

~~XXXXXXXXXXXXXXXXXXXX~~
SAN DIEGO CALIFORNIA
924 8th St.

October 20, 1913.

Mr. Ed Fletcher, Manager,

The Cuyamaca Water Company,

San Diego, California.

Dear Sir:

In accordance with your instructions, I present herewith an estimate of necessary construction to place the Cuyamaca Water System in thoroughly good service condition, to maintain an adequate supply and transport a flood water supply of 2,000 Miner's Inches.

The system is now operative with both irrigation and domestic use, roughly 150 miner's inches devoted to irrigation and 100 to domestic use. You do not propose any further irrigation sale, but intend to concentrate on extension of domestic water sales. Aside from the regular increase of the domestic demand within your service area, you are including the supply of water wholesale to the City of San Diego, conveying during the excess flood period on the San Diego River flood waters direct to the distributing reservoir of the City. This obviates the necessity of large storage on the San Diego River for the use of your new customer, the City of San Diego. The City as a matter of fact, owns excess storage, but insufficient water. This relief which you would bring to them during three or four months, will be without extra storage losses to yourselves, but you must provide adequate conveying capacity in your flumes and pipe lines.

This estimate secures this result, there being added however, two reservoirs, which will regulate flood discharge and adequate supply storage for your present consumers.

ESTIMATE OF RECONSTRUCTION.

and New Construction, required for winter supply of San Diego and supply of present consumers.
Cuyamaca Water Company.

MAIN FLUME.

Section A - Diverting Dam to Tunnel No 1 - 7 miles.

3 miles flume complete, except lining
waterproof "Regal".

Lining "Regal" 15,000 lin.ft. at \$.25 ----- \$ 3,750.00

Section B - Tunnel No 1 to South Fork - 3½ miles.

16,000 lin.ft. - concrete lining and back-filling
at \$1.35 ----- 21,600.00
2,200 lin.ft. steel flume on trestle at \$3.50 -- 7,700.00

Section C - South Fork to Chocolate - 1 mile.

Cement lining and backfilling 5,000 ft at \$1.35- 6,750.00

Section D - Chocolate to Monte.

Concrete lining 31,732 lin.ft. at \$1.35 ----- 42,850.00
Steel flume on trestle 6,000 lin.ft. at \$3.50 -- 21,000.00

Section E - Monte to Lankershim Tunnel.

13,446 lin.ft. lined conduit at \$1.90 ----- 25,550.00
6,966 lin.ft. steel pipe at \$4.10 ----- 28,550.00

Section F - Monte to Sweetwater.

2,200 lin.ft. lined conduit at \$1.35 ----- 3,000.00
500 lin.ft. steel flume at \$3.00 ----- 1,500.00
13,200 lin.ft. pipe at \$4.50 ----- 59,400.00

Consumers lines rearranged ----- 10,000.00

Section G - Sweetwater to End.

| | |
|--|------------------|
| 23,000 lin.ft. cement lined conduit at \$1.35 -- | \$ 31,050.00 |
| 4,250 lin.ft. steel flume on trestle at \$3.00- | <u>12,750.00</u> |

| | |
|------------------------|--------------|
| TOTAL MAIN FLUME ----- | \$275,450.00 |
| | ===== |

DISTRIBUTING SYSTEM.

Local Improvements High Service:

| | |
|---|--------------|
| 7,500 ft. concrete pipe at \$2.00 ----- | \$ 15,000.00 |
| Venturi Meter and special connections ----- | 800.00 |
| 4,700 lin.ft. 12" casing at \$1.50 ----- | 7,050.00 |

| | |
|--|-----------|
| New Construction - required to connect La Mesa Reservoir with Chollas Reservoir of City of San Diego - 16,000 lin.ft. Riv. pipe at \$3.50- | 56,000.00 |
|--|-----------|

Low Service Improvements:

| | |
|---|-----------------|
| 9,000 lin.ft. 8" cast iron pipe at \$1.40 ----- | 12,600.00 |
| Miscellaneous lines ----- | <u>5,000.00</u> |

| | |
|--|--------------|
| | \$ 96,450.00 |
| | ===== |

| | |
|---|------------------|
| Total Flume and Distribution ----- | \$371,900.00 |
| Add 10% Engineering and Contingencies ----- | <u>37,100.00</u> |

| | |
|--|--------------|
| | \$409,000.00 |
| | ===== |

The above expenditure will secure the required results. I should add however, the following construction to secure additional regulation, service and flexibility.

| | |
|--|--------------|
| Diverting Dam. Rock fill concrete type 40 ft. high - including 20% contingencies ---- | \$110,000.00 |
|--|--------------|

| | |
|--|------------------|
| Conejos Dam. 80 ft. high, rock fill - including 20% contingencies ----- | <u>63,600.00</u> |
|--|------------------|

| | |
|--|--------------|
| | \$173,600.00 |
| | ===== |

| | |
|-------------------|--------------|
| GRAND TOTAL ----- | \$582,600.00 |
| | ===== |

Water Rights.

The Cuyamaca System is the successor of the San Diego Flume System with acknowledged water rights of 24 years actual use. This vested right would undoubtedly apply to 900 miners' inches out of the main San Diego River and some 250 miners' inches out of the South Fork, these amounts being the carrying capacity of these flumes at the time of Cuyamaca Water Co.'s purchase in July 1910. On this date the owners filed of the entire flow at the Diverting Dam (50,000 M.I.) and immediately and continuously made a diversion of 2,000 miner's inches, together with a continuous enlargement of the flume, to comply with the law. At the end of this season diversion of 2,000 miner's inches will be maintained for the first four miles.

Similar steps have been taken on the South Fork in the applying to the United States Department of the Interior for the Conejos Reservoir Site upon this stream.

The water rights for this proposed increased use of water are already thoroughly initiated and established.

It will be understood that the service requirements to which the Company is now obligated is 256 miner's inches delivered, requiring storage and the Company loses by evaporation, seepage, etc. These are accounted for with a supply of say 350 miner's inches. The average supply of the River is about 1300 inches, the remainder or 950 miner's inches continuous flow is therefore, available for the plan as outlined for the City of San Diego. A continuous supply of about 1,500 inches may be maintained for three or four months used directly by

the City, any surplus being "backed up" into the City's reservoirs for future use.

The water wasted out of the San Diego River basin during the season of 1911-12 was 2,900 acre-feet as far as measured by U. S. Geological Survey, ^{at Diverting Dam} ~~San Diego River near Santos~~, not including the ~~wet months of March and April~~ or an estimated total of ~~9,000 acre-feet~~. The ~~total of the low season of 1912-13~~ gives a waste of ~~1,920 acre-feet~~. The average quantity wasted down the river at the intake of the flume is 10,400 acre feet, (mean of last 14 years).

The storage now in the Cuyamaca System consists of:

| | Acre-feet Max. capacity. |
|-------------------------|-----------------------------|
| Cuyamaca Lake----- | 11,760 |
| Diverting Dam----- | 22 |
| Eucalyptus ----- | 23 |
| Murray Hill ----- | 127 |
| La Mesa Reservoir ----- | <u>1,500</u> |
| Present storage-- | 13,432 |

It is proposed to add:

| | |
|------------------------|-------------------|
| Diverting Dam----- | 2,117 |
| Conejos Reservoir----- | 867 |
| | <u>====16,416</u> |
| | ===== |

Representing a possible storage capacity of about 1,100 miner's inches continuous flow, at the outlets of the works.

APPRAISEMENT

OF

CUYAMACA WATER COMPANY.

to June 1st 1912

A thorough inventory and appraisement of operative property was made under the direction of the Railroad Commission of California of date of June 1st, 1912, for rate making and determination of service. The following is the final summary as adopted and accepted by the Commission.

(Pg. 51 and 56 R.R. Com. Order)

TABLE A.

| Items | Reproduction Cost (with overhead) | Annual Depre- ciation (with overhead) | Present value (with overhead) |
|---|--------------------------------------|---|-------------------------------------|
| -Collection System- | | | |
| 1. Lands and rights of way | \$166,200.00 | | \$166,200.00 |
| 2. Buildings and Improve- ments on lands | 13,320.00 | \$466.00 | 5,540.00 |
| 3. Cuyamaca Dam | 37,950.00 | 370.00 | 28,450.00 |
| 4. Diverting Dam | 38,167.00 | 343.00 | 25,764.00 |
| 5. Flume System | 585,000.00 | 18,900.00 | 145,000.00 |
| 6. Eucalyptus Dam | 10,910.00 | 110.00 | 8,720.00 |
| 7. La Mesa Dam | 16,200.00 | 163.00 | 13,440.00 |
| 8. La Mesa ditch | 7,080.00 | 186.00 | 3,720.00 |
| 9. Murray Hill reservoir and pipe line | 49,500.00 | 495.00 | 49,005.00 |
| -Distribution System- | | | |
| 1. Pipe lines | 87,730.00 | 5,310.00 | 29,030.00 |
| 2. Meters | 684.00 | 14.00 | 384.00 |
| -Miscellaneous- | | | |
| 1. Material on hand | 3,481.00 | | 3,389.00 |
| 2. Tools, Equipment, etc. | 3,985.00 | | 3,322.00 |
| 3. Telephones | 2,340.00 | 69.00 | 1,170.00 |
| Totals----- | 1,018,750.00 | 26,426.00 | 483,134.00 |

after

Subsequent to this appraisement, Murray and Fletcher took over the distribution system of Normal Heights and Kensington Park. The appraisement as of ~~January~~ 1st, 1913, is as follows:

Mpl

TABLE B.

| Distributing System (not included in R. R. Commission Appraisement) | Reproduction Cost (with overhead) | Annual Depre- ciation (with overhead) | Present value (with over- head) |
|---|--------------------------------------|---|--|
| 3. Pipes in Kensington Park & Normal Heights. | 43,068.00 | 6,787.00 | 36,281.00 |
| 4. Lot 12, Block 54 Reservoir No. 2 | 3,300.00 | | 3,300.00 |
| 5. La Mesa Pumping Plant | 1,730.00 | | 1,730.00 |
| | <u>48,098.00</u> | <u>6,787.00</u> | <u>41,311.00</u> |

Since July 1st, 1913, Murray and Fletcher have prosecuted reconstruction operations as follows:

TABLE "C" (approximate)

| Collective System | Cost of production | Present Value |
|--|--------------------|---------------|
| 5. (a) Flume Reconstruction | | |
| Concrete lined conduit | 3,800.00 | 3,800.00 |
| Concrete Syphon | 6,000.00 | 6,000.00 |
| Steel Flume and Trestle reconstruction | 7,600.00 | 7,600.00 |
| Tunnel | 300.00 | 300.00 |
| | <hr/> | <hr/> |
| | 17,700.00 | 17,700.00 |
| Subtract Flume abandoned less salvage | | <hr/> |
| | | 2,000.00 |
| | | <hr/> |
| | | \$15,700.00 |

Beaumont

In September, the following expenditures were begun in pumping plants on the upper San Diego River.

TABLE "D" (approximate)

| Collection System | Cost of Production | Present Value. |
|-------------------|--------------------|----------------|
| 10 Pumping Plants | | |
| Lands | 6,200.00 | 6,200.00 |
| Plant No. 2 | 5,000.00 | 5,000.00 |
| Plant No. 3 | 1,500.00 | 1,500.00 |
| Plant No. 4 | 1,000.00 | 1,000.00 |
| | <hr/> | <hr/> |
| | 13,700.00 | 13,700.00 |

Prosted

TABLE E.

Preliminary Expenditures on Reservoirs and additions to property, lands purchased, etc., not "used and useful" at the present date, but ready to become so on completion of reservoirs, listed here as additional assets, not as operative property.

| | |
|--|-----------------|
| Poverty Gulch Reservoir, | \$1,690.00 |
| Conejos Reservoir, | 1,190.00 |
| Boulder Creek Reservoir, | 1,240.00 |
| Diverting Dam, | 2,480.00 |
| <i>Surveys</i> Water Measurement and Engr. | <u>4,330.00</u> |
| | \$10,930.00 |

Summary of Present Value as of January 1st, 1913.

| | |
|--|------------------|
| TABLE "A" R. R. COMMISSION | 484,134.00 |
| TABLE "B" KENSINGTON PARK & NORMAL HEIGHTS | 41,311.00 |
| TABLE "C" FLUME RECONSTRUCTION | 15,700.00 |
| TABLE "D" PUMPING PLANTS | <u>13,700.00</u> |

554,845.00

Less Depreciation on Values in

~~TABLE "A" - 1 1/2 years \$39,639.00~~

~~TABLE "B" - 1 year 6,787.00~~

46,426.00

Physical Operative Property
Present Value as of January 1, 1914

~~592,271.00~~

(No Values assigned to water rights under control
or to franchises, etc.) ^{Cost} ~~Riparian Rights~~

~~if acquired today~~

Assets - Reservoir Site Purchases and

Preliminary expense - not yet

operative property,

10,930.00

\$519,349.00

The value of water rights
not yet used but
under control and
Riparian Rights estimated 1,000,000

Over

The cost price to the
City of San Diego for oil sets
water is 8000 per minute
with delivered. The official
report of the water department of
the city of San Diego states
that the cost to the tap
payer at the meter is 23.4 cents
per thousand gallons

EARNING CAPACITY

For the property as of date of June 1st, 1912, the Railway Commission made findings summarized as follows:

1. Adequacy of service, 75%.
2. The flume (collective system) and other portions requiring repair not "used and useful" to the extent of capacity.
3. Allowance of revenue reduced to 75%, pending the rebuilding of flume and provision of further storage.
4. ⁵⁰ Ad interim increase of rates from a gross annual revenue of ~~\$84,538.00~~ to \$66,825.00 (being 75% of a revenue determined as above).
5. This gross revenue arrived at as follows:

| | Findings | Amounts adopted by Commission for ad interim rates (effect- tive July 1, 1913) penalizing service inadequacy. |
|---|--------------|--|
| Present Value 1912 | \$483,134.00 | \$352,500.00 |
| Interest Rate on Valuation | | 7% |
| Interest allowed | | 24,675.00 |
| Depreciation allowed | | 21,150.00 |
| Operating Expense allowed, | 28,600.00 | 21,000.00 |
| Gross Revenue allowed, pending reconstruction, | | 66,825.00 |

Owing to various appeals from consumers to the Commission for interpretation of rulings, ^{and} delay of completion of final classification, the census of consumers, ~~this~~ will not be completed until November 1st, and all of the new rates will not go into effect until that date.

It also should be made clear that the system is in a state of transition from irrigation to domestic use, and the office labor of equitably terminating the irrigation rates and initiating the new domestic rates is great and requires absolute correctness in field census to properly assess the new rates. This will be effected by November 1st and the collections of that date will begin to represent the domestic earnings in accordance with the new ad interim rates.

Further, on account of this transition from irrigation to domestic use, the Commission made certain errors in calculation of revenue, intended to obtain the \$66,825.00 allowed.

The Company's office in a preliminary estimate made in July, 1913, concluded that the true yield of these rates would be as follows:

| | |
|---|-------------|
| Estimated annual Gross Revenue at Rates put in force by Commission July 1st, 1913, | \$46,000.00 |
|---|-------------|

The Company accepted these ad interim rates, without appeal, because of the substantial increase allowed, precedents established and the assurance of the Commission that correction and equalization of rates will be made either upon the Commission's own motion or the Company's request, provided a substantial advance is made in securing adequate service and recovery of water losses.

The Company's gross earnings for the past quarter are tabulated below, collected, it will be understood, in great part on the old rates. The monthly gross earnings on the books do not yet

represent the revenue due to ~~rates allowed by the Commission.~~

~~The month of November will be more nearly representative. It~~

~~should also be stated the irrigation revenue has been and will re-~~

~~main small for this season, owing to a shortage of water supply, which~~

~~is general throughout the State, The Company is at present only~~

~~furnishing domestic supply to its consumers.~~

Collection for the month of Oct under the new rates will

ACTUAL MONTH COLLECTIONS

The estimated

Since July 1st, 1913 - (effective date of new rates)

| 1913. | Gross Earnings. |
|-----------|---------------------|
| July | \$3,191.10 |
| August | 2,366.85 |
| September | 2,340.80 |

~~The Company is now furnishing only domestic supply and no irrigation water will be turned out until the fall rains. The~~

system furnishes domestic supply up to the city limits of San Diego, to a population of approximately 8,000 people.

present rate of increase we will be furnishing

The Company furnishes in bulk or wholesale to the follow-

ing domestic companies:

| <u>Company</u> | <u>Municipality</u> | <u>R. R. Comm. Rates.</u> |
|-------------------------------------|---------------------|---------------------------|
| La Mesa Mutual Water Co. | La Mesa | 15¢ per 1000 Galls. |
| Pacific Building Co. | East San Diego | 18¢ " " " |

domestic water to 15¢ per 1000 Galls. with the

Handwritten notes and signatures at the bottom of the page, including a large signature on the left and various scribbles and notes on the right.

The balance of the domestic consumers

The Company serves directly on its own lines at 25¢ per 1000 Galls. - domestic - the following communities:

| | |
|-----------------|--------------------------------|
| Kensington Park | 25¢ per 1000 Galls. |
| Normal Heights | 25¢ " " " |

ESTIMATED EARNING CAPACITY UPON RECONSTRUCTION OF FLUME.

The losses in water seepage and pipe leakage under present conditions are as follows:

| | |
|--|----------------------|
| In 33 miles of Flume | 21 Mil. Gal. per Mo. |
| In 5 miles of High service distribution pipe | 7 " " " " |
| In 4 miles of Low service main | <u>1</u> " " " " |
| | 29 " " " " |

This is approximately one million gallons per day. *would not alone increase the capacity of the flume*

The proposed reconstruction would reduce these losses to 200,000 gallons per day or a daily saving of 800,000 gallons per day. This at the lowest rate (irrigation) now in effect on the system would represent about \$5,000 per annum additional gross revenue. Further, it would justify the Railroad Commission as indicated in its decision, in raising the irrigation and domestic rates, because of better service or increased adequacy. That portion of the water sold to the City of San Diego would yield a return of 12¢ per 1000 gallons whole sale. *newly 2 1/2 times but.*

The annual revenue under the new construction conditions is estimated as follows:

| | | |
|--|----------------------|--------------------------------------|
| Present gross revenue estimated <i>allowed</i> ----- | | ⁶⁶ \$46,000.00 |
| Increase in rates due to adequacy of service to a total \$100,000 (present consumers only) ----- | | 54,000.00 |
| Increase in actual delivery, prevention of conveying losses ----- | | 10,000.00 |
| 4 months flood waters delivery to City of San Diego, 6 million gallons daily at 12¢ per 1000 gallons ----- | | <u>86,400.00</u> |
| Gross earnings, | | 196,400.00 |
| Operating Expense | \$30,000.00 | |
| Interest on \$1,000,000 Bonds & capital - represented by Physical property, | 75,000.00 | |
| Depreciation | 30,000.00 | <u>133,500.00</u> |
| Surplus, | | \$62,900.00 |

The Capital and bonds above are determined as follows:

| | | |
|---|------------------|---------------------------|
| Present Valuation as of January 1, 1914, | | \$1,519,549.00 |
| Additional Construction and re-construction, | 582,600.00 | ^{1,582,244} |
| Less Flume replaced or rendered obsolete, reducing valuation by | <u>52,380.00</u> | <u>530,220.00</u> |
| | | \$1,049,569.00 |
| | | ^{2,112,464} |

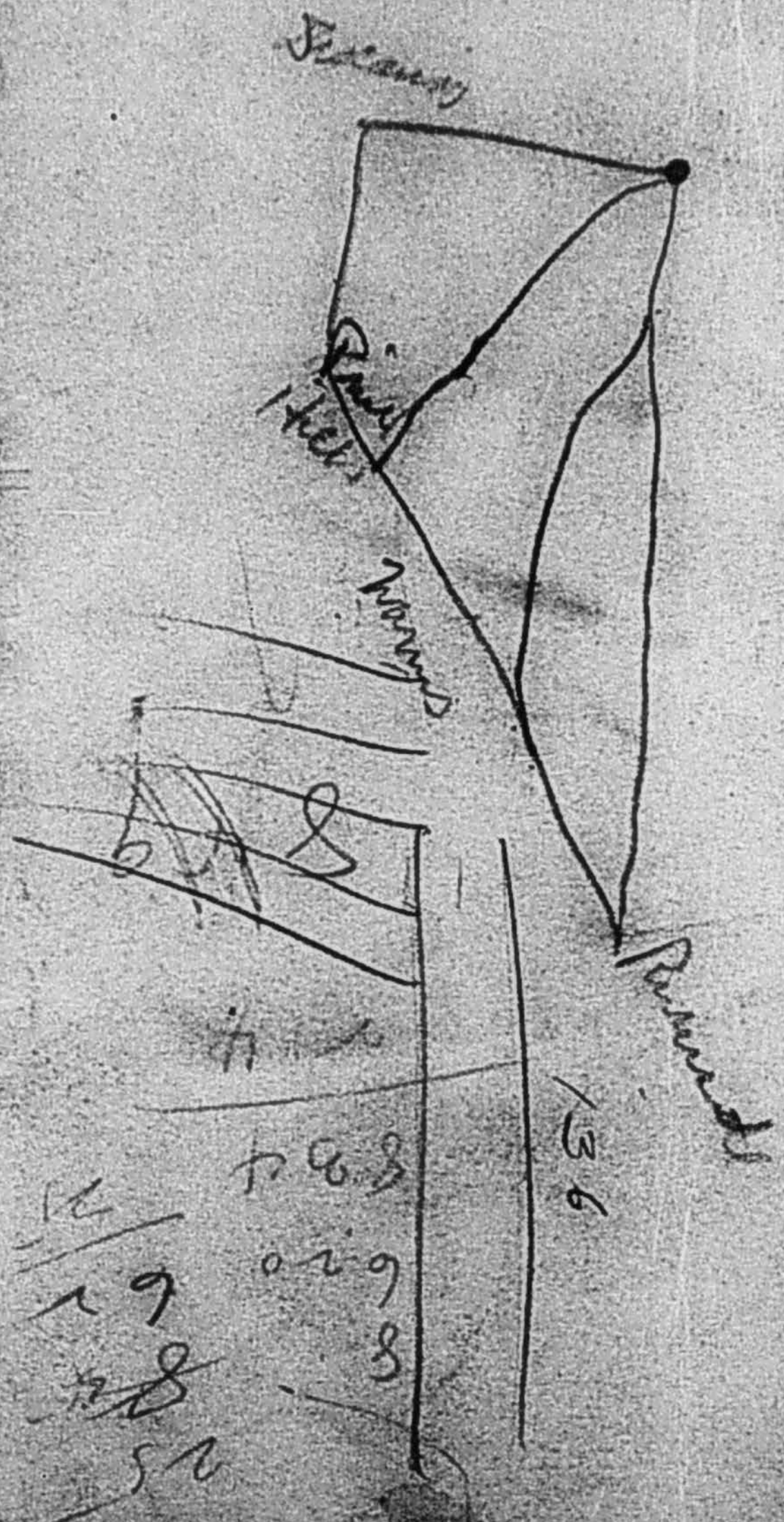
Very sincerely yours,

William S. Post.

Everything comes
 to him who waits
 but he is apt to
 be a dead one
 when it arrives

Every Knack is a
 Boast -

Southern Vail Nyls
 Wilder Needle
 Mitchell Crawley
 Oranger
 Park to Julian
 Receipt to Farmer
 cost of trap patches
 Julian Stage
 museum property value



Ed Fletcher Papers

1870-1955

MSS.81

Box: 40 Folder: 18

**Business Records - Reports - Post, W.S -
"Report: Estimate of Cuyamaca Construction"**



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