9/1/92

To

President & Board of Directors of the Linda Vista Irrigation District

Cost of Dam 50 ft high.

&

Cost of Conduit to edge of District

C S Alverson

Chief Eng'r

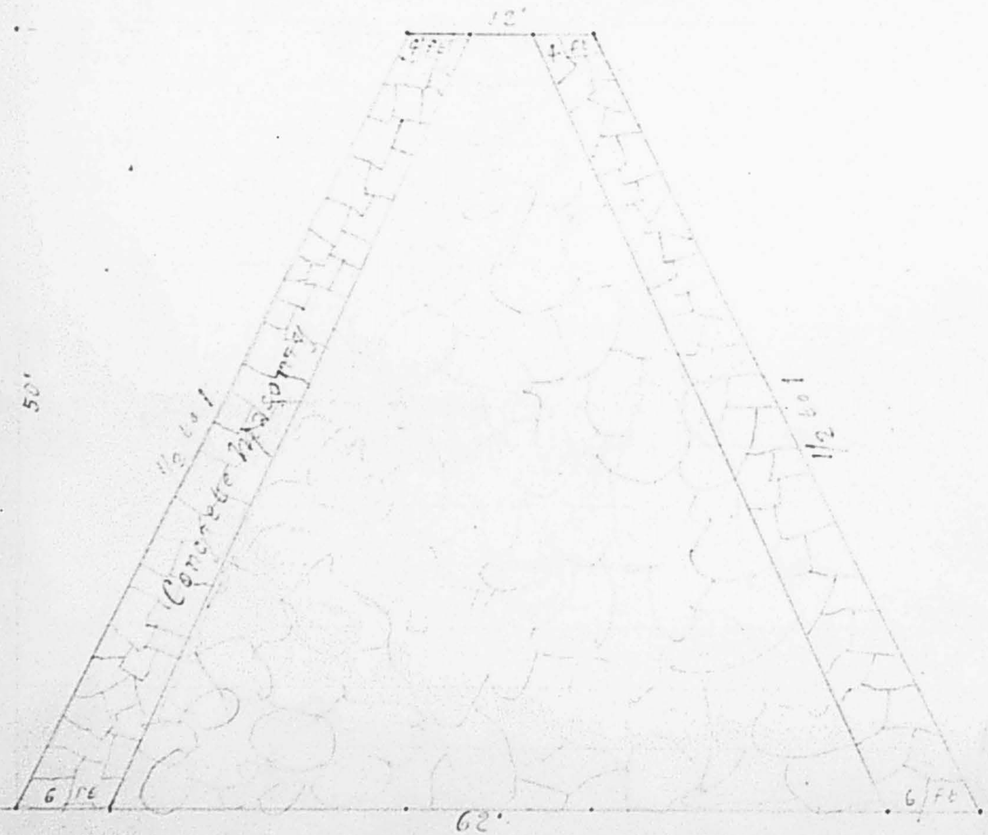
(1)

Plan No. 1

ROCK FILL DAM

Pamo Valley

Contents { Concrete Masonry 2250 Cu. yds. @ $7. cu. yd. = $15750.
Rock Fill " 1000 " " @ $2. " " = 2000.
Total Dam Fill, 3250 = $17750.



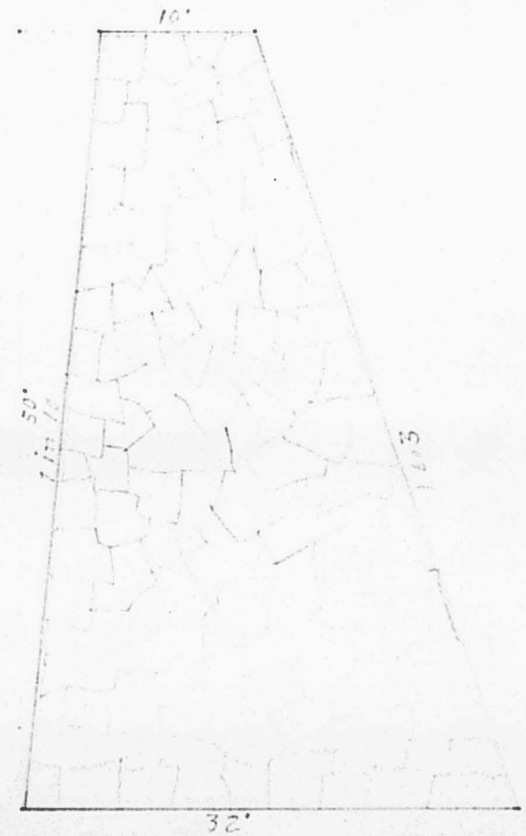
(2)

Plan No. 2

MASONRY DAM

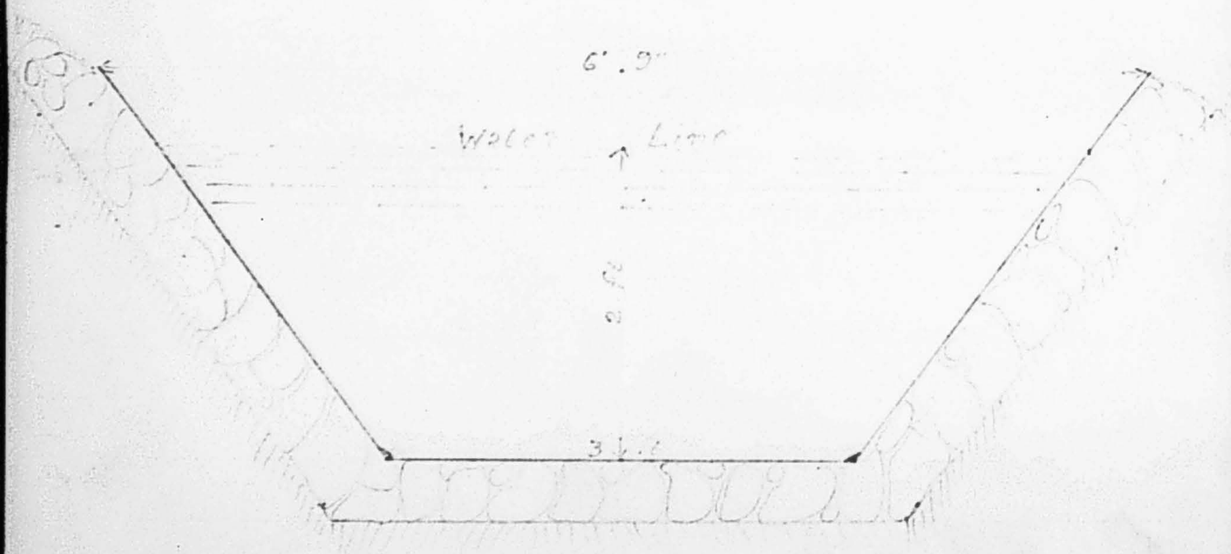
Pamo Valley

Contents 4300 Cu. yds. @ $7. cu. yd. = $30100.



Plan No 3

Plan for Paved Ditch



San Diego Calif Sept 1st/22 (4)

President & Board of Directors Linda Vista Ir. Dist

Gentlemen.

I furnish you the following data in reference to the construction of a Dam 50 ft high at the lower end of the Pamo Valley.

There is two types of dams which can be economically built at this point.

1st A Rock Fill dam see plan No 1. a Dam built on the profile given will cost (approx) as follows.

Concrete Masonry 2250 cu.yds. @ $7 cu.yd.		$ 15.750.
Rock fill " 5000 " " $3 "		" 15.000.
Asphalt facing		350.
Excavating foundation		900.
" ——— "	Total	$ 32.000.00

2d a Concrete Masonry dam see Plan No 2

Concrete Masonry 4300 cu.yds. @ $7 cu yd		$ 30100.
Excavating foundation		900
	Total.	$ 31000.00

For a dam 50 ft high I recomend the 2d plan viz a Concrete Masonery dam for the following reasons.

1st It is as cheap as the rock fill dam

2d It will be safer for a portion of the flood waters to flow over a Concrete Masonry Dam than over a rock fill dam.

3d When the district decides to complete the dam to its full height this part will furnish a strong & substancial foundation for either a rock fill or concrete masonry dam.

The figures I have given you are the approx cost of the dam proper. The other items of expense will be.

The Outlet conduit & gates

Clearing the Reservoir Site

Completing about 1¾ miles of wagon road

Conduit from dam to edge of the District or the Initial point

In reference to the conduit to carry the water to the edge of the district I furnish you the following.

Taking the 40 ft contour at the dam as 0. you have a grade of about 10 ft fall per mile. This grade avoids any heavy cuts on the different summits through which you pass to get to the edge of the district.

The distance from the dam to the Initial point of the district will be about 23 miles by the shortest line.

If you use a continous pipe line from the dam to the initial point the (approx) cost & capacity for different sizes will be as follows.

20 miles 18 in Wooden pipe @ .85 per ft	$ 89.600.00
3 " 18 " " " $1.00 " "	15840.00
Total	$ 105.440.00

Capacity 250 minrs

" " "

Or

20 miles 24 in Wooden pipe @ $1.15 per ft	$ 121.440.00
3 " 24 " " " $1.30 " "	20592.00
Total	$ 142.032.00

Capacity 550 minrs

" " "

Or

20 miles 30 in Wooden pipe @ $1.40 per ft	$ 147.840.00
3 " 30 " " " $1.60 " "	25344.00
Total	$ 173.184.00

Capacity 1000 minrs.

20 miles 36 in Wooden pipe @ $1.50 per ft		$ 158400.00
3 " 36 " " " $2.00 " "		31680.00
	Total	$ 190.080.00

Capacity 1700. min ins.

Can you economize on the above cost by using an open ditch paved with cobble stones (see plan No 3) where the contour & location of the line makes it desirable to use this class of conduit. An open diteth built on the above plan with a grade of 5.28 ft per mile & capacity of 2250 min ins cost about 65 cts per linear foot.

Say that it is adisable to build 7 miles of the line with the open ditch & that the curvature of the line adds one mile to its length you have the following results.

7 miles Open ditch @ 65 cts per lin ft	$ 24024.00
14 " 36 in wooden pipe @ $1.50 per ft	110880.00
3 " 36 " " " $2.00 ...	31680.00
Total.	166584.00

As against 23 miles of 36 in pipe costing $ 190.080.00 a saving of $ 23.496.00 in favor of a ditch & pipe line.

In my judgment it is adviisable to construct the larger conduit for the following reasons.

It is performed as soon as the water is conveyed to the edge of the district you will have a demand for several hundred min ins of water the sale & actual use of which will enable you to interest capitalists to furnish you funds to complete the dam & construct distributing lines in the district.

I remain Respectfully Yours
C. S. Alverson.
Chief Engr.

Engineers Estimates
for
50 ft. Dam and Conduit
on the
Parno Dam Site
Conduit Extending there
from to the edge of the
District

Filed in the L. V. I.
District office
Sept 5th 1892
Fr. K. Phillips
Secty

Exhibit 1 –
Engineers recommendations to Board of directors on acceptance of bids

San Diego, Calif., March 3rd, 1893.

To the Board of Directors
Linda Vista Irrigation District.

Gentlemen:- At your request, I have examined the bids received and opened by you at the special meeting of February 28th, 1893, Said bids being for the furnishing and laying of the materials of the Water Distributing System of the District.

I recommend that the Board of Directors accept the tender of Wade & Cooper subject to certain modifications as follows:

Accept the portion of the tender for the 44" 33" 24" 20" 16" & 12" wood pipe including the furnishing of the extra bands and shoes the air-valves outlets blow-offs and elbows and the excavating of the trenches for the same and including all work incidental thereto. Also the part of the tender for the 9000 feet No.14.8- inch steel pipe and the 12000 feet of No.14.12 - inch steel pipe.

I recommend that the Board reject the following portion of the tender viz. For the 15 and 18 inch steel pipe for the 10 and 12 inch bituminous pipe for the 10-12 and 16 inch vitrified pipe for the 8 and 10 inch wood pipe. Also the clause or proposition requiring the District to pay extra for the hard-pan and cement gravel that may be found in excavating the trenches for the different pipes.

My objections to the clause referring to the hard-pan and concrete gravel are as follows: If all the material in the trenches can be easily removed with plows and scrapers, then the stipulated price per linear foot for excavation will give the contractor more than a reasonable compensation for his

labor, and in my opinion the hard-pan and concrete gravel that may be found in the different trenches, will not increase the cost of excavation above what will still give the contractor a profit on his work, and further, by paying a stipulated price per linear foot for all the excavations it will avoid contention between the District and Contractor in regard to the class of the different materials.

The following is the sum totals of the stipulated price for which the bidders agree to furnish the materials and complete the work on the portion of the system I have recommended you to accept.

Goodbody & Sons	$220,819.45
Wade & Cooper	211,130.30
	$ 9,689.15

Trusting this will meet your approval, I remain
Respectfully yours,
C S. Albertson
Chief Engineer.

Modification of
Bids
by Alverson
Recorded at
Meeting of Mch
4th 1893

Filed in the office
of the L. V. I. District
Mch 4th 1893. for
record.
G K Phillips
Secty

To be filed and preserved
on record

To the Board of Directors of the Linda Vista Irrigation District of San Diego County, California.

Gentlemen:-

At your request I furnish you the following estimate of the cost of constructing a system of water works for the Linda Vista Irrigation District. The system will be as follows:-

1st. The building of a stepped concrete masonry dam one hundred and forty feet in height, at the lower end of Pamo Valley on the Santa Ysabel River near the point where the stream crosses the west boundary of Section twenty-seven, township 12 South Range 1 East S. B. B. and M.

2nd. The building of the conduits to convey the water from the dam to a point in Section 32 township 14, S. R. 2 W. S. B. B. and M.

3rd. The construction of a water distributing system for the District.

In estimating the cost of the outlet pipe, gates, valves etc. at the dam I have allowed for a capacity of five thousand mi. ins. in case the capacity of the system would be increased at some future time.

The estimate for the 25 miles of flume in clude the engineering, grading, trestles and cost of construction and the flume in place ready to carry the water. The flume will have a grade or fall of 5.28 ft. per mile and a carrying capacity of 60 cubic feet, or 3000 miner's inches per second.

The 2 1/2 miles of 42 inch redwood pipe will be used in crossing deep ravines; thereby making a saving in distance and

the necessity of constructing high trestles. The pipe will have a grade or fall of 15.84 ft. per mile and approximately a capacity of sixty cubic ft. or 3000 miner's inches per second.

The 5660 linear feet of 36 in. iron pipe will be used in crossing the Santa Maria and Los Penasquitos Creeks. The pressure on the pipes at those points will be too great to allow the use of wooden pipes economically. The pipe will have a grade or fall of 18.48 ft. per mile and approximately a capacity of 43 cub. ft. or 2150 mi. in. per sec.

If you use a 36 in. iron pipe where the line crosses the Santa Maria and Los Penasquitos Creek, when you require to deliver more than 2150 mi. ins. of water it will be necessary to have a double line of pipe at these points. This manner of construction I consider advisable for the following reasons:

First. The pressure on the pipe at these points will be heavy, in this there is more danger of accident or damage to the pipe if it is too large.

Second. If one of the pipes leaks or becomes damaged, while you are repairing it the other branch will carry a portion of the water you are delivering.

Third. It is probable that the District will not use more than the 2150 mi. in. for several years, and as this is the most expensive part of the line it will be a saving in first cost to construct it in this manner.

ESTIMATE FOR MASONRY DAM.

140 ft. in height.

EXCAVATIONS.

3600 cu. yds. earth at 25¢ per cu yd.	$900.00	
1200 " " loose rock at 50¢ cu yd	600.00	
220 " " hard rock at 1.10 " "	242.00	1742.00

MASONRY, etc.

45500" " masonry at $6 per cu yd	273000.00	
Inlet Tower 550 cu yd at $8" " "	4400.00	
Valves, outlet pipes and gates,	3200.00	
Footbridge and top of Inlet Tower,	2000.00	
Parapet wall and top of dam,	1500.00	
Waste way etc.,	3500.00	
Clearing reservoir,	7500.00	
Completing wagon road to dam,	1508.00	
	4472.00 ~~[illegible]~~	
Engineering and Supt.	3400.00	301080.00
		302822.00
		$301,750.00

CONDUITS TO EDGE OF DISTRICT.

Santa Maria Creek Crossing.

1450 ft No5 B.G. 36 in. iron pipe at $5.50 per lin. ft.	7975.00	
980 ft. No.6 B.G. 36 in. iron pipe at $5.10 per lin. ft.	4998.00	
890 ft. No.8 B.G. 36 in. iron pipe at $4.30 per lin. ft.	3827.00	
440 ft. No. 10 B.G. 36 in. iron pipe, at $3.60 per lin. ft.	1584.00	
500 ft. No. 12, B.G. 36 in. iron pipe, at $3.20 per lin. ft.	1600.00	19984.00
4260 lin. ft Trenching & backfilling, at 35¢ per lin. ft.	1491.00	1491.00
Engineering and Supt.	365.00	365.00
Total for Santa Maria Creek Crossing,		21840.00

LOS PENASQUITOS CREEK CROSSING.

500 ft.No.8 B.G.36 in. iron pipe at $4.30 per lin. ft.	$2150.00	
400 ft. No.10 B.G. 36 in. iron pipe at $3.60 per lin. ft.	1440.00	
500 ft. No. 12 B.G. 36 in. iron pipe, at $3.20 per lin ft.	1600.00	5190.00
1400 lin. ft. Trenching & Backfilling, at 40¢ per lin. ft.	560.00	560.00
Engineering and Supt.	275.00	275.00
Total for Los Penasquitos Crossing,		6025.00
25 miles 3 x 4 ft. redwood flume at 1.88 per lin.ft. (including all expenses)	248160.00	248160.00
2 1/2 miles 42 in.wood pipe at an average of $2.50 per lin. ft.	33000.00	
2 1/2 miles excavating and back-filling at 42¢ per lin ft.	5544.00	
Blow-offs and air valves,	325.00	
Engineering and Supt.on wood pipe line	441.00	39310.00
Total for conduits exclusive of 36 in. steel pipe, lin. ft.		287470.00

SUMMARY.

Pamo Dam and etc.		302822.00
Iron pipe across Santa Maria Creek,		21840.00
Los Penasquitos		6025.00
25 miles of 3 x 4 ft. redwood flume,		248160.00
2 1/2 miles 42 in. redwood pipe,		39310.00
Contingencies,		21850.00
Sum total,		640000.00

DISTRIBUTING SYSTEM FOR THE DISTRICT.

10000 ft.42 in.wood pipe at 1.90 per lin. ft.	19000.00	
1400 extra 1/2 in.bands at 45¢ each,	630.00	
1400 " shoes at 11¢ each,	154.00	
10000 ft.excavating & backfilling at 42¢ per lin. ft.	4200.00	23984.00
8480 ft.33 in.wood pipe at $1.65	13942.00	
1050 extra 1/2 in.bands at 40¢ each,	420.00	
1050 " shoes at 10¢ each,	105.00	
8480 ft. excavating and backfilling, at 35¢ per lin. ft.	2968.00	17435.00
23000 ft. 24 in.wood pipe at $1.32	30360.00	
8500 extra 1/2 in.bands at 32¢each	2720.00	
8500 extra shoes at 10¢ each,	850.00	
23000 ft. excavating and backfilling, at 20 cts. per lin. ft.	4600.00	38530.00
10560 ft. 20 in. wood pipe at $1.20 per lin. ft.	12682.00	
1150 extra 1/2 in.bands at 27¢ each,	310.50	
1150 " shoes at 9¢ each,	103.50	
10560 ft. excavating and backfilling, at 18¢ per lin. ft.	1900.80	14976.80
42500 ft. 18 in. wood pipe at 1.05 per lin. ft.	44625.00	
12500 extra 3/8 in. bands at 22¢ each	2750.00	
12500 extra shoes at 9¢ each,	1125.00	
42500 ft. excavating and backfilling at 16¢ per lin. ft.	6800.00	55300.00
12000 ft. 12 in. wood pipe at 75¢ per lin. ft.,	9000.00	
3500 extra 3/8 in. bands at 16¢ each,	560.00	
3500 extra shoes at 8¢ each,	280.00	
12000 ft. excavating and backfilling, at 10¢ per lin. ft.	1200.00	11040.00
		160425.80
For'd,		161365.80
Engineering and Supt.	1550.00	1550.00
Contingencies,		1476.20
Sum Total Distributing System,		$200000.00

Brought For'd		161365.00
16 Air valves 2 in. at $10.50	168.00	
40 air valves 1 1/2 in. at 9.75	390.00	558.00
4 Outlets 4 in. dia. at $15	60.00	
10 " 6 " " " 20	200.00	
12 " 8 " " " 26.25	315.00	
8 " 10 " " " 32.50	260.00	
6 " 12 " " " 40.00	240.00	1085.00
14 Blow-offs 4 in. dia. at $18.00	252.00	
4 " 6 " " " 25.50	102.00	354.00
6 Elbows for 42 in. wood pipe at 18.50	111.00	111.00
Engineering and Supt.	5500.00	5500.00
9000 ft. No. 14 B.G. 8 in. steel pipe at 60¢ per lin. ft.	5400.00	
9000 ft. excavating and backfilling at 12¢ per lin. ft.	1080.00	
Gates and air valves,	75.00	6555.00
5000 ft. No. 14 B.G. 10 in. steel pipe, at 82¢ per lin. ft.	4200.00	
5000 ft. excavating and back-filling at 12¢ per lin. ft.	600.00	
Gates and valves (air)	80.00	4880.00
5280 ft. No. 12 B.G. 15 in steel pipe at 1.15 per lin ft.	6072.00	
5280 ft. excavating and backfilling at 16¢ per lin. ft.	844.80	
Gates and air valves,	103.20	7020.00
Engineering and Supt.	620.00	620.00
2500 lin. ft. 12 x 12 in. flume at 45¢ per lin. ft.	1125.00	
3200 lin ft. 12 x 18 in. flume at 65¢ per lin ft.	2080.00	3205.00
8000 lin. ft. 1 1/2 x 2 ft. unpaved ditch at 15¢ per lin. ft.	1200.00	
14000 lin. ft 1 1/2 x 2 ft. unpaved ditch at 18¢ lin. ft.	2520.00	3720.00
Engineering and Supt.	1550.00	1550.00
Contingencies,		4476.20
Sum Total Distributing System,		$200000.00

The above estimate of the total cost of constructing the system of water works includes a reasonable profit to a Contractor if built by contract.

Trusting this will furnish you all necessary data, I remain,

Respectfully yours,

C. S. Alverson

Chief Engineer.

Dated San Diego, California, March 10th, 1894.

LAURA B. ANDERSON, Stenographer and Typewriter. Notary Public.
Lawyers' Block, San Diego, California.
Densmore Typewriter Agency.

August 1894.

ENGINEER'S ESTIMATE.

To the Board of Directors of the Linda Vista Irrigation District of San Diego County, California.

Gentlemen:-

At your request I furnish you the following estimate of the cost of constructing a portion of the system of Water Works for the District. The portion to be constructed is as follows:-

1st. To build a rock fill dam one hundred and forty five feet in height at the lower end of Pamo Valley on the Santa Ysabel River near the point where the stream crosses the west boundary of Section twenty-seven (27) township twelve (12) south range one (1) east S. B. B & M.

2d. To construct conduits to carry water from the above referred to dam to a point in Section thirty-two (32) township fourteen (14) south range two (2) west S. B. B & M.

In estimating the cost of the outlet pipe, gates, valves, etc. at the dam, I have allowed for a capacity of five thousand mi-ins, in case the capacity of the system should be increased at some future time.

In my judgment the following estimates are made on a liberal basis.

ESTIMATE FOR ROCK FILL DAM 145 ft. in height.

3700	cu yds trench excavations for concrete walls at 50 cts cu yd,	1850.00	
500	cu yds of earth and other material on dam site at 35 cts cu yd,	175.00	2025.00
1200	cu yds concrete masonry in cut off wall on water face at $7.50	9000.00	
5710	cu yds concrete masonry in wall on lower face of dam at $7.	39970.00	
805	cu yds asphalt concrete on water face from 0' to 50 ft contour at $10	8050.00	
750	cu yds culvert masonry at $9	6750.00	
20000	cu yds facing hand laid at $2.75	55000.00	
78000	cu yds loose rock fill at $1.00	78000.00	
18000	cu yds sand, gravel & earth at 35 cts,	6300.00	203070.00
600	cu yds masonry Inlet Tower at $8	4800.00	
	Valves, gates, outlet pipe, &c,	6000.00	
	Foot bridge and top of Inlet Tower,	2500.00	13300.00
	Wasteway, etc.,	3500.00	3500.00
37 M	ft B.M. redwood lumber top of dam,	1554.00	
140 M	ft B.M. redwood plank at $45 M.	6300.00	
14 M	ft B.M. redwood timbers at $40 M.	640.00	
	Bar iron for anchoring timbers,	200.00	8694.00
	Engineering and Supt.	3000.00	
	Contingencies,	4411.00	7411.00
			238000.00

ESTIMATE OF COST OF CONDUITS FROM PAMO VALLEY DAM TO THE Initial point of Linda Vista Irrigation District.

	SANTA MARIA CREEK CROSSING.	$	$
1450	ft No 5 W.G. 36 in iron pipe at $5.50 per lin ft,	7975.00	
980	ft No 6 W.G. 36 in iron pipe at $5.10 per lin ft,	4998.00	
890	ft No 8 W.G. 36 in iron pipe, at $4.30 per lin ft.	3827.00	
440	ft No 10 W.G. 36 in iron pipe, at $3.60 per lin ft,	1584.00	
500	ft No 12 B.G. 36 in iron pipe, at $3.20 per lin ft.	1600.00	19984.00
4260	lin ft trenching and backfilling at 35 cts per lin ft,	1491.00	1491.00
Engineering & Supt,		365.00	365.00
	Total Santa Maria Creek Crossing,		21840.00
	LOS PENASQUITOS CREEK CROSSING.		
500	ft No 8 W.G. 36 in iron pipe, at $4.30 per lin ft.	2150.00	
400	ft No 10 W.G. 36 in iron pipe at $3.60 per lin ft,	1440.00	
500	ft No 12 W.G. 36 in iron pipe, at $3.20 per lin ft,	1600.00	5190.00
1400	lin ft trenching and backfilling at 40 cts per lin ft.	560.00	560.00
Engineering and Supt.		275.00	275.00
	Total for Los Penasquitos,		6025.00

15	miles 3 x 4 ft redwood at $1.88 per lin ft (complete in place)	148896.00	148896.00
10	miles of paved ditch at $1.25 per lin ft (complete)	66000.00	66000.00
2 1/2	miles 42 in. wood pipe at an (average) of $2.50 per lin ft,	33000.00	
2 1/2	miles excavating and backfilling at 42 cts per lin ft.	5544.00	
	Blow-offs and air valves,	325.00	
	Engineering and Supt. on wood pipe line,	441.00	39310.00
	Total for conduits exclusive of 36 in iron pipe,		254206.00

SUMMARY.

Pamo dam, etc.	238000.00
Iron pipe across Santa Maria Creek,	21840.00
Iron pipe across Los Penasquitos Creek,	6025.00
15 miles 3 x 4 ft redwood flume,	148896.00
10 miles paved ditch,	66000.00
2 1/2 miles 42 in redwood pipe (complete)	39310.00
Contingencies,	21929.00
Sum Total,	$542000.00

San Diego, August 24th, 1894.

I remain, Respectfully Yours,

C. S. Albertson

Chief Engineer.

COPY OF A PORTION OF REPORT OF C. S. ALVERSON ON
EL CAJON VALLEY WATER INVESTIGATION TO
CITY OF SAN DIEGO NOV 28,1904.

TESTS AND INVESTIGATIONS

The present investigations commenced on the 9th day of November 1904, and extended from a point below the McKoon Ranch House on the Fanita, to a point just below the town of Lakeside, a distance of about five miles. Twelve test wells were sunk, three pumping plants tested, and other wells, that have been dug on the above area were examined, the location of which is shown on the accompanying diagram. Thirty-three feet of six-inch diameter Standard casing pipe, a four inch sand pump, and other necessary appliances, were used in sinking the test wells. A record was kept of the stratas passed through, and samples of the material taken at different depths.

The following is the record of the test wells:

At a point 300 feet south and 90 feet East of the N E Corner of the J. R. Gillin tract, and designated on the diagrams as O water was found 4-½ feet below the surface.

Well No 1 is 260 feet. south of O.

First 7½ feet coarse sand. At this depth water is found then for 17½ ft. a total of 25 ft. pass through coarse quartz and granite, sand full of water, same material in bottom.

Well No 2 is 150 ft. south of Well No. 1.

First 4 ft. soil and silt, then 4 ft of sand, water found at 8 ft below the surface. Then 16 ft of course sand and some fine gravel full of water, a total of 24 ft. the same material in bottom of well.

Well No 3 is 250 ft. south of Well No 2.

First 3½ ft. soil and silt, then 5 ft of coarse sand, water found at 8½ ft. below the surface, then 20 ft. of coarse sand and fine gravel full of water, a total of 28½ feet; same material in bottom of well.

Well No 4 is 250 ft. South of Well No 3.

First 4 ft. soil and sand, then 4 ft. coarse sand, water found at 8 ft. below the surface, then 11½ ft. of sand and some coarse gravel, a total of 19½ ft. (Note) A cobble stone got stuck between the casing and sand pump and had to pull the casing out.) Good material in bottom of well.

Well No 5 is 250 ft. South of Well No 4.

First 3 ft. soil and sand, then 3½ ft. of sand. Water found at 7½ ft. below the surface, then 13½ ft. of coarse sand, a total of 20 ft. At this depth the sand and water run in so fast that it was advisable to pull the casing.

From well No 5 it is 240 ft South to a low bench formed by the deposit of former flood water.

From the above bench it is about 250 ft. south and 330 ft. west to J. R. Gillin's pumping plant, which will be described later.

Well No 6 bears S. 86° E. about 2500 ft. distant from No 5. First 4½ ft. soil and silt, then 3 ft. of medium coarse sand, water found at 7½ ft. below the surface, then 11 ft. of coarse sand, then 2½ ft. of adobe and silt, then 9 ft. of coarse sand, a total of 30 ft., good material in the bottom of well.

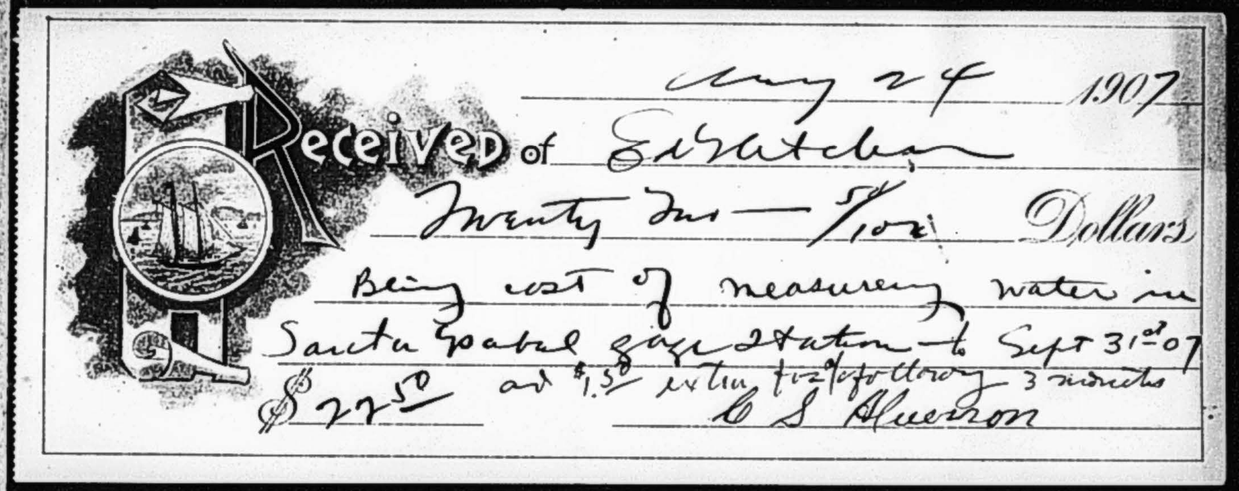
Well No 7. is 250 ft. North of Well No 6. First 4½ ft. soil, silt, and fine sand, then 3 ft. of coarse sand, water found at 7½ ft. below the surface, then 21½ ft. of coarse sand and some fine gravel, a total of 29 ft. and good material in bottom of well:

Well No 8 is 250 ft North of Well No 7. First 6 ft. coarse sand, water found at 6 ft. then 21 ft. of coarse sand and some fine gravel, a total of 27 ft. good material in bottom of well.

Well No 9 is 300 ft. North of Well No 8. First 7 ft. coarse sand, water found at 7 ft. then 23 ft. coarse sand and fine gravel, a total of 30 ft. good material in bottom of well.

Well No 10 is 500 Ft. North of Well No 9. First foot soil, then 5 ft. of coarse quartz and granite sand, water found at 6 ft. then 11 ft. of very coarse sand and fine gravel, a total of 17 ft.; at this depth the pump would not hold the material, which was full of water and free from fine sand and silt.

Well No 11 bears S 79½° E about 1175 distant from No 10. First 8 ft. in coarse sand; water found at 8 ft., then 20 ft. of good water bearing sand, a total of 28 ft. bottom of well good material.


May 24 1907
Received of Ed Hatchen
Twenty Dos — 5/100 Dollars
Being cost of measuring water in Santa Isabel gage station to Sept 31st 07
$27.50 at $1.50 extra for following 3 months
C S Alverson

San Diego, Cal., July 20, 1907.

Mr. Ed. Fletcher,
City.

Dear Sir:-

Some two years ago I accompanied Mr. W. S. Murphy who is in the U. S. Geo. Survey service, on a trip in the back country and mountain section of San Diego County. On the trip I explained to him the local situation and furnished him data and information that I had acquired in some eighteen years examination of the water sheds and streams of San Diego County. The result was that gauging stations were established on the Cottonwood, Sweetwater, San Diego and Santa Ysabel Rivers, which are of great value in determining the run-off or water supply of these streams.

The appropriation of Congress and the state of California is limited and the salary of the persons who gauge or measure the stream is fixed at a certain price. The station on the Santa Ysabel is so located that Mr. Potts, the gauge reader could not afford to do it for the price paid by the hydrographic branch of the U. S. GeO. Survey and asked $3.50 additional per month compensation. The Department wrote to me personally and asked me what could be done. I told them to go ahead and establish the station and I would see that the difference would be paid.

Up to the present time I have paid some $60 out of my own packet for this work. There is now due Mr. Potts $10.50 for the quarter ending June 30th, 1907.

I feel that if the business men and property owners of San Diego and vicinity do not take sufficient interest in the matter to put up that amount, namely, $3.50 per month, that I personally can do it no longer, and will so advise the Government and have the station abandoned.

I remain,

Respectfully yours,

C. S. Alverson,

Civil & Hydraulic Engineer.

Mr. U. S. Grant,
City.

Dear Sir:-

The above is explanatory. I believe this work should be kept up and feel sure that this information will be of value in the matter of development of our water sheds of the back country. Kindly send me a check for any amount you may feel like giving up to $5 to help the good work along, and same will be appreciated, I am sure, by the Citizens of San Diego county, as well as,

Yours very truly,

Ed Fletcher
Per. E.F.S.

Dict.E.F.-F.S.

CK for $5.00 enclosed herewith May 19th 1907
John L. Gilbert

San Diego, Cal., July 20, 1907.

Mr. Ed. Fletcher,
City.

Dear Sir:-

Some two years ago I accompanied Mr. W. S. Murphy, who is in the U. S. Geo. Survey Service, on a trip in the back country and mountain section of San Diego County. On the trip I explained to him the local situation and furnished him data and information that I had acquired in some eighteen years examination of the water sheds and streams of San Diego County. The result was the gauging stations were established on the Cottonwood, Sweetwater, San Diego and Santa Ysabel Rivers, which are of great value in determining the run-off or water supply of these streams.

The appropriation of Congress and the state of California is limited and the salary of the persons who gauge or measure the stream is fixed at a certain price. The station on the Santa Ysabel is so located that Mr. Potts, the gauge reader could not afford to do it for the price paid by the hydrographic branch of the U. S. Geo. Survey and asked $3.50 additional per month compensation. The Department wrote to me personally and asked me what could be done. I told them to go ahead and establish the station and I would see that the difference would be paid.

Up to the present time I have paid some $60 out of my own pocket for this work. There is now due Mr. Potts $10.50 for the quarter ending June $0th, 1907.

I feel that if the business men and property owners of San Diego and vicinity do not take sufficient interest in the matter to put up that amount, namely, $3.50 per month, that I personally can do it no longer, and will so advise the Government and have the station abandoned.

I remain,

Respectfully,
C. S. Alverson,

Civil & Hydraulic Engineer.

Ex-Mayor Sehon,
City.

Dear Sir:-

The above is explanatory. I believe this work should be kept up and feel sure that this information will be of value in the matter of development of our water sheds of the back country. Kindly send me a check for any amount you may feel like giving, up to $5 to help the good work along and same will be appreciated, I am sure, by the Citizens of San Diego county, as well as,

Yours very truly,

Ed Fletcher
Per E.F.S.

Dict.E.F.-F.S.

RECORD OF MATERIALS REMOVED PAGE ___ OF ___

COLLECTION NAME ED FLETCHER

SERIES & FOLDER TITLE EARLY WATER

Description of Material		Date Of Material	Re-Filed As: Series	Re-Filed As: Folder Title
LETTER	HARSTON to FLETCHER (w/ list of civic leaders contributing to Sta. Ysabel water gage station)	AUG 19, 1907	CORRES: HARSTON	

1 dog copies.

San Diego, Cal., July 20th, 1907

Mr. Ed Fletcher,

City.

Dear Sir:-

Some two years ago I accompanied Mr. W. S. Murphy who is in the U.S. Geo. Survey service, on a trip in the back country and mountain section of San Diego County. On the trip I explained to him the local situation and furnished him data and information that I had acquired in some eightee years examination of the water sheds and streams of San Diego County. The result was that gauging stations were established on the Cottonwood, Sweetwater, San Diego and SantabYsabel Rivers, which are of great value in determining the run-off or water supply of these streams.

The appropriation of Congress ~~in~~ and the State of California is limited and the salary of the persons who gauge or measure the stream is fixed at a certain price. The station on the Santa Ysabel is so located that "Mr. Potts, the gauge reader could not afford to do it for the price paid by the hydrographic branch of the U.S. Geo. Survey, and asked $5.50 additional per month compensation. The Department wrote to me personally and asked me what could be done. I told them to go ahead and establish the station and I would see that the difference would be paid.

Up to the present time I have paid some $60.00 out of my own pocket for this work. There is now due Mr. Potts $10.50 for the quarter ending June 30th, 1907.

I feel that if the business men and property owners of San Diego and vicinity do not take sufficient interest in the matter to put up that amount, namely, $3.50 per month, that I personally can do it no longer, and will so advise the Government and have the station abandoned.

I remain,

Respectfully yours,

C S Alverson

Civil & Hydraulic Engineer.

Ed Fletcher Papers

1870-1955

MSS.81

Box: 1 Folder: 6

General Correspondence - Alverson, C.S.

Copyright: UC Regents

Use: This work is available from the UC San Diego Libraries. This digital copy of the work is intended to support research, teaching, and private study.

Constraints: This work is protected by the U.S. Copyright Law (Title 17, U.S.C.). Use of this work beyond that allowed by "fair use" requires written permission of the UC Regents. Permission may be obtained from the UC SanDiego Libraries department having custody of the work (http://libraries.ucsd.edu/collections/mscl/). Responsibility for obtaining permissions and any use and distribution of this work rests exclusively with the user and not the UC San Diego Libraries.