

May 14, 1924
 [by letter to E.F. Brown
 STROPSHIRE]

CEM

AREA & CAPACITY OF MISSION GORGE RES'R SITE NO. 2

Contour	Gage Ht.	Area Flooded Acres	Capacity	
			Acre Ft.	Million Gallons
340	96	2000.0	32,684.9	10,650.42
345	101	2420.0	44,500.0	14,500.37
350	106	2771.5	56,542.4	18,424.42
355	111	3050.0	71,500.0	23,298.35
360	116	3320.0	87,000.0	28,349.07
365	121	3720.0	105,000.0	34,214.36
370	126	4110.0	124,300.0	40,503.33
375	131	4540.0	146,000.0	47,574.25
380	136	4960.0	169,800.0	55,329.57
385	141	5340.0	196,000.0	63,866.80
390	146	5750.0	223,350.0	72,778.90
395	151	6160.0	253,000.0	82,440.30
400	156	6580.0	285,000.0	92,867.66

AREA & CAPACITY OF MISSION GORGE RES'R SITE NO. 3

Contour	Gage Ht.	Area Flooded Acres	Capacity	
			Acre Ft.	Million Gallons
330	230	1424.0	44,225.0	14,410.78
335	235	1720.0	54,000.0	17,596.00
340	240	2080.0	64,000.0	20,854.00
345	245	2430.0	74,500.0	24,276.00
350	250	2880.0	86,000.0	27,697.00
355	255	3380.0	98,000.0	31,933.00
360	260	3720.0	112,000.0	36,495.00

September 15, 1924.

Mr. Stephen Barnson, President,
 San Diego Realty Board,
 525 Electric Bldg.,
 San Diego, Calif.

My dear Barnson:

I have received a copy of the resolution passed by the San Diego Realty Board, and thank you for the keen interest manifested. It is only by the activity of those men like yourself, that this problem can be solved for the good of the city.

Yours sincerely,

KIM

cc - Flint - Thompson
Stern
White

Directors
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STEPHEN BARNSON
A. F. PRATT
J. F. THOMAS
C. E. ARNOLD
COL. E. N. JONES
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San Diego Realty Board

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RESOLUTION

Whereas, the plan to build a dam at site No. 2 in Mission gorge has been rejected by a vote of the people of San Diego., and

Whereas, the continued growth of our City and the bay region will be seriously impeded unless great quantities of water are impounded within the next few years, and immediately begun., and conservation and impoundment should be on the San Diego river and its tributaries., and

Whereas, this development should be comprehensive enough to look to the best possible use of lands contiguous to our city suited to growing diversified fruits and vegetables, and the placing of families on such half and one acre plots particularly, and to this end the water supply must be certain and copious, and at rates conducive to production of food products which are quite as important to the prosperity and welfare of the community as the manufacturing of clothing and other necessities of daily use., and

Whereas, the people are faced with extended litigation over conflicting claims and rights on the San Diego river and its water shed. These vexatious law-suits are always uncertain as to their termination, and they tend to divide the people and prevent harmony and progress., and

Whereas, the Cuyamaca Water Company will shortly be compelled to enlarge it's capacity if it is to continue to serve the ever increasing patrons in it's territory., and those people's interests must be served and their properties protected and the time is rapidly approaching when the very necessity of the case will compel settlement of this matter and unless it is settled in an equitable manner to all parties in interest, dissension and bitterness and perhaps even violence such as prevails between one of our neighbor cities and settlers whose prior use of water are attacked, may convulse our own community., and

Whereas, the sale of the Cuyamaca Water Company to a water district of owners and users would further complicate matters, insofar as the City's plans of development on the same watershed is concerned; Now Therefore,

Be It Resolved, that the San Diego Realty Board earnestly recommends that the citizens of San Diego, the District which now holds an option to purchase the Cuyamaca Water Company., and the water company aforesaid unite upon the following points, to wit:

1st-: That Normal Heights, Kensington Park, La Mesa, Lemon Grove and all intermediate territory come into the City of San Diego by annexation.

2nd-: That the so enlarged City vote bonds for (a) purchase of the Cuyamaca Water Company's physical holdings, (b) and construction of a dam high enough up on the San Diego River to provide water by gravity flow for the enlarged City area. Be it further

Resolved, that copies of these Resolutions be sent to the San Diego City Council; to all committees and organizations acting for the interurban settlements in the matter of the existing option to purchase the Cuyamaca Water Company; to the Cuyamaca Water Company., and to the daily press.

Signed: SAN DIEGO REALTY BOARD

By ...*Stephen Barnson*...
President

John N. D. Griffith
Executive Secretary

Runoff of San Diego River at Mission Gorge Damsite

From 1886-87 to 1920-21 Inclusive

Exc. of Cuy. Flume
Diversions

Date	Acres Feet	In Million Gallons
1886-87	3500	1140
87-88	17200	5605
88-89	27600	8993
1889-90	44300	14435
1890-91	46200	15054
91-92	22800	7429
92-93	25000	8146
93-94	13600	4431
1894-95	115000	37473
1895-96	5900	1923
96-97	22900	7462
97-98	1000	326
98-99	100	33
1899-00	0	0
1900-01	10000	3258
01-02	7000	2281
02-03	13000	4236
03-04	0	0
1904-05	33000	10753
1905-06	90000	29327
06-07	60000	19551
07-08	12000	3910
08-09	52100	16977
1909-10	27000	8797
1910-11	13000	4236
11-12	12000	3910
12-13	1750 m	570
13-14	14170 m	4617
1914-15	82500 m	26886
1915-16	240000 Est	78204
16-17	27986 m	9119
17-18	20493 m	6678
18-19	1864 m	607
1919-20	21882 m	7130
1920-21	152 m	46
1921-22	56200 to Jan. 15	18300

Single Arch dams

Shoshone- Wyoming U.S.R.S. 1903 Concrete At bottom 108 ft at top 10 ft Height 305 ft Contains 69,000 cu. yds concrete Contract price \$515,730 or \$7.50 a yd.

Pathfinder Dam U.S.R.S 1905 54,000 cu. yds Length of top 10 ft at top 94 ft at bottom 210 ft. in height contract price \$482,000 or \$9.00 a cu. yd.

Twin Falls Dam - Salmon River Idaho private project 225 ft. high top 16-1/2 ft. base 119 ft thick

Lake Spaulding Dam P.G.&.E. 275 Ft. high

Mission Gorge dam Site No. 3 Height 210 ft. Width at base _____ at top _____ concrete yardage _____ \$ _____ per yd cost \$780,000

Upper Otay 75 ft. high 4 ft. thick at top 14 ft at bottom The stress on Upper Otay is higher than any other dam Quoted in Masonry Dams by Creager.

Zola Dam Aix France Built 1843 Height 120 ft.

Failures of Gravity Section Masonry Dams.

Bousey Dam in France. 84 feet 5 inches in height.
Failed in 1895. The upper 33 feet of the dam overtopped.

Grand-Cheurfas in Algiers. Height 131 feet.
Partially failed when filled in 1885.

Lynx Creek, Arizona. Intended for ultimate height
of 50 feet. Height was about 28 feet. In 1891 flood over-
topped and destroyed dam.

Colorado Dam, Austin, Texas. 66 feet in height.
Failed under head of 11 feet over crest. About 300 feet of
it slid down stream.

QUITCLAIM DEED

--- ED FLETCHER and MARY C.B. FLETCHER ---
--- husband and wife ---

For and in consideration of the sum of Ten Dollars (\$10.00)
and other valuable consideration do hereby remise, release
and quitclaim to ED FLETCHER, as sole surviving co-partner
of a co-partnership formerly composed of James A. Murray,
now deceased, Ed Fletcher and Wm. G. Henshaw, doing business
under the firm name and style of Cuyamaca Water Company, the
estate of said James A. Murray, deceased, now being in
process of administration and the said Wm. G. Henshaw having
sold and conveyed to Ed Fletcher all of his, the said Wm.
G. Henshaw's interest, in the said co-partnership and
withdrawn therefrom,

All that Real Property situated in the County of San Diego,
State of California and more particularly described as
follows, to-wit:

That certain real property situated in the
County of San Diego, State of California, commonly known as
Mission Gorge damsite No. 3 and more particularly described
as follows: All that portion of Lot "E" as said Lot "E"
is shown on "Referees Partition Map of a portion of Lot
No. 70 Rancho Ex Mission of San Diego", said Map, numbered
15191, being on file in the Office of the Clerk of the
Superior Court of San Diego County, California and more
particularly described as follows:

Beginning at a point from whence the Southeast corner
of said Lot "E" bears South 11 degrees 02' East 4296.0
feet and running thence from said point of beginning N.
44 degrees 29' W 785.0 feet; thence S 45 degrees 31' W
300.0 feet; thence S. 44 degrees 29' E 785.0 feet; thence
N 45 degrees 31' E 300.0 feet to the point of beginning;

Also all that portion of Lots "E" and "B" and an
undivided one-half (1/2) interest in all that portion of
Lot "C" in said subdivision of Lot 70 Ex Mission Rancho
lying below an elevation of 340 feet above sea level,
according to the U. S. Geodetic Survey datum line;

It is the intention of this conveyance also to
transfer to the party of the second part by the parties of
the first part the right to construct and maintain
said Mission Gorge Dam No. 3 and reservoir on the
property above described, also the right to perpetually

collect and impound by and in such dam and reservoir any and all water of the San Diego River and any and all water that may flow therein and the right to perpetually divert any and all the said waters so collected and impounded, from the watershed of the San Diego River easterly from said Mission Gorge damsite No. 3 into other watersheds and parts of said County of San Diego; and the parties of the first part do hereby consent to the construction and maintenance of such dam and reservoir and to the said collecting and impounding of the said waters therein and thereby and to the said diversion of said waters as aforesaid so far as it affects the lands last above described.

This instrument shall not be construed as a waiver to the rights of the parties of the first part to any of the waters which may flow into the said San Diego River to the west of and below the said dam and reservoir; nor to the right of the parties of the first part, except as stated above, to use any water that may hereafter flow over, under or across the property last above described.

Consent is hereby given to the party of the second part during the construction of the dam above stated, providing it is built within five (5) years from date, for the free use of any portion of Lot "E" above described, also the right to take from said property any water, sand, gravel or rock necessary for the construction of said dam.

A condition of this deed is the reservation by the parties of the first part, for a period of twenty-five (25) years from date hereof, of all hunting, fishing and boating privileges on any lake or reservoir that may be created upon the said reservoir site, subject to the

exercise of said privilege in conformity with the laws of the State of California.

It is the intention of this conveyance also to transfer to the party of the second part by the parties of the first part all right, title and interest in the water filings on the San Diego River at Mission Gorge No. 3 as per applications Nos. 2695 and ~~2989~~ made to the Division of Water Rights, State Department of Public Works, State of California.

TO HAVE AND TO HOLD the above Quitclaimed and described premises unto the said Grantee, his heirs and assigns forever.

WITNESS our hands and seals this 6th day of December 1923.

ED FLETCHER

MARY C. B. FLETCHER

NET SAFE YIELD INFORMATION FURNISHED

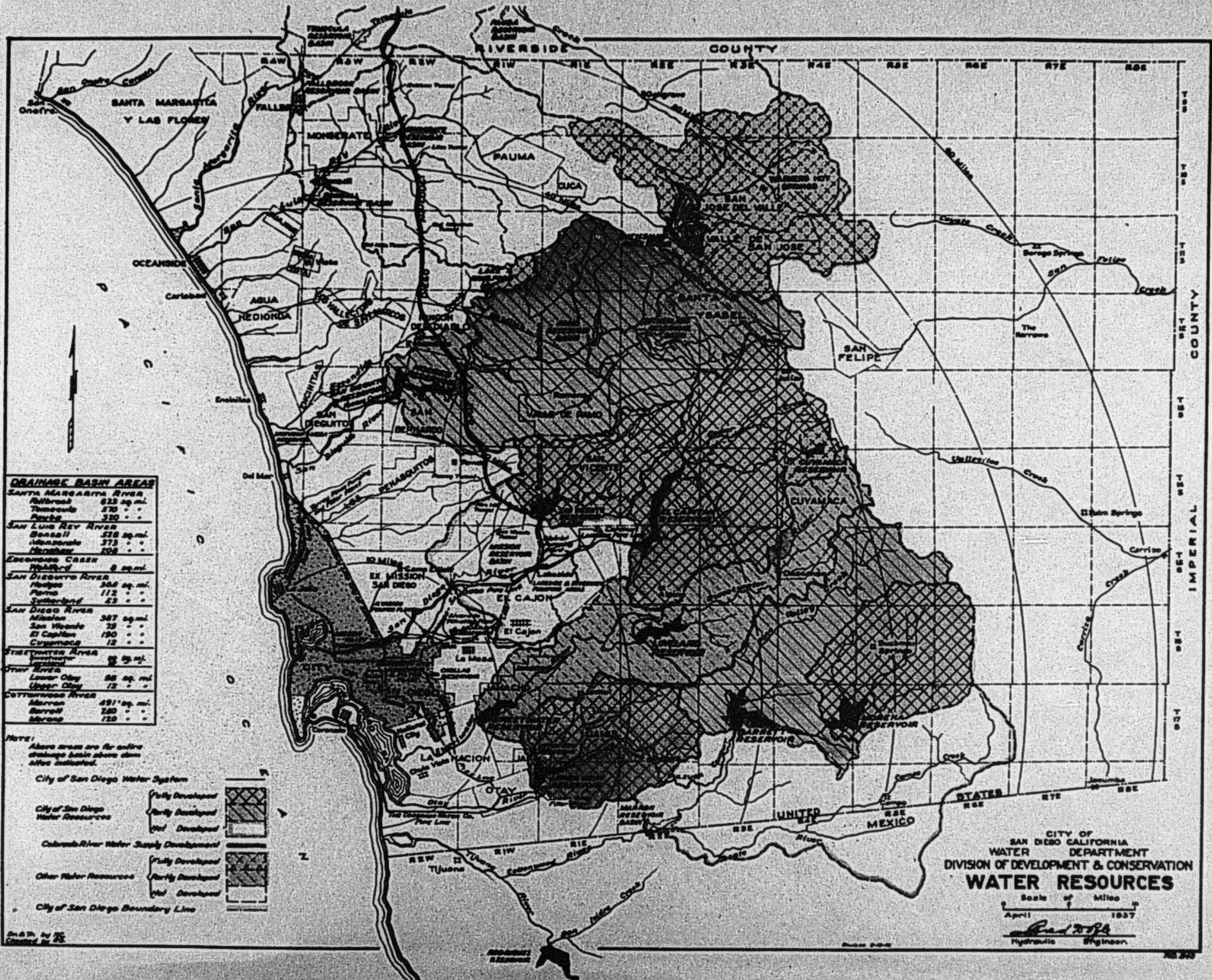
BY MR. PYLE

Morena Dam 5 million.
 Barnett Dam 4 million 8
 Utay 3 " 8
 Marron 7 "
 Hodges 5.6 as at present constructed and if raised 65 ft. higher
 18 million 6.
 Sutherland 5 million 6
 Pamo 5 million
 El Capitan 10 million to the city, not including water to LaMesa
 District.
 San Vicente 5 million 3
 Mission Gorge No. 3 with El Capitan and San Vicente built 5.5

Morena 5
 Barnett 4.8
 Utay = 3.8

 13.6

Marron 7
 Hodges 5.6
 65 = 180 - 18.6
 Sutherland 5.6
 Pamo 5.1
 El Capitan 10.4
 San Vicente 5.3
 with El Capitan
 Mission 5



DRAINAGE BASIN AREAS

SANTA MARGARITA River	
Atlixco	625 sq. mi.
Temecula	570 " "
Payson	320 " "
San Luis Rey River	
Bonsall	526 sq. mi.
Windsor	375 " "
Alhambra	208 " "
Escondido Creek	
Headwaters	8 sq. mi.
San Dieguito River	
Indio	306 sq. mi.
Payson	112 " "
Sutherland	43 " "
San Diego River	
Mission	387 sq. mi.
San Vicente	75 " "
El Capitan	190 " "
Cuyamaca	12 " "
Streetman River	
Lower	88 sq. mi.
Upper	72 " "
Cottowood River	
Mission	491 sq. mi.
Borwick	260 " "
Mission	120 " "

NOTE:
 Above areas are for entire drainage basin above dam sites indicated.

City of San Diego Water System

- Fully Developed [Cross-hatched pattern]
- Partly Developed [Diagonal lines pattern]
- Not Developed [White pattern]

City of San Diego Water Resources

- Fully Developed [Cross-hatched pattern]
- Partly Developed [Diagonal lines pattern]
- Not Developed [White pattern]

Columbia River Water Supply Development

- Fully Developed [Cross-hatched pattern]
- Partly Developed [Diagonal lines pattern]
- Not Developed [White pattern]

Other Water Resources

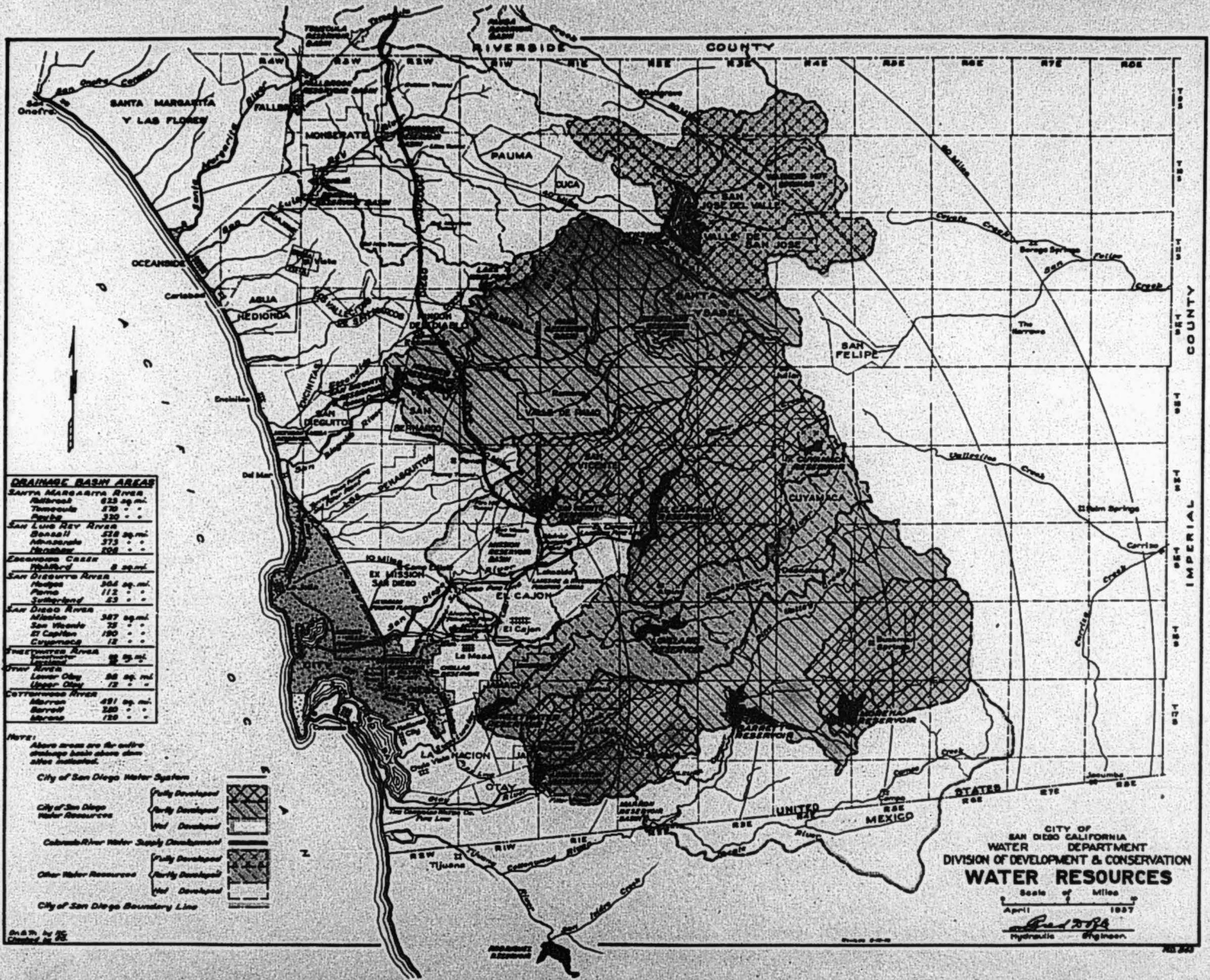
- Fully Developed [Cross-hatched pattern]
- Partly Developed [Diagonal lines pattern]
- Not Developed [White pattern]

City of San Diego Boundary Line

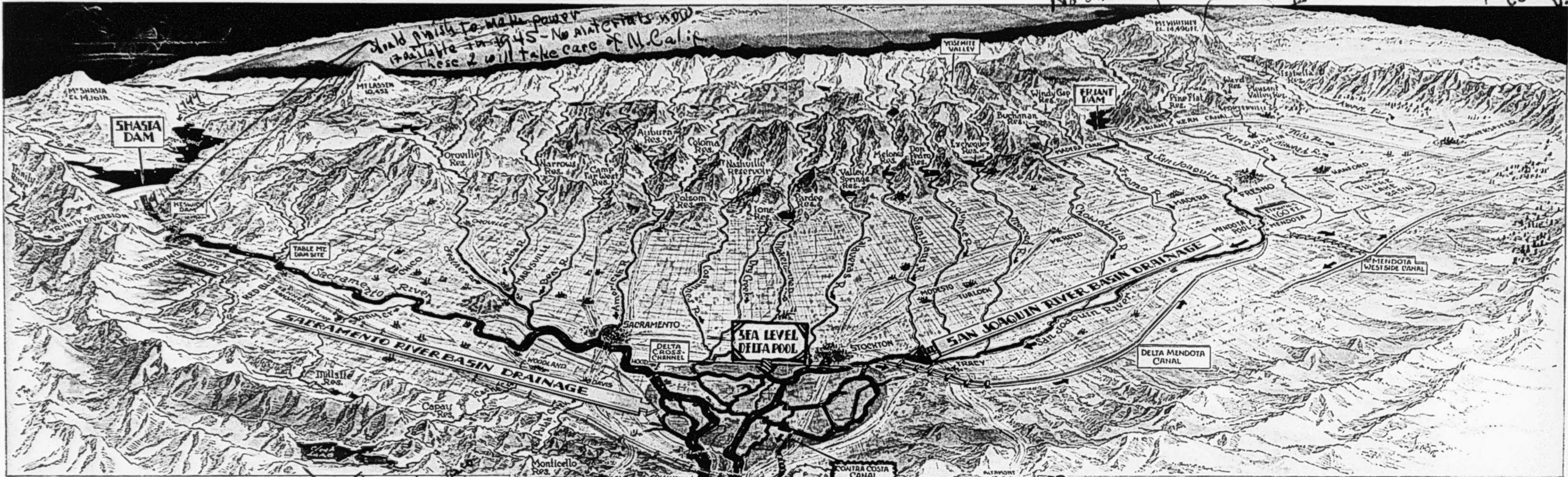
CITY OF
 SAN DIEGO CALIFORNIA
 WATER DEPARTMENT
 DIVISION OF DEVELOPMENT & CONSERVATION
WATER RESOURCES

Scale of Miles
 0 1 2
 April 1937

Red 2084
 Hydraulic Engineer



California's Water Plan for Developing the Great Central Valley



24 Major Storage Reservoirs

Twenty years before the terms "long-range" and "postwar" planning became national by-words, California prepared a program of regional development for the solution of the State's major water problems. Today this program is paying dividends as evidenced by construction of the Central Valley Project with Federal funds. Other kindred conservation projects of the program are presently under serious consideration by Federal agencies.

The California legislature in 1921, taking cognizance of the fact that the State's future development was definitely linked to the amount of water available for agricultural, industrial and domestic use, appropriated funds for a survey of the State's water resources. During the ensuing years additional legislative appropriations were provided and exhaustive studies of California's complex water problems were carried out under the direction of the State Engineer. These studies resulted in a series of reports which are summarized in Bulletin 25, State Division of Water Resources entitled "The State Water Plan." This plan was adopted by the legislature in 1941.

This plan constitutes one of the most outstanding examples of regional planning of water conservation, control and utilization in the nation. It is designed not only to overcome the unequal geographic distribution but also the unequal seasonal distribution of water supply in the State. The plan for the Sacramento and San Joaquin River basins is shown in the accompanying perspective map. It provides for the construction or utilization of twenty-four major storage reservoirs, with an aggregate capacity of nearly 18,000,000 acre-feet of water, 18 power plants capable of producing 7,000,000,000 kilowatt hours of electricity annually, and the use of underground storage reservoirs particularly in the San Joaquin Valley.

Irrigation for 10,000,000 Acres

Large capacity canals and pumping systems are planned to transfer this water from areas where a potential surplus exists to areas where supplies are deficient, with exchanges of water on the San Joaquin and Kern Rivers. It would furnish ample supplemental water for all domestic, municipal and industrial uses in the great Central Valley and the San Francisco Bay region and for the irrigation of 10,000,000 acres of land in those areas.

The storing of storm waters in these foothill reservoirs and their release, during the dry season will, (1) control floods, (2) improve navigation on the Sacramento River, (3) supply lands tributary to the streams down which they pass, (4) control salinity in the Sacramento-San Joaquin Delta, (5) supply the delta pool with surplus water which may be transferred to the San Joaquin Valley and San Francisco Bay region, and (6) produce large new sources of electric power.

Key to this master plan of water conservation and utilization is the natural storage basin at the confluence of the Sacramento and San Joaquin Rivers. It is an area, approximately 40 miles long and 25 miles wide, which lies at sea level and is crisscrossed by 500 miles of waterways. Into these waterways flows unused runoff from both river systems, averaging 31,000,000 acre-feet a year. Flood waters stored in the various proposed reservoirs can be fed through natural channels into this great natural pool as required and pumped from there into the San Joaquin Valley and other areas where supplies are needed. Importance of this delta storage is that when the water has reached this point all up-stream requirements have been met and the surplus water under normal circumstances would waste into the sea.

Backbone of the State Water Plan in the Central Valley Basin is the Central Valley Project, now under construction by the United States Bureau of Reclamation. This project was selected by the State as the initial unit of the State Water Plan for construction, but the entire plan is so integrated that other units may be added as the need arises.



Widening U. S. 101 Eliminates Bottleneck

(Continued from page 8)

water wagons to keep the dust down, and worked with horse-drawn blades and drags to keep the roadway in a more or less smooth condition. During the wet season the roadway was maintained by keeping the holes filled with additional gravel and occasionally bladed or dragged, thus maintaining a suitable roadbed.

FIRST PAVING IN 1913

The first construction involving any paving was done in 1913, and provided a traveled way 20 feet wide of 1½-inch asphalt concrete pavement on a 5-inch macadam base. The traveled way was widened to 30 feet in 1925.

The roadway thus provided gave satisfactory service for many years, but due to increased traffic, heavy hauling, and the widening of the highway at each end, the volume of traffic fed to this section has been so great that serious congestion resulted.

Under the recent reconstruction, additional right of way had to be provided; this was in the main acquired along the westerly side of the old right of way and varied in widths from 26 feet, at the beginning of the project, to 55 feet in the vicinity of the island areas provided for channelization.

The acquisition of new right of way was a big job in itself and presented several difficult problems. In the city of Menlo Park several large buildings, including a reinforced concrete theater, had to be moved or remodeled, and one large two-story brick building with a full basement was completely demolished and the basement back-filled.

EARTHQUAKE EFFECTS SHOWN

This building had been erected previous to the earthquake of 1906 and had apparently withstood the quake without any damage, yet when the wreckers started to tear down the walls it was evident that the earthquake had loosened the brick in the mortar as they were removed without any difficulty and came out very clean.

Between Station 557 and the beginning of the project at Redwood City—a distance of 12,590 feet—there is only one intersecting waterway. This is at Atherton Creek, a distance of 4,116 feet from the summit. Southward

towards the end of the project there is a sag in the grade, the low point being at Station 590, elevation 58.54 feet and rising within a distance of 1,000 feet to an elevation of 72.52 feet, the top of the bridge deck at San Francisquito Creek.

STORM DRAIN INSTALLED

The flow line of San Francisquito Creek is at an approximate elevation of 46 feet, or only 12½ feet lower than the elevation of the highway at the low point of the sag. To drain this low sag and the street intersections on the westerly side of the highway in the business district of Menlo Park, a reinforced concrete pipe storm drain was placed starting at Santa Cruz Avenue, and running southward to empty into San Francisquito Creek, a distance of 4,200 feet. The diameter of the pipe varied from 15 inches at the beginning to 30 inches at the outlet.

LITTLE SHORING NEEDED

Very little shoring was necessary to support the walls of the trench, as the material excavated was of such a nature that it would stand nearly vertical, but as a precaution the contractor sloped the cut banks quite heavily and installed intermittent shoring during the progress of the excavation through the heavy cut sections.

Backfilling immediately around and over the pipe was done by hand. The material was placed in layers, jetting was permitted due to its sandy nature, but final compaction of each lift was done with a caterpillar tractor and sheepsfoot tamper. A caterpillar with bulldozer kept the backfill leveled up ahead of the tamping.

The roadway was widened each side of the old 30-foot asphalt concrete pavement, but mainly on the westerly side. New construction consisted of the removal of approximately 39,500 cubic yards of roadway excavation, the placing of 70,000 tons of imported borrow, and 43,000 tons of asphaltic concrete.

ASPHALTIC CONCRETE SURFACING

The imported borrow was placed to form a base 1 foot thick under 6 inches of asphaltic concrete on all widened

areas. The thickness of the asphaltic concrete surfacing over the old 30-foot pavement varied, but the new grade was maintained at an elevation that would provide a minimum of 2 inches of new surface over the old. The shoulders, or parking strip areas, were surfaced with plant-mix, except through Menlo Park where concrete curb and gutters were placed. Asphaltic concrete or portland cement concrete surfacing was placed on the shoulder areas adjacent to the new curb and gutters.

The contract was awarded to the Union Paving Company of San Francisco on October 29, 1941, and approved on November 19, 1941. Actual work was started on December 2, 1941. Due mainly to the outbreak of war, the contractor was unable to obtain labor, materials and supplies as readily as was anticipated, and the job was not completed until June 15, 1943. C. L. Corson was general superintendent for the contractor, and A. W. Jagow was job superintendent.

All work was done under the direction of the Division of Highways and under the general supervision of District Engineer Jno. H. Skeggs of District IV, San Francisco. Resident Engineer H. S. Payson was in direct charge of the work preceding his death on December 25, 1942. The work was completed under the supervision of G. A. Wildman as Acting Resident Engineer.

Trucks Hauling Livestock

Tonnage of livestock hauled from farms to market via truck in 1942 again set an all-time record, according to reports forwarded to the Automobile Club of Southern California. Trucks delivered 62.8 per cent of cattle, hog and sheep tonnage, and surveyors estimate that it would have taken 830,000 railroad carloads to transport this volume.

Young Man: "I think two can live as cheaply as one."

Future Father-in-Law: "You can't edge into my family on that theory, young man. I'm willing to keep supporting my daughter, but you'll have to pay board."



Top, improved section of U. S. 101 showing channelized division strip approaching Atherton. Below, widened avenue through Menlo Park

Ed Fletcher Company
1020 NINTH STREET
SAN DIEGO, CALIFORNIA

March 4th, 1931.

Information regarding Mission Gorge Damsite No. 3

Referring to the trip of the City Council, Water Committee and citizens of San Diego last Saturday as the guests of the City of Los Angeles to inspect their dams constructed and under construction, I am enclosing pictures which I took on the trip of the 240 foot constant angle single arch Tujunga Dam now under construction which is costing less than \$1,000,000 to build, also the Pacoima Dam, the highest in the world, 375 feet from bedrock which cost \$2,500,000 and can be built at today's prices for \$2,000,000.

I also call your attention to the Santa Anita Dam, 225 feet high, completed in 1927, which cost \$1,211,000 and could today be built for less than \$1,000,000.

The above dams have been built by the Los Angeles Flood Control, Los Angeles, the last few years.

Forty-seven of these single arch type of dams have been built in the last fifteen years, notably, Lake Spaulding, Dam, Yuba River, California, 295 feet high from bedrock, 275 feet above river bed; Mormon Flat Dam, Salt River, Arizona, 229 feet above bedrock; Glinos Canyon Dam, Port Angeles, Washington, 200 feet high; Lake Cushman Dam Washington, 200 feet high; Horse Mesa Dam, Arizona, 505 feet high; Santeetlah Dam, North Carolina, 202 feet high; Canyon Diablo Dam, Seattle, 372 feet high; Galles Dam, Mexico, 217 feet high; Calderwood Dam, Tennessee, 250 feet high; Stewart Mountain Dam, Arizona, 212 feet high; Ariel Dam, Lewis River, Washington, 500 feet high.

The United States Reclamation Service have also built the Pathfinder Dam, Wyoming, 218 feet high; Shoshone Dam, Wyoming 328 feet high; Tilton Dam, Washington, 220 feet high, and many others; while the Salmon River Company, Idaho, built one 225 feet in height.

I am furnishing the above information for the reason that Mission Gorge No. 3 damsite is ideal for this type of dam but Mr. Savage will not approve anything but a gravity arch type. This type of dam has greater factors of safety than the gravity arch type and can be built at one-third to one-half the cost.

Mr. Savage ignores the value of Mission Gorge No. 3 damsite for the reason that his cost of a gravity arch type of dam to the 350 foot contour would be approximately three to three and a half million dollars while we can build a single arch type to the same contour, 350 feet, similar to the type Los Angeles is now building and for less than one million dollars.

The reader can easily see that by saving two to two and a half million dollars in the cost of building a dam alone at No. 3, as compared to No. 2, it will reduce the cost of water approximately one-third in favor of No. 3 as compared to Mission No. 2.

Mission Gorge dam No. 3 built to the 350 foot contour will furnish a storage of 45,000 acre feet or 15 billion gallons and is practically the same storage capacity of Otay, Morena and Barrett Dams.

No. 3 to the 350 foot contour will give us a net safe yield of eight million gallons daily under present conditions and the cost of water will not be to exceed seven cents a thousand gallons delivered to the city, the cheapest water the city can or will ever develop by storage, in my opinion.

By building to the 350 foot contour at No. 3 you only flood 1424 acres and the water will be stored in the canyon where it belongs with a minimum of evaporation surface and the total cost of the dam and lands flooded will not be to exceed one million five hundred thousand dollars.

It saves in perpetuity a tremendous investment of five or six million for the development of Mission No. 2. It saves forever the income from taxation of Mission No. 2 lands that would be flooded as well as the products from those lands, Later, as conditions warrant, El Capitan and San Vicente can be built.

Why put four million into El Capitan or six million into Mission No. 2 now when, for a million and a half dollars you can complete No. 3 without opposition and protect the future growth of this community for years to come.

Personally, I am not in favor of even building No. 3 for five years, as, by settling with the District and paying them the \$248,000, it wipes private interests completely off the river forever, as well as the District, and gives the city five or six million gallons additional supply of water a day from Murray Dam and by pumping. This is enough to take care of us for the next four or five years without building any dams on the river, and we lessen our burden of taxation tremendously.

Mission Gorge Damsite No. 3 has been surveyed, core drilled and a perfect bedrock is exposed on the surface.

After a personal inspection of the entire river, Mr. O'Shaughnessy, on January 25, 1926 wrote as follows:

"Mission Gorge Site No. 3 is the most economical damsite on the San Diego River. There will be less loss of water from evaporation and less valuable lands destroyed by flooding. This site should be selected by the city for initial construction on the San Diego River."

The famous engineer, Major C. R. Olberg, who designed and built Coolidge Dam and for many years was United States Government Engineer, although now in Russia working for the Russian Government, in his written report urged the completion of Mission Gorge Dam No. 3 first. Also W. E. Weymouth, Chief Engineer U. S. Reclamation Service, F. M. Foude, Hydraulic Engineer, State Railway Commission, T. H. King, and many others have urged this site as the city's first development on the river.

The plans for Mission No. 3 dam were made by Lars R. Jorgensen, who has designed and built over thirty-five of these dams.

The total yardage of concrete is 115,000 yards. Bent Brothers have made us a definite offer within the last two weeks of \$8.60 a yard in place, and, in competition, I am sure the cost will be materially less. I am positive that the dam can be built, including engineering, overhead and all costs, for less than \$1,000,000.

By proper manipulation, practically all of this water will flow by gravity into the city system at Old Town, thereby eliminating the necessity of pumping. My authority is former city manager, F. A. Rhodes, who wrote to Mr. H. N. Savage as follows:

"In answer to your request of August 16th for estimated percentages of present and prospective water consumption at various levels in the city, I beg to submit as follows:

Elevation above sea level	Present Consumption
100 feet	40%
150 "	60%
200 "	80%

It is not anticipated that the consumption in the business district will increase materially within the next ten years. An estimate of the probable increase in consumption follows:

Elevation above sea level	Increased Consumption
100 feet	30%
150 "	45%
200 "	70%

The water supplied from Lake Hodges has not been considered in the above estimate.

(signed) F. A. Rhodes."

As approximately 70% or 80% of the water will be stored between the 200 and 330 foot level in Mission No. 3, the cost of pumping will be nominal, if at all, by proper operation of the city's entire water system.

With the settlement with the Irrigation District for \$248,000 not alone do they acquire that valuable property, Murray Dam, which will save \$500,000 in the construction of Chollas Reservoir, but the city will be getting also complete control of the river, the ownership of Mission Gorge No. 3, and a considerable portion of lands that will be flooded, El Capitan Damsite, four or five hundred acres of land belonging to the La Mesa District which the city will have to buy whether they build either No. 2 or No. 3, also four or five hundred acres of the finest water bearing gravels in the county on the San Diego River above Lakeside, as well as the whole water system now in use, including Cuyamaca Lake.

Don't be stampeded into doing anything on the San Diego River now but continue your investigations thoroughly as to No. 3. The former State Engineer of California did approve this damsite, and type of dam.

After twenty-five year's practical experience in the development of water, I urge you to consider my recommendations:

First: Make a settlement with the La Mesa Irrigation District.

Second: Get the present state engineer to approve or disapprove of the plans of a single arch type of dam for Mission Gorge No. 3 now in his possession and if approved make further investigations as to the relative merit and cost of the single arch and gravity arch type of dam for No. 3.

I will within two weeks from date submit to you definite costs for the construction of a single arch type of dam to the 330 foot contour at Mission Gorge No. 3.

Third: Buy immediately the control of the San Pasqual gravels. The city needs these properties for three reasons:

1. They are enormously valuable as an underground water supply.
2. In order that you may complete the construction of Sutherland Dam at some future time, as the riparian owners below can stop the diversion of water from the Santa Ysabel River to San Diego under present conditions.
3. If the super Hodges Dam is ever built two-thirds of the San Pasqual Gravel lands still unpurchased will be needed for reservoir purposes.
4. Complete El Capitan and/or San Vicente dams and by means of a canal costing not to exceed \$200,000 Sutherland water can be brought over into the San Diego-San Vicente water shed and delivered to San Diego at an economical figure, less than one-half the cost of the water heretofore developed by the city of San Diego.

In closing let me urge that if an immediate settlement is not made with the district by building at Mission Gorge No. 3 now the district can be left alone temporarily to work out its own problems with the city. Time will do it.

With the settlement with the District, it makes no difference to me personally whether San Vicente, El Capitan or Mission No. 3 is built first, but my preference is Mission No. 3, and to the last I shall fight Mission No. 2, as it is an economical crime from every standpoint to construct it.

Yours very truly,

NAME OF DAM	Height	Contour	Area Ac.	Capacity Ac. Ft.
MISSION #3	230	330	1424	44,225
	240	340	2080	64,000
	250	350	2880	86,000
	260	360	3720	112,000
MISSION #2	36	280	28.3	414
	40	284	35	550
	106	350	2520	57585
	116	360	3320	86785
	156	400	7330	295460
SAN VICENTE	260		1375	180,000
	200		1160	105,000
	180		1008	84,100
	150		854	55,500
EL CAPITAN	200		1760	139,200
	190		1620	122,000
	160		1265	78,953
	150		1150	67,000
SUTHERLAND	170	2083	720	46,000
PAMO	195	1015	1130	64,000

NET YIELD OF SAN DIEGO RIVER RESERVOIRS

F. E. Green, Hydrographer

RESERVOIR	(Runoff data from U. S. Reclamation Service and Geological Survey and Guzman Water Company)				Net Yield in Million Gallons Daily				
	Capacity	Height	Elevation	During	Since	With Div. Dam 17,827	With Div. Dam 30,000	Ac. Ft. and South Fork 3000	Ac. Ft. and South Fork 3000
	Ac. Ft.	of Dam	Top Contour	Critical Period	Critical Period	Ac. Ft. and South Fork 3000	Ac. Ft. and South Fork 3000	Ac. Ft. and South Fork 3000	Ac. Ft. and South Fork 3000
		Ft.	Ft.			During Critical Period	Since Critical Period	During Critical Period	Since Critical Period
Fletcher	17000	150	990	3.45	8.14				
do	30000	195	990	5.35	9.34				
Diverting Dam	17827	150	931	4.43	11.99				
do	30000	181	962	6.61	17.63				
Guzman System				3.39	6.96	6.78	17.50	8.43	19.31
South Fork	3000	120	1620	1.16	2.33				
El Capitan	55600	144	712	5.62	14.70				
do	121800	200	768	8.96	14.70				
Mission Gorge No. 2	87000	116	360	5.50	18.48	2.51	8.42	2.27	7.04
Mission Gorge No. 2 - Pumping 4500 Ac. Ft. at Monte	87000	116	360	3.02	14.92	0.56	6.12	0.46	5.25
Mission Gorge No. 2	285000	156	400	10.35	18.48	5.67	8.42	5.40	7.04
Mission Gorge No. 2 - Pumping 4500 Ac. Ft. at Monte	285000	156	400	6.84	14.92	3.21	6.12	2.95	5.25
Mission Gorge No. 3	44225	230	330	8.31	16.95	5.35	9.48	5.33	8.66
Mission Gorge No. 3 - Pumping 4500 Ac. Ft. at Monte	44225	230	330	5.84	13.92	4.17	7.91	3.15	6.31
Mission Gorge No. 3	60000	238	338	8.25	19.52	4.92	10.80	4.78	10.80
Mission Gorge No. 3 - Pumping 4500 Ac. Ft. at Monte	60000	238	338	6.30	15.91	3.97	9.01	3.97	9.08

NET YIELD OF SAN DIEGO RIVER RESERVOIRS

F. E. Green, Hydrographer

(Runoff data from U. S. Reclamation Service and Geological Survey and Cuyamaca Water Company)

Net Yield in Million Gallons Daily

RESERVOIR	Capacity Ac. Ft.	Height of Dam Ft.	Elevation Top Contour Ft.	Spring Critical Period	Since Critical Period	With Div. Dam 17,827 No. Ft. and South Fork 3000 Acre Feet		With Div. Dam 30,000 No. Ft. and South Fork 3000 Acre Feet	
						During Critical Period	Since Critical Period	During Critical Period	Since Critical Period
Fletcher	17000	150	990	3.45	8.14				
do	30000	195	990	5.35	9.34				
Diverting Dam	17827	160	931	4.43	11.99				
do	30000	181	962	6.61	17.63				
Cuyamaca System				3.39	6.96	6.78	17.50	8.43	19.31
South Fork	3000	120	1620	1.15	2.33				
El Capitan	55600	144	712	5.62	14.70				
do	121800	200	768	8.96	14.70				
Mission Gorge No. 2	87000	115	360	5.50	18.48	2.51	8.42	2.27	7.04
Mission Gorge No. 2 - Pumping 4500 Ac. Ft. at Monte	87000	115	360	3.02	14.92	0.56	6.12	0.45	5.25
Mission Gorge No. 2	285000	156	400	10.35	18.48	5.67	8.42	5.40	7.04
Mission Gorge No. 2 - Pumping 4500 Ac. Ft. at Monte	285000	156	400	5.84	14.92	3.21	6.12	2.95	5.25
Mission Gorge No. 3	44225	230	330	8.31	16.95	5.35	9.48	5.33	8.56
Mission Gorge No. 3 - Pumping 4500 Ac. Ft. at Monte	44225	230	330	5.84	13.92	4.17	7.91	3.15	6.71
Mission Gorge No. 3	60000	238	338	8.25	19.52	4.92	10.80	4.78	10.80
Mission Gorge No. 3 - Pumping 4500 Ac. Ft. at Monte	60000	238	338	6.30	15.91	3.97	9.01	3.97	9.08

DATA ON PERFORMANCE OF VARIOUS DAMS IN MISSION GORGE

Site No. 2.

Height of dam - - - - - 116 ft.
 Capacity - - - - - 87,000 acre feet.
 Area flooded - - - - - 3,520 acres.
 Annual evaporation when full - - - - - 12,560 acre feet.
 Safe Yield - - - - - 5,600 ac. ft. annually, or 5 mil. gal. daily.
 Yield since 1904-5 - 18,900 ac. ft. annually, or 16.9 mil. gal. daily
 No spill until 1916

Height of dam - - - - - 156 ft.
 Capacity - - - - - 282,000 ac. ft.
 Area flooded - - - - - 6,550 acres
 Annual evaporation when full - - - - - 25,000 ac. ft.
 Safe Yield - - - - - 14,000 ac. ft. annually, or 12.5 mil. gal. daily.
 Yield since 1904 - 21,000 ac. ft. annually or 18.7 mil. gal. daily.
 Would never have spilled,

Site No. 3

Height of dam - - - - - 230 ft.
 Capacity - - - - - 44,225 ac. ft.
 Area Flooded - - - - - 1,424, acres.
 Annual evaporation when full - - - - - 5,280 ac. ft.
 Safe Yield - - - - - 8,000 ac. ft. annually, or 7.1 mil. gal. daily.
 Yield since drought 18,000 ac. ft. annually or 16.1 mil. gal. daily
 Would have spilled in 1905-6, 1906-7, 1908-9, 1915-6.

Height of dam - - - - - 220 ft.
 Capacity - - - - - 32,539 ac. ft.
 Area flooded - - - - - 915 acres
 Annual evaporation when full - - - - - 3,400 ac. ft.
 Safe Yield - - - - - 7,500 ac. ft. annually, or 6.5 mil gal. daily.
 Yield since drought 16,200 ac. ft. annually or 14.5 mil. gal. daily
 Would have spilled in 1905-6, 1908-7, 1909-10, 1915-16.

Height of dam - - - - - 210 feet
 Capacity - - - - - 25,101 ac. ft.
 Area flooded - - - - - 574 acres
 Annual evaporation when full - - - - - 2,000 ac. ft.
 Safe Yield - - - - - 6,800 ac. ft. annually, or 6.1 mil. gal. daily
 Yield since drought 15,500 ac. feet. annually, or 15.7 mil. gal. daily
 Would have spilled 1905-6, 1906-7, 1908-9, 1909-10- 1915-16.

Wells:

Hugo Thum 5 wells at Lakeside, 80 to 85 feet, ends in sand and gravel

John Johnson, Jr., 8 wells, 60 to 80 feet in depth and in sand and gravel

Lakeside Farms, 4 wells, 75 feet deep, 6 wells 43 to 80 feet deep, all end in sand and gravel.

H. L. Weston, near Lakeside, 95 feet in depth and ends in sand and gravel

Dupee, 9 wells, 40 to 70 feet deep, end in sand and gravel

Lee total volume, 16400 acre feet. 4.9 million gallons a day *for 3 years* on a draw down of thirty feet. Total area, 3120 acres. Affected area only 2,080. Volume 25% uses.

District has 160 wells about 75 feet deep. Six wells over 100 feet deep.

There is a contraction above the pumping plant a mile

AGREEMENT FOR LEASE OF GRANITE BORROW
PIT IN MISSION GORGE, M.S.NO. 248.

THIS LEASE made this _____ day of _____ 1946, by and
between Cuyamaca Water Company, a corporation, Lessor, and the County
of San Diego, a political subdivision of the State of California, Lessee,

WITNESSETH

That the said Lessors for and in consideration of payments to be
made by the Lessee as hereinafter set out, has let and by these presents
does let to said Lessee, all that land hereinafter more particularly
described adjacent to County Highway Commission Route 20, as shown on
Road Survey 627, for the establishment by said Lessee of a granite borrow
pit, to-wit:

That portion of Lot B of the Partition of a part of
Lot 70 of the Rancho Mission of San Diego in the County of San
Diego, State of California, according to map thereof filed in
Superior Court case No. 15191, records of the County Clerk's
Office, described as follows:

Beginning at a point in said Lot B, said point being
Engineers Station 267+69.30 of that certain County Highway
known as Road Survey 627, plat of which is on file in the
office of the Surveyor of said San Diego County; thence along
the center line of said Road Survey 627 as follows: N.22°50'30"E.
41.04 feet; to the beginning of a curve to the left having a
radius of 3000 feet; thence along said curve through a central
angle of 7°36' a distance of 397.94 feet; thence N.15°14'30"E.
188.14 feet; thence leaving said center line S.74°45'30"E. 280
feet; thence S.18°12'W. 663.50 feet to a point which bears
S.67°09'30"E. 280 feet from the point of beginning; thence
N.67°09'30"W. 280 feet to the point of beginning. EXCEPTING
therefrom the westerly 30 feet thereof included within the
boundaries of said Road Survey 627.

To have and to hold unto said Lessee for the term of five (5) years
from date hereof unless said term be extended as hereinafter provided.

IT IS MUTUALLY UNDERSTOOD AND AGREED that the full consideration
to be paid the said Lessor by said Lessee shall be at the rate of four
(4) cents per cubic yard of borrow taken from said leased premises.
Settlement to be made semi-annually on the first days of December and
June of each year during the term of this agreement.

ESTIMATES FOR MISSION GORGE

From the papers of Ed Fletcher, The Following letters were removed to the alphabetized correspondence files.

BENT, Standley H. to Fletcher, April 18, 1921
EASTWOOD, John S.

Eastwood to Fletcher, March 15, 1921
Eastwood to Fletcher, March 18, 1921
Eastwood to Fletcher, April 10, 1921
Eastwood to Fletcher, June 6, 1924

JORGENSEN L.

Jorgenson to Fletcher, April 5, 1921
Jorgenson to Fletcher, April 9, 1921
Jorgenson to Fletcher, April 9, 1921
Jorgenson to Fletcher, March 13, 1922

NOETELI, F.A., to King, March 14, 1923M

O'SHAUGHNESSY, M.M.

O'Shaughnessy to Fletcher, Sept. 17, 1921
O'Shaughnessy to Fletcher, Feb. 28, 1922
O'Shaughnessy to Fletcher, ND

San Diego, California
May 3d, 1921.

Colonel Fletcher,

Dear Sir:

You have asked me the concrete yardage in the Multiple Arch Dam and also the Constant Angle Arch Dam at the Mission Gorge site.

The Eastwood Multiple Arch Dam will require for a dam 220 feet in height 29,028 cu. yds. of 1-2½-5 concrete and 11,927 cu. yds. of 1-2-4 concrete making a total of 40,955 cu. yds. of concrete in the Eastwood Multiple Arch Dam.

The Jorgensen Constant Angle Arch Dam will require a total of 69,800 cu. yds. in the arch portion and 5700 cu. yds. in the gravity tangents at each end or a total of 75,500 cu. yds.

Yours respectfully,

T. H. King.

TRK:ME

INFORMATION FOR MR. KING:

2 "The excavation calls for an average of 10 feet. The radial multiple arch yardage is 29,028 cubic yards 1-2 $\frac{1}{2}$ -5 concrete, and 11,927 cubic yards of 1-2-4 reinforced concrete. In the constant angle single arch dam there are 75,500 cubic yards, of which 5700 yards are in the tangents.

Mr. Jorgensen says in the constant angle single arch dam that the concrete should have 5 sacks or 1 $\frac{1}{4}$ barrels of cement per cubic yard, excepting in case the material on the ground is found to be very excellent, and then 1.1 barrel per yard."

Pile 16

Prof 28

03
2200
200

315 2
31

INFORMATION FOR MR. KING:

Radial Multiple Arch - Mission Gorge - Eastwood

Yardage 29.028 Cu. Yd. 1-2 $\frac{1}{2}$ - 5 plain concrete

" 11.927 " " 1 - 2 - 4 refd. "

INFORMATION FOR MR. KING:

Constant Angle Single Arch - Mission Gorge - Jorgensen
Yardage 75.500 cu. yd. of which 5700 yds. are in the
tangents.

Mr. Jorgensen says in the constant angle single arch
dam that the concrete should have 5 sacks or $1\frac{1}{4}$ barrels of
cement per cubic yard, excepting in case the material on
the ground is found to be very excellent, and then 1.1
barrel per yard.

CONSTRUCTION INDUSTRIES JOINT COMMITTEE

1300 WASHINGTON BUILDING
LOS ANGELES, CALIFORNIA

January 7, 1925.

Col. Ed Fletcher,
Fletcher Building,
San Diego, Calif.

Dear Sir:

At a meeting of the Construction Industries Joint Committee of California, it was voted that you should be advised of the endorsement of this organization for your activities in connection with the recent Bond Issue election incidental to the construction of the El Capitan Dam.

Our information is based upon the enclosed clipping from the South West Builder and Contractor, which recites that in a signed advertisement prior to the election you advised the property owners of San Diego not to approve the bond issue until assured that "NO DAMS WILL BE BUILT BY THE CITY COUNCIL EXCEPT UNDER CONTRACT AND COMPETITIVE BIDDING".

We are also advised that the City Council of San Diego confirmed your view points and issued a signed declaration as follows:

"OUR EXPERIENCE WITH MR. SAVAGE IN THE BUILDING OF THE BARRETT DAM IS PROOF THAT THIS ADVICE OFFERED BY MR. FLETCHER IS SOUND."

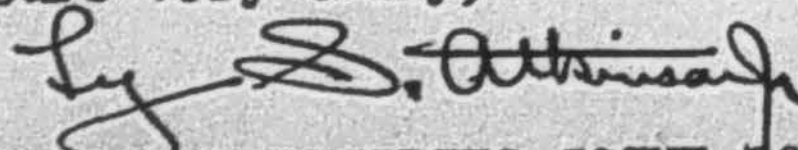
Although we are not familiar with the relative merits pro and con regarding the project, we are very much interested in the courageous and meritorious stand you have taken in connection with this matter.

Few men have the privilege of recognizing true economics in construction and it is fitting that with your large past experience and observation, you should advise the electorate upon such matters.

It is such public spirited and definite declarations that will eventually defeat insidious influences in the construction industry who desire to perform public construction by the un-economic and wasteful non-competitive day labor method.

The Construction Industries Joint Committee of California therefore, commends your activities in this matter and takes this opportunity to assure you that it is our desire to cooperate at all times with public officials and public spirited citizens to the end that an economic expenditure of public funds for construction may be obtained.

Yours very truly,

water papers
 Chairman.

CONSTRUCTION INDUSTRIES JOINT COMMITTEE.

(a)
haus

Of outstanding interest in the campaign waged over the El Capitan dam is the pledge given by the five members of the city council prior to the bond election that if the bonds carried the dam would be built "under contract and competitive bidding." San Diego had its fling at day labor on the construction of the Barrett dam which cost much more than was expected and required an additional bond issue for its completion. At one time the advocates of day labor pointed to San Diego for examples of the wonderful advantages of the day labor method of doing public work. Public acknowledgment by the city council of San Diego of the failure of the day labor method on the Barrett dam came on the eve of the bond election in answer to an advertisement printed in the San Diego newspapers, signed by Col. Ed Fletcher, advising the people to vote "no" on the bond issue until assured that "no dams will be built by the city council except under contract and competitive bidding." In their signed statement the members of the city council declared "our experience with Mr. Savage in the building of the Barrett dam is proof that this advice offered by Mr. Fletcher is sound."

water papers

January 9, 1925.

Construction Industries Joint Committee,
1306 Washington Building,
Los Angeles, California.

Gentlemen:

I thank you for your letter
of January 7th. You may hear from me a little
later.

Yours very truly,

EF:AH

MEMORANDA OF VISIT TO FOUR PROPOSED RESERVOIR SITES,
SAN DIEGO, CALIFORNIA.

C. A. P. Turner,
Member of American Society of Civil Engineers and
Member of American Society of Mechanical Engineers.

Notes on areas and elevations furnished by
Engineering Department.

No. 3, Lower Site. Stream bed elevation 100. feet.
Proposed height 230 feet.
Capacity estimated, 14 billion gallons.
Insufficient head for gravity supply.

No. 2, Mission Dam. Stream bed elevation 244 feet.
1st Proposition, Dam 121 feet high.
Capacity 38 billion gallons.
Insufficient head for gravity supply.
Floods 3700 acres.

No. 2, Mission Dam,
2nd Proposition, Dam 146 feet high
Capacity 74 billion gallons
Floods 6200 acres, of which 4000 acres
is excellent agricultural land which
will be rendered useless.
Insufficient head for gravity supply.

El Capitan Stream bed elevation 553 feet.
Height 200 feet.
Floods 1700 acres.
Capacity 43-1/2 billion gallons.
Gravity supply estimated at 11.6 million
gallons daily.

San Vicente, Stream bed elevation 460 feet.
Proposed height, 205 feet.
Floods 1100 acres.
Capacity 39 billion gallons.

Arms
Hed

1 but it may be filtered at a constant and increasing expense,
2 which is obviated by a deeper, cleaner storage basin.

3 II.

4 From the standpoint of conservation of property, San Vi-
5 cente and El Capitan rank first, because no material portion of
6 the county's potential wealth is destroyed by flooding their res-
7 pective areas. Each is ideally located for flood control, nec-
8 essary to the highest agricultural development of the valley below,
9 which once effectively protected becomes an area of the highest
10 value, not only to the individual owner, but to the citizens of
11 San Diego as well.

12 Mission Site No. 2 is self-condemnatory from the fact that
13 it destroys 4000 acres of land of the highest value to the owners
14 and the city, when properly protected as it should be from devas-
15 tation by flood.

16 III.

17 From the investment standpoint, San Vicente and El Capitan
18 rank first, because as compared to Mission Site No. 2 they require
19 no expensive pumping station with its continuous and never-ending
20 bill of expense. The evaporation and loss of capacity and effi-
21 ciency will be about eight times as great with No. 2 as with San
22 Vicente and El Capitan, because of its greater area, and higher
23 temperature due to its shallowness. The loss in No. 2 would be
24 increased to a greater extent by seepage, and the manifold greater
25 rapidity with which its shallow basin will tend to fill or silt
26 up, reducing its computed present capacity a substantial amount.

27 Power dams along the southeast Atlantic coast fill up so
28 rapidly that their storage capacity is frequently cut in two in
29 a few years, and this kind of loss should be carefully considered.

30 Initial cost should be given weight largely to the extent
31 that it achieves a permanent and lasting improvement.

32 The location at San Vicente will be lowest in first cost,
33

1 because of the ideal natural conditions at that point. A compara-
2 tively narrow gorge at the base, with bed rock at or near the
3 surface, up the sides and at the base as well.

4 No. 3 ranks next from the construction standpoint, then
5 El Capitan which will require thirty to forty feet of excavation
6 in the bed, though little down the inclined banks to secure a
7 satisfactory water seal.

8 Property values would be conserved and enhanced by the con-
9 struction of San Vicente and El Capitan to an extent that would
10 effect two-thirds of the total cost of the construction of both
11 dams. From the health standpoint they command most favorable
12 consideration, with this advantage left out of consideration.

13 IV.

14 From the maintenance standpoint, reduced loss of capacity
15 from evaporation, seepage and silting up, San Vicente and El
16 Capitan are rendered preferable at twice the cost of Mission No.
17 2, to say nothing of the never-ending pumping cost eliminated by
18 the gravity supply furnished by the greater head at El Capitan
19 and San Vicente. The reduced cost of filtration if undertaken
20 and the cost of carrying on the filtration would be far less with
21 the former than with Mission Project No. 2.

22 In conclusion, the engineering difficulties are minor matters
23 in respect to these damsites if present day methods are adopted, in-
24 stead of building on the same old plan of rock filled and earth
25 bank construction common in the old Colonial days.

26 (Signed) C. A. P. Turner.
27
28
29
30
31
32
33

MISSION GORGE

From the papers of ED Fletcher, the following letters were removed to the alphabetized correspondence files:

EASTWOOD, John S.

Eastwood to Fletcher, April 26, 1922

Fletcher to Eastwood, June 15, 1923

HARRITT, C. to Fletcher, December 3, 1921

JORGENSEN, L. to Fletcher, April 5, 1921

KING, T.H.

King to Fletcher, April 21, 1922

King to Fletcher, April 26, 1921

King to Fletcher, June 17, 1921

King to Fletcher, December 12, 1921

King to Fletcher, July 28, 1921

King to Fletcher, July 5, 1921

King to Fletcher, July 2, 1921

King to Fletcher, Jan. 23, 1922

King to Fletcher, Jan. 24, 1922

King to Fletcher, Jan. 26, 1922

King to Fletcher, Feb. 1, 1922

King to Fletcher, Feb. 1, 1922

King to Fletcher, Feb. 3, 1922

King to Fletcher, Feb. 5, 1922

Fletcher to SAVAGE, H.N., [2 letters] April 22, 1922, Dec. 24, 1921

STEVENS, Henry J.

Stevens to Fletcher, March 22, 1921

Stevens to Fletcher, July 9, 1921

Stevens to Fletcher, August 26, 1921

Fletcher to Stevens, September 2, 1921

MISSION GORGE CORRESPONDENCE

From the paper of Ed Fletcher, the following letters were removed to the alphabetized correspondence files:

CHANDLER, A. E.

Fletcher to Chandler, January 16, 1922

Chandler to Fletcher, January 25, 1922

Fletcher to Chandler, January 30, 1922

Chandler to Fletcher, July 18, 1922

King to Chandler, July 19, 1922

Fletcher to CHOATE, Rufus, March 22, 1937

CROUCH, Charles C.

Fletcher to Crouch, February 9, 1923

Fletcher to Crouch, February 15, 1923

EASTWOOD, John S.

Eastwood to Fletcher, April 25, 1924

Eastwood to Fletcher, June 6, 1924

Fletcher to Eastwood, September 24, 1924

Fletcher to Eastwood, October 6, 1924

Eastwood to Fletcher, September 30, 1924

Eastwood to Fletcher, June 6, 1920

FAY, Herbert, R.

Fay to Fletcher, July 8, 1913

Fay to Fletcher, August 1, 1913

Fletcher to Fay, November 12, 1913

Lippincott to Fay, February 8, 1915

Fay to Fletcher, February 9, 1915

Fletcher to Fay, February 24, 1915

FREEDMAN, John to Jones, December 20, 1923

GREEN, Fred to Gould, April 20, 1923

HALEY, J.J.

Fletcher to Haley, April 14, 1937

Haley to Fletcher, March 30, 1937

Fletcher to Haley, April 1, 1937

Fletcher to Heilbron, Fred, February 29, 1924

Huber, Walter Leroy

Fletcher to Huber, December 19, 1921

Huber to Fletcher, December 19, 1921

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Ed Fletcher Papers

1870-1955

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**Business Records - Water Companies -
Cuyamaca Water Company - Mission Gorge
#3 (Boulder Creek) - Building Mission Gorge
dam: site information and construction estimates**



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