

WESTERN UNION TELEGRAPH COMPANY.

INCORPORATED

100 OFFICES IN AMERICA. CABLE SERVICE TO ALL THE WORLD.

ROBERT C. CLOWRY, President and General Manager.

Sender's No.

Time Filed

Check

Send the following message subject to the terms
back hereof, which are hereby agreed to.

190

To D. S. Laughland,

120 S. Los Angeles St.

Los Angeles, California

Furnish telegraphic order from shipper to deliver to Back
Country transport Company or bill of lading on dump car etc
now at depot San Diego, for Volcan L. & W. Co.

W.S. Post

COPY OF LETTER.

THE SOUTHERN SIERRAS POWER COMPANY.

Riverside, California,

April 18, 1917.

Mr. W. S. Post,

Fletcher Building,

San Diego, California.

Dear Mr. Post:-

Referring to yours of the 14th instant, desire to say that I have just completed calculations on the probable power charges for the Warner Development that would come under the jurisdiction of the Forest Service. You will note from attached sheet that the charges are very nominal and will not be much of a hardship on the company paying the same.

Yours very truly,

(Signed) C. O. Poole

Chief Engineer.

COP:M

Enclosure.

FOREST CHARGES FOR
WARNER'S PROJECT

Natural stream flow for two low months of each year for period of five years 1912 to 1916 inclusive = 1.511 sec. ft.

The total normal flow being 34 sec. ft., the storage flow will be $34 - 1.511 = 32.489$ sec. ft.

Total power capacity = $34 \times 1450 \times .08 = 3944$ H.P.
Allowing load factor 60% = $3944 \times .6 = 2366$ H.P.

Deduct for reservoir site $32.489 / 34 \times 2366$ H.P. = 2261
= $2366 - 2261 = 105$.

Deduct 42% of conduit on patented land = $105 \times .42 = 44$ H.P.
leaving 63 H.P. Deduct from this 10% for 100 miles transmission line = 6.3 H.P. leave 56.7 H.P. - say 57 H.P.

The rental charges will be as follows:

1st year	\$5.70
2nd "	11.40
3rd "	17.10
4th "	22.80
5th "	28.50
6th "	34.20
7th "	39.90
8th "	45.60
9th "	51.30
10th "	56.00

and thereafter.

V. L. & W. CO.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY
Works, East Pittsburgh, Pa.

S J Keese
District Manager.

I H Van Huys B 1dg.
Los Angeles, Cal.
Sept 4th '15.

Mr. L.C. Fay,
1070 Third St.
San Diego, Calif.

COPY

Dear Sir:

Referring to your letter of the 30th ult., relative to electric plant to be operated by water wheels approximately sixty miles from San Diego, we find that we are only able to give you preliminary estimates from here.

The 2000 K V A Generators operated at 600 R P M would cost approximately \$16000.00 at Los Angeles complete with Exciters. The Switchboard equipment at Los Angeles will cost from \$8000.00 to \$11000.00 Complete, depending on the Type and arrangement. Remote control should be used with switches such as listed in 5001 catalogue, etc. In regard to the transformers, we can furnish 750 K V A units 33000 volts secondaries at \$1820.00 each and with 66000 volts secondaries at \$2955.00 each Complete with Oil and necessary equipment.

Practical voltage to use will depend upon local conditions and cost of copper but we believe that the 66000 volts would be preferable in any case since the losses would be much lower.

If there is any further information we can give you in connection with this project, kindly let us know.

Very truly yours,

R A Hopkins,
RAILWAY & LIGHTING DIV.

RAH-ES

ESTIMATED COST OF WARNER'S CONDUIT

To south end of Lusardi Tunnel - designed to carry 54.2 second ft.

October 8, 1914.

---000---

44 ft. Box Flume -----	at \$3.74	\$ 164.00
19245 ft. of lined conduit, ----	" 2.45	47,103.00
850 ft. steel flume on trestles "	5.76	4,887.00
2961 ft. steel flume on bench - "	3.86	11,427.00
6430 ft. lined tunnel -----	" 20.00	128,600.00
<u>3670 ft. lined tunnel -----</u>	<u>" 16.50</u>	<u>60,558.00</u>
33200 lin. ft. -----		\$ 252,736.00
892 ft. culverts -----	at \$.16	142.00
24125 acres clearing and grubbing "	250.00	6,060.00
Construction Roads -----		4,000.00
County Road Changes -----		<u>2,000.00</u>
		\$ 264,938.00

Deduct Expenditures to September 1, 1914:

Conduit clearing and grubbing,	\$ 536.37	
Canal Excavation -----	2,601.88	
Culverts -----	20.60	
Construction Roads -----	2,263.08	
County Road Changes -----	<u>308.58</u>	<u>5,731.00</u>

\$ 259,207.00

Add 25% for engineering and contingencies ---- 64,802.00

\$ 324,009.00

Interest during Construction:

8% for 6 months ($\frac{1}{2}$ period) ----- 12,960.00

Total Cost to complete ----- \$ 336,969.00

P 9 1/2

Description of Conduit Lines to Pano.

Earth Dam at Warner - elev - 2710 - 90 ft. high.

Outlet tunnel	7020 ft. =	.193 miles
Canal	24995 ft =	4.72 miles
Beck Flume	7110 ft =	1.34 miles
Tunnel	5-11060 ft =	2.110 miles
Bridges	2620 ft =	.50 miles
	<u>45855</u>	<u>8.85 miles</u>

Forebay - structures
 Dam - outlet tunnel - gates - spillway

Penstocks from 54" to 42" diam. from 1 1/2" to 1 3/8" thick
 6672 ft long.

Power House - 8500 K.W.

Transmission Lines - 50 miles

COPY.

For Mr. Fletcher

From: C.R. BRIDGES(?)

CSM
 w/ SUTHERLAND
 WATER
 POWER

I kept an appointment with Mr. Baum in San Francisco Friday and Saturday of last week.

Mr. Baum has suggested the combining of Warner and Sutherland Power Projects in one plant. Instead of carrying the Warner conduit along the Northern slope of the Mountains, he proposes to run a tunnel 15,000 ft. long through the range in the direction of the Sutherland Dam Site and then carry the conduit around by the South side of the hill to a point where the pressure line would drop into the power plant, giving approximately the same head as first contemplated. The idea would be, to carry the conduit from the Sutherland Dam Site along the Eastern slope of the Mountains to a point where the pressure line would drop into the power house; his idea being, to install 2 - 5,000 K.W. units to utilize the water from both watersheds. I suggested to Mr. Baum that if this arrangement be carried out that 1 - 10,000 K.W. unit be installed with water wheel on either end of shaft, suitable for either head, - similar to the one designed for our Bishop Creek Plants. He concluded that this would be the best arrangement.

You may recall that on our first trip over this project with Mr. Fletcher he suggested the possibility of combining these two developments into one plant, and I had considered it myself. The greatest objection from our point of view being that it will involve a very large investment immediately, which we hardly feel justified in undertaking. It, therefore, becomes a problem of getting the installation cheaply as possible in order to justify the investment and the plan I had worked out, in my estimation, is the cheapest way to make the Warner development. From Mr. Henshaw's point of view, there is no doubt that Mr. Baum's idea would be the best plan to follow inasmuch as it would give them the use of the water from both streams through this power plant in a way that would enable them to dispense with a considerable amount of investment in the Sutherland Dam. By this method of operation, they would be able to utilize the water from the Sutherland Project during the run-off period and hold all the water back in the Warner Reservoir; then, when the run-off was over on the Sutherland project the water could be drawn from the Warner Dam and, in that way, keep a very good load factor on the Plant. This method would obviate the necessity for a large expenditure on the Sutherland project, using only a very moderate sized dam and a few weeks' storage. The idea in carrying out this development would be to have a pipe line carried back to each of the dams and the water drawn directly from the reservoir. As pointed out in a previous letter, this arrangement would offer many advantages over the open type conduit but, naturally, costs a great deal more.

Mr. Baum made some rough calculations upon these developments and says that the conduits for both streams, including the tunnel, power plant, pressure lines and everything complete can be put in for \$1,008,000.00 -

I have gone over the proposition roughly and, in my estimation, a development such as he has calculated upon, cannot be made for less than \$1,246,418.00 - If the cost of conduit and tunnel, up to the point where it passes through the range, could be borne by the Irrigation Company this would take \$433,000.00 from the development figure, leaving for the power plant expenditure \$813,418.00.

Mr. Baum says that the Sutherland watershed would yield an average of 17 second feet or one-half the amount of water in the Warner watershed. With an effective head of 800 ft. this would give 816 K.W., which, in a year's time, would yield approximately 7,000,000 K.W.H. Adding the production from the Warner project = 27,000,000 K.W.H. would make a total production per year of = 34,000,000 K.W.H.

It will be noted from the attached figures that the total operating costs per year would be $\frac{\$182,032}{34,000,000} = \$.00535$ per KWH

Adding to this the water charge $\$.00260$

would make the total cost per K.W.H. = $\$.00795$

If the water company be charged, as before suggested, with the tunnel and part of the conduit, amounting to \$433,000.00, this would leave a balance of \$813,418.00 - On this basis, the fixed charges and operating costs would amount to $\$.0034$ per K.W.H. Adding to this the water charge $\$.0026$ would make the total cost per K.W.H. $\$.006$

Mr. Baum may differ from me in the probable cost of this installation and think it could be done for considerable less; for instance, he figured on \$12. per foot on the tunnel work, while I have figured \$20. per foot. This is the most important difference in our figures.

The plan is to run a 4 ft. Wood Stave Pipe through the tunnel. For this purpose a tunnel less than 8 ft. square would not be suitable and, considering the possibility of timbering and concreting part of the tunnel, I do not believe it safe to figure on any less than \$20. per foot.

Mr. Baum says he is going to leave for the Northern part of the State in about two weeks' time to be gone most of the summer and if he is to come again into consultation on this work a meeting should be arranged for before that time. He also says Mr. Henshaw is wanting to get the matter disposed of without unnecessary delay.

Preliminary Estimate upon combining Warners & Sutherland Power Plants in one Power House, including total cost of conduits from both reservoirs.

Warners:

Conduit from Dam to tunnel,			
15,000 feet of grade @ \$1.00 per foot -	\$15,000.00		
48" wood stave pipe laid and covered @ \$6.00	90,000.00		
15,000 feet tunnel 8' x 8' complete @ \$20.00	300,000.00		
		\$405,000.00	\$405,000.00
14,000 feet tunnel to Pressure line @ \$1.00	14,000.00		
14,000 " 48" wood pipe @ \$6.00	84,000.00		98,000.00
Pressure line			104,154.00
Buildings and foundations	\$30,000.00		
10000 K.W. water wheels set up	50,000.00		
10000 K.W. generator S.B. etc.	60,000.00		
3-3,000 K.W. transformers set up	40,000.00		
Outdoor switches, wiring etc.	10,000.00		190,000.00
			\$797,154.00
Engineering & Contingencies 15%			119,573.00
			\$916,727.00

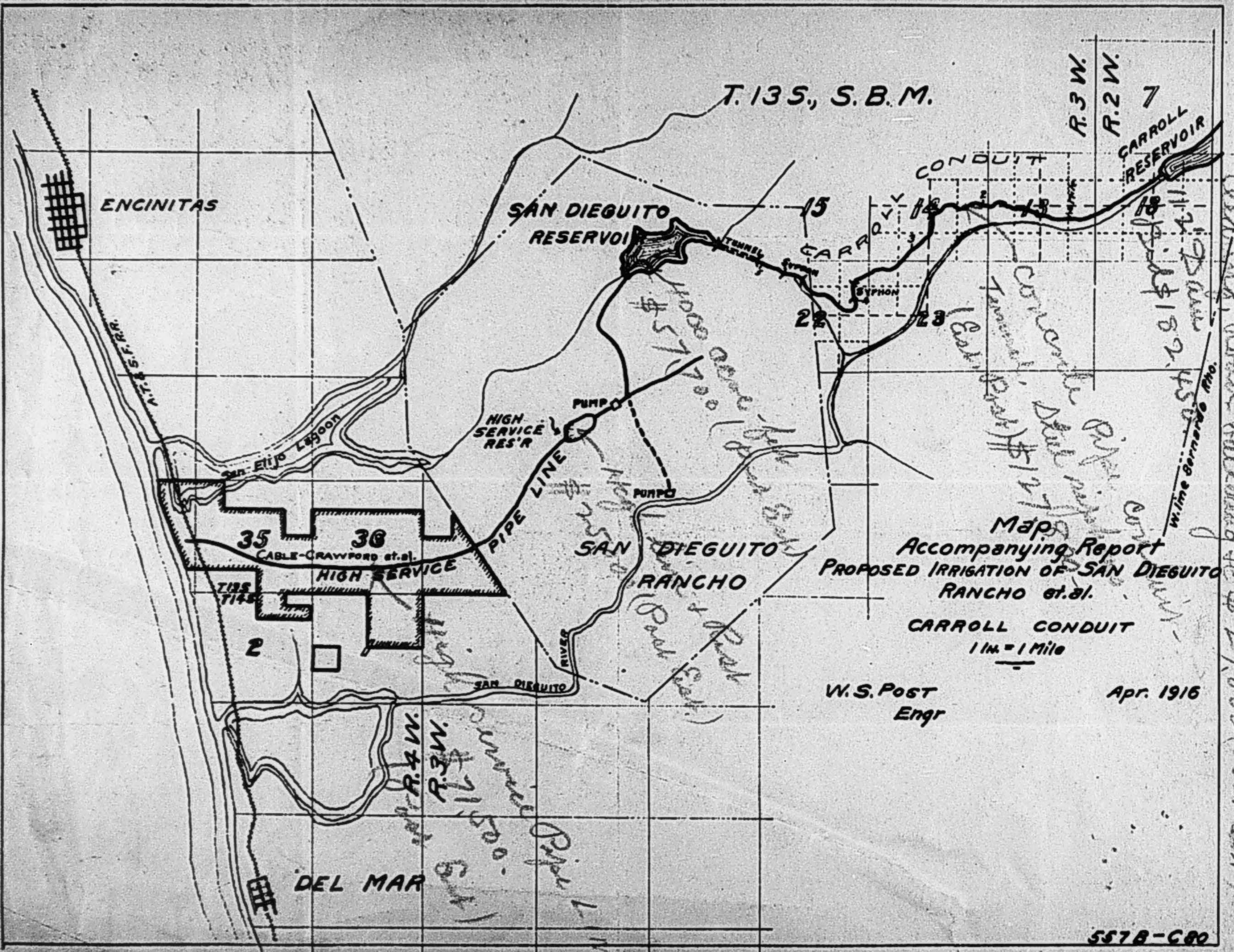
Sutherland:

20,000 ft. pipe grade @ \$1.00 -	\$ 20,000.00		
20,000 ft. 48" wood pipe laid @ \$6.00	\$120,000.00		
2,000 ft. 36" Steel pipe 360,000#			
@ 10¢	\$ 36,000.00		
Special fittings, gates etc.	\$ 5,000.00		
Engineering & Contingencies 15%	\$ 27,150.00		\$208,150.00
Construction Equipment	20,000.00		
Roads	20,000.00		\$ 40,000.00
			\$1,164,877.00
Interest during construction			81,541.00
			\$1,246,418.00
Less Tunnel and Conduit to South side of range			433,000.00
			\$ 813,418.00

Operating Costs:

Fixed charges on \$1,245,873.00			
Interest @ 7%	\$87,248.00		
Depreciation 3%	37,392.00		
Taxes 2%	24,928.00		
Maintenance 1%	12,464.00		\$ 162,032.00
Labor and Incidentals			\$ 20,000.00
Total costs per annum:			\$ 182,032.00
	$\frac{\$182,032.00}{34,000,000.00} = \$.00535$		per K.W. hr.

Add for water charge = $\$.00260$
 Total cost per K.W. hr. = $\$.00795$



T. 13 S., S. B. M.

R. 3 W.
R. 2 W.

CARROLL RESERVOIR

ENCINITAS

SAN DIEGUITO RESERVOIR

CONDUIT

15

22

23

GARRY

SYPHON

N. T. & S. F. R.R.

SAN DIEGO LAGOON

HIGH SERVICE RES'R

PUMP

PUMP

PIPE LINE

SAN DIEGUITO RANCHO

RIVER

SAN DIEGUITO

35

36

CABLE-CRAWFORD st. al.

HIGH SERVICE

T. 13 S.
R. 2 W.

2

DEL MAR

R. 4 W.

R. 3 W.

Map
Accompanying Report
PROPOSED IRRIGATION OF SAN DIEGUITO RANCHO et. al.

CARROLL CONDUIT
1 in. = 1 Mile

W. S. Post
Engr

Apr. 1916

5578-C80

Estimated Canal building to \$27,000 (Post Est.)

*Proposed Pipe Line
\$51,000
Carroll Reservoir
\$12,000
San Dieguito River
\$1,000
Total \$64,000*

*Carroll Reservoir
\$12,000
San Dieguito River
\$1,000
Total \$13,000*

*W. S. Post
Engr*

Interest on \$265,471.24, 5 years @ 5%, - - - - - \$ 66,367.81
 X Interest on \$175,000.00 (plant), 5 years @ 5%, - - - - - 87,500.00
 X Cost irrigation 3,866 acres @ \$8.47 per acre per year, - - - - - 158,725.01
 X Cost irrigation 1,000 acres @ \$5.20 per acre per year, - - - - - 26,000.00
 Total, - - - - - \$294,847.81

Original investment, - - - - - 265,471.24
 Cost plant, - - - - - 175,000.00
 Total, - - - - - \$735,320.05

Value of ranch, - - - - - \$2,185,200.00

+ Gross profit, without deducting taxes,
 repairs and upkeep of plant, - - - - - \$1,449,880.95

At which time there would be available for
 transportation the products of, - - - - - 4,866 acres
 irrigated
 land

1958 month
 \$156,000
 3866
 164.00
 63.00
 227.00
 \$22.70 per Acre
 175,000
 5
 8750 Int
 17,000 Depreciation
 25750
 24000
 16.3
 10
 63.

Int on 1,000,000 = 50,000
 operation
 operation
 90,000
 13,000
 30

2270
 10000 A 900 acre 390,000

22,700.00
 701
 29,71
 2,277
 3
 701

HENSHAW PROPOSITION

+ This calls for expenditure by Santa Fe of, - - - 500,000 - - - \$668,000.00
 Original investment, - - - - - 265,471.24
 Total, - - - - - \$933,471.24

With the expenditure of \$668,000 we get gravity flow to:

3,866 acres irrigated land
 1,000 acres bottom land
 4,866 acres total; leaving
 3,766 acres not irrigated.

We also get a total of 975 inches of water, of which

550 inches for upland, leaving
 425 inches surplus.

We would then have in this deal:

3,866 acres upland @ \$400.00, - - - - - \$1,546,400
 3,766 acres not irrigated @ \$50.00, - - - - - 188,300
 425 inches water @ \$2000.00, - - - - - 850,000
 Total, - - - - - \$2,584,700

The Henshaw deal does not take in the bottom lands (1,000 acres) and only
 250 inches of the 1,000 inches available on the ranch. This leaves Santa Fe:

750 inches of water, of which
 50 inches is South Coast
 250 inches for bottom lands; leaving
 450 inches surplus.

This totals:

1,000 acres irrigated bottom lands @ \$300.00, - - - - - \$ 300,000
 450 inches water @ \$1,000, - - - - - 450,000
 Total, - - - - - \$ 750,000
 Grand Total, - - - - - \$3,334,700.

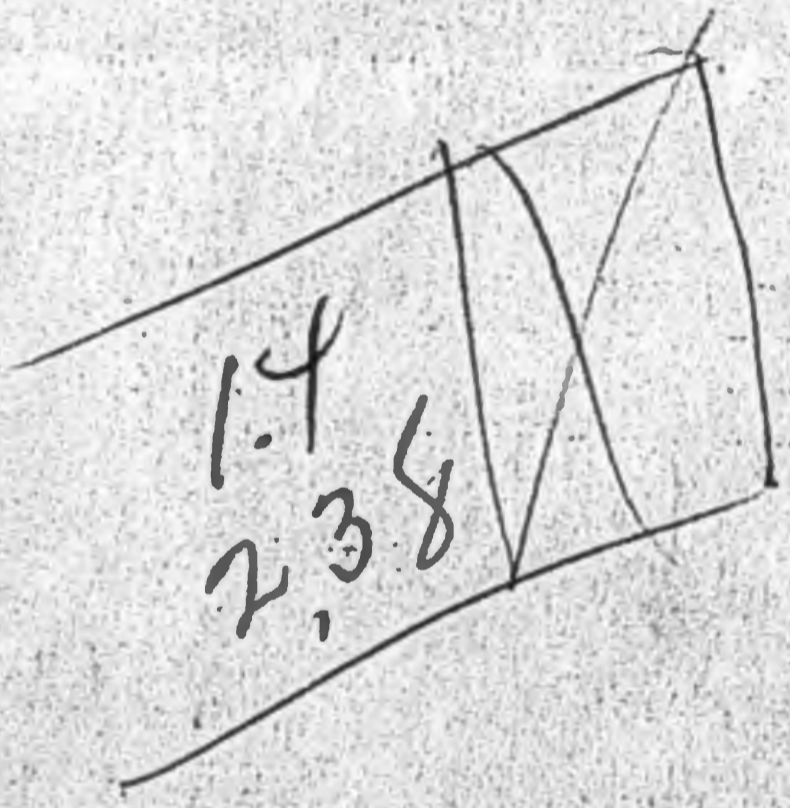
Assuming also under this deal an average 5-year period before above values could be obtained, the expense would be as follows:

Interest on \$933,471.24, 5 years @ 5%, - - - - -	\$ 233,367.81
Original investment, - - - - -	<u>933,471.24</u>
Total, - - - - -	\$1,166,839.05

GROSS PROFIT, without deducting taxes, renewals
upkeep, etc., - - - - - \$2,167,860.95.

At this time there would be under irrigation, - - - - - 10,000 acres.

All above figures on basis reports made as to values, costs, etc., which are assumed to be correct. It is also probable ~~in~~ maintenance and supervision expense under both propositions would be about equal.



100000 for water rights
lands sell better

pumping 5-6 m gallons

13000
30

water not there

390,000

year

5
19,500

eight months

10000 developed instead 4000

Bottom lands robbed

Danger floods long 10 years

Refurnish owners below

5 plants = salt water

25 feet above sea level

1/2 distributing system

Sale of land twice as easy as land

Don't want money slow 2 years

Santa Ysabel, Cal.,

May, 17, 1914,

Discharge of stream flowing out
of West Portal of Tunnel.

May, 13th, - 2:10 P.M.

Disch. - 50 gal. in 27 min. 44 sec.
or .03 gal. per second,
or 0.04 sec. ft.

May, 15th, 7:35 A.M.

Disch. - 50 gal. in 29 min. 3 sec.
or 1 gal. in 34.86 seconds.
or .0287 gal. per sec.

May 16th, 8:25 A.M.

Disch. - 50 gal. in 27 min. 9 sec.
or 1 gal. in 32.58 sec.
or .0307 gal. per sec.

W. J. J.

Santa Isabel, Calif.
May 17, 1914.

Suppage about 300' west of East Portal.

May 15th, 9:30 A.M. -- Disch. - 10 gal. in 37 min. 41 sec.

" 16th, 9:10 A.M. - Disch. - 10 gal. in 29 min 30 sec.

Water coming in tunnel about 150' west of East Portal.

May 16th, 11 A.M. - Disch. - 10 gal. in 1 hr. 40 min.

W. J. P.

Western Metal

Total to San Diego

\$ 326.89

Auto tires from San Diego

at 72¢ per 100# - 11300#

\$ 8.106
408.25

Western Metal total to Escondido

\$ 345.83

Amount that can be spent for auto tires
at Escondido.

\$ 62.42

Well changes ^{to} 800 per ton from Escondido

San Diego, Calif., July 13, 1917.

Mr. T. P. Ellis,

Office.

Dear Sir:

My understanding is that you can within 100 or 150 feet determine the length of that tunnel by the Geological Survey map and records in your office. Before any surveys are made up there, I want you to determine in the office approximately where that tunnel will run, and whose land it will run over, whether Government land or that of private parties.

Please furnish a map showing through which forty the tunnel will run, to Mr. Makin, who will immediately search the records and determine the ownerships. I understand that the tunnel will go through tourmaline mines and it is important that this matter be investigated. I want you and Mr. Makin to concentrate on this search and give me a report at the earliest possible date. The change of alignment of this tunnel goes through a number of private properties, and as I understand it through tourmaline mines as well, and after I have received a report from you and Mr. Makin, if it is deemed advisable to go ahead we should get permits from the property owners to at least make the surveys, and it may be advisable to get an option on the rights of way ^{before putting} ~~and put~~ surveying parties in the field.

A copy of this has been sent to Messrs. Henshaw, Hawgood and Makin.

Yours very truly,

Ed Fletcher.

515/
373

Recorded 7/22 1911

With Ingraham to J.A. Park &

Rose Hill Val

"Total Wreck"
my diary.

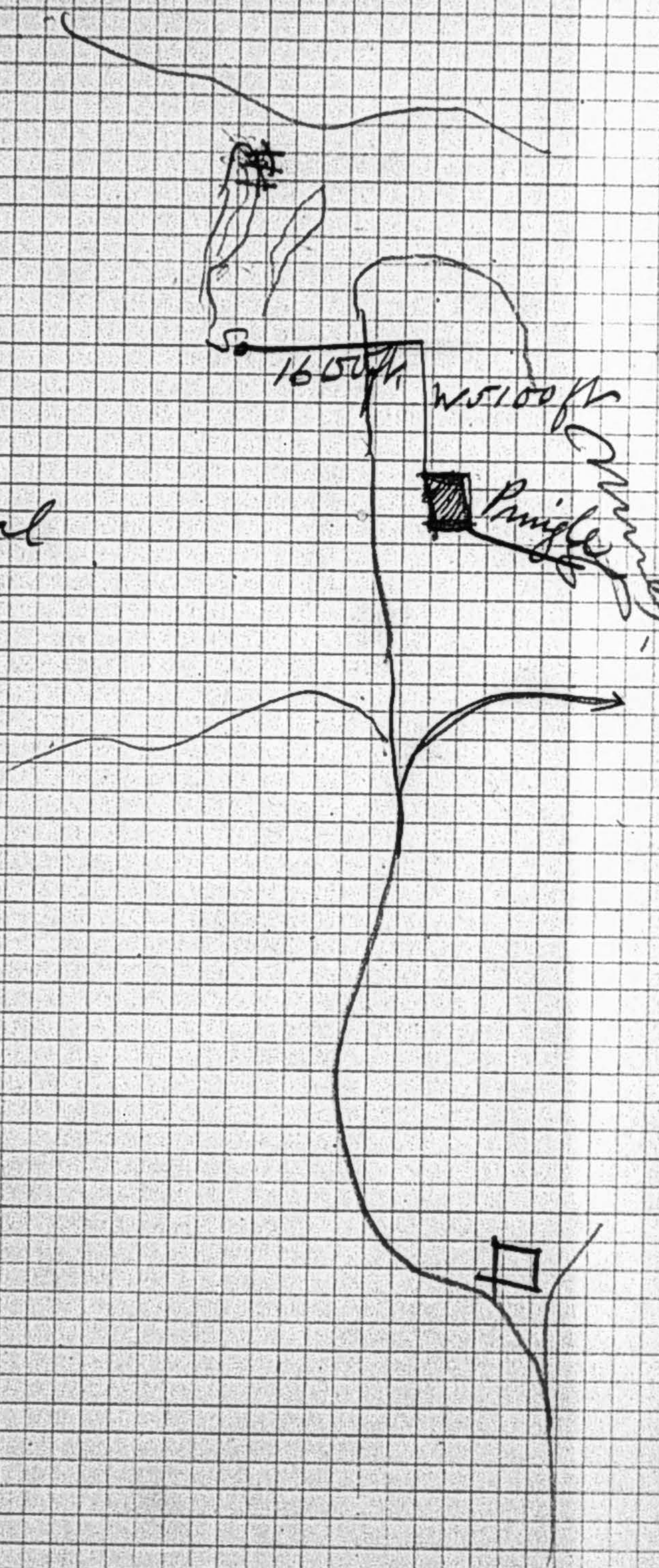
18-11-28

11

W.S. Kelly
H.V. Northrup

Dec 24

Warner - Jonescal



Harrison Tunnel No 4 Lusardi-Jamescal Divide

Tabulation of bids on equipment for construction

	1 erud dump Car 16 cu. ft.	1000 ft 20# nails	100 fish plates	1 bag bolts	1 bag spikes	1 shot plate	4-4 ft spoons	4 bars 1/8" Octagon Frt	approx Total
Jardine Machine Co San Fran.	2nd hand 12' 30 ⁰⁰ 500 #	116.60 525 #	20.00	4.80	6.40 200# to 1 bag	18.10 750 #	50 #	11.20 (7.50) 95 # (16.00)	225.60
Crematier-Arthur Koppel Co Los A	new 16' 40 ⁰⁰	133.32	8.80 inc bolts	6.40	rail etc 22 1/2 bolts cars " 2 1/2 " "			(16 ⁰⁰)	240.02
T. J. Mc Fee Sup Co L. A.	Tot=7463# 45 ⁰⁰	16# 120.00	10.00 " " ←	6.40	22.50	1.75	6.65	15.22	240.02
Fairbanks Morse Co Los A	Total estimate except spoons FOB San Diego								300.00
Harrison-Rickhard Mc Cone Los A	520# 56 ⁰⁰		7368# ← 176.39 →		735# 45 ⁰⁰	2.70	160# 14.40	(16 ⁰⁰)	310.49

Steam locomotive 24" track gasoline fuel \$1800⁰⁰
 Lumber for tunnel approx 57⁰⁰ Frt 35.65 | 92.65
 Misc small items hammers etc 7.06 " 72 | 7.78
 Freight San Diego to works = 43.20

Approx cost car rails, etc 300.00
 Freight on " " 43.20
 Lumber & freight 92.65
 Misc small items & frt 7.78
 Necessary expense ————— 443.63

Jordan Machine Co
 Overstain
 McE
 Los Angeles
 Fairbanks
 Morse
 LA
 Hutton, Rickard
 and
 McCone
 LA
 Newkum
 Iron Works
 LA

Pump for 16" cop. 24" dia	30.00	40.00	45.00	✓	56.00	50.00
100/20" dia	116.60	133.00	120.00	✓	✓	183.00
Fish Plates	20.00	14.74	22.50	✓	✓	23.20
Key Spikes	6.40	6.40	6.40	✓	✓	6.50
Key Bolts	4.80	inc with plates	inc with plates	✓	176.39	inc with plates
Shoring Plate 6' x 8' x 3/8"	18.10		22.50	✓	45.00	30.00
4-3/8" Spacers			1.75	used	2.70	2.00
4-1/2" dia Dial Dial	6.65		6.65	✓	7.10	9.50
<hr/>						
	202.55	194.34	224.80		287.19	304.20

The Chambers Tunnel

Feet - Dario	19.80	17.97	15.22	✓	15.22	15.22
✓	222.40	212.31	240.02	300.00	302.41	319.42
Add for Pommes	2.70	2.70		2.70		
for Plate		32.				
Dial Dial		7.60				
✓	225.10	254.61	240.02	302.70	302.41	319.42
	#1	#3	#2	#5	#4	#6

How about tools
 By [Signature]
 July 1/

Total quantity — Feb 27 —
 Order from Western Metal Co.
 1845 lb. ft. 50# Rails 12300# @ $\frac{45}{100}$ 302.00
 130 sets Fish Plate & Bolts 370# @ 20^d net 29.80
 2 Kegs Spikes 400#
 # 172.00
 343.80

To be delivered ^{F.O.B.} to Escondido - Cal.

Frnt. from Escondido to Vancouver will be

$$6\frac{1}{2} \times 8 = 52.00$$

Escondido

Prices on New Can 20 Nov 8

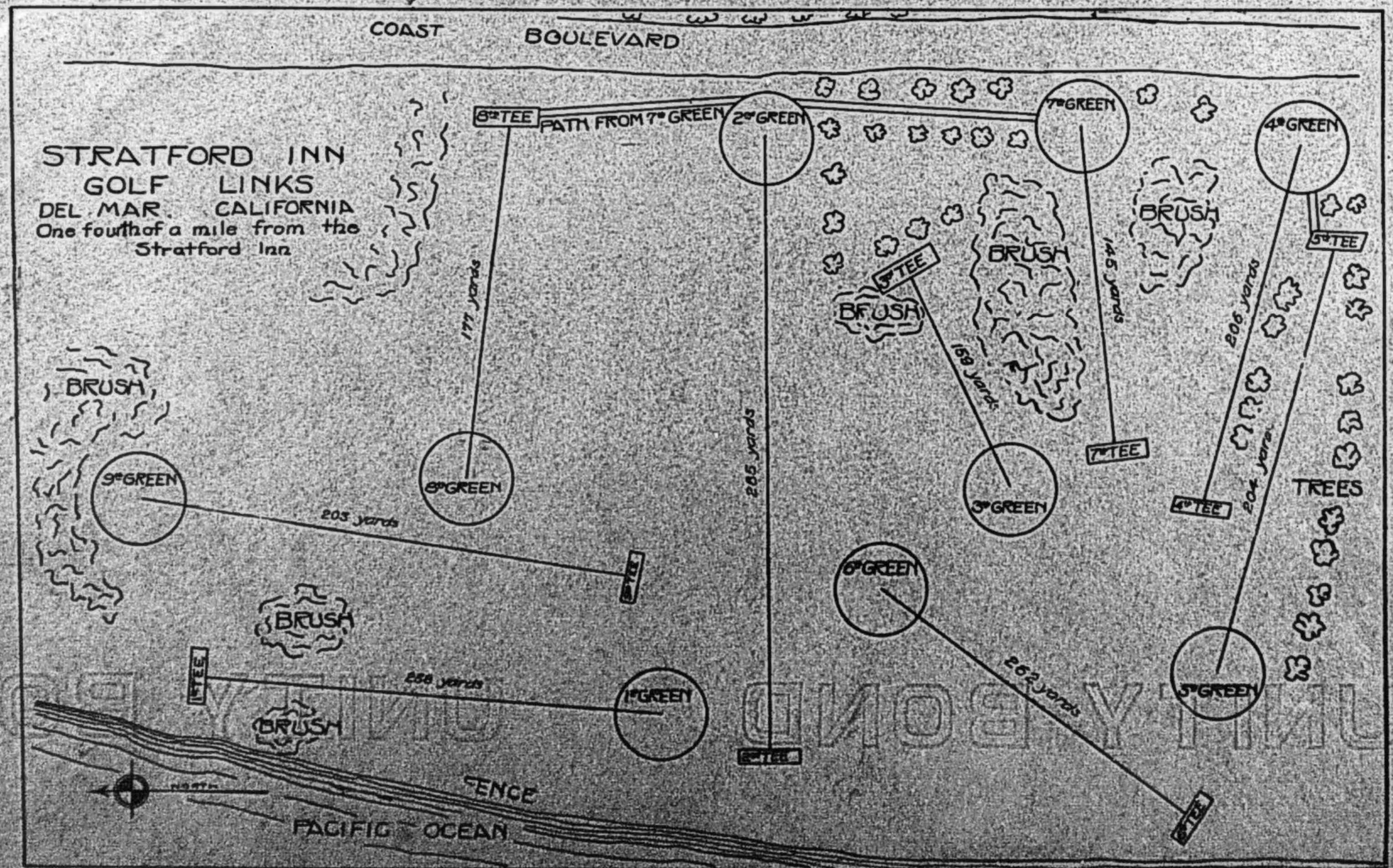
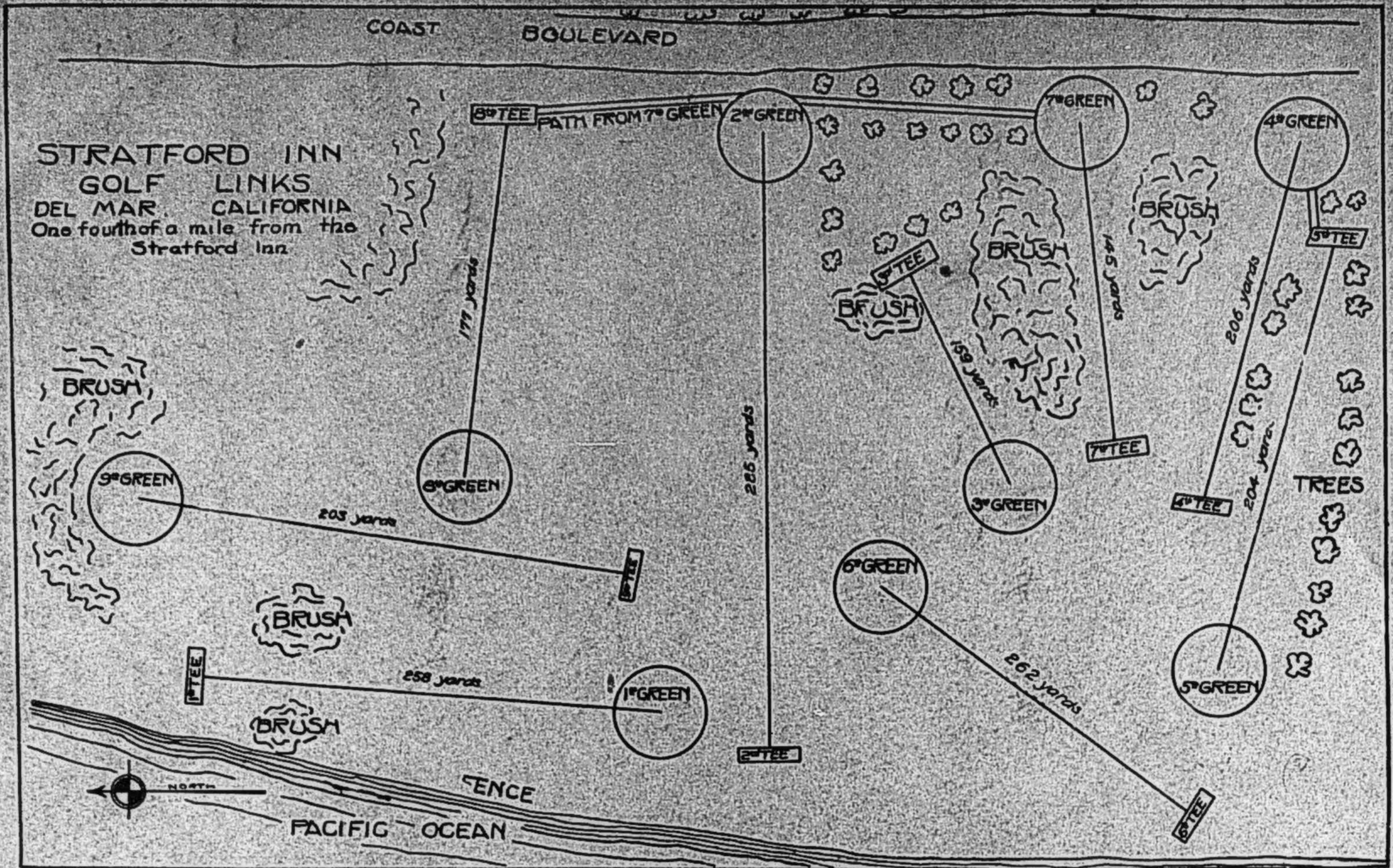
	Yastopp Metal	Oversain H. H. H. S.	W. T. McFie	Fairbank Morse 2. A	Harrison Rickert McCano L.A.	Wellman Iron Works L.A.	Jordan Mach. Co. S.F.
500# Dump Car	Trux 62.00	Koppel 67.50	Johnson 45.00	(62) ⁰⁰	Alameda 56 ⁰⁰	50 ⁰⁰	50 ⁰⁰
150 lbs 10' Rail	247.45	202.00		227.25	222.20		207.05
106 Peto Fork Plates 300#	24.38	23.30		26.70	27.00		32.86
2 legs 4x4	12.00	12.80		12.80	12.80		12.80
Freight 11500#	0	43.50		33.90	33.90		43.50
	<u>345.83</u>	<u>349.10</u>		<u>362.15</u>	<u>351.93</u>		<u>346.21</u>
		diff 5.5		361.15			
		<u>343.60</u>					

Dumped up

San Diego

Dump Car	60.88	67.50		(62 ⁰⁰)	56		50
Rails	231.29	202.		227.25	222		207.05
Fork Plates	23.32	23.30		26.70	27.00		32.86
Spikes	<u>11.40</u>	12.80		12.80	12.80		12.80
	<u>326.89</u>						
Freight	none	42.37		26.25	26.25		42.07
	<u>326.89</u>	<u>347.69</u>		<u>357.00</u>	<u>346.28</u>		<u>345.08</u>
		5.5					
		<u>342.10</u>					

Freight rates -
 SF to Escondido 385 1000#
 L.A. " " 280
 SF " San Diego 525
 L.A. " " 260



Hardware

1 box mine candles Doyle ^{Damp} 1.20
 for 1.70
 3 8# double jack hammers 2.04
 4 4# single " " 1.92
 2 cast iron plumb bobs H.G. 40
 1.00
 1 box 3/4" screw eyes

7.06

3 #08 1/2 #
 4 .12 #
 2 .20 each
 1 grs. 1.00

H.G. Co. quoted

Standard Oil Co has various
 kinds of Granite Mining
 Candles - best & in largest
 boxes are 40 sets in box @
 10 1/4 ¢ per set = 4.10 case

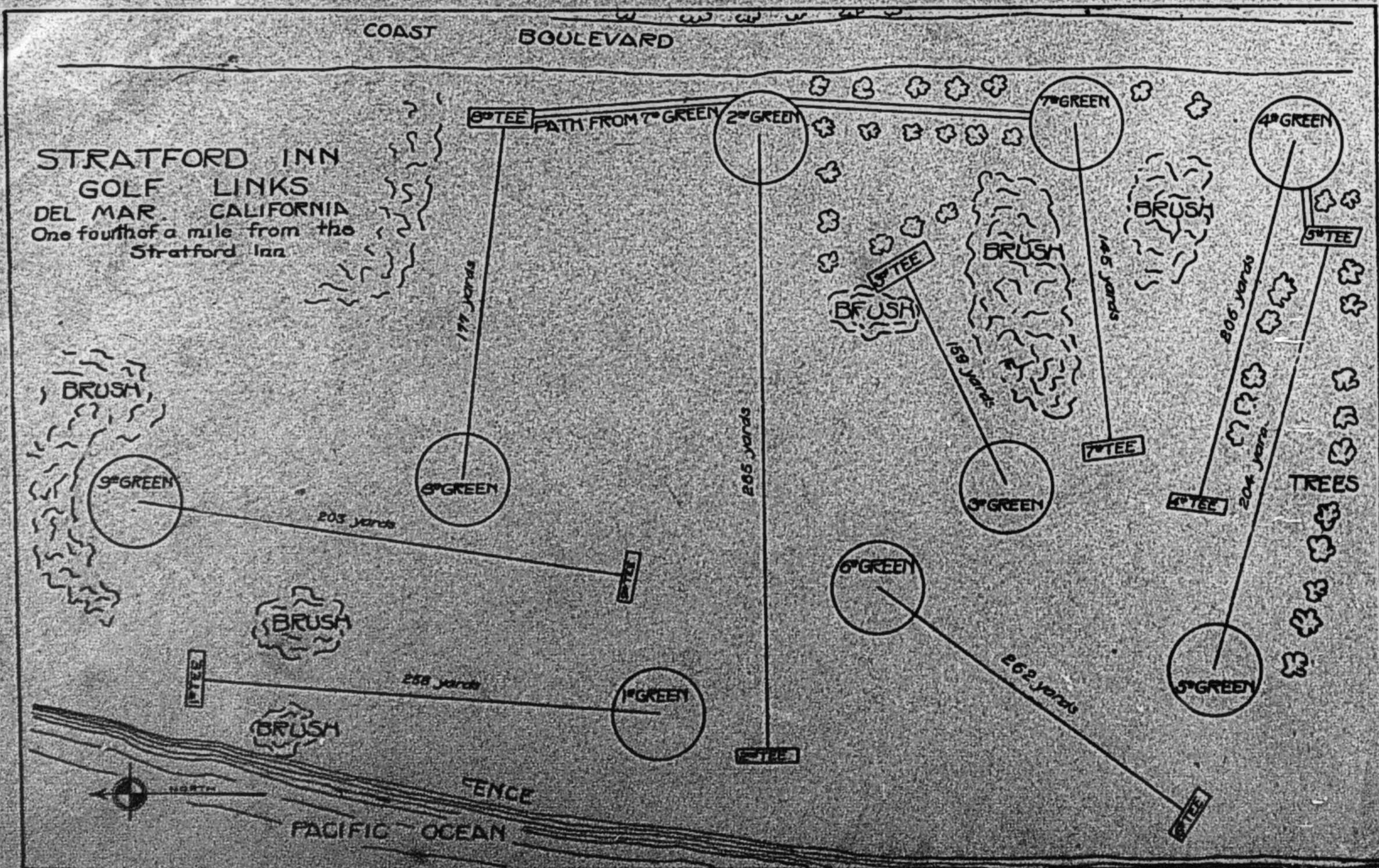
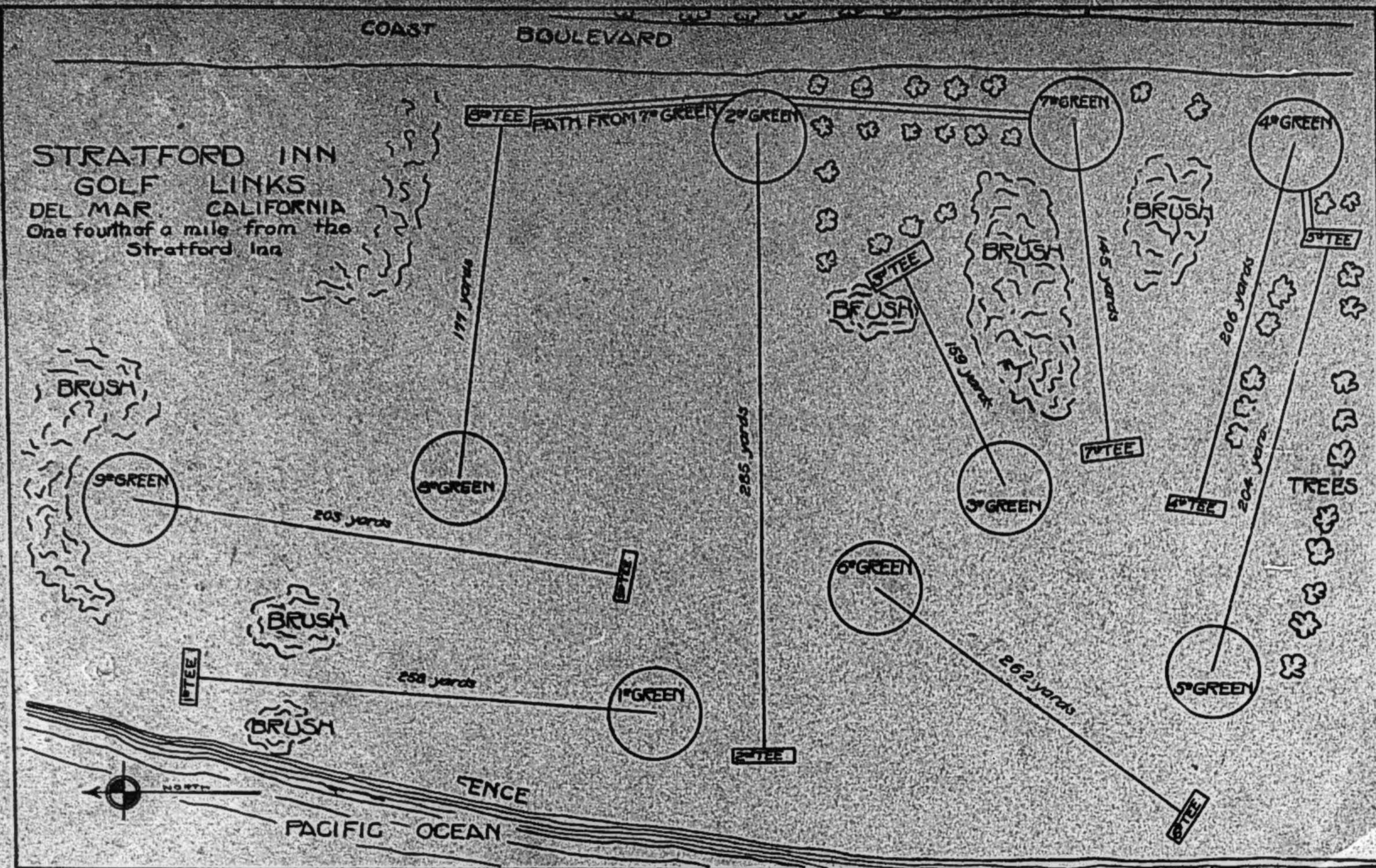
Lumber

18 pcs 6" X 6" X 14 ft. rough R.O.P.
 62 " 2" X 8" X 16 ft " 56.35 2% 10th mo
 12 " 2" X 6" X 14 ft " Benson
 scale of discounts
 above \$500 month
 12 " 2" X 4" X 18 ft. " 58.36 2% 10th mo
 Western Lbr Co

72

Back Country trans Co says
 72 ¢ per cwt. - would be 43.20
 on 3 tons.

8.20 per 1000 FT BM to Ramona
 8000 ft or over 7.20 per M
 4 miles additional to Pamo
 pass at proportional mileage
 rate.
 2000 ft. is correct truck load
 for 3 ton truck



24" Gauge

- 1 end dump car about 16 cu ft capacity
- 1000 ft 20# rails = 2 1/2 tons
- 11 Reg. spikes
- 1 1/2 Bolts
- 80 fish plates } to match rails
- 18 pieces 6" x 6" 14 ft rough sawed
- 6 " " " "
- 1000 ft 2 x 8" - 16 b r p c s
- 12 pieces 2 x 6" 14 ft
- 12 " 2 x 4" 18 ft

Hammer

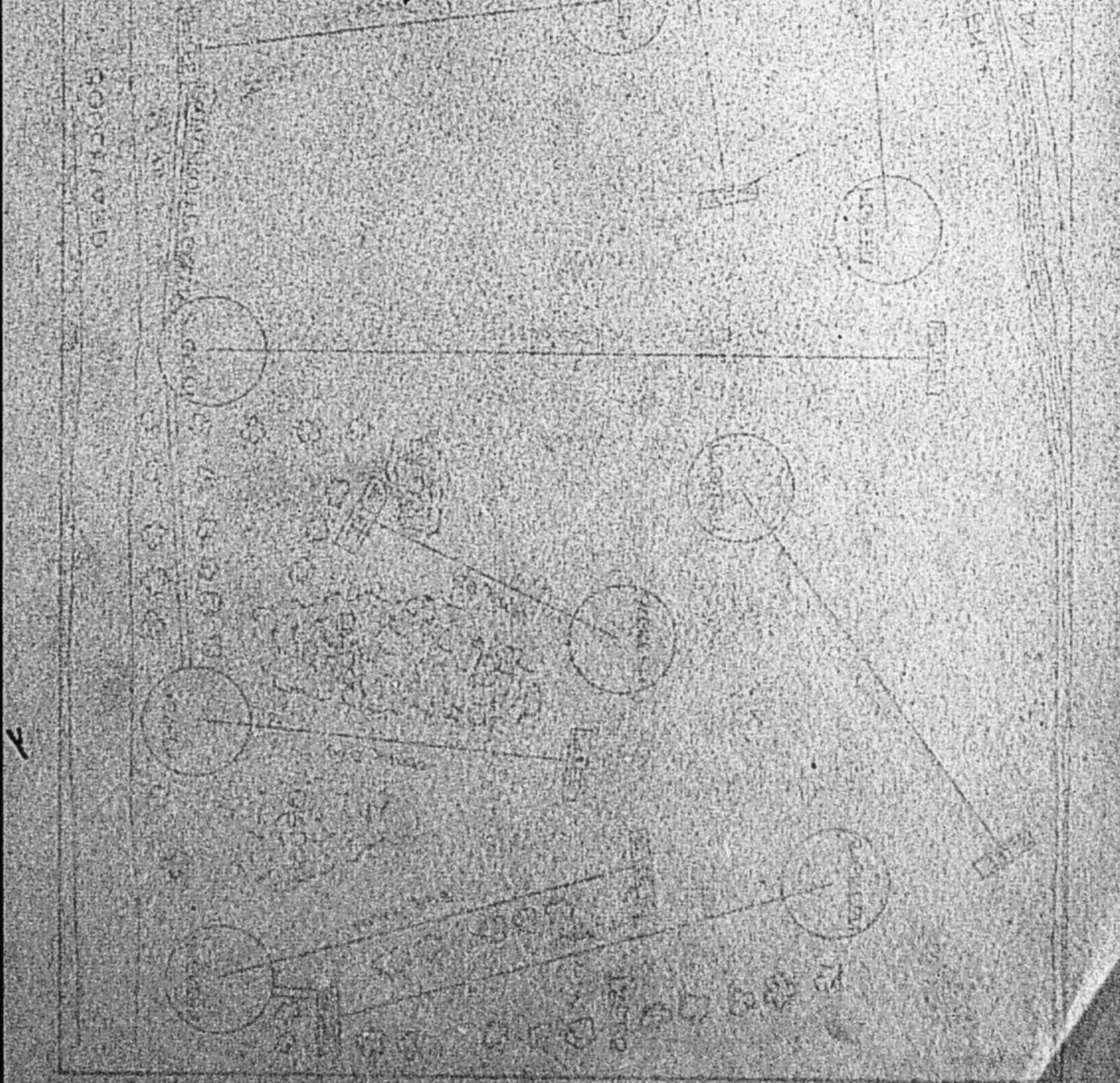
- 3 Double jacks 8# 3 D
- 4 Single " 4# - "
- 1 sheet iron shooting plate 6' x 8' x 3/8"
- 4 4 ft spooners
- 4 bars 7/8" steel octagon drill
- 124 candles mine candles
- 500 ft fuses
- 37 ~~xxxx~~ caps
- 2 pump bars
- 1 Bx screw eyes

21	
40	
84	10
8	1/3
16	16
16	
36	50
16	20
49	600
	14

100	
200	
200	

Mine

- 1 end dump car about 16 cu ft capacity
- 24" gage
- 1000 ft 20# rails SD & SE 30 lb @ 25 ton \$125
- 100 fish plates
- 1 Reg. spikes } for above rails
- 1 " bolts }
- 1 sheet iron shooting plate 6' x 8' x 3/8" thick
- Calif Iron Works \$27.72
- 4 - 4 ft spooners
- 4 bars 7/8" Octagon drill steel



January 18, 1918.

Mr. Platt:

Please finish for me, so that I can take with me to Washington Monday the following pictures all in my book marked "Volcan Office Copy Water Pictures":

No. 102, which shows Murray Hill Reservoir,
" 101
99
97
96
44
43
41
40
39

Kindly deliver these to Mrs. Sowell at the Cuyamaca Water Office, 916 8th St., so that she may see that they are ready for me.

Yours very truly,

F-S

Ed Fletcher Papers

1870-1955

MSS.81

Box: 50 Folder: 13

**Business Records - Water Companies - Volcan
Land and Water Company - San Dieguito
System - Warner Dam (Lake Henshaw) and
associated projects - Warner Tunnel notes, in-
house correspondence and construction information**



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