate to the secretary of such county water authority and a duplicate original of his said certificate to the clerk of the governing body of such water district, and shall forward a certified copy of his said certificate to the county clerk of the county in which such county water authority is situated.

(3) Upon terms and conditions fixed by the board of directors of such county water authority and in the manner provided in paragraph (c) hereof, by direct annexation, as a separate unit, of the corporate area of any water district or city.

(4) Upon terms and conditions fixed by the board of directors of such county water authority and in the manner provided in paragraph (d) hereof, by annexation to, or consolidation with, any water district, the area of which, in whole or in part, is included within such county water authority as a separate unit; provided, that unless such territory shall be so annexed to such county water authority with the consent of such board of directors, the annexation of such territory to, or the consolidation of such territory with, any such water dis-

trict shall not authorize or entitle such water district or such territory to demand or receive any water from such county water authority for use in such territory; and provided further, that, except where automatic annexation results under the conditions mentioned in subparagraph (2) of this paragraph (b), nothing in this act shall prevent the annexation of territory to, or the consolidation of territory with, any such water district for its local purposes only and without annexing such territory to such county water authority, and such local annexation or consolidation may occur without requesting or obtaining the consent thereto of the board of directors of such county water authority.

(c) The governing body of any water district or city may apply to the board of directors of such county water authority for consent to annex the corporate area of such water district or city to the county water authority. The board of directors may grant or deny such application and in granting the same may fix the terms and conditions upon which the corporate area of such water district or city may be annexed to and become a part of the county water authority. Such terms and conditions may provide, among other things, for the levy by such county water authority of special taxes upon taxable property within such water district or city, in addition to the taxes elsewhere in this act authorized to be levied by such county water authority, and in case such terms and conditions shall provide for the levy of such special taxes, the board of directors in fixing such terms and conditions shall specify the aggregate amount to be so raised and the number of years prescribed for raising such aggregate sum, and that substantially equal annual levies will be made for the purpose of raising such sum over the period so prescribed. The action of the board of directors evidenced by resolution shall be promptly transmitted to the governing body of such applying water district or city, and if such action shall grant consent to such annexation, such governing body may thereupon submit to the qualified electors of such water district or city at any general or special election held therein, the proposition of such annexation subject to the terms and conditions fixed as herein provided. Notice of such election shall be mailed to each voter qualified to vote at the election and shall be given by posting or publication; when given by posting such notices shall be posted at least ten (10) days and in three public places in the water district or city; when given by publication such notice shall be published once at least ten (10) days before the date fixed for the election in a newspaper of general circulation published in the water district or city. Such notice shall contain the substance of the terms and conditions fixed by the board of directors, as herein provided. Such election shall be conducted and the returns thereof canvassed in the manner provided by law for elections in such water district or city. If such proposition shall receive the affirmative vote of a majority of electors of such water district or city voting thereon at such election, the governing body of such water district or city shall certify the result of such election on said proposition to the board of directors of said authority, together with a legal description of the boundaries of the corporate area of such water district or city, accompanied by a map or plat indicating such boundaries. A certificate of proceedings hereunder shall be made by the secretary of the authority and filed with the Secretary of State. Upon the filing thereof in the Office of the Secretary of State, the corporate area of such water district or city shall become, and be, an integral part of such county water authority, and the taxable property therein shall be subject to taxation

thereafter for the purposes of said county water authority, including the payment of bonds and other obligations of such authority at the time authorized or outstanding, and the board of directors of such county water authority shall be empowered to do all things necessary to enforce and make effective the terms and conditions of annexation fixed as hereinabove authorized. Upon the filing in his office of the aforesaid certificate of proceedings the Secretary of State shall, within ten (10) days, issue his certificate, reciting the filing of said papers in his office and the annexation of the corporate area of such water district or city to such county water authority. The Secretary of State shall transmit the original of his said certificate to the secretary of such county water authority and shall forward a certified copy thereof to the county clerk of the county in which such county water authority is situated.

(1) In the event that a water district shall apply to a county water authority for consent to annex its corporate area, as a separate unit, which water district shall include as a part of its corporate area the corporate areas of any cities (whether one or more) which are already included within such county water authority as separate units, or which water district shall include as a part of its corporate area the corporate areas, or portion thereof, already included within such water authority, of any water districts (whether one or more) the corporate areas of which, in whole or in part, are already included within such county water authority as separate units, then that fact shall be taken into consideration by the board of directors of such county water authority in fixing the terms and conditions upon which said applying water district may be annexed to such county water authority, to the end that the areas within said unit member cities or water districts which are already a part of such county water authority, shall not be required to assume any greater financial burden or obligation to such county water authority than they would have had if they had remained a part of such county water authority as separate units.

That concurrently with any election called by an applying water district to submit to the qualified electors of such water district, the question of whether the terms and conditions fixed by the board of directors of such county water authority for annexation shall be approved, the governing bodies of said unit member cities or water districts may call and hold elections within their respective corporate limits or portions thereof already included within such county water authority, to determine whether or not such cities or water districts shall withdraw from such county water authority as separate units, and said proposed withdrawal may be made and submitted conditioned upon and effective when the said applying water district shall have finally been annexed to such county water authority.

The effect of such concurrent elections, if a majority of the electors of the said applying water district voting thereat vote in favor of annexation, and a majority of the electors of said unit member cities or water districts voting thereat vote in favor of withdrawing, shall be that the said annexing water district thereafter shall be authorized to exercise the privileges and to discharge the duties prescribed in this act for public agencies the areas of which, as separate units, are included within the said authority, in place of and instead of said cities or water districts so withdrawing. That notwithstanding anything to the contrary in Section 11 of this act, the areas within said withdrawing cities or

water districts shall remain a part of such county water authority and shall not be excluded therefrom notwithstanding the fact that said cities or water districts, as corporate entities, have withdrawn from said authority.

In the event that said water district does annex to such county water authority, then the directors representing said withdrawing cities or water districts on the board of directors of such county water authority, shall continue to act until their successors have been chosen and designated by the appropriate officers of said annexing water district and have qualified as members of the board of directors of such county water authority, after which time the said directors representing said withdrawing cities or water districts, shall no longer be entitled to sit or vote on said board.

(2) In the event that a water district shall apply to a county water authority for consent to annex its corporate area as a separate unit, which water district shall include as a part of its corporate area lands in public ownership exempt from taxation by a county water authority, and not within or adjacent to the area within said water district served with water by said district, and which lands are not to be supplied by said water district with water obtained from and by reason of its annexation to said county water authority, then that fact may be taken into consideration by the board of directors of such county water authority in fixing the terms and conditions upon which said water district may be annexed to said county water authority and in determining the boundaries of the area to be annexed, and said county water authority may, in the discretion of its board of directors, annex all of the corporate area of said water district as a separate unit excepting that portion consisting of such publicly owned and tax-exempt lands.

(d) The governing body of any water district, the area of which, in whole or in part, is included within such county water authority as a separate unit, may apply to the board of directors of such county water authority for consent to annex to such county water authority territory which it is sought to annex to, or consolidate with, such water district, or territory which, without making the same a part of such county water authority, already has been annexed to, or consolidated with, such water district. The board of directors may grant or deny such application and in granting the same may fix the terms and conditions upon which such territory may be annexed to, and become a part of, the county water authority. Such terms and conditions may provide, among other things, for the levy by such county water authority of special taxes upon taxable property within such territory in addition to the taxes elsewhere in this act authorized to be levied by such county water authority, and in case such terms and conditions shall provide for the levy of such special taxes, the board of directors in fixing such terms and conditions shall specify the aggregate amount to be so raised and the number of years prescribed for raising such aggregate sum, and that substantially equal annual levies will be made for the purpose of raising such sum over the period so prescribed. The action of the board of directors evidenced by resolution shall be promptly transmitted to the governing body of such applying water district, and if such action shall grant consent to such annexation, such territory may be annexed to such county water authority as provided in subdivision (1) or (2) thereof.

(1) If such territory has not theretofore been annexed to or consolidated

with such water district, upon completion of such annexation to, or consolidation with, such water district in compliance with the provisions of law applicable thereto, including this Section 10, such territory shall become and be a part of such county water authority and the taxable property therein shall be subject to taxation thereafter for the purposes of said county water authority, including the payment of bonds and other obligations of such authority at the time authorized or outstanding, and the board of directors of such county water authority shall be empowered to do all things necessary to enforce and make effective the terms and conditions of annexation fixed as hereinabove authorized; provided, that if the applicable provisions of law governing such annexation to, or consolidation with, such water district shall require any notice of any election called for the purpose of determining whether such proposed annexation or consolidation shall occur, or shall require any notice of hearing or other notice to be given to the residents or electors of, or owners of property in, such territory, such notice shall contain the substance of the terms and conditions of annexation to such county water authority fixed by the board of directors of such authority as herein provided; and provided further, that the governing body of such water district or other officer thereof having the duty of certifying the proceedings resulting in such annexation to, or consolidation with, such water district, pursuant to the provisions of law applicable thereto, shall include in such certification a record of the proceedings by which such territory has been annexed to such county water authority in accordance with the provisions hereof, and shall file a duplicate of such certificate with the board of directors of such county water authority.

(2) If the territory sought to be annexed to such county water authority theretofore has been annexed to, or consolidated with, such water district, the governing body of such water district, upon being advised of the action of the board of directors of such county water authority, as above provided, and if such action shall grant consent to such annexation, may submit to the qualified electors of such territory at any general or special election held therein, the proposition of such annexation to such county water authority subject to the terms and conditions fixed by the board of directors of such county water authority, as herein provided. Notice of such election shall be given by posting or publication; when given by posting such notice shall be posted at least ten (10) days and in three public places in such territory; when given by publication such notice shall be published once at least ten (10) days before the date fixed for the election in a newspaper of general circulation published in such water district. Such notice shall contain the substance of the terms and conditions fixed by the board of directors, as herein provided. Such election shall be conducted and the returns thereof canvassed by the governing body of such water district in the manner provided by law for elections in such water district. If such proposition shall receive the affirmative vote of a majority of electors of such territory voting thereon at such election, the governing body of such water district shall certify the result of such election on said proposition to the board of directors of said authority. A certificate of proceedings hereunder shall be made by the secretary of the authority and filed with the Secretary of State. Upon the filing thereof in the Office of the Secretary of State, such territory shall become, and be, a part of such county water authority, and the taxable property therein shall be subject to taxation thereafter for the purposes of said

county water authority, including the payment of bonds and other obligations of such authority at the time authorized or outstanding, and the board of directors of such county water authority shall be empowered to do all things necessary to enforce and make effective the terms and conditions of annexation of such territory to such county water authority fixed by said board of directors as hereinabove authorized. Upon the filing in his office of the aforesaid certificate of proceedings the Secretary of State shall, within ten (10) days, issue his certificate, reciting the filing of said papers in his office and the annexation of such territory to such county water authority. The Secretary of State shall transmit the original of his said certificate to the secretary of such county water authority and shall forward a certified copy thereof to the county clerk of the county in which such county water authority is situated.

(e) Should the corporate area or all portions thereof already included within a county water authority, of any water district or city the corporate area of which, in whole or in part, already is included within such county water authority as a separate unit, annex to a water district or city the corporate area of which, in whole or in part, already is a part of such county water authority as a separate unit, upon the completion of such annexation pursuant to the law pertaining thereto, the water district or city, the corporate area (or portions thereof) of which is so annexed, shall automatically cease to be a separate unit member of said county water authority but said corporate area (or portions thereof) shall remain a part of said county water authority as a part of the unit member water district or city to which it was annexed. The governing body of the water district or city to which such annexation is effected, or other officer thereof having the duty of certifying the proceedings resulting in such annexation, shall file a duplicate of such certificate with the board of directors of such county water authority.

(1) Should any water district or city the corporate area of which, in whole or in part, already is included within a county water authority as a separate unit, consolidate with a water district or city the corporate area of which, in whole or in part, already is a part of such county water authority as a separate unit, under the provisions of any law by the terms of which, after consolidation, a new district or city will result and the former water districts or cities participating in such consolidation shall no longer exist, the resulting new water district or city shall be substituted for the water districts or cities whose corporate existence has been terminated by the consolidation as a unit member of said county water authority, and said corporate areas (or portions thereof) of such former water districts or cities shall remain a part of said county water authority as a part of such unit member water district or city resulting from such consolidation. The governing body of the water district or city resulting from such consolidation, or other officer thereof having the duty of certifying the proceedings resulting in such consolidation, shall file a duplicate of such certificate with the board of directors of such county water authority.

(f) The validity of any proceedings for the annexation to any authority organized hereunder, of the corporate area of a water district or city as a separate unit, or of territory annexed to, or consolidated with, a water district or city which, as a unit, shall have been included within such authority, shall not be contested in any action unless such action shall have been brought within

three months after the completion of such annexation, or, in case such annexation is completed prior to the time that this paragraph takes effect, then within three months after this paragraph shall have become effective.

(g) Whenever territory is annexed to or consolidated with any water district, the corporate area of which, as a unit, shall have become a part of any county water authority organized hereunder, irrespective of whether such territory is annexed to and becomes a part of such county water authority, or whenever territory is annexed to any city under the conditions mentioned in subparagraph (1) or subparagraph (2) of paragraph (b) of this section, or whenever territory previously annexed to any city is annexed to such county water authority under the conditions mentioned in said subparagraph (2) of paragraph (b) of this section, the governing or legislative body, or clerk thereof, of such water district or city, shall file with the board of directors of such county water authority a statement of the change of boundaries of such water district or city, setting forth the legal description of the boundaries of such water district or city, as so changed, and of the part thereof within such county water authority, which statement shall be accompanied by a map or plat indicating such boundaries.

(h) The inclusion in a county water authority of the corporate area, in whole or in part, of any municipal water district, municipal utility district, public utility district, county water district, irrigation district, or other public corporation or agency of the State of California of similar character, referred to in Section 2 of this act, shall not destroy the identity or legal existence or impair the powers of any such municipal water district, municipal utility district, public utility district, county water district, irrigation district, or other public corporation or agency of the State of California of similar character, notwithstanding the identity of purpose or substantial identity of purpose of such county water authority.

(i) In determining the number of members of the board of directors of a county water authority organized hereunder, and the number of votes to be cast by such directors, from the component public agencies, the corporate areas of which, in whole or in part, are included as units within such county water authority, there shall be considered only the assessed valuation of the property taxable for authority purposes lying in such public agencies and in such authority. Such directors shall be appointed by the chief executive officers, with the consent and approval of the governing bodies, of such component public agencies, respectively, without regard to whether any such chief executive officers or members of such governing bodies have been chosen from, or represent, areas of their respective public agencies which lie outside of such county water authority. The phrase "any water district, the corporate area of which is included within said authority" and the phrase "each city, the area of which shall be a part of any authority incorporated hereunder," and like phrases, used elsewhere in this act, shall be deemed to mean and refer to any water district or city, the corporate area of which either in whole or in part, is included within such county water authority, but the duties and obligations of such county water authority shall extend only to that part of the corporate area of such water district or city which shall lie within such county water authority. As to any such water district, city or public agency, the corporate area of which lies partly

within and partly without such county water authority, the word "therein" and the phrase "within such city" and like words and phrases, used elsewhere in this act, shall be deemed to mean and refer to that part of the corporate area of such water district, city or public agency which lies within such county water authority. The charges for water supplied by such county water authority to any component public agency, pursuant to its request, shall be and become an obligation of such public agency, irrespective of whether the entire corporate area of such public agency is included within such county water authority, and such authority in administrative and contractual matters shall deal with the chief executive officers and governing bodies and other proper officials of such component public agencies as chosen or constituted under applicable laws governing the respective public agencies.

Sec. 11. (a) Exclusion of territory from any county water authority may be effected by either of the following methods:

(1) Territory excluded from that portion of the corporate area of any public agency which lies within the exterior boundaries of a county water authority, said public agency being a unit of said authority, and which exclusion occurs in accordance with the provisions of law applicable to such exclusions, shall thereby be excluded from and shall no longer be a part of such authority; provided, that the taxable property within such excluded territory shall continue taxable by such county water authority for the purpose of paying the bonded or other indebtedness outstanding or contracted for at the time of such exclusion and until such bonded or other indebtedness shall have been satisfied; provided, further, that if the taxable property within such excluded territory or any part thereof shall be, at the time of such exclusion, subject to special taxes levied, or to be levied, by such county water authority pursuant to terms and conditions theretofore fixed under the provisions of paragraph (c) or paragraph (d) of Section 10 of this act for the annexation of such excluded territory or part thereof to such county water authority, the taxable property within such excluded territory or part thereof so subject to such special taxes shall continue taxable by such county water authority for the purpose of raising the aggregate sum or sums to be raised by the levy of special taxes upon taxable property within the respective annexing area or areas pursuant to terms and conditions for such annexation or annexations as so fixed and until such aggregate sum or sums shall have been so raised by such special tax levies.

(2) Any public agency whose corporate areas as a unit shall have become or is a part of any county water authority may obtain the exclusion of such area therefrom in the following manner:

The governing body of any such public agency may submit to the electors thereof at any general or special election the proposition of excluding from such county water authority the corporate area of such public agency. Notice of such election shall be given in the manner provided in paragraph (c) of Section 10 hereof. Such election shall be conducted and the returns thereof canvassed in the manner provided by law for the conduct of elections in said public agency. In the event that the majority of electors voting thereon vote in favor of such withdrawal, the result thereof shall be certified by the governing body of such public agency to the board of directors of the county water authority. A certificate of the proceedings hereunder shall be made by the secretary of

the county water authority and filed with the Secretary of State; and upon the filing of such certificate the corporate area of such public agency shall be excluded from the said county water authority and shall no longer be a part thereof; provided, that the taxable property within such excluded area shall continue taxable by said county water authority for the purpose of paying the bonded and other indebtedness of said county water authority outstanding or contracted for at the time of such exclusion and until such bonded or other indebtedness shall have been satisfied; provided, further, that if the taxable property within such excluded area or any part thereof shall be, at the time of such exclusion, subject to special taxes levied or to be levied by said county water authority pursuant to terms and conditions theretofore fixed under the provisions of paragraph (c) or paragraph (d) of Section 10 of this act for the annexation of such excluded area or part thereof to said county water authority, the taxable property within such excluded area or part thereof so subject to such special taxes shall continue taxable by said county water authority for the purpose of raising the aggregate sum or sums to be raised by the levy of special taxes upon taxable property within the respective annexing area or areas pursuant to terms and conditions for such annexation or annexations as so fixed and until such aggregate sum or sums shall have been so raised by such special tax levies. Upon the filing in his office of the aforesaid certificate of proceedings the Secretary of State shall, within 10 days, issue his certificate, reciting the filing of said papers in his office and the exclusion of the corporate area of such public agency from such county water authority. The Secretary of State shall transmit the original of his said certificate to the secretary of such county water authority and shall forward a certified copy thereof to the county clerk of the county in which such county water authority is situated.

(b) Whenever territory is excluded from any public agency in accordance with the provisions of subparagraph (1) of paragraph (a) of this section, the governing body, or clerk, of such public agency shall file with the board of directors of such county water authority a statement of the change of boundaries of such public agency, setting forth the legal description of the boundaries of such public agency, as so changed, and of the part thereof within such county water authority, which statement shall be accompanied by a map or plat indicating such boundaries.

(c) Whenever any territory shall have been excluded from any public agency prior to the effective date of this section, under conditions which would have resulted in the exclusion of said territory from a county water authority had the provisions of subparagraph (1) of paragraph (a) of said section then been in effect, upon compliance with the following provisions of this paragraph (c), such territory shall be excluded from and shall no longer be a part of, said authority, the last-mentioned provisions being as follows:

(1) The governing body of such public agency, at any time after the effective date of this subparagraph (1) may adopt an ordinance which, after reciting that such territory has been excluded from such public agency by proceedings theretofore taken under statutory authority, and after referring to the applicable statutes and to the date or dates upon which such exclusion became effective, shall describe said territory and shall determine and declare that said territory shall be, and thereby is, excluded from such county water authority.

(2) The governing body, or clerk thereof, of such public agency shall file a certified copy of such ordinance with the Secretary of State of the State of California. Upon the filing of said certified copy of such ordinance in the Office of the Secretary of State, such territory shall be excluded from and shall not longer be a part of, said county water authority; provided, that the taxable property within such excluded territory shall continue taxable by such county water authority for the purpose of paying the bonded or other indebtedness outstanding or contracted for at the time of such exclusion, and until such bonded or other indebtedness shall have been satisfied; provided, further, that if the taxable property within such excluded territory or any part thereof shall be, at the time of such exclusion, subject to special taxes levied or to be levied by such county water authority pursuant to terms and conditions theretofore fixed under the provisions of paragraph (c) or paragraph (d) of Section 10 of this act for the annexation of such excluded territory or part thereof to such county water authority, the taxable property within such excluded territory or part thereof so subject to such special taxes shall continue taxable by such county water authority for the purpose of raising the aggregate sum or sums to be raised by the levy of special taxes upon taxable property within the respective annexing area or areas pursuant to terms and conditions for such annexation or annexations as so fixed and until such aggregate sum or sums shall have been so raised by such special tax levies.

(3) Upon the filing in his office of the aforesaid certified copy of such ordinance, the Secretary of State shall, within 10 days, issue his certificate, describing such territory, reciting the filing of said certified copy of such ordinance in his office and the exclusion of said territory from such county water authority, and declaring that the said territory is no longer a part of said county water authority. The Secretary of State shall transmit the original of his said certificate to the secretary of such county water authority and shall forward a certified copy of his said certificate to the county clerk of the county in which such county water authority is situated.

Sec. 11.1. Any territory within a county water authority which lies within two or more public agencies, the corporate areas of which are included within such county water authority as separate units, shall, subject to the conditions hereinafter provided, for the purposes of this act and for all related purposes (other than local purposes of such public agencies) involving in any manner the respective territorial boundaries and jurisdiction of such public agencies, be considered to be a part of the respective public agency which will supply water to such overlapping territory, as determined in the manner provided herein; provided, that if the taxable property within such overlapping territory or any portion thereof shall be subject to special taxes levied or to be levied by such county water authority pursuant to terms and conditions theretofore fixed under the provisions of paragraph (c) or paragraph (d) of Section 10 of this act for the annexation of such overlapping territory or portion thereof to such county water authority, then such taxable property within such overlapping territory shall continue taxable by such county water authority for the purpose of raising the aggregate sum or sums to be raised by the levy of such special taxes pursuant to terms and conditions for such annexation or annexations as so fixed and until such aggregate sum or sums shall have been so raised by such special tax levies; and provided, further, that the public agency of which such over-

lapping territory shall be considered to be a part shall be determined in the following manner and subject to the following conditions:

(1) The governing body of each public agency in which any such overlapping territory lies, shall, on or before October 1st of any calendar year, file with the board of directors of the authority a certified copy of a resolution of such governing body which shall contain a legal description of any such overlapping territory or portion thereof which will be supplied with water by such public agency during the next ensuing fiscal year commencing July 1st next following, and such certified copy of such resolution so filed shall be accompanied by a map or plat showing the respective boundaries of each overlapping territory or portion thereof so to be supplied with water by such public agency.

(2) On or before November 1st of such calendar year, the board of directors of the authority shall consider all documents so filed with the authority as required under subparagraph (1) above, and by resolution shall determine which public agency will supply water to each such overlapping territory or portion thereof during the next ensuing fiscal year commencing July 1st next following; in the event that the board of directors of the authority, from the evidence submitted, cannot determine which public agency will supply water to any overlapping territory or portion thereof, then the board of directors shall determine that such overlapping territory or portion thereof shall be considered to be a part of, and shall designate, the public agency within which such overlapping territory or portion thereof first was included; and such resolution shall contain a legal description of each such overlapping territory or portion thereof respecting which any such determination is made.

(3) The board of directors of the authority, on or before November 20th of such calendar year, shall file with the county assessor of the county in which such overlapping territory shall lie and with the State Board of Equalization and in the event that such county water authority shall be included within a metropolitan water district as a separate unit then also with the board of directors of such metropolitan water district, a certified copy of such resolution of the board of directors of the authority so determining the matters required to be determined by it under subparagraph (2) above, accompanied by map or maps or plat or plats showing the respective boundaries of each overlapping territory or portion thereof described in such resolution.

(4) Any determination made by the board of directors of the authority and evidenced by the filing of the documents required by subparagraph (3) hereof shall be effective until changed by later determination by said board of directors and the evidencing thereof by the filing of the required documents.

(5) Any overlapping territory or portion thereof respecting which no determination shall have been made by the board of directors of the authority and evidenced by the filing of the documents required by subparagraph (3) hereof shall be considered to be a part of the public agency within which such overlapping territory or portion thereof first was included.

Sec. 12. Except as herein provided, no director or any other officer or employee of the authority shall in any manner be interested, directly or indirectly, in any contract awarded or to be awarded by the board of directors, or made or to be made by such officer or employee pursuant to discretionary authority vested

in him, or in the profits to be derived therefrom. Notwithstanding the fact that such director or other officer or employee of the authority may be a stockholder or bondholder or director or other officer or employee of a corporation contracting with the authority, contracts may be made with such corporation for its general benefit unless such director or officer or employee of the authority shall own or control, directly or indirectly, stock or bonds to an amount exceeding five per centum (5%) of the total amount of the stock or bonds, respectively, of such contracting corporation issued and outstanding. For any violation of this section such director or other officer or employee of the authority shall be deemed guilty of a misdemeanor, and such conviction shall work a forfeiture of his office, or employment, and he shall be punished by a fine not exceeding five hundred dollars (\$500), or by imprisonment in the county jail not exceeding six (6) months or by both such fine and imprisonment.

Sec. 13. All matters and things necessary for the proper administration of the affairs of said authority which are not provided for in this act shall be provided for by the board of directors of the authority by ordinance. Any action required by this act to be done by resolution may be done, with equal validity, by ordinance.

Sec. 14. The treasurer of any authority organized under the provisions of this act is hereby expressly authorized to deposit funds of such authority in banks in the manner provided by law for the deposit of moneys of a municipality or other public or municipal corporation.

Sec. 15. The fiscal year of any authority incorporated hereunder shall commence on the first day of July of each year and shall continue until the close of the thirtieth day of June of the year following. As promptly as shall be possible after the close of each fiscal year, it shall be the duty of the controller of the authority to prepare and transmit to the chief executive officer of each public agency, the area of which shall lie within the authority, a statement of revenues and expenditures in such detail as shall be prescribed by the board of directors; also a statement of the amount of water stored by the authority and the amounts used by the respective public agencies, the areas of which shall lie within the authority.

Sec. 16. If any section, subsection, sentence, clause or phrase of this act is for any reason held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this act. The Legislature hereby declares that it would have passed this act, and each section, subsection, sentence, clause and phrase thereof, irrespective of the fact that any one or more other sections, subsections, sentences, clauses or phrases be declared unconstitutional.

SECTION VI

FINANCIAL

THE AUTHORITY'S financial operations have continued to reflect the long-range policy of the Board of Directors as adopted in 1949 and described in detail in previous reports. In general, operation and maintenance costs have been met primarily from revenues from the sale of water, while requirements for payments to the Federal Government and for a sinking fund for retirement of bonded debt have been met by tax levies.

During the fiscal year 1952-53 water sales amounted to \$381,472.65, which was approximately \$342,000 less than the preceding year. This reduction in revenues, following a similar experience in 1951-52, required a tax levy for operation and maintenance for the second time since 1948-49, and the 1952-53 requirements for the general fund were therefore financed partly from tax receipts.

At June 30, 1953 cash and marketable securities amounted to \$1,725,727.54, as compared with \$1,488,443.28 in 1952. Of this amount, \$1,387,079.07 was in securities of the United States Government earning an average rate of approximately 2.31 per cent. During the year reserves were decreased by \$104,571.74, and long-term obligations were reduced by \$567,749.12. In the overall situation, the investment in fixed assets increased \$2,351,375.79; appropriated surplus increased \$75,530.87, and unappropriated surplus increased \$73,424.68, making a net increase of \$2,395,759.60 for the year in the Authority's net equities.

The Authority's accounting system follows the basic principles of fund accounting, normally used in municipalities, modified to the extent necessary to reflect conditions peculiar to the Authority. The accounts are maintained on the accrual basis, and with the exception of the plant ledger the entire system has been adapted to machine accounting.

All accounts have been regularly audited by the firm of Everts and Esenoff, Certified Public Accountants, whose letter of comments thereon is included at the end of this section.

The financial operations of the Authority, for the fiscal year 1952-53, are summarized in Tables 21 to 29, appearing in the following pages of this section.

TABLE 21
STATEMENT OF AUTHORITY ASSESSED VALUATIONS AND TAX RATES TO JUNE 30, 1953

Fiscal Year	Secured		Public Utilities	Unsecured		Total	Tax Rate per \$100	
	Real	Personal		Personal	Unsecured		Secured	Unsecured
1945-46	\$212,082,975.00		\$28,253,700.00	\$29,960,130.00	\$270,296,805.00	\$0.04	\$0.00	
1946-47	208,715,150.00 (1)		29,433,450.00	30,665,910.00	268,814,510.00	0.04	0.04	
1947-48	233,579,990.00		32,740,680.00	40,977,850.00	307,298,520.00 (2)	0.14	0.04	
1948-49	254,227,570.00		37,482,020.00	47,177,300.00	338,886,890.00	0.14	0.14	
1949-50	290,351,875.00		42,429,140.00	45,743,200.00	378,524,215.00	0.10	0.14	
1950-51	306,104,930.00		43,593,730.00	44,717,740.00	394,418,400.00	0.10	0.10	
1951-52	344,620,030.00		48,452,940.00	50,904,035.00	443,977,005.00	0.10	0.10	
1952-53	382,948,860.00		53,208,220.00	63,996,330.00	500,153,410.00	0.12	0.10	

Debt limit 15 per cent of last equalized assessed valuation of Authority.
Basis of assessment approximately 50 per cent.

(1) City of Coronado and Ramona Irrigation District secured valuation not included in this or subsequent tax levies by the Authority, they having withdrawn from the Authority prior to 1946-47.

(2) City of Coronado and Ramona Irrigation District not included in this or subsequent total valuation.

TABLE 22

ANALYSIS OF FIXED ASSETS AND ALLOWANCES FOR DEPRECIATION
July 1, 1952 to June 30, 1953

	Cost		Balance 6-30-53	Allowances for Depreciation		Net Book Value 6-30-53
	Balance 7-1-52	Additions (Disposals)		Balance 7-1-52	Additions (Deductions)	
San Diego Aqueduct (Authority's share)	\$7,078,250.79	\$ 3,177.68	\$7,081,428.47	\$282,797.23	\$70,785.12	\$ 6,727,846.12
La Mesa Sweetwater Extension	1,439,568.55	—	1,439,568.55	57,811.22	14,455.20	72,266.42
Fallbrook-Oceanside Branch	833,978.10	—	833,978.10	33,001.07	8,291.34	41,292.41
Escondido Hdqtrs.	24,911.22	8,009.11	32,920.33	1,537.33	391.20	1,928.53
Misc. furniture & equipment	41,334.65	863.17	42,197.82	23,080.47	5,115.08	28,195.55
Totals	\$9,438,045.31	\$12,049.96	\$9,450,095.27	\$398,227.32	\$99,037.94	\$497,265.26
Add:						
Appropriation expenditures added to work in progress		\$9.31				251,503.57
Furniture and fixtures included in expenditures but not yet received		164.80				21,667,600.26
Total expenditures		\$12,254.27				30,871,731.84
Deduct long-term obligations						25,899,778.80
Investment in fixed assets—exhibit A						\$ 4,971,953.04

TABLE 23
STATEMENT OF FINANCIAL POSITION
June 30, 1953

ASSETS			
CURRENT ASSETS—GENERAL FUND:			
Cash with treasurer	\$	147,072.49	
Petty cash		100.00	
Accounts receivable		92,130.50	
Inventory of water in storage		40,856.00	
Delinquent taxes receivable	\$	3,096.74	
Less allowance for estimated losses ..		3,096.74	
Total current assets			\$ 280,158.99
SPECIAL FUND ASSETS:			
General Reserve Fund:			
Cash with treasurer		107,161.85	
Accrued interest receivable		450.00	
Investments		250,000.00	357,611.85
Bond Interest and Sinking Fund:			
Cash with treasurer		26,928.49	
Cash with fiscal agent for payment of bond interest		19,920.00	
Investments		532,821.92	
Delinquent taxes receivable	2,122.82		
Less allowance for estimated losses ..	2,122.82		579,670.41
U. S. Government Contract Fund:			
Cash with treasurer		51,827.24	
Due from Metropolitan Water District		6,187,500.00	
Investments		604,257.15	
Delinquent taxes receivable	5,499.80		
Less allowance for estimated losses ..	5,499.80		6,843,584.39
Special Tax Fund:			
Cash with treasurer		5,658.40	
Annexation charges receivable— not due		75,261.71	
Delinquent taxes receivable	105.01		
Less allowance for estimated losses ..	105.01		80,920.11
FIXED ASSETS:			
Cost of participation rights in Metropolitan Water District to June 30, 1953		21,667,600.26	
Plant	9,450,093.27		
Less allowance for depreciation	497,265.26		
	8,952,828.01		
Work in progress	251,303.57	9,204,131.58	
Total fixed assets			30,871,731.84
			<u>\$39,013,677.59</u>

TABLE 23 (Continued)
STATEMENT OF FINANCIAL POSITION
June 30, 1953

LIABILITIES			
CURRENT LIABILITIES—GENERAL FUND:			
Accounts payable	\$	60,355.80	
Advances by agencies for construction ..		1,048.42	
Total current liabilities			\$ 61,404.22
LONG-TERM OBLIGATIONS:			
General obligation bonds payable— not due		1,950,000.00	
Estimated balance due on U. S. Government contract for cost of aqueduct		12,375,000.00	
Balance due Metropolitan Water District on annexation charges		11,574,778.80	
Total long-term obligations			25,899,778.80
SURPLUS:			
Invested in fixed assets—Table 23 ..		4,971,953.04	
Reserves for debt redemption:			
For retirement of general obligation bonds	\$	579,670.41	
For retirement of U. S. Government contract		6,843,584.39	
Total reserves for debt redemption			7,423,254.80
Appropriated:			
For petty cash fund balance		100.00	
For general reserve fund balance ..		357,611.85	
For special tax fund balance		80,920.11	
For incomplete projects (continuing appns.)		31,028.42	
Unappropriated surplus—Table 22 ..	469,660.38		
	187,626.35	657,286.73	
Total surplus			13,052,494.57
			<u>\$39,013,677.59</u>

TABLE 24
STATEMENT OF INCOME AND EXPENSE
July 1, 1952 to June 30, 1953

INCOME DIVISION

OPERATING INCOME:		
Water sales		\$381,472.65
DEDUCT OPERATING COSTS:		
Cost of water sold:		
Inventory of water in storage, July 1, 1952	\$ 64,306.40	
Water purchased	285,507.00	
Storage charges	6,752.70	
	<u>356,566.10</u>	
Less inventory of water in storage		
June 30, 1953	40,856.00	\$315,710.10
Direct operating expense	29,027.85	
General and administrative expense	70,812.54	
		<u>415,550.49</u>
Net operating income (deficit) before depreciation and debt service expense		(34,077.84)
DEDUCT DEPRECIATION AND DEBT SERVICE EXPENSE:		
Depreciation	99,037.94	
Debt service expense	40,388.70	139,426.64
		<u>(173,504.48)</u>
Net operating income (deficit)		
INCOME CREDITS:		
Revenue from taxes	188,284.95	
Less collection expense	395.87	187,889.08
Miscellaneous revenues	3,079.00	190,968.08
Net income for the year—to surplus		<u>\$ 17,463.60</u>

TABLE 24 (Continued)
STATEMENT OF INCOME AND EXPENSE
July 1, 1952 to June 30, 1953

SURPLUS DIVISION

SURPLUS, JULY 1, 1952:		
Appropriated surplus:		
Continuing appropriations	\$ 3,195.61	
Water in storage	64,306.40	
Petty cash fund	100.00	\$ 67,602.01
Unappropriated surplus	46,699.66	\$114,301.67
ADDITIONS TO SURPLUS:		
Depreciation charged to surplus entailing no expenditure of current funds	99,037.94	
Refunds of prior year's expenditures	205.83	
Net income for the year from income division	17,463.60	116,707.37
		<u>231,009.04</u>
DEDUCTIONS FROM SURPLUS:		
Expenditures for construction work	11,226.30	
Expenditures for furniture, fixtures and equipment	1,027.97	12,254.27
		<u>\$218,754.77</u>
Surplus, June 30, 1953		
CONSISTING OF:		
Appropriated surplus:		
For incomplete projects	\$ 31,028.42	
For petty cash fund	100.00	\$ 31,128.42
Unappropriated surplus:		
Water in storage	40,856.00	
Available for reduction of tax levy	146,770.35	187,626.35
		<u>\$218,754.77</u>

TABLE 25
STATEMENT OF REVENUE
Fiscal Year Ended June 30, 1953

Source	Revenue
Taxes, secured, current levy	\$ 519,460.15
Taxes, unsecured, current levy	65,915.48
Taxes, secured, prior years levy	12,403.40
Taxes, unsecured, prior years levy	117.26
Penalties and interest on delinquent taxes	1,048.36
Miscellaneous tax on options	18.40
Receipts in lieu of taxes	18,625.03
Sale of water	381,472.65
Miscellaneous tax sales	745.67
Earnings on investments	27,661.21
Rentals	2,077.00
Use of Authority facilities	1,002.00
Total	\$1,030,546.61
DISTRIBUTION BY FUNDS:	
General Fund	\$ 532,711.60
Bond Interest and Sinking Fund	145,338.84
U. S. Government Contract Fund	342,064.69
General Reserve Fund	4,757.45
Special Tax Fund	5,674.03
Total	\$1,030,546.61

TABLE 26
SUMMARY STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS
July 1, 1952 to June 30, 1953

	Cash Balance July 1, 1952	Cash Receipts	Cash Disbursements	Cash Balance June 30, 1953
General Fund	\$ 47,907.34	\$ 445,889.26	\$ 346,724.11	\$147,072.49
Bond Interest and Sinking Fund	32,168.08	1,207,432.28	1,212,671.87	26,928.49
U. S. Contract Fund	89,095.35	831,126.18	868,394.29	51,827.24
General Reserve Fund	100,109.40	257,096.00	250,043.55	107,161.85
Special Tax Fund		5,638.40		5,638.40
Total—All Funds	\$269,280.17	\$2,747,202.12	\$2,677,833.82	\$338,648.47
TREASURY CASH ON DEPOSIT JUNE 30, 1953				
First National Trust and Savings Bank			\$538,262.56	
Bank of America National Trust and Savings Association			69,920.00	
Total Bank Balances			428,182.56	
Add deposit in transit			61,021.09	
			489,203.65	
Deduct:				
Outstanding warrants				\$130,635.18
Special deposit for payment of bond interest coupons			19,920.00	
Treasury Cash, June 30, 1953				\$338,648.47

TABLE 27
STATEMENT OF TAX ASSESSMENTS AND COLLECTIONS
as of June 30, 1953

Member Agency	Tax Assessments to Date	Adjustments to Tax Assessments	Tax Collections	Interest and Penalties	Tax on Options	Receipts in Lieu of Taxes	Miscellaneous Tax Sales	Less Refunds	Net Total Collections	Uncollected June 30, 1953
Fairbrook P.U.D.	\$ 21,512.58	\$ (61.74)	\$ 21,103.69	\$ 79.37	\$.24	\$ 3,241.42	\$ 19.38	\$ 3.69	\$ 24,421.03	\$ 347.15
Lakeside Irr. District, La Mesa, Lemon Grove and Spring Valley I.D.	5,086.28	1.18	5,022.10	29.86	.05	45.00		3.85	5,112.54	65.36
City of National City ..	249,438.60	(455.41)	247,708.21	754.62	87.68	1,060.00	238.36	105.45	249,743.42	1,274.98
City of Oceanside	79,027.40	82.89	78,489.24	232.66	5.38	4,741.96	36.92	453.66	83,032.70	621.05
City of San Diego	70,220.28	(53.70)	69,649.19	175.32	5.11	2,495.89	.54	69.29	72,256.76	515.39
Santa Fe Irr. District, San Diego I.D.	2,300,809.78	5,834.86	2,299,385.47	4,333.68	26.04	110,684.30	1,230.32	4,092.34	2,411,587.47	7,259.17
San Diego I.D.	24,359.01	(88.50)	24,050.22	59.08	1.03		59.73	5.01	24,165.05	220.29
City of Escondido	29,562.88	(131.80)	29,184.54	85.56	2.93		83.98	177.91	29,179.10	246.54
South Bay Irr. Dist. ..	20,573.08	23.36	20,314.51	6.51			17.88	1.04	20,537.86	81.93
	102,922.24	(126.27)	102,603.46	224.40	.59	4,245.50		329.90	106,743.85	192.51
Total member agencies	2,903,512.13	5,022.87	2,897,710.63	5,981.06	129.05	126,514.07	1,707.11	5,242.14	3,026,799.78	10,824.37
Withdrawn agencies ..	4,129.14	21.33	4,150.47	8.71	.15	186.64			4,345.97	
Total	\$2,907,641.27	\$5,044.20	\$2,901,861.10	\$5,989.77	\$129.20	\$126,700.71	\$1,707.11	\$5,242.14	\$3,031,145.75	\$10,824.37

ANALYSIS OF UNCOLLECTED TAXES BY FUNDS

General Fund	\$ 3,096.74
Bonds Interest and Sinking Fund	2,122.82
U. S. Contract Fund	5,499.80
Special Tax Fund	105.01
Total as above	\$10,824.37

TABLE 28
STATEMENT OF APPROPRIATIONS AND EXPENDITURES
July 1, 1952 to June 30, 1953

E&A No.	Purpose	Prior Year Appropriation Carried Over	Appropriations 1952-53	Expenditures 1952-53	Cancelled Appropriations	Unexpended Appropriations June 30, 1953
110	Construction of access roads	\$3,195.61				\$ 3,195.61
135	Operation and maintenance		\$122,900.00	\$101,132.06	\$21,767.94	
136	Construction of Second Barrel		27,500.00	39.51		27,460.49
137	Additional construction— Escondido Headquarters		9,000.00	8,009.11	990.89	
138	Bond principal and interest redemption		90,125.00	90,125.00		
139	Lease-purchase of San Diego Aqueduct		250,000.00	250,000.00		
140	Purchase of water		307,000.00	293,259.70	14,740.30	
141	Red Mountain and Oat Hills Metering Stations		3,550.00	3,177.68		372.32
			\$810,075.00	\$744,743.06	\$37,499.13	\$31,028.42

TABLE 29
STATEMENT OF BONDS PAYABLE
June 30, 1953

Description	Rate of Interest	Date of		Bonds		Sinking Fund			
		Issue	Maturity	Authorized	Issued	Required	Actual	Excess	
Waterworks Bonds	2%-2½%	1947	1971	\$2,000,000.00	\$2,000,000.00	\$1,950,000.00	\$471,750.12	\$559,750.41	\$88,011.29

Fiscal Year	Bond Nos.	Interest Payable (1)		Bond Principal Payable (2)	Total Cash Required
		Rate	Amount		
1953-54	51-100	2½%	\$ 38,875.00	\$ 50,000.00	\$ 88,875.00
1954-55	101-150	2½%	37,625.00	50,000.00	87,625.00
1955-56	151-200	2%	36,500.00	50,000.00	86,500.00
1956-57	201-300	2%	35,000.00	100,000.00	135,000.00
1957-58	301-400	2%	33,000.00	100,000.00	133,000.00
1958-59	401-500	2%	31,000.00	100,000.00	131,000.00
1959-60	501-600	2%	29,000.00	100,000.00	129,000.00
1960-61	601-700	2%	27,000.00	100,000.00	127,000.00
1961-62	701-850	2%	24,500.00	150,000.00	174,500.00
1962-63	851-1000	2%	21,500.00	150,000.00	171,500.00
1963-64	1001-1150	2%	18,500.00	150,000.00	168,500.00
1964-65	1151-1300	2%	15,500.00	150,000.00	165,500.00
1965-66	1301-1450	2%	12,500.00	150,000.00	162,500.00
1966-67	1451-1600	2%	9,500.00	150,000.00	159,500.00
1967-68	1601-1700	2%	7,000.00	100,000.00	107,000.00
1968-69	1701-1800	2%	5,000.00	100,000.00	105,000.00
1969-70	1801-1900	2%	3,000.00	100,000.00	103,000.00
1970-71	1901-2000	2%	1,000.00	100,000.00	101,000.00
			\$386,000.00	\$1,950,000.00	\$2,336,000.00

(1) Interest payable January 1 and July 1.

(2) Maturity day January 1.

EVERTS and ESENOFF
Certified Public Accountants
Suite 727, First National Building
San Diego, California

October 23, 1953

Board of Directors
San Diego County Water Authority
314-321 Land Title Building
San Diego 1, California

Gentlemen:

We have examined the balance sheet of the San Diego County Water Authority as of June 30, 1953 and the related statements of income and surplus for the year then ended. Our examination was made in accordance with generally accepted auditing standards and accordingly included such tests of accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion the accompanying balance sheet and statements of income and surplus present fairly the financial position of the San Diego County Water Authority at June 30, 1953 and the results of its operations for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the previous years.

Yours very truly,

(signed) CHARLES C. PORTER

For Everts and Esenoff
Certified Public Accountants