



A portion of the road between El Centro and Brawley,
Imperial County, California., on route of proposed state
highway.

This picture was taken three days subsequent to a three
day rainfall and shows the condition of road on Dec.29,1921.

HETZEL'S
Photo Shop
Phone 34-J

FOR ANYTHING
in Photography
126 South 5th St., El Centro

Motorcade to Laguna Salada

May 28, 1932



Motorcade to Laguna Salada,
May 28, 1932. Lunch time
at head of Cantu Grade.

Motorcade to Laguna Salada
May 28, 1932. Lunch time
at head of Cantu Grade.

Hqwy

COUNTY HIGHWAY COMMISSION LIST

Sherwood Weaton, Chairman

Ed Fletcher

F.M. White

R.M. Morton, Engineer

D.A. Fraser, Secretary

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

FRASER, D.A.

Fraser to Fletcher, January 13, 1921

Fraser to Fletcher, January 22, 1921

Fletcher to Fraser, February 24, 1921

Fraser to Fletcher, May 17, 1921

Fraser to Fletcher, August 1, 1921

Fletcher to Fraser, August 21, 1921

Fraser to Fletcher, December 14, 1921

Fraser to Fletcher, December 24, 1921

Fraser to Fletcher, April 10, 1922

FULMOR A.C. to Ream, February 19, 1920

GRUMM, Fred, December 28, 1921

Fletcher to HEATH, J.H., February 26, 1921

JOYNER, F.H. to Fletcher, June 18, 1920

JUDY, Wilbur H. to Fletcher, November 20, 1919

MORTON, R.M.

Fletcher to Morton, January, 2, 1920

Morton to County Highway, February 2, 1920

Fletcher to Morton, February 9, 1920

Fletcher to Morton, March 4, 1920

Fletcher to Morton, March 18, 1920

Morton to Fletcher, March 20, 1920

Fletcher to Morton, March 22, 1920

Fletcher to Morton, March 22, 1920

Morton to Fletcher, March 27, 1920

Morton to Fletcher, March 31, 1920

Morton to County Highway, April 1, 1920

BM to Morton, April 5, 1920

Morton to Fletcher, April 7, 1920

Fletcher to Morton, April 12, 1920

Fletcher to Morton, April 12, 1920

Morton to Fletcher, May 4, 1920

Fletcher to Morton, May 4, 1920

Morton to Bradley, May 7, 1920

Fletcher to Morton, May 7, 1920

Fletcher to Morton, May 8, 1920

Morton to Fletcher, May 11, 1920

Morton to Fletcher, May 11, 1920

Fletcher to Morton, May 12, 1920

Fletcher to Morton, May 12, 1920

Morton to Fletcher, May 18, 1920

Fletcher to Morton, May 21, 1920

Morton to Fletcher, May 27, 1920

Fletcher to Morton, May 29, 1920

Fletcher to Morton, May 29, 1920

Morton to Fletcher, June 2, 1920
Fletcher to Morton, June 2, 1920
Fletcher to Morton, August 3, 1920
Morton to Kier, August 20, 1920
Morton to Fletcher, August 21, 1920
Morton to Fletcher, August 26, 1920
Morton, September 1, 1920
Morton to Fletcher, October 19, 1920
Fletcher to Morton, October 20, 1920
Morton to Trainer, November 1, 1920
Fletcher to Morton, November 1, 1920
Morton to Fletcher, February 5, 1921
Fletcher to Morton, February 8, 1921
Fletcher to Morton, February 28, 1921
Fletcher to Morton, April 19, 1921
Morton to Fletcher, August 23, 1921
Fletcher to Morton, August 24, 1924
Fletcher to Morton, August 31, 1921
Morton to Fletcher, November 4, 1921
Morton to Fletcher, November 7, 1921
Fletcher to Morton, November 17, 1921
Fletcher to Morton, November 18, 1921
Fletcher to Morton, December 8, 1921
Morton to Fletcher, December 10, 1921
Morton to Fletcher, December 10, 1921
Fletcher to Morton, December 13, 1921
Morton to Highway Commission, January 6, 1922
Fletcher to Morton, January 13, 1922
Morton to Fletcher, February 2, 1922
Fletcher to Morton, March 27, 1922
Fletcher to Morton, April 11, 1922
Morton to Fletcher, April 12, 1922
Fletcher to Morton, April 14, 1922

MUELLER, Ed A. to Fletcher, January 24, 1922

→ RONSSE, Ernest to County Highway, July 25, 1921

SMITHTON, H.L. to County Highway, May 6, 1921

Fletcher to STEVENS, C.N., October 17, 1919

WHEATON, Sherwood

Wheaton to Stoddard, October 14, 1919
Fletcher to Wheaton, October 9, 1919
Fletcher to Wheaton, November 17, 1919
Fletcher to Wheaton, September 18, 1919
Fletcher to Wheaton, November 22, 1919
Fletcher to Wheaton, December 9, 1919
Fletcher to Wheaton, December 12, 1919
Fletcher to Wheaton, December 20, 1919
Fletcher to Wheaton, February 9, 1920
Wheaton to Fletcher, February 10, 1920
Fletcher to Wheaton, February 11, 1920
Fletcher to Wheaton, February 12, 1920
Fletcher to Wheaton, February 12, 1920
Fletcher to Wheaton, February 26, 1920
Fletcher to Wheaton, March 11, 1920
Fletcher to Wheaton, March 16, 1920

Fletcher to Wheaton, March 16, 1920
Fletcher to Wheaton, March 17, 1920
Wheaton to Fletcher, March 19, 1920
Fletcher to Wheaton, March 20, 1920
Wheaton to Fletcher, March 20, 1920
Wheaton to Fletcher, April, 1920
Fletcher to Wheaton, May 5, 1920
Wheaton to Fletcher, May 26, 1920
Fletcher to Wheaton, May 26, 1920
Fletcher to Wheaton, May 27, 1920
Fletcher to Wheaton, July 23, 1921
Wheaton to Fletcher, October 7, 1921
Fletcher to Wheaton, October 10, 1921
Fletcher to Wheaton, January 15, 1922
Fraser to Wheaton, January 17, 1922
Fletcher to Wheaton, September 14, 1922

WHITE, F.M.

Fletcher to White, March 11, 1920
Walker to White, November 12, 1921
White to Walker, November 16, 1921

OCEANSIDE, CALIFORNIA. Oct. 2d. 1919.



Mr. Ed. Fletcher

San Diego County Highway
Commissioner
San Diego
Calif.

Dear Sir:

W. G. H.

I am directed by the President of the Rosicrucian - Fellowship (client) to communicate with you concerning the proposed change in the road at the top of the Amick grade about $1\frac{1}{2}$ miles East of Oceanside which would leave the Fellowship buildings off on the North side of the road considerable distance therefore as a whole the proposed road would be a serious injury to them and would benefit no one in particular nor would you have as good a road for the public as I am informed by those competent to know.

It might be quite relevant to call to your attention the great benefit that such an institution as the Rosicrucian-Fellowship is to any community and to the County at large.

I am sending a magazine for Sept. 1917 page 198 also enclosed thereat another excerpt from other magazine, also another excerpt from "Rosicrucian Mysteries" a bound book of 198 pages This book is sent out all over the world together with other books which the Fellowship publishes, going out at the rate of about 1000 each month. The magazine has a definite circulation of over 2200 monthly and as yet the Fellowship has not sent out a lecturer How different this will all be when 40 or 50 Lecturers are sent

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OCEANSIDE, CALIFORNIA.

1919.

out all over the English speaking world, selling on an average of 500 books per month each 25000 books monthly. Make it 10000 per month on an average for the next ten years say nothing about magazine and other like publications, not mentioning the publication of the same books and magazine in all non english speaking countries This is the International Headquarters. Ultimately we shall reach every hamlet in the world. Now whether or not San Diego County is densely populated would seem to make little if any difference to the Fellowship. It takes little from the County and gives considerable. Its patrons in the County are very few at present. Yet by its publications it is attracting people from all over the world Its members actually come here for their health and studies upon the representations made as you for yourself will see by reading the three articles. This same class of matter is published in all its literature. In San Diego County a great deal of money is spent advertising the County every year, Yet I will warrant you, that the most effective advertising is done by the Fellowship without a murmur. This Religious community is composed of a lot of practical workers, experts in their line and to permit this road to be switched on them without some effort in their behalf would be little better than an outrage, after them erecting costly buildings near what they had a right to believe was a permanent road.

Somehow or other (I dont know why) Mrs. Heindel the President (A staunch american woman) believes that you will look after the interests of the Fellowship in this particular road.

George Goude
ATTORNEY-AT-LAW

NOTARY PUBLIC

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OCEANSIDE, CALIFORNIA.

1919.

Trusting that she may not be disappointed.

I would be pleased to hear from you at your convenience and assure you that whatever the communication it will be considered as confidential. I am a student of the institution myself.

I am sincerely your's

Geo. Goude

P.S. I am reliably informed that the proposed new road will be 2500 feet longer making considerable difference in cost.

G.G.

DR. W. V. NICHOLS
OCEANSIDE, CAL.

Oceanside, Cal. Oct. 9 1919

Col. Ed Fletcher,
San Diego, Cal.

Dear Sir:-

Your letter of 8th inst to M. W. Spencer, enclosing letter from George Goode representing the Rosicrucian Fellowship, was referred to me for answer.

I am enclosing a map showing the locality. This is just an offhand sketch as is not accurate as to courses, distances &c but I hope will assist you in getting an idea of the situation.

You will notice that the Fellowship is situated at the top of the Amick Grade, the grade which leads from Oceanside to the San Luis Rey valley. Portions of this grade are over 10% and now that it is to be paved there is a natural desire to lessen this grade if possible. Part of it is in the City and a part in the County. I think you will find that the County Surveyor has an accurate map of it.

The Road Committee of our Chamber of Commerce has gone over the ground recently and in an amatuerish way has tried to find a better grade. This apparently may be accomplished by

1. Lengthening and partly relocating the present grade, or
2. Building a new grade to the south, instead to the north as at present, and landing at the top near the South Coast Reservoir. If this should be done the road would intersect Mission Ave. a short distance west of the Rosicrucian's. This plan no doubt they have heard of and is the cause of their protest.

I think that there is a general feeling that the road

DR. W. V. NICHOLS
OCEANSIDE, CAL.

through the lower San Luis Rey valley should be moved nearer the hills on the south. The channel of the river is headed straight for it and has been across it, in flood, several times. There is a gap in the hills near the South Coast Pumping plant which the County Surveyor suggested might be used to get up on the mesa and leave the valley. It would take a survey to determine its feasibility. If this route should be used, this would also take the paving west of the Rosicrucians, on the road marked on the map Old Road or Hill Road to San Luis Rey.

In going into this explanation I am trying to show you why, though the fellowship is in the City, they are appealing to you. The route determined on by the County Highway Commission will determine the route of the paving built by the City to meet it.

It seems to be an instance where the good judgement of the Engineer and the Highway Commission should govern.

Our Road Committee has been busy the last few days round-up the unregistered voters and have corraled about seventy-five

Yours truly,

October 8, 1919.

Mr. M. W. Spencer,
Oceanside, Calif.

My dear Spencer,

Enclosed find letter which is explanatory.

What does this man mean? Kindly return with your reply.

Yours very truly,

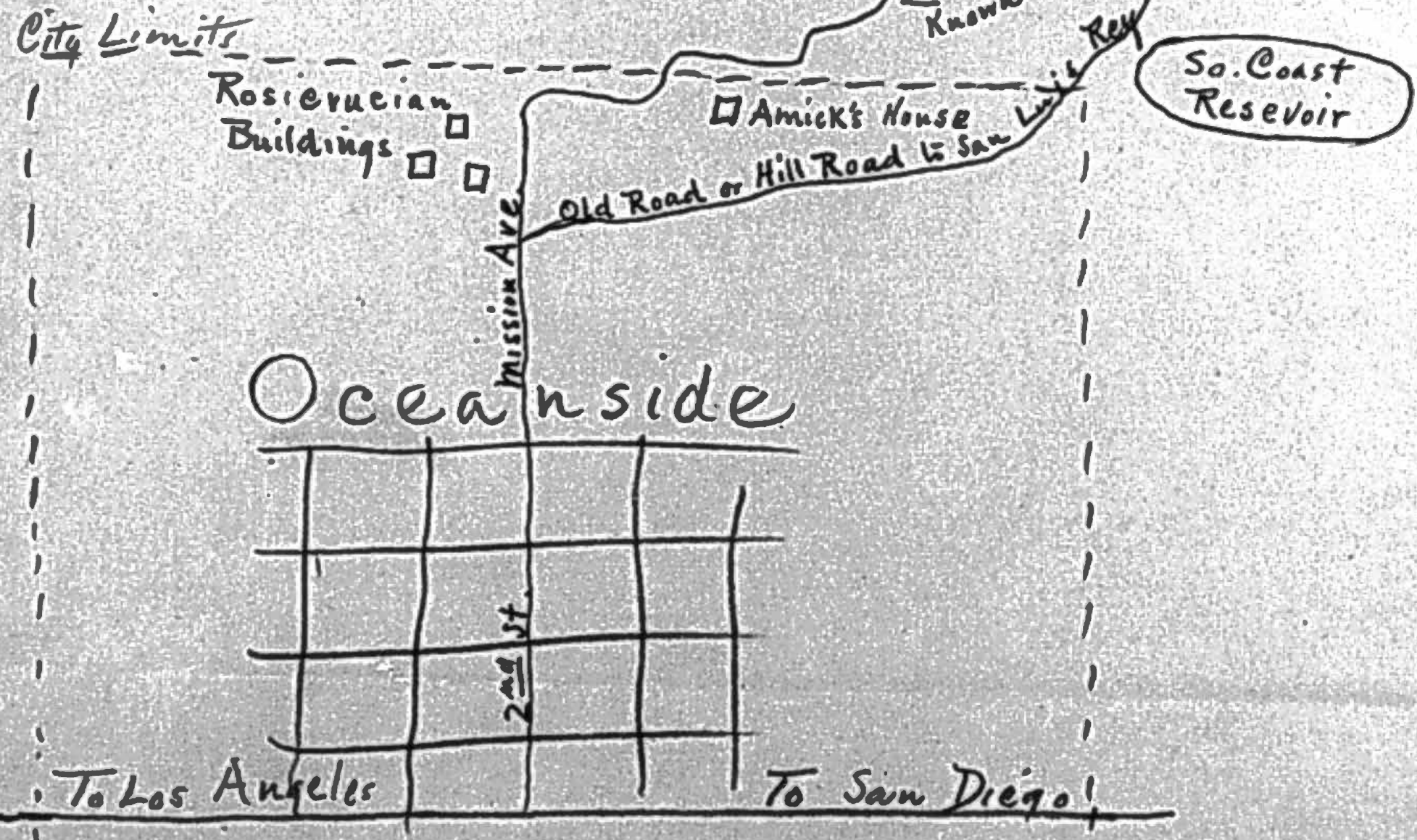
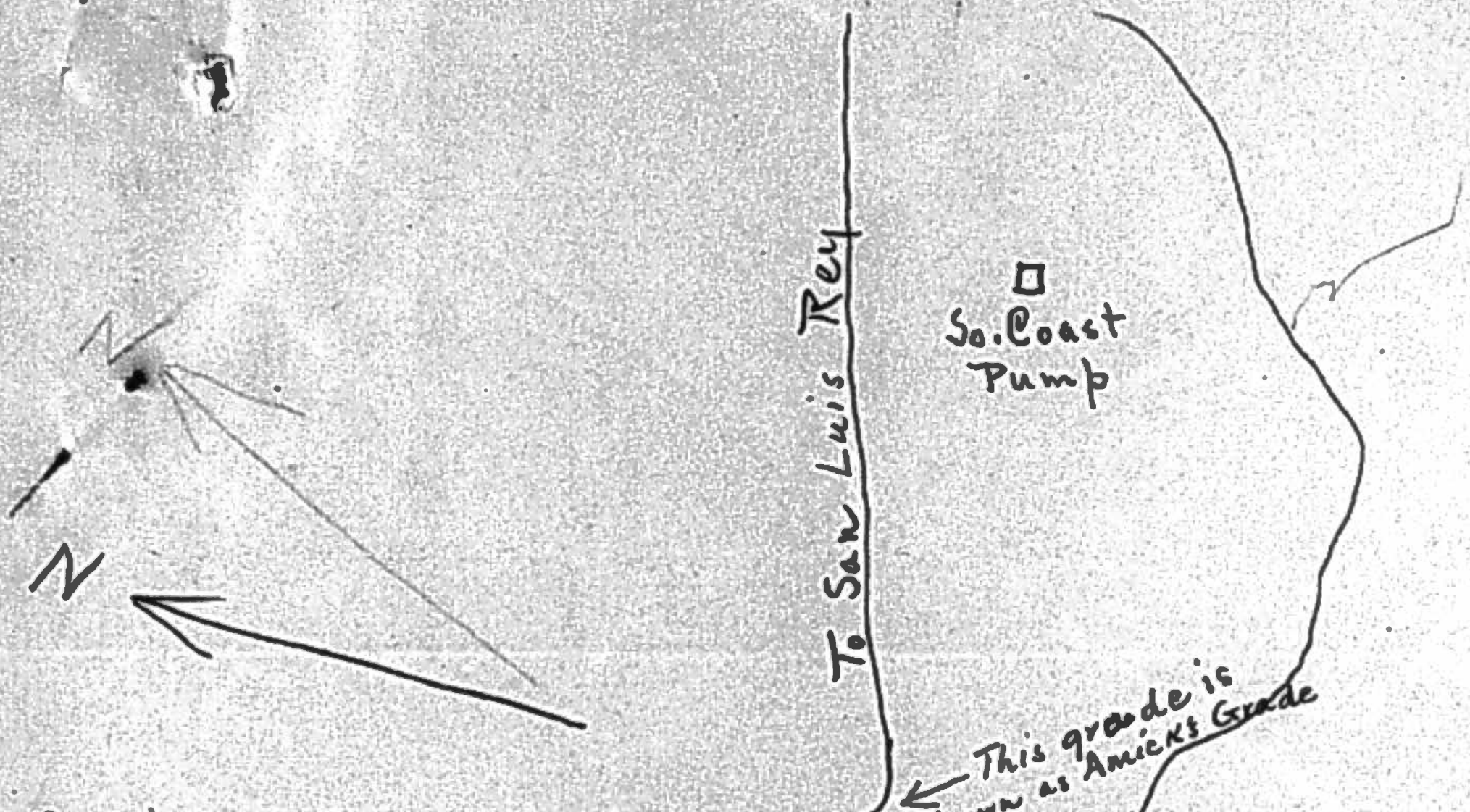
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Enc

Letter in question from Geo. Goode, Attorney - at-Law

Oct. 2d.

"I am direct by the President of the Rosicrucian- Fellowship (client) to communicate with you concerning the proposed change in the road at the top of the Amick grade about $1\frac{1}{2}$ miles East of Oceanside which would leave the Fellowship buildings off on the North side of the road considerable distance therefore as a whole the proposed road would be a serious injury to them and would benefit no one in particular nor would you have as good a road for the public as I am informed by those competent to know.

It might be quite relevant to call your attention the great benefit that such an institution as the Rosicrucian Fellowship is to any community and to the County at large,
Etc Etc



SUMMARY OF HIGHWAY BIDS.

COUNTY	NAME of ROAD	Sq. Yds.	Type Pavement	Length	Width	Thick	Contract Price		Date Awarded	CONTRACTOR	REMARKS.
							Sq. ft.	Mile			
Fresno	State Highway	86,592	Concrete	8.2	18'	6"		\$15,782	6-27-19	Joseph G. Donovan	State furnished Cement & reinf. Steel - price includes Grading - 1-2-4-mix, 4 mile avr.
Orange	Santa Ana Canyon Road	38,016	"	3.6	18'	4"	10.6	10,059	7-4-19	Steele Finley	County furnished Cement reinf. & Rock in Stock piles Contract includes excavation, fence & 60" curb
Los Angeles	State Highway	20,406	"	8,851'	20'	4"	10.2	10,750	8-20-19	Prendergast Const. Co.	State furnished Steel, Culvert pipe and Cement - Pavement 6" on edge grading 70% cu.yd. Extra.
Ventura	"	15,253	"	1.3	"	5"	18.7	19,692	10-13-19	Geo. Curtis	State furnished Cement & Steel price \$15.00 cu.yd for concrete no grading
Los Angeles	"	100,906	"	8.6	"	4"	10.6	12,244	"	Fred. Hoffman	State furnished Cement & Steel Grading \$1.50 per cu.yd. extra payt 6" edge
Ventura	"	45,760	"	5.2	15'	4"	19.9	15,769	11-14-19	Geo. Curtis	"
Los Angeles	Cypress Ave. Near Coving #159 R.V.I	11,813	"	5316'	20'	5"	17.8	18,703	11-21-19	Fleming Const. Co.	County furnishes 1630 bbls Cement price includes grading
Fresno	Shaw Ave.		Con. base Warrenite Top	5.0				17,867	11-28-19	Federal Const. Co.	
Los Angeles	Harbor Truck Road	33,792	Concrete	2.4	24'	8"	16.7	21,120	12-12-19	Rogers Bros.	County furnish cement reinf. mesh and integrated granite excavation @ 1.00 per cu.yd. overhaul 5% - Shaping 30% - Shoulders 1.00 ton - Placing mesh 1/22 sq.ft.
Kern	Fellows - McKiltrick Road		"	10.7	18'	6"		34,486	12-19-19	"	Price includes Culverts, retaining wall & reinf. Steel
Ventura	Vineyard-Wood-Dempsey Road	52,830	"	5.6	16'	4"		8,363	1-31-20	Fairchild-Gilmore Wilton Co.	County furnishes Cement.
"	Telephone Road	47,160	"	5.0	"	"		4,200	"	"	County furnishes all materials.
Tulare	Woodville-Poplar Road	53,298	"	6.0	"	"		9,292	1-16-20	Cono. Pipe & Const. Co.	County furnishes Cement
Cochise Arizona	Douglas-Bisbee Road Sec. 2 M	42,240	"	4.0	18'	6"		25,344	1-3-20	McPeak & Dillon	
"	Douglas-Bisbee Road Sec. 2 B	47,137	"	4.5	"	"		21,892	"	Geo. Oswald	
Riverside	State Highway	140,400	"	14.3	16'	4"		18,218	2-7-20	G.D. Soterias	State furnishes Cement & reinf. Steel.
Fresno	Sec. A - Route #33	56,147	Black base Warrenite Top	6.1		5"		23,196	1-23-20	Hugh Crumsey	Price includes Grading & Culverts.
Fresno	" " " 32	18,931	"	2.0		"		23,381	"	"	"
"	" " " 31	23,089	"	2.45		"		29,977	"	A.H. Vaughn	"
"	" " " 5	50,420	"	5.35		"		17,989	"	Thompson Bros.	"
"	" " " 11	111,668	"	12.0		"		19,055	"	"	"
"	" " " 25)		"			"					
"	" " " 20)		"			"					
"	" " " 19)	90,709	"	9.5		"		21,056	2-13-20	Federal Construction Co.	"
"	" " " 20)		"			"					
Los Angeles	Francisquito Ave.	30,995	Macadam	12,680'	22'	5"	10.4	10,4 14,250	"	G.T. McClain	County furnishes 9400 tons rock.

Fresno	"	"	32	18,931	"	2.0	"	23,381	"	"	"	
"	"	"	31	23,089	"	2.48	"	29,977	"	A. H. Vaughn	"	
"	"	"	5	50,420	"	0.35	"	17,959	"	Thompson Bros.	"	
"	"	"	11	111,668	"	12.0	"	19,055	"	"	"	
"	"	"	25)	90,709	"	9.5	"	21,056	2-13-20	Federal Construction Co.	"	
"	"	"	20)									
"	"	"	19)									
"	"	"	20)									
Los Angeles	Francisquito Ave.		30,995	Macadam	12,680'	22'	5"	10.4	10,4 14,250	"	G. T. McClain	County furnishes 9400 tons rock.

Note :-
Materials furnished by State or County are not included in the sq. ft. of mile, Contract price.

B I D S OPENED MARCH 8, 1920,
ON
IMPERIAL COUNTY HIGHWAY WORK

Contractor	Grading		Ex cava tion CuYd	5" Black Base Warrenite		6-1/2" Conc. Base Warrenite		5-1/2" Plain Concrete		Job
	SqFt	Mile		SqFt	Mile	SqFt	Mile	SqFt	Mile	
L A Paving Co	.06	5,069	1.20	.35	29,568					Cont. #1 11.1 mi Brawley to Calif patia
Geo Daley	.05	4,224	1.00	.35	29,568					
Hudson	.045	3,802	.75	.34	28,723	.47	39,706	.41	34637	
L A Paving Co	.06	5,069	1.20	.35	29,568					Cont. #5 10 mile Brawley to Holt ville.
Clark & Henry	.05	4,224	1.00	.374	31,585					
Oswald	.055	4,646	1.00	.345	29,145	.43	36,326	.40	33792	
Daley	.055	4,646	1.00	.350	29,568	.445	37,593	.405	34214	
Hudson	.045	3,802	1.25	.360	30,413	.47	39,706	.41	34637	
L A Paving Co	.06	5,069	1.00	.315	26,611	.385	32,525			Cont. #6 10.6 mi Calen- co, to north & west
Clark & Henry	.05	4,224	.78	.314	26,527					
Daley	.05	4,224	1.00	.33	27,878	.40	33,792	.375	31680	
L A Paving Co	.06	5,069	1.00	.315	26,611	.385	32,525			Cont. #7 5 miles Heber to El Centro
Clark & Henry	.05	4,224	1.40	.34	28,723					
Daley	.05	4,224	1.00	.32	27,034	.39	32,947	.37	31258	

NOTE: Above prices per sq. ft. and per mile for three different types of pavement do not include grading and excavation as shown in first two columns.

B I D S OPENED MARCH 6, 1920,
ON
MARICOPA COUNTY HIGHWAY WORK
WARREN BROTHERS ONLY BIDDER

Type	16 ft. Wide		9 ft. Wide	
	Sq. Yd.	Mile	Sq. Yd.	Mile
6" Concrete	2.03	19,056	2.38	11,159
2" Warrenite on 4" Black Base	2.27	21,308	2.40	11,263
2" Topeka on 4" Black Base	2.27	21,308	2.40	11,263
2" Warrenite on 6" crushed rock	2.17	20,370	2.34	10,982
2" Topeka on 4" crushed rock	2.17	20,370	2.34	10,982

NOTE: These prices do not include cost of cement or asphalt nor freight on asphalt, cement, sand and rock. According to an estimate made by Warren Bros. the TOTAL cost per mile of paving on its bid under various specifications would be as follows:

Type	16 ft. wide	9 ft. Wide
2" Warrenite on 4" black base	\$29,019.00	\$18,130.00
2" " on 6" crushed rock	26,016.00	16,658.00
6 Concrete	28,644.00	19,133.00

**COST OF CONCRETE PAVEMENT ON
LONG BEACH BOULEVARD**

L.A. County W0996, November 1919; 4543 ft. long, 24 ft. wide, 6" thick.

Total Square feet, 109,032.

	Cost per Sq. Ft. In Cents.
Cement	5.991
Gravel	1.724
Sand	.635
Labor	8.779
Lumber, water, fuel etc.	.416
TOTAL	17.545

Cement	1.95 per bbl.	Freight	.34 bbl.
Sand	.40 " ton	"	.60 ton
Rock	.40 " "	"	.60 "

Done by day labor. No charge for implements other than repair. No liability insurance.

Common labor	\$3.50 and \$4.00 a day
Finisher	5.50
Roller Engineer	\$5.50
Mixer Engineer	\$5.50
Foreman	\$6.00
Teams	\$4.00.

M. Hatcher

DISBURSEMENTS MONTH OF MARCH, 1920.

Administrative

Commissioners per diem & expenses	\$138.35	
Revolving fund	100.00	
Salaries general	525.00	
Office expense	1019.83	
Office equipment	111.35	
General expense	47.85	\$ 1942.38

Engineering and Surveying

Chief & Asst. Eng. salary office	750.00	
General engineering salary office	109.31	
Engineering office expense	226.91	
Office equipment	793.55	
Field supplies	8.93	
Engineering equipment, field	121.08	
Engineers expense	44.55	
Auto expense	246.12	
Mission Road 1 a	1637.01	
Mission Road 1 b	1323.79	
San Luis Rey Road 2	173.87	
Julian Road 3 a	1054.46	
Julian Road 3 b	1089.22	
Lemon grove Road 4	610.73	
Highland Ave. Road 5	203.83	
Chula Vista-Coronado Road 6	489.88	<u>8883.24</u>
Total		10825.62

Comparative Statement of Disbursements
from Sept. 1919, to Feby. 1920 (inc) with March, 1920.

Sept. 1919 to Feby. 1920 (Inc)	Administrative	4452.75	
	Eng. & Surveying	16533.46	20986.21
March 1920	Administrative	1942.38	
	Eng. & Surveying	8883.24	<u>10825.62</u>
	Grand total		31811.83
	Auditor's total, March 10, 1920		31341.70

Note: Bill No. 56 Brawner & Hunter \$394.17
 Bill No. 166 A. Lietz Co. 59.84
 Bill No. 172 Western Metal 10.00
 Bill No. 187 Western Union 6.12 470.13) Not in Auditor's accounts for this period.

Respectfully submitted,

S. A. Fraser

Secretary.

	Wells	Bussler	Eugedutson	Tenton	Ryan	Est Hudson	Daley	
Gravel 47500 yds	1.60	1.96	1.90			1.17		All checks returned except Est Hudson
Excavation 77 yd	2.50	2.00	2.50			2.50		
Concrete 110.2 yd	30 ⁰⁰	30 ⁰⁰	30 ⁰⁰		Not Bid	25 ⁰⁰		
Steel 6740 #	.10¢	.25¢	.09¢		Not Bid	.12¢		
Totals	80160 ⁰⁰	96735 ⁰⁰	94347 ⁶⁰			59318 ⁸⁰		
Amount Check	4000 ⁰⁰	5000 ⁰⁰	5000 ⁰⁰			4000 ⁰⁰		

HIGHWAY COMMISSION SAN DIEGO COUNTY

(COPY)

SAN DIEGO, CALIF.,

MINUTES OF THE MEETING OF THE SAN DIEGO COUNTY HIGHWAY COMMISSION MONDAY, APRIL 5TH, 1920.

The meeting was called to order by Chairman Wheaton at 9 o'clock A.M. Commissioners Wheaton and White were present, together with Chief Engineer Morton. Absent, Commissioner Fletcher, account of sickness.

The minutes of the meeting held Monday March 29th were read, and approved.

A letter from Mr H.D. Brodie, City Clerk of Oceanside, in reply to our letter of March 29th, regarding the proposed routes to connect with Oceanside was read. It was the sense of the meeting that a letter be sent to the Trustees advising them that the Commission would not oppose their proposed plans, and would be glad to furnish the information requested.

A letter from Mr W. Clayton of the Spreckels Companies, in which he stated that our letter of March 29th, referring to the subway and grade crossing on the spur track to the gravel pit had been referred to Mr D.W. Pontius for action, was read and ordered filed.

A telegram from Mr S.C. Evans, of Riverside, showing the Riverside County Highway Commission bought rock and cement under opinion of the District Attorney in 1915, was read and ordered filed.

A decision from the Superior Court of Stanislaus County regarding the letting of contracts by the Board of Supervisors was read and ordered filed.

An opinion from District Attorney Utley regarding the right of the Board of Supervisors to purchase cement and building materials was read. It was the sense of the meeting that the Highway Commission, with Engineer Morton, meet with the Board of Supervisors at 10,30 o'clock A.M. Tuesday, April 6th, for discussion regarding the opinion.

A letter from the Board of Supervisors, approving the Appointment of Mr. Jewett as testing expert of materials, at a salary of \$112.50 per month was read, and the Secretary was instructed to write Mr W.H. Judy, City Manager, that the Commission would co-operate with the City in the employment of Mr Jewett, beginning April 1st, 1920.

The following bills were read, approved, and ordered paid.

Nat McHorney, salary,	\$25.00
S. H. Dunlop, salary,	20.00
W. P. Devine, salary,	18.00
Brawner & Hunter, field book case,	32.22
W. P. Fuller & Co. paint,	2.04
F. W. Lane, stamping celluloid,	1.50
El Cajon Hotel, lodging,	9.00
J. Jessop & Sons, clock, watch oil,	7.50
I. M. Kearney, board and lodging	217.50
R. D. Keyes, gasoline,	11.96
Ed Lawton, meals,	18.75
White Hardware Co., supplies,	1.50
Western Lumber Co., stakes,	70.00
A. N. Loring, furn. and printing serial bonds,	704.00
County Highway Commission, cash, revolving fund,	5.38
Joseph Foster, expenses, inspection trip,	8.10
Mildred L. Greene, expenses, inspection trip,	6.00
E.A. Hornbeck, expenses, inspection trip,	10.75
Pacific Tel. & Tel. Co., service, Mar. & Apr.	20.46
V. T. Parkman, expenses, inspection trip,	5.45
S.D. Union Co. notice to printers & lithogs.	7.20
Spreckels Securities Co., rent, April,	150.00
Western Union Tel. Co. service, March,	2.80
G. F. Westfall, expenses, inspection trip,	17.55

Total

\$1372.66

The meeting adjourned at 11.20 o'clock A. M.

Signed DAVID A. FRASER
Secretary

Approved:

SAN DIEGO COUNTY HIGHWAY COMMISSION

By SHERWOOD WHEATON

MINUTES OF THE MEETING OF THE SAN DIEGO COUNTY HIGHWAY COMMISSION

MONDAY, APRIL 12, 1920.

The meeting was called to order by Chairman Wheaton at 2 o'clock P. M. Commissioners Wheaton and White were present, together with Chief Engineer Morton. Absent, Commissioner Fletcher, on account of illness.

The minutes of the meeting held Monday, April 5th, were read and approved.

It was the sense of the meeting that a copy of the minutes of each meeting be sent to Commissioner Fletcher while he is sick, for his information.

A letter from Mrs. Louise E. Starr, City Clerk of El Cajon, replying to our letter of March 29, was read and ordered filed.

Discussion was held regarding the rights of way on the Chula Vista-Coronado Road. It was the sense of the meeting that a telegram be sent to Mr. E. A. Hornbeck at San Francisco, advising him of the stand taken by some of the property owners, also that an article be given the press regarding the above, also that a meeting be arranged through Mr. W. M. Sharp, for the Commissioners to meet with the property owners in the school house Thursday evening, at 8 o'clock P. M.

A letter from Engineer Morton was read in which he stated he had a verbal request from Supervisor Good for the loan of a survey party for about one week's work near Alpine. Dr. Good stated verbally he would pay the expense of the party doing the work. It was the sense of the meeting the request be granted, and that Engineer Morton arrange accordingly.

A letter from Commissioner Fletcher, dated April 6, regarding the articles in the press, referring to the different types of pavement, was read. No action was taken, as the articles had been published since the date of the letter.

The monthly report of Engineer Morton was read, approved, and ordered given to the press.

A report from Engineer Morton, showing the names, positions and salaries of men hired and relieved since February 18, 1920 was read and ordered filed.

The attention of the Commissioners was called to an editorial in the Southwest Builder and Contractor, April 9th issue, "Definite Road Policy for San Diego County."

Discussion was held regarding the new proposed route from Bernarde bridge to Escondido. It was the sense of the meeting that the new route through the Prentice property be adopted, and that the Chairman write Mr. George G. Prentice, asking him for

the right of way over his land.

Bill No. 56, of Brawner & Hunter, for \$394.17 was returned by the Board of Supervisors with the verbal information for further consideration. The Secretary was instructed to take it up with Brawner & Hunter for adjustment.

The meeting adjourned at 4 o'clock P. M.

Signed: _____

Approved:

Secretary.

SAN DIEGO COUNTY HIGHWAY COMMISSION

By _____

(C O P Y)

[sent by S. Wheaton
to Fletcher; see letter]
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MINUTES OF THE MEETING OF THE SAN DIEGO COUNTY HIGHWAY COMMISSION

WEDNESDAY, APRIL 21, 1920.

The meeting was called to order by Chairman Wheaton at 10.30 o'clock, A. M. Commissioners Wheaton and White were present, together with Chief Engineer Morton. Absent, Commissioner Fletcher, account illness.

The minutes of the meeting held Monday, April 12, were read and approved.

The Chairman reported that the Commissioners were very much pleased with the outcome of the meeting at Otay, April 15, 1920.

A telegram from Supervisor Hornbeck, in reply to our wire of April 12, and a letter from Mrs. Mathilda Hielemann, both relating to rights of way on the Chula Vista-Coronado road, were read and ordered filed.

The Secretary was directed to ascertain if the Commission could proceed with the work on any property which was under condemnation proceedings.

A letter from Mr. George G. Prentice, replying to our letter of April 12, was read and ordered filed.

A letter from Mr. C. A. Shaw, referring to our letter of April 9, regarding rights of way was read and ordered filed.

A letter from Mr. D. W. Pontius, referring to our letters of March 12 and 29, was read and ordered filed.

A letter from Mr. W. H. Judy, in reply to our letter of April 6, referring to the Testing Engineer and the use of the laboratory in Balboa Park, and agreeing with our stipulations, was read and ordered filed.

A letter from District Attorney Evans, of Riverside County, enclosing an opinion in reply to our wire of March 30, was brought to the attention of the Commission, and ordered filed.

An estimate submitted by Engineer Morton, giving in detail the cost of construction of grading and installation of bridges and culverts under Specification No. 1 for the Poway grade, was read and ordered filed.

The financial report of the Secretary for the month of March was read and ordered filed.

The Secretary was instructed to write the City Clerk of National City, and ascertain if they would pave and connect up from the northerly city limits to our proposed road.

The Secretary was instructed to ascertain the financial standing, ability and experience of Mr. C. H. Hudson, contractor, of Los Angeles,

The meeting adjourned at 11.45, A. M.

Signed: _____

Secretary.

Approved:

SAN DIEGO COUNTY HIGHWAY COMMISSION

By _____

Chairman.

(C O P Y)

MINUTES OF THE MEETING OF THE SAN DIEGO COUNTY HIGHWAY COMMISSION

MONDAY, APRIL 26, 1920.

The meeting was called to order by Chairman Wheaton at 2 o'clock P. M. Commissioners Wheaton and White were present, together with Chief Engineer Morton. Absent, Commissioners Fletcher, account illness.

The minutes of the meeting held Wednesday, April 21, were read and approved.

The Chairman reported he had talked with Mr. George G. Prontice who informed him he would meet with the Commission at their next meeting.

A letter from the Secretary regarding the standing and ability of Mr. C. H. Hudson, contractor, was read and ordered filed.

A letter from Engineer Morton was read in which he recommended that the bid of Mr. C. H. Hudson for the grading and culverts on Mission Road No. 1a Poway Grade, as covered in plans and specifications No. 1, be adopted. It was recommended that the Board of Supervisors be requested to accept the bid and enter into a contract with Mr. Hudson.

Letters from Mr. Charles W. Petit, County Surveyor of Ventura County, the National Surety Company, and the Fidelity and Deposit Company of Maryland, regarding the standing and ability of Mr. C. H. Hudson, were read and ordered filed.

It was the sense of the meeting that the plans and specifications of Lemon Grove Road No. 4, as submitted by Engineer Morton, be adopted and submitted to the Board of Supervisors, April 28, with a request that they ask for bids.

Discussion was held regarding the advisability of including the work to be done on Highland Avenue Road #5 in conjunction with Lemon Grove Road No. 4. It was the sense of the meeting that Highland Avenue Road would not be included.

Mr. Gordon Gray, representing Mr. Totten, called on the Commission in regards to the Chula Vista-Coronado Road and the letters from Congressman Kettner and Col. O. Westover were re-read and discussed. Mr. Gray advised he would take the matter up by wire with Mr. Kettner and advise the Commission of the outcome.

The following bills were read, approved and ordered paid:

Blake Moffett & Towne, paper	\$ 12.85
County Garage, labor and material	39.04
" " "	27.81
" " "	14.28
" " "	7.09
" " "	16.85
" " "	1.66
" " "	7.47
" car for hauling stakes Oceanside	12.00
" " " Santa Ysabel	17.25
Grace B. Carruthers, mimeographing	30.41
Carpenter's, office supplies	49.72
Annette Dusing, board and lodging	36.00
A. H. Heath, printing	76.00
W. S. King, transit rental	6.33
F.D.G. Miller, "	15.00
Mission Garage, auto repairs and supplies	30.85
Beatrice Price, board and lodging	18.00
Plaza Press, printing	23.50
W.O. Sanford, oil and gasoline	12.00
Rodney Stokes Co. Engineers supplies	36.20
Western Lumber Co. O. P. Stakes	38.03
George H. Yocco, expense acct.	19.45
H. L. Benbough, tables	146.60
County Highway Commission, cash from revolving fund	21.57
City Towel Supply, towel service	8.00
J.B. Taylor, board and lodging	377.15
Chas. L. Good, expense acct.	7.32
Southwest Builder & Contractor, advertisement	9.20
Sherwood Wheaton, expense acct.	8.20
J.D.&A.B. Spreckels Securities Co. rent	150.00
The Typewriter Shop, carbon paper	13.50
R. M. Morton, salary,	500.00
Sherwood Wheaton, services	65.00
F. M. White " "	20.00
Fred Grumm salary	250.00
P. R. Watson "	250.00
David A. Fraser "	150.00
Philip H. Mason "	125.00
Adolph Beck "	150.00
W.S. Buck "	76.65
I.J. Carpenter "	66.66
I. J. Carpenter "	50.00
E. P. Chilton "	100.00
F. P. Clough "	100.00
H. L. Cooper "	150.00
C. C. De Lancey "	150.00
H. M. Dunlop "	50.00
F. A. Duncan "	74.99
G. L. Dunkle "	83.32
L. de Waard "	100.00
S. A. Evans "	125.00
F. J. Ferguson "	200.00
Wally L. Garber "	125.00
W. F. Garber "	125.00

Mervin Haney, salary		\$ 66.66
J. M. Heath,	"	200.00
L. D. Juch	"	90.00
R. D. Keyes	"	133.32
W. S. King	"	140.00
L. C. Kobler	"	93.32
J. M. Lackey	"	125.00
R. B. Lauterbach	"	125.00
A. V. Meyer	"	150.00
A. Meyerhoffer	"	200.00
R. W. Miller	"	200.00
C. A. Morrison	"	125.00
Paul Peppin	"	125.00
R. B. Ray	"	175.00
D. Rennie	"	75.00
H. T. Ritter	"	125.00
J. E. Stanton	"	200.00
R. Stansfield	"	60.00
Thomas Stevens	"	32.50
George H. Yocco	"	200.00

Total 7016.75

The meeting adjourned at 4 o'clock P. M.

Approved:

Signed: _____

Secretary.

SAN DIEGO COUNTY HIGHWAY COMMISSION

By _____

Chairman.

To the Members of the County Highway Commissions of
Imperial, Los Angeles, Riverside, San Bernardino,
Orange and Ventura Counties:

We have information which leads us to believe that Southern California is being discriminated against by the railroads in the matter of the hauling of sand, gravel and cement. To illustrate: It is our understanding that in the North the railroads charged 60 cents a ton up to a 45 mile haul, the present rate, while in Southern California the freight rate is 80 cents a ton up to a 80 mile haul, the above being the minimum rates in both cases.

We have in mind a number of rates which are an injustice, in our opinion, and this letter is written to get an expression from you as to whether or not you are satisfied with present freight rates, and we would ask you to express an opinion as to whether or not you would be willing to join in with us in an application before the Railroad Commission, asking for a revision of rates, so that Southern California may be put on the same basis per ton mile as Northern California, and also to correct any injustice we may be able to present.

It is our understanding that the Interstate Commerce Commission in establishing rates, mentioned the fact that the rates on sand and gravel perhaps were too high, and that they might be subject to a revision in individual cases.

This letter has been sent out to the County Highway Commissions of Imperial, San Bernardino, Riverside, Orange, Los Angeles and Ventura Counties. We would be pleased to get an opinion from you on this subject at an early date.

Very sincerely yours,

COUNTY HIGHWAY COMMISSION OF SAN DIEGO

Chairman

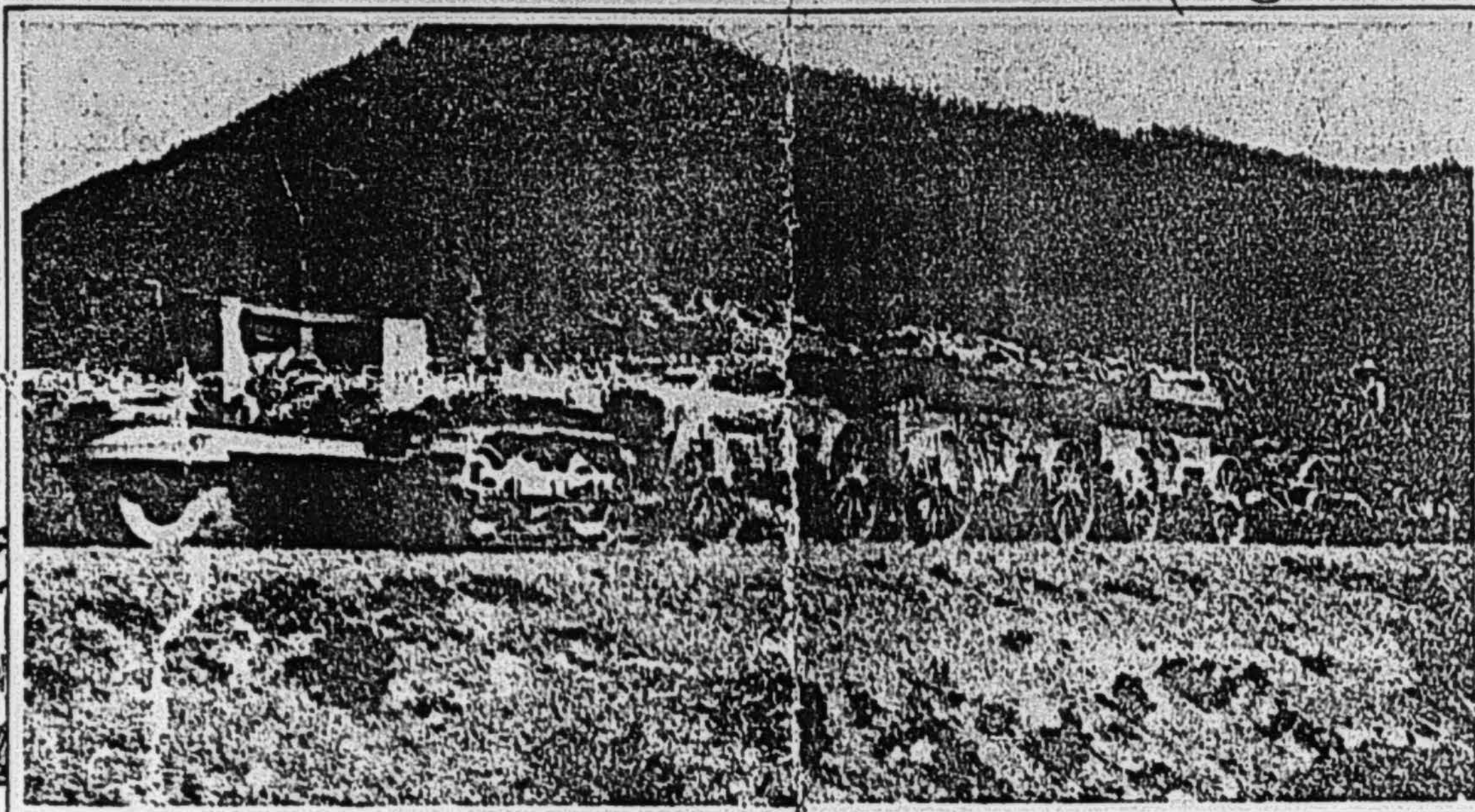
The rate on sewer pipe from Corona to Escondido at the present time is \$3.12½ per ton. Taking an average car of sewer pipe of 15 tons, and that is an average car (minimum 10 and maximum not over 18) the revenue for the railroad company is \$46.88 per car.

The revenue to the railroad company on an average car of crushed rock, Corona to Escondido, 50 tons to the car at \$1.40 a ton - \$70.00, making the car of rock yield 50% more than the car of sewer pipe. The breakage and loss of handling is nothing, whereas in sewer pipe, owing to the fragile condition, there is a great deal of loss in handling it.

Before 1918 the rate was 75 cents to Oceanside from Corona on rock, and 85 cents to Escondido. The 1918 rate was increased to \$1.00 to Oceanside and \$1.10 to Escondido. The rate has since - Aug. 26th, 1920* - been increased to \$1.30 to Oceanside and \$1.40 to Escondido.

Sand rate from Oceanside to Escondido was 35 cents. 50 tons of sand to a car. Rate now \$40.00 a car.

In the North they are only paying \$1.00 at the present time for a distance of up to 107 miles, and a great many hauls are between 100 and 107 miles, whereas in the South you are paying \$1.30 for a 78 mile haul to Oceanside and \$1.40 for a 100 mile haul to Escondido.



A tractor hauling three loads of rock and a grader into the battle for better roads

Your \$4.65 Worth of Roads

By C. H. Claudy

Thirty-five years ago you and the rest of us have paid upward of three billion dollars for construction, reconstruction, and maintenance of what we fondly called "permanent" roads. During that period we have succeeded in adding to our road mileage something like 100,000 miles of seasonal (never really permanent) roads. A minute with a pencil and the cost figures to \$240,000 per mile. Road engineers say every mile of it could be duplicated to-day, in spite of the high cost of labor and material, for from thirty to fifty thousand dollars per mile.

Is it any wonder that all of us, taxpayers, farmers, road users, and the makers of vehicles which run upon roads, are asking how the money was spent which should have made roads and didn't?

Fifteen years ago we spent an average of \$80,000,000 annually for roads and bridges together. In 1919 we spent \$400,000,000 for roads. In 1920 the road bill counted up to about \$490,000,000 expended, or about \$4.65 for each man, woman, and child. There will be available for 1921 a great deal more money than can be spent if the expenditure curve follows its present course, and if present plans do not miscarry, certainly not less than \$570,000,000 will be poured out to buy rock and dirt and stones and oil and machinery and labor and land and concrete.

But will we get \$570,000,000 worth of roads?

There seems no reason to think that our expenditures last year, this year, or next year, will result in any better economy of road building than the decade and a half immediately past. So that it becomes pertinent to inquire into the reasons why, when we make a road, it does not remain a permanent asset to the community which bought it.

By no means the least important reason is found in those very words—"permanent asset." The early fathers of good-road building in the United States conducted their campaign against the seas of mud, collections of ruts, cow wallows of holes we mis-called roads by spreading broadcast the doctrine of the "permanent road" as opposed to the "temporary" road of mud, earth, or clay. Slowly, through the years and the earnest efforts of broad-visioned men, road propaganda spread. Always it was in favor of the "permanent" road. A "permanent" road, of course, is one which, like a monument, once built lasts indefinitely with no other attention than admiring glances.

As the man said who saw a giraffe for the first time: "There ain't no such animal." At least, there is no such road except at a price of half a million dollars or more per mile. The Applan Way is still "permanent" in that it is built of huge slabs of stone, but the cost of the war would not build our

pitiful aggregate of temporary roads into Applan Way.

I do not mean to imply that we have never received any benefit or value from our roads. Up to the time when, ten or fifteen years ago, the automobile began to change the entire character of our traffic, the counties and municipalities which had poured millions of dollars into the building of what were then considered permanent roads reaped a limitless amount of economic benefit from these local thoroughfares which linked up their communities with important cities and shipping points. The old water-bound macadams, gravel roads, and even the graded roads all had purposes to serve, served them well, and justified the expenditure of millions of dollars upon them. To be sure, there was graft and inefficiency and all sorts of similar evils, but we cannot wholly and unqualifiedly condemn highway development throughout the entire history of road building in this country.

Tires Make Road History

BUT the automobile and motor truck wrought a mighty change in road-building problems, a change which we have not yet fully appreciated and with which we have not yet learned to cope.

People thought "permanent" meant permanent, and only so they raised their money, by bonds or taxes, and spent it for roads—all for roads—and opened them with ceremony and a broken white ribbon, used them with happiness and inattention, gave them neither further thought nor any maintenance—and in from one to five years found themselves possessed of ribbons of holes, ruts, mire, disaster, but no roads.

However, failure to realize that the best road begins to wear out the day it is opened is but one of many factors contributing to our waste of road substance in riotous road construction.

Much has been made from time to time of graft, as a reason for lack of results of money spent on roads. In days gone by, the political appointee who spent State or county money for roads could, if he wished, easily line his own pockets in the process. But times have changed, and ideas with them. The coming of Federal aid to the States in road building, while not an unmixed joy, eliminated many of the unfit from the offices of constructors of public roads. No State which has not a State highway commission or similar regularly constituted body to attend to the construction of State roads may share

in the Federal benefits. Moreover, while the American people can be, and are, fooled often and much, Abraham Lincoln was right, and the time has gone by when all the people can be fooled all the time as to road building. We have come to realize at last that road building is an engineering job, not a contractor's job, and by the amount of such realization we have eliminated practically all the waste of money which comes from graft.

The disadvantages of the Federal aid system as at present constituted are many—in fact, so many that it is doubtful if this system will supply even a part of the final answer to the highway-building problem. In the first place, State highway commissions throughout the United States have exercised jurisdiction over only a small fraction of the highways. It is true also that many of these State highway commissions have shown little or no judgment in the distribution of the Federal funds intrusted to their care.

Looking a little farther into reasons, it is easy to see that we have "muddled through" two desperate situations and found the answer to two problems; from this we may deduce that, give us time, money, and patience, and we will in time solve our present pressing problem.

In the past two great problems appeared in the tires of wheels. When we began to build "permanent" roads, or, as they may be correctly called, hard-surface roads, our first problem was the steel tire. It was the steel tire which chopped our earth roads into ruts, destroyed what little foundation work we know how to build, and made nice bathing places for buffaloes out of public highways. We learned to build the macadam road, the road of stone, laid in courses, and bonded—held together—with dust of rock. We learned that wind and rain gradually but surely take away this dust, and to calculate our rock sizes to our vehicular traffic, so that horseshoe and steel tire should grind up surface rock into dust at the same speed that wind and rain removed the dust already there. Thus our road maintained itself during the life of its "top dressing."

When the automobile made its appearance, it was perfectly evident to everyone that our road troubles were over. The automobile couldn't possibly hurt the stone road because the soft rubber would do no damage to rock. Nor does it; but to a road built for steel tires it is more deadly than a gang with pick-axes. For the rapidly moving rubber tire sucks, sucks, sucks at the dust, raises it in clouds; the wind blows it away to powder the landscape, and the rubber tire breaks up no rocks to make dust to take the place of that which has been stolen from the road by the suction. Deprived of the rock dust, the stones scatter, the road "ravels," holes and ruts appear, and the highway joins that

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Your \$4.65 Worth of Roads

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vast mileage for which millions have been spent and which are to-day as invisible as the smoke of last year's fires.

We solved that problem too. We solved it with oil, tar, petroleum products. We oiled the roads and let the oil keep the dust where it belonged. Once again we thought our road problem solved. Along came the motor truck—came with a rush, and came to stay. Of seven million cars in the United States to-day, over 700,000 are trucks. There are more manufacturers producing trucks to-day than are engaged in producing passenger automobiles.

Trucks Must Move

MOST of our "improved" roads had been built to withstand rubber tires and a weight not greater than 3 or 4 tons. Our trucks are built of all sizes, even as high as 7½ tons. At first built wholly, they are still built largely, for wheels with solid tires. True, the solid tire is of rubber, but at best it is but a thin cushion between weight and support. Let those who think it adequate take rubber 2 or 3 inches thick, lay it upon their heads, and get the fool killer to rap them upon their "protected" domes with an ax.

The solid tire gives a blow to the road of thousands of pounds weight when any inequality or roughness produces a jar. Under that blow the foundation sinks, the stones spread. Enough blows,

and the foundation disintegrates, the road "ravels," breaks into ruts and joins the snows of yesteryear.

The first answer—and it is still a good answer—was to build trucks with wider wheels, that the blow might be more widely distributed and therefore be less intense. But here came the problem of the overload. The man with the 3-ton truck put 5 tons upon it, but kept his 3-ton wheels. True, in so doing he disobeyed the earnest advice of the manufacturer, wore out his truck and perhaps damaged the goods he transported, but highway transportation was, still is, in its infancy, and the shipper by truck, even the truckers who operate, have often regarded their vehicles as the first road makers regarded roads—as permanent institutions, incapable of being damaged.

Seeing the enormous damage done our roads by the motor truck, men began proposing remedies. These are broadly divided into three classes: First, to build the roads heavy enough to stand any possible traffic; second, to build the trucks only to a limited size and make it illegal to put more than a specified amount of weight on any road, or upon that road more than a specified amount upon any inch of width of tire; third, to combine these two ideas and build certain roads for heavy duty, and allow anything that can move to travel it, and forbid greater than certain total weights or weight per width of tire on all other roads.

Whereupon a few of the truck manufacturers took the not unnatural attitude that it was a free country and they'd make any darn size trucks they jolly well pleased and sell them wherever they felt like it, and if the road people found they cut up the roads they could go talk to the user. And the truck user who wanted to put 10 tons on a razor-edge tire said he was a taxpayer and a landowner and a citizen, and the Government could fix the roads the best way it could. Our so-called "hard roads" went "bloody" as a result.

Fair Play for Everybody.

IT was the isolated truck manufacturer who helped to bring this about. The vast majority of makers have been keenly alive to public interests and have done all in their power to cooperate with every movement that had for its end the economic and scientific improvement of highways and the equitable distribution of the cost thereof. Manufacturers, through their dealers and their trade organizations, have consistently and constantly preached against the evils of overloading and have been only too glad to join in the movement which ultimately resulted in their fixing a gross weight limit for the operation of commercial motor vehicles. After all, the road problem must be solved on a basis of fair play to the user of the roads and trucks, the builder

of passenger and commercial vehicles and everybody else concerned.

Institutions like the National Automobile Chamber of Commerce, maintained by the automobile manufacturers, have collected statistics, facts, and evidence to prove that one of the principal roots of our road troubles, if not the largest of them all, is that we have built our vehicles without regard to where they were to run. It was shown graphically in chart and table that a railroad manages to continue being a railroad by having construction, maintenance of way, and traffic departments hand in glove; that no railroad builds cars and locomotives first and track afterward, or track first and puts on it anything in rolling stock which happens to be handy; that railroad engineers put down a certain weight of rail on a certain grade with a certain amount of ballast, to support trains of such and such weight and speed and not more. And they are everlastingly at it, keeping track and rolling stock in the best condition.

The truck people believe wholeheartedly in building roads for trucks and trucks for roads, not building each separately and hoping they will fit. Everyone concerned who really knows is now so thoroughly convinced of this essential that the American Association of State Highway Officials, the National Automobile Chamber of Commerce, the American Automobile Association, and

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Your \$4.65 Worth of Roads

Continued from page 18

the Highway Industries Association appointed each a committee, to form one allied committee, which later formulated a Uniform Vehicle Law behind which all these organizations have put their force, looking to adoption by all States. In the law appears this:

No vehicle of four wheels or less, whose gross weight, including load, is more than twenty-eight thousand pounds; no vehicle having a greater weight than twenty-two thousand and four hundred pounds on one axle, or no vehicle having a load of over eight hundred pounds per square inch width of tire upon any wheel concentrated upon the surface of the highway (said width in the case of rubber tires to be measured between the flanges of the rim) shall be operated on the highways of this State, provided that in special cases vehicles whose weight, including loads, exceed those herein prescribed, may be operated under special permits granted as hereinafter provided.

In addition there is a table of speed limits, graduated according to whether the vehicle is shod with pneumatic tires or solid tires, according to whether it is to run on open country highway, suburban street or urban street, and according to its weight. Thus, the passenger car is permitted 30 miles per hour in the open country; a solid-tire truck of 28,000 pounds, however, can go but half that speed in the country and but 12 miles per hour in the city.

Some of the speed provisions are aimed at personal safety, others at road safety.

Twenty-seven States and the District of Columbia have adopted some sort of weight restrictions. Some of them go the proposed Uniform Vehicle Law one better—or, rather, worse. Connecticut allots but 25,000 pounds gross weight and not more than 700 pounds per inch of tire width (nonmetal), or 500 pounds per inch of width of metal tire. Others have gone beyond—away beyond—and must be revised upward. Indiana says: "20,000 pounds capacity only." North Carolina forbids more than 11,000 pounds capacity.

In spite of the fact that many States have taken liberal attitudes on this matter of size and weight restrictions, they have in many instances, such as California, failed to prohibit

their counties and other subordinate municipalities from enacting restrictions at variance with those imposed by State laws. Here is an evil which needs correction as vitally as the revising upward of the weight-limitation schedule.

It is obvious that a hodge-podge of local conditions is a nightmare to the truck operator who passes through many counties and municipalities within one State.

In many laws there is no realization of the need for the weight-per-inch-of-tire clause—far more important than the gross weight. That clause is aimed at overloads, and overloads do more harm than heavier loads not too great for width of tire.

Begin with the Child

SOME day all States will have either the Uniform Law or others as good or better. When will depend upon the realization of the final answer to all our highway problems—education.

Education matters invariably lag behind the need. There is more inertia in what should be the most progressive of sciences than in almost any other department of human thought. There are great institutions of learning to-day which cling to outworn traditions of education, revise their curricula a decade behind the age, and do not recognize the need until it is more than urgent. Few of our institutions of learning have considered that the modern road and the automobile have created a new field for the spread of a new knowledge. Certainly our primary schools have but just begun to teach children the rules of the road, and only now, because of considerations of "safety first."

But the results will be much deeper than personal safety.

When the public-school system includes as much in its teaching of roads and trucks as it now does of railroads and waterways, and their economic importance, the colleges and universities will be compelled to broaden their pres-

January 1, 1921

ent courses of highway engineering into courses of transport engineering—quite a different thing. Put it this way: there is a problem of location of highways, another problem of construction of highways, and a third of maintenance of highways. There is the art of using the highway after it is located, constructed, and maintained. These four, taken together, equal the science of highway transport.

When our primary grades lead up to the study of highway economics in our high schools, as to-day primary education leads up to water and railway economics in the study of government in high schools, and when this new high-school study of road transportation shall broaden into courses in highway transport, as well as highway construction engineering in our colleges, then, and not until then, shall we be on the right road to permanent highway development.

Millions Might Be Saved

ANOTHER of the great reasons why we don't build roads to-day, why we didn't build roads yesterday, which shall be roads to-morrow is because we don't know how. We don't know how, largely because for many years we built roads by rule of thumb, by dumping stone onto dirt, by "working out" road taxes with shovel and pick and sod and ignorance. True, we have to-day skilled highway engineers, we have laboratories, we have tests, we have experimental roads, but we haven't enough, not nearly enough, of any of them.

We have forty-eight States, all of which have some sort of highway commission and some sort of a chief highway engineer. Not any of them, not all of them together, could give an adequate answer if asked for a rational plan of highway development for the whole country. And it is not their fault.

They are educated, competent, skilled engineers. But no engineer can know more than he is taught, or finds out, and no one road engineer can dig out so very much of new road science individually simply because road engineering is so big a subject, works with such large masses of material, through such vast stretches of country, in so many different locations, climates, altitudes, rainfalls, and through such comprehensive vistas of time, that only the experience of the mass can develop a large enough knowledge to help the individual.

We have research work being done by the National Government and by some schools. What we need is Federal-encouraged laboratories for road work in each State, and private laboratories maintained and used with the best of brains available in many institutions of learning.

It is universal human experience

that real human need always produces something to fill the need. When the need gets acute enough we shall have our education and our research work for roads and transport; and by that time, it is to be hoped, we will have come to consider road transport as a question just as vital to our national well-being as railroads and waterways.

For the truth is that the thing toward which we are stumbling and groping, at what cost in money, ignorance, and inefficiency can only be guessed, is a National Highways System in which the United States Government will take the lead, not the trailer position, in the development of these arteries of commerce which will make truly universal the new means of transport. Consider that we have, all told, nearly a million trucks to-day and less than two hundred thousand miles of road fit for them to run upon; remember that trucks are just coming into their own, and it is obvious that it is only a question of time until this country as a whole must do the needful thing to make them wholly useful to its entire territory. The question is not, shall we have a national system of highways, nationally built and nationally maintained for the use of the nation, but shall we have it in time to save these unthinkable sums of money we are now pouring out into roads which do not return value received?

How to Do It

WE have spent in the last fifteen years enough money to build 60,000 miles of national highways, at \$50,000 per mile. We have added 12,500 to our good-road mileage, much of it inadequately built. We have 200,000 miles of so-called "improved" roads, which can be, and often are, cut to pieces to the point of the bitter need of complete rebuilding, by the very motor truck which can and will save time and money in transportation.

The problem is a national problem. We need national laws, uniform laws, national education, varied and multitudinous education, national research, State research, private research. We need cooperation between the makers of vehicles and builders of roads. We need a sensible adjustment between the weight which may be carried on four or any number of wheels on a road, the weight which can be borne by any width of solid tire, and the kind of road. We need a national system of highways, and national viewpoint on the new transportation, just as we had to have it on the old (rail and water) and without which we would have had, could have had, neither transcontinental railroad nor Panama Canal nor river and harbor improvement.

Not until we get these things can we, as a people, answer honestly and fearlessly as to the money we spend and point with pride to what we spend it for.

San Diego, California, January 1st, 1921.

Honorable Board of Supervisors,
Court House,
San Diego, California.

Gentlemen:-

The undersigned Highway Commission of San Diego County, appointed by your Honorable Board pursuant to law, July 17th, 1919, submit herewith a detailed statement of our proceedings, showing the amount of money in the highway improvement fund at the time of our last statement, the amount of all donations since received, and the purpose for which said donations were made, the amount since expended, with the purpose for which it was expended and the balance remaining, the contracts entered into or other obligations incurred by us and still outstanding, the highways in course of improvement or completed, and the condition of the work on each, together with any other information that may be of interest to the public. This report covers the period from July 1st, 1920, to December 31st, 1920.

CONDITIONS PERTAINING TO CONSTRUCTION WORK

During this period work on the improved highway project in San Diego County has been proceeding as rapidly as advisable. It has been our desire to arrange the construction work so as to have it all completed as soon as possible, so that the public might have the use of the paved highways at the earliest possible time. However, we have been confronted during the fall months with a reluctance on the part of contractors to give favorable bids, or to even examine proposed work. Our judgment has been that prices of construction material and labor were on the eve of a decline, and this has influenced us to postpone the advertising of some contracts.

The net result of these influences has been that there have been placed under contract, projects which obligate about one-half of the total amount of the bond issue, which projects are so located that some work is under way in almost every section of the country.

CONTRACTS AWARDED

Contracts let during this period were as follows:

Coronado-Chula Vista Road No. 6, 7½ miles
Bids received on June 30th, contract let
on July 1st to George R. Daley San Diego for \$159,708.65

Julian Road No. 3-A, Section from El Cajon to
Poster, 9.65 miles. Bids received June 30th,
Contract let July 1st to David H. Ryan, San
Diego for

\$225,368.42

Mission Road No. 1-A, Section from foot of
Poway Grade to the Bernardo Bridge, length
9.75 miles, bids received July 1st,

262,995.30

San Luis Rey Road No. 2 Section from City
limits of Oceanside to Guajome Lake, length
5.6 miles, bids received August 15th, con-
tract awarded August 23rd, 1920, to South-
west Paving Company of Los Angeles, for

152,333.15

Julian Road No. 3-B, Section from Ballena
to Julian, length 12.93 miles. Bids for
grading and paving on this road were re-
ceived on September 15th. Paving bids were
rejected and grading and culvert construc-
tion was awarded to Hard Brothers of Ripon,
California, on October 4th, 1920, for

62,523.27

The sum of these five contracts added to the sum of the Poway
Grading contract and the Lemon Grove Road Grading and paving contract,
let as described in our previous report, brought the amount of work
under contract to almost \$1,100,000.

RECENT BIDS

For reasons given above it was considered advisable to delay
asking for bids on additional work until later in the year. Conse-
quently, during the three months from September to December no plans
and specifications were presented to your Honorable Board. On Dec-
ember 6th, however, plans and specifications for grading and surfac-
ing for a length of 6.15 miles from Fallbrook northerly toward the
Riverside County line were advertised. Bids for this work were re-
ceived on December 27th and a contract awarded December 28th, to
Sherer and Crowley of Los Angeles on their bid of \$36,899.44. Six
bids were received on this work, two of which were well below our
estimates. We now feel justified in asking for bids on additional
units of the Highway System, as contractors are becoming interested
in next season's work.

SURVEYING

The one surveying party which was maintained during a portion
of this period was discontinued about the 1st of October. Practically
all of the Highway System has been surveyed, some surveying having
been done on sections which it will be impossible to complete with
the funds from the present bond issue. Whenever these locations could
be previously determined, it has been our endeavor to avoid the sur-

vaying expense, but as there has been great demand from all sections for the completion of each section of highway, it has not been possible for us in each case to select the particular locations where no construction work would be done. We believed it advisable to continue the surveying, with the intention of obtaining important rights-of-way which will be needed in the future.

Sections on which surveying work has been done, as well as the mileage for which plans are completed, are shown in the table given below. In some cases it has been necessary to survey more than one line, for instance, between Vista and the San Luis Rey River, in order to make a determination of the route to be finally selected. This additional mileage, however, is not shown in the table.

PROGRESS TABLE

The following table shows the name and length of each road and length of grading and paving completed to date:

No.	Name	Total Lgth.	Surveys Finished	Plans Fin.	Under Const.	Grading Finish.	Paving Completed
1-A	Mission	18.78	18.78	15.69	15.69	9.5	2.19
1-B	Mission	15.60	15.60	9.98	-----	---	----
1-C	Mission	18.56	18.56	7.28	6.15	---	----
2	San Luis Rey	8.18	8.18	7.00	5.60	4.5	0.00
3-A	Julian	22.38	14.11	12.12	9.65	7.1	3.44
3-B	Julian	22.23	22.23	12.93	12.93	2.0	---
4	Lemon Grove	5.95	5.95	5.95	5.95	5.95	4.90
5	Highland Ave	1.53	1.53	1.53	-----	-----	-----
6	Cor-Chula Vista	12.08	12.08	7.50	7.50	5.5	4.25
7	Benita	2.00	2.00	-----	-----	-----	-----
8	Imperial	2.00	-----	-----	-----	-----	-----
9	San Pasqual	2.00	-----	-----	-----	-----	-----
		<u>131.24</u>	<u>118.97</u>	<u>79.98</u>	<u>63.47</u>	<u>34.55</u>	<u>14.78</u>

COMPLETED PAVEMENT

The pavement on the Mission Road has been completed adjacent to the Bernardo Bridge, so that the use of the detour by way of the former existing road across the river may now be discontinued; there is now no danger of traffic being stopped from San Diego to Escondido, if high water should occur.

On the Julian Road the paving is now complete from Santee to El Cajon, and will soon be opened to traffic.

The Lemon Grove road is completed through Lemon Grove, thus accomodating practically all the local traffic using that road.

The Coronado-Chula Vista road is complete and open to traffic from Palm City to Coronado Heights.

FREIGHT RATES

On August 26th, the railways announced an increase in freight rates of 25%. This raise affected all road building materials, particularly rock, sand and cement. After we had estimated on the difference which the new rates would make in the cost of our construction we decided that perhaps some relief might be obtained. A careful study was made of rates in effect on road building material and other commodities and a comparison with rates existing in the northern part of the state on the same materials. We found that the rates in the southern part of the state, applying to San Diego County, exceeded northern rates by from 20 to 33 1/3%, and in September, a letter was sent road building organizations of seven southern California counties, asking them to join with San Diego County in an application to the California Railroad Commission for adjustment of freight rates. The response from the counties was unanimous and indicated that all the southern counties were finding the new rates a hardship. We found that Los Angeles County, through their traffic department, was taking the matter up directly with the railway companies, and after several conferences, the southern counties combined in a joint demand on the railways. About the first of November, relief was granted voluntarily by the railways and reductions were made in rock and sand rates in this section of the state, the decreases in San Diego County ranging from 10 to 21%. On December 17th, the new rates were put into effect, and will help keep down costs on new construction. The reductions apply only to sand and rock rates, and a reduction of cement rates is yet to be considered.

PROTECTION IN THE SAN LUIS REY RIVER BOTTOM

After complete investigation the Highway Commission decided that the proper location for the San Luis Rey road leading easterly from Oceanside, would be along the route of the present road, from the foot of the Amick grade to the San Luis Rey River. This route is located across the flat ground in the river bottom and was finally selected because there is no favorable alternate route of equal serviceability. We did not approve of the construction of the highway on the ridge leading from the Oceanside City reservoir to the San Luis Rey Mission, on account of soil conditions, extra length of construction, extra cost of construction, and the fact that a road built in this location would not tend to develop the adjacent country, and would serve no local traffic.

The route of the present road, running in a straight line along the river bottom, is bordered on each side by high fertile land, susceptible of high state of cultivation, and we believe that the building of the road should be a stimulus toward the complete development of that wonderful valley. We have heard various criticisms of our selection; that it is menaced by high water from the San Luis Rey river, that in times of flood, the road may be under water, and that the river will eventually cut into and undermine the road. We admit that there is truth in these arguments against the location adopted.

In spite of the menace of the river, we believe that the reasons for the adopted location are sufficiently strong to justify its selection, and it appears to us that the interests involved, both in the fertile land adjacent to the road, and in the county road itself, should not sit idly by and tolerate the undermining of the highway by a change of location in the stream bed. Protection and reclamation work to save land from flood and erosion is in progress all over the west. There are many examples in much more seriously menaced locations, of the control of river channels by proper protection work, and even the rebuilding of land washed away, by properly designed reclamation works.

We consider that the protection of the county highway in the San Luis Rey River bottom is a proper matter for the attention of your Honorable Board, and would suggest that the interested property owners of that section be prevailed upon to join with the county in the construction of protection which not only prevents further erosion of the soil, but which will result in the building back, by means of silting up, of many acres of land now lying useless in the stream bed. For this work we would suggest channel straightening, by cutting the willows on the north side of the river, planting of willows and the erection of wire fences on piling on the south side of the river, so as to hold the current away from the road, and probably the construction of wing dams, or current deflectors, of such a nature as to turn the current away from the county highway.

APPORTIONMENT OF FUNDS

As outlined in our previous report, owing to the high standard of construction which we have adopted, and owing to higher material and labor prices than existed at the time the bond estimates were made, it will not be possible for us to construct all of the highway mileage as outlined in our original report. Our endeavor is to build for San Diego County a high class type of highway, which experience in other sections has shown is essential if the construction is to endure. We have adhered consistently to this policy as outlined in our previous report and insofar as possible are endeavoring to limit the expenditure of funds on each particular section of highway, to the amount to which the mileage of that section would entitle it on a pro rata basis. This policy will result in leaving gaps in the highway system, but we believe that San Diego County is wealthy enough and progressive enough to provide additional funds to insure the construction of the gaps.

FINANCIAL STATEMENT

There follows a financial statement of the disbursements during this period and expenditures as previously made.

ADMINISTRATIVE

Expenditure as per previous report		9494.05	
Commissioners per diem & Expenses	531.25		
Salaries General	3320.09		
General Office Expense, rent, stationary printing and Misc. Expense	<u>1301.07</u>	<u>5152.41</u>	14,646.46
Revolving Fund		100.00	100.00

ENGINEERING AND SURVEYING

Expenditures as per previous report		43298.22	
Salaries, Office	9925.51		
Salaries, Field	16365.82		
Engineer's Equipment, Field	210.80		
Engineer's Equipment, Office	16.41		
Engineer's Expense, Office	581.63		
Engineer's Expense, Field	1609.64		
Engineer's Supplies, Field	406.65		
General Expense	1002.95		
Automobile Expense	<u>3332.69</u>	<u>33452.10</u>	76,750.32

CONSTRUCTION

Expenditures as per previous report		7444.51	
Mission Road (1-A)			
Corrugated Culverts	2865.65		
Contract Payment, Grading and Paving	89685.11		
Contract Payment, Bridges-Culverts	<u>2917.17</u>		
	95467.93		
San Luis Rey Road(2)			
Corrugated Culverts	1741.18		
Contract Payment, Grading-Paving	21753.90		
Contract Payment, Bridges-Culverts	<u>2693.81</u>		
	26188.89		
Julian Road (3-A)			
Corrugated Culverts	1235.18		
Contract Payment, Grading-Paving	68905.49		
Contract Payment-Bridges-Culverts	<u>1089.44</u>		
	71230.11		
Julian Road (3-B)			
Corrugated Culverts	2253.05		
Contract Payment, Grading	4645.13		
Contract Payment, Bridges-Culverts	<u>565.91</u>		
	7464.09		
Lemon Grove Road (4)			
Contract Payment-Grading-Paving	100953.59		
Contract Payment-Bridges-Culverts	<u>2513.66</u>		
	103467.25		
Ohula Vista-Coronado Road (5)			
Corrugated Culverts	1119.56		
Contract Payment-Grading Paving	66625.26		
Contract Payment, Bridges-Culverts	<u>1253.75</u>		
	68998.57	<u>372,816.84</u>	380,261.35

RIGHTS-OF-WAY

Expenditures as per previous report		266.96	
Cost of land	3450.00		
Right of way expense	<u>23.07</u>	<u>2473.07</u>	3740.03
Total expenditure to December 31, 1920.			\$475398.16

SUMMARY

Balance in Highway Improvement Fund June 30th, 1920. 2239671.26
 Accounts Receivable
 None

Amounts charged to			
Mission Road	1A	117416.06	
Mission Road	1B	10110.66	
Mission Road	1C	12836.94	
San Luis Rey Road	2	33684.30	
Julian Road	3A	84750.98	
Julian Road	3B	21783.42	
Lemon Grove Road	4	113555.54	
Highland Avenue Road	5	905.59	
Chula Vista-Coronado	6	78018.69	
Bonita Road	7	978.92	
Imperial Boulevard	8	628.53	
San Pasqual Road	9	628.53	
Highway Commission-Revolving Fund		<u>100.00</u>	
			475398.16
Highway Improvement Fund			

Balance in Highway Improvement Fund
 December 31, 1920. \$ 1,764,273.10

CONCLUSION

We wish to comment on the cordial relations which have existed between our Commission and your Honorable Board; also we wish to mention the fine receptions we have met with in all places in the county where meetings have been held. The Highway Commission has nothing to sell, to San Diego County; has nothing to put over, and the very best efforts of ourselves and of every man in the organization are directed toward giving of full value for every dollar of bond money expended. We are interested in the proper planning of the highways, and the successful expending of bond money, because we believe that the careful expenditure of this money will be of tremendous benefit to San Diego County. We find the work of continuous interest and worthy of our close attention.

SAN DIEGO COUNTY HIGHWAY COMMISSION

By _____ Chairman

 Chief Engineer

 Secretary

Dec. 31st, 1921.

To the Honorable,
The Board of Supervisors,
Court House,
City.

Gentlemen:-

The undersigned Highway Commission of San Diego County, appointed by your Honorable Board pursuant to law, July 17th, 1919, submit herewith a detailed statement of our proceedings showing the amount of money in the highway improvement fund at the time of our last statement, the amount of all donations since received, and the purpose for which said donations were made, the amount since expended, with the purpose for which it was expended and the balance remaining, the contracts entered into or other obligations incurred by us and still outstanding, the highways in course of improvement or completed, and the condition of the work on each, together with any other information that may be of interest to the public. This report covers the period from July 1st, 1921, to December 31st, 1921.

CONSTRUCTION WORK

During this period it has been the endeavor of the Highway Commission to hasten the completion of the various contracts, and to reduce forces as fast as the completion of work would permit. The few new contracts this period were awarded as a result of very satisfactory bids, indicating that lower prices prevail than during the same period one year ago.

All of the projected work has been started during this period, with the exception of the paving between Foster and Nussey, which will not be started until the grading of this section is more nearly finished. This job will require all of the balance of the highway funds, and the paving will be carried as far as possible.

CONTRACTS AWARDED

Contracts awarded during this period were as follows:

Mission Road No. 1-B, San Marcos to Buena, 3.45 miles,
Contract for grading and paving awarded July 11th, to
George R. Daley, San Diego for \$92,737.38

Dec. 31st, 1921.

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The Board of Supervisors,
Court House,
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The undersigned Highway Commission of San Diego County, appointed by your Honorable Board pursuant to law, July 17th, 1919, submit herewith a detailed statement of our proceedings showing the amount of money in the highway improvement fund at the time of our last statement, the amount of all donations since received, and the purpose for which said donations were made, the amount since expended, with the purpose for which it was expended and the balance remaining, the contracts entered into or other obligations incurred by us and still outstanding, the highways in course of improvement or completed, and the condition of the work on each, together with any other information that may be of interest to the public. This report covers the period from July 1st, 1921, to December 31st, 1921.

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Julian Road No. 3-A, Foster to top of Mussey Grade, 4.42 miles in length, contract for grading only awarded to Crook and Henno, San Diego, September 14th, for \$50,789.80

Mission Road No. 1-A, construction of a fence on each side of the right-of-way through the Scripps property, Contract awarded to Fred H. Blankenburg, September 30th, for 2,068.50

The total amount involved in these contracts is \$145,595.68, which brings the total amount previously expended, and under contract to about \$2,068,000.

PROGRESS TABLE

The following table shows name and length of each road and the amount of work under construction and completed on each section. The cost figures are compiled on completed jobs from our records showing the actual final cost, and on jobs still under way from the contract price.

PROGRESS TABLE TO DECEMBER 31, 1921.

NO.	NAME	LENGTH	UNDER CONST.		COMPLETED		COST
			GRAD.	G & P	GRAD.	PAV.	
1-A	Mission	18.73			18.24	9.75	386,227.91
1-B	Mission	15.60		3.45	7.92	7.92	212,159.34
1-C	Mission	18.56		7.70	13.85	7.20	272,008.39
2	San Luis Rey	8.18			5.60	5.19	153,669.36
3-A	Julian	22.38	4.42		9.65	9.65	289,863.35
3-B	Julian	22.23	(12.94)	10.12	12.94	6.92	359,569.15
4	Lemon Grove	5.95			5.95	5.95	172,532.29
5	Highland Ave.	1.53					
6	Chula Vista-Cor	12.08			7.61	7.61	172,428.06
7	Bonita	2.00			1.97	1.97	49,252.45
8	Imperial	2.00					
9	San Pasqual	2.00					
			17.36	21.27	83.73	62.16	2,067,710.30

#Note: Grading Completed, but not accepted.

Total pavement under contract to December 31, 1921, 65.86 miles.

Total separate grading under contract and completed to December 31st, 1921, in addition to paving mileage 21.65

Additional paving contemplated 2.23 miles.

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COMPLETED PAVEMENT

Pavement on the Mission Road section 1-A, which contract was held by Hunkin-Conkey Construction Company, was finally completed on August 12th, and the work was accepted about the middle of September. About \$3500 in penalties was collected from the contractor for delay in completion.

On the Mission Road No. 1-B, all the paving on the two contracts from Escondido to Buena, constructed by George R. Daley has been completed and open to traffic. Mr. Daley is engaged in finishing shoulders on the second contract, and placing the work in shape for acceptance.

On the Mission Road No. 1-C, David H. Ryan has completed all but one-half mile of the grading and paving work, and with favorable weather will complete the paving this month.

The San Luis Rey road stands completed and open to traffic. On account of delay in completion, the county collected \$805.81 from the contractors, the Southwest Paving Company, in reimbursement for extra overhead expense.

The Highway Commission has no plans or funds for paving the Amick Grade, which was omitted from the contract to permit of settlement of fills.

On the Bonita road, all the work has been completed and open to traffic. On account of delay in completion the county collected from the contractor, George H. Oswald, extra overhead expense in the sum of \$154.23.

On the Julian road 3-B, from Ballena to Julian, the grading contractor is still at work on the Santa Ysabel grade. This contractor has been slow to get this work into acceptable shape and considerable additional work was made necessary by slides which occurred during the recent heavy downpour. The grading is completed at the present time, with the exception of the removal of the slides.

The paving on this section of highway, which contract is held by Bent Brothers of Los Angeles, has been completed and open to traffic from Ballena to Santa Ysabel, a length of about six miles, and for a distance of about 1 1/4 miles easterly from the foot of the Julian Grade. The contractor's operations have been retarded by the weather, and he is planning to shut down for a few months after completing 900 feet of paving to close a gap.

RESULTS OF THE BOND ISSUE

By referring to the above table it can be seen that about \$2,068,000 of the bond issue has been obligated. The awarding of one contract for paving from Foster to Mussey in the amount of from \$45,000 to \$50,000 will require all of the balance remaining in the highway improvement fund. We expect the final mileage will include slightly

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over sixty-eight miles of paving, and about 19 1/2 miles of additional grading. The administrative and engineering expense of the project will be about \$170,000.

PROTECTION IN THE SAN LUIS REY RIVER BOTTOM

We are pleased that the Board has taken steps for the protection of the highway in the San Luis Rey River bottom. The county is justified in spending a considerable sum to complete the projects as outlined in the plan for this location, prepared by the Commission's engineer and submitted to the Board of Supervisors. The cost to complete all the projects should not exceed \$10,000 and if this work is not done financial damage to a greater amount might result from high water, as well as the inconvenience of closing the road to the public. During the recent storms this road has been the only means of communication between San Diego and Los Angeles, the coast road being impassable in several places.

REDUCTION OF FORCES

During the latter part of this period the Highway Commission has greatly reduced general overhead expense. Our office has been consolidated into less than one-half of the original space, with a corresponding reduction in rental. All of our office men have been dispensed with, with the exception of Mr. Grumm, who will be occupied until February 1st, in getting details of right-of-way matters in shape. Whereas on the first of last July we had twenty-six names on our pay-roll, for the month of January we will have eleven, and after January the force will be still further reduced.

Our co-operation with the city in the testing laboratory has been changed to a basis of daily payment for the services of the testing engineer and the use of the laboratory, payment to be made only for those days when work is being performed for the county. We still have several miles of highway to construct and the main use of the testing laboratory will be for the testing of cement.

HIGH WATER DAMAGE

During the latter part of December, as you know, practically all rainfall records were broken in this vicinity and all of the streams of the county were taxed to carry the tremendous runoff. The new highways did not escape entirely from damage from high water, but a survey after the water has receded shows that the damage is inconsiderable, although any damage is to be regretted. The most serious loss to the county on the improved highways is on the section between Lakeside and Foster where the high water of the San Vicente Creek undermined the pavement in two places.

The next serious damage is the undermining of a portion of the high fill in the valley of Chollas Creek, about one-half miles east of the city limits of San Diego, on the Lemon Grove Road.

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The next serious damage is the undermining of a portion of the high fill in the valley of Chollas Creek, about one-half miles east of the city limits of San Diego, on the Lemon Grove Road.

Another case of serious damage occurred on the north side of the new Poway Grade. About half way down the grade a small stream of water, diverted to the outside of the road by a small slide from the bank, was unnoticed, and before detection caused the undermining and loss of about 1000 yards of new earth from a large fill.

Several of the roads went through the flood with no damage or practically none, including the Bonita Road, Bonsall-Fallbrook Road, Sherer & Crowley Grading job and San Luis Rey Road.

On the highways which sustained damage other than those mentioned above, the main cause of damage resulted from inadequate or clogged culverts. Many of the culverts installed under the pavements are the old culverts which existed in the roadway before the Highway Commission made their surveys and which the Commission had reason to believe had passed through the 1916 flood without serious damage or without need for replacement. Particularly on the route between Poway and Bernardo was this condition true.

In practically all of these locations a small amount of protection work would prevent future damage under similar high water conditions. The construction of paved shoulders, the construction of curbs on the down stream edge of the pavement, the construction of small retaining walls, and other small protection works should be installed at many locations at very small expense by the regular county forces, or by a small force equipped for the purpose.

It is a matter of regret to the Commission that they do not have funds or authority to install this protection work, and we recommend to your Board that you will supplement the excellent construction which has already been done, by the means outlined above, details in regard to which we would be glad to work out with any of the supervisors for any particular locations.

We have summarized damage done to the various highways, and our engineer has compiled a report which estimates that the cost of repairing the damage on the improved highways will be less than \$10,000.

On contracts which have not yet been accepted, and where the inadequacy of culverts, or the need for protection work is indicated, the Commission expects to take steps which will prevent similar damage in the future before asking the Board of Supervisors to accept the contract. This applies particularly to the contract of George R. Saley between San Marcos and Buena, and contract of Bent Brothers, Ballena to Julian.

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FINANCIAL STATEMENT

There follows the financial statement of the disbursements during this period and expenditures previously made:

ADMINISTRATIVE

Expenditures as per previous report		20150.44	
Comm. per diem and expense	580.00		
Salaries General	3300.00		
Gen. Office Exp. Rent, Sta.			
Printing and Miscl.	<u>1355.82</u>	5235.82	25386.26

ENGINEERING AND SURVEYING

Expenditures as per previous report		108693.99	
Salaries Office	3924.47		
Salaries Field	16250.76		
Engineers Equipment-Field			
Engineers Equipment-Office			
Engineers Expense Office	84.98		
Engineers Expense Field	283.87		
Engineers Supplies Field	84.97		
General Expense	1661.30		
Automobile Expense	<u>3182.05</u>	25472.40	134,166.39

CONSTRUCTION

Expenditures as per previous report		1152162 .85	
Mission Road 1-A			
Corrugated Culverts	2522.24		
Contraction Cracks	220.30		
Contract payment G & P	118135.51		
Contract Payment B & C	<u>4307.93</u>		
		125185.98	
Mission Road 1-B			
Corrugated Culverts	402.39		
Contraction Cracks	135.08		
Contract payment G & P	94276.79		
Contract Payment B & C	<u>4752.34</u>		
		99566.60	
Mission Road No. 1-C			
Corrugated Culverts			
Contraction Cracks	26.00		
Contract payment G & P	134502.17		
Contract payment B & C	<u>21173.64</u>		
		155701.81	

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San Luis Rey Road 2

Corrugated Culverts
 Contraction Cracks 142.65
 Contract payment G & P 37008.66
 Contract payment B & C 1264.34
38415.65

Julian Road 3-A

Corrugated Culverts 1936.98
 Contraction Cracks
 Contract Payment, G & P 15611.07
 Contract Payment, B & C
17548.05

Julian Road 3-B

Corrugated Culverts 43.89
 Contract Payment G & P 136665.99
 Contract Payment B & C 2419.02
139128.90

Bonita Road 7

Corrugated Culverts 25.00
 Contract Payment G & P 44872.53
 Contract Payment B & C 922.79
45820.32

621,367.31 1,773,530.16

RIGHTS-OF-WAY

Expenditures as per previous report 7,875.72

Cost of Land 810.98
 Right-of-way Expense 350.35
 Contract Payment - Fence 1451.46
2612.79

2,612.79 10,488.51

Total expenditures to Dec. 31st.
 1921.....\$1,943,571.32

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SUMMARY

Balance in Highway Improvement Fund June 30th, 1921.....\$1,011,292.00

Accounts Receivable

Transfer from Contingent Fund 100.00

Total amount in fund June 30th, 1921.....\$1,011,392.00

Amounts charged to

Mission Road	No. 1-A	131080.54	
Mission Road	No. 1-B	104395.77	
Mission Road	No. 1-C	162467.32	
San Luis Rey Rd	2	39619.65	
Julian Road	No. 3-A	22802.03	
Julian Road	No. 3-B	145438.67	
Lemon Grove Road	4	506.46	
Highland Ave. Road	5	130.89	
Chula Vista-Cor	6	1100.12	
Bonita Road No.	7	46817.17	
Imperial Boulevard	8	164.85	
San Pasqual Road	9	164.85	
Highway Improvement Revolving		<u>100.00</u>	654,788.32

Deductions from final payment account penalty

Hunkin-Conkey Const. Co. Road No. 1-A, Cre. E. & S	3574.88	
Southwest Paving Co. Road No. 2	805.81	
Geo. H. Oswald Road No. 7	127.38	
Geo. H. Oswald Road No. 7	Adminis.	<u>26.85</u>

4,534.92

650,153.40

HIGHWAY IMPROVEMENT FUND

Balance in Highway Improvement Fund December 31, 1921.....\$ 361,238.60

SAN DIEGO COUNTY HIGHWAY COMMISSION

By _____
Chairman

Chief Engineer

Secretary

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SAN DIEGO COUNTY HIGHWAY COMMISSION

By _____
Chairman

Chief Engineer

Secretary

STATEMENT OF DISBURSEMENTS, MONTH OF DECEMBER

	1920.			
	Adminis- tration Overhead	Engineering & Surveying Overhead	Right of Way	Construction
Commissioners per diem & Expense	\$ 95.00			
Salaries General	519.99			
General Expense	166.12			
Revolving Fund	100.00			
Chief & Asst Eng. salaries, Office		750.00		
Gen. Engineering Salaries, Field		3049.17		
Gen. Engineering Salaries Office		689.98		
Office Supplies		17.60		
Field Supplies		171.82		
General Expense		241.73		
Auto Expense		462.97		
Cost of Land			2450.00	
Right of way Expense			12.00	
Mission Road 1-A				23970.51
San Luis Rey 2				3372.30
Julian 3-A				40224.80
Julian 3-B				4125.34
Lemon Grove 4				20083.48
Chula Vista-Coronado 6				18734.68
Totals	881.11	5383.27	2462.00	110511.11

Mission Road	Admin	E & S	R of W	Construct.	Total
Mission Road 1-A	2019.99	14355.63	828.84	100211.60	117416.06
Mission Road 1-B	1693.14	7835.72	581.80	10110.66	10110.66
Mission Road 1-C	2118.82	9204.34	1513.78	12836.94	12836.94
San Luis Rey Rd. 2	961.52	6505.89	28.30	26188.89	33684.30
Julian Road 3-A	2488.54	10987.24	65.09	71230.11	84750.98
Julian Road 3-B	2369.95	11934.10	15.28	7464.09	21783.42
Lemon Grove Road 4	655.91	6064.10	677.44	106168.09	113555.54
Highland Ave Road 5	173.66	730.89	1.04		905.59
Chula Vista Coronado Rd 6	1430.12	7565.47	24.53	68998.57	78018.69
Bonita Road 7	218.27	759.34	1.31		978.92
Imp. Boulevd. 8	218.27	408.95	1.31		628.53
San Pasqual 9	218.27	408.95	1.31		628.53
Revolving Fund	100.00				100.00
GRAND TOTAL	14646.46	76750.32	3740.03	380261.35	475398.16

Respectfully submitted
D.A. Fraser
Secretary

STATEMENT OF DISBURSEMENTS-MONTH OF JANUARY

Col. Fletcher

	1921			
	Adminis- tration Overhead	Engineering & Surveying Overhead	Right of Way	Construct. Total
Commissioners per diem & Expense	60.00			
Salaries General	550.00			
General Expense	259.17			
Chief & Asst. Eng. Salaries Office		697.91		
Gen. Engineering Salaries Field		3,265.92		
Gen. Engineering Salaries Office		672.92		
Office Supplies		117.83		
Field Supplies		143.16		
General Expense		220.91		
Auto Expense		1,299.03		
Cost of Land				
Gen. Expense			208.13	
Mission Road 1-A				25,644.02
Mission Road 1-C				4,416.20
San Luis Rey Road 2				5,609.41
Julian Road 3-A				25,466.21
Julian Road 3-B				3,878.84
Lemon Grove Rd. 4				22,462.77
Chula Vista and Cor. No. 6				10,349.58
Total	869.17	6,417.68	208.13	97,827.03

ANNUAL RECAPITULATION

Mission Road	Admin.	E & S	R of W	Construct.	Total
Mission Road 1-A	2,140.71	15,550.82	828.84	125,855.62	144,375.99
Mission Road 1-B	1,794.28	8,080.97	581.80		10,457.05
Mission Road 1-C	2,246.48	9,933.01	1,594.20	4,416.20	18,188.89
San Luis Rey 2	1,018.95	7,149.03	28.30	31,798.30	39,994.58
Julian Road 3-A	2,616.03	12,022.53	65.09	96,696.32	111,399.97
Julian Road 3-B	2,511.54	12,979.59	142.99	11,342.93	26,977.05
Lemon Grove Rd 4	695.12	6,656.87	677.44	128,630.86	136,660.29
Highland Ave " 5	184.01	749.08	1.04		934.13
Chula-Vista Cor. 6	1,515.52	8,232.12	24.53	79,348.15	89,120.32
Bonita Road 7	231.33	950.22	1.31		1,182.86
San Pasqual 8	231.33	431.88	1.31		664.52
San Pasqual 9	231.33	431.88	1.31		664.52
Revolving Fund	100.00				100.00
Grand Total	15,515.63	83,168.00	3,948.16	478,088.38	580,720.17

Respectfully Submitted,
D.A. Fraser
Secretary

County Highway

STATEMENT OF DISBURSEMENTS-MONTH OF
FEBRUARY, 1921.

	Adminis- tration Overhead	Engineering & Surveying Overhead	Right of Way	Const.	Total
Commissioners per Diem & Expense	100.00				
Salaries General	550.00				
General Expense	205.65				
Chief & Asst. Eng.					
Salaries Office		725.00			
Salaries Field		3330.29			
Salaries Office		725.00			
Office Supplies		46.12			
Field Supplies		77.08			
General Expense		262.65			
Auto Expense		595.72			
Cost of Land					
General Expense			171.24		
Mission Road 1-A				10,455.11	
Mission Road 1-B				532.63	
Mission Road 1-C				5,144.78	
San Luis Rey Road 2				8,894.82	
Julian Road 3-A				44,700.37	
Julian Road 3-B				7,586.95	
Lemon Grove Road 4				441.77	
Chula Vista-Cor. 6				28,403.39	
Total	855.65	5,761.86	171.24	106,159.82	\$112,948.57

ANNUAL RECAPITULATION

	Admin.	E & S	R of W	Const.	Total
Mission Road 1-A	2259.55	16633.27	828.84	136,310.73	156,032.39
Mission Road 1-B	1893.88	8227.33	581.80	532.63	11,235.64
Mission Road 1-C	2369.56	10980.88	1641.03	9,560.98	24,552.45
San Luis Rey 2	1075.52	7676.13	129.23	40,693.12	49,574.00
Julian Road 3-A	2761.24	12953.90	65.09	141,396.69	157,176.92
Julian Road 3-B	2650.97	15806.64	166.47	18,929.88	35,553.96
Lemon Grove 4	733.70	7133.39	677.44	129,072.63	137,617.16
Highland Ave. 5	194.72	763.62	1.04		959.38
Ch. Vista-Cor. 6	1599.66	8885.73	24.53	107,751.54	118,261.46
Bonita 7	244.16	968.55	1.31		1,214.02
Imperial Blvd. 8	244.16	450.21	1.31		695.68
San Pasqual 9	244.16	450.21	1.31		695.68
Revolving Fund	100.00				100.00
Grand Total	16,371.28	88,929.86	4,119.40	584,248.20	\$693,668.74

Respectfully submitted
D. A. Fraser
Secretary

STATEMENT OF DISBURSEMENTS-MONTH OF
MARCH, 1921.

M. Fletcher

	Adminis- tration Overhead	Engineering & Surveying Overhead	Right of Way	Const.	Total
Commissioners per diem & Expense	240.00				
Salaries General	550.00				
General Expense	211.30				
Chief & Asst. Eng.					
Salaries Office		695.84			
Salaries Field		3263.23			
Salaries Office		422.70			
Office Supplies		40.70			
Field Supplies		29.11			
General Expense		245.23			
Auto Expense		547.86			
Cost of Land					
General Expense			1000.00		1187.32
Mission Road 1-A					45131.38
Mission Road 1-B					1996.41
Mission Road 1-C					5497.93
San Luis Rey 2					14115.72
Julian Road 3-A					33825.16
Julian Road 3-B					4607.25
Lemon Grove 4					41837.03
Coronado Ch. Vista 6					21816.39
Total	1001.30	5244.67	2187.32	168827.27	177,260.56

ANNUAL RECAPITULATION

	Admin.	E & S	R of W	Const.	Total
Mission Road 1-A	2398.61	17470.56	2818.66	181442.11	204,129.94
Mission Road 1-B	2010.42	8675.10	581.80	2529.04	13,796.36
Mission Road 1-C	2535.45	11795.49	1341.03	15058.91	31,610.88
San Luis Rey 2	1141.72	8219.04	326.73	54808.84	64,497.13
Julian Road 3-A	2931.16	13853.54	65.09	175221.85	192,071.64
Julian Road 3-B	2814.08	14600.54	166.47	23537.13	41,118.22
Lemon Grove 4	778.86	7333.13	677.44	170909.66	179,699.09
Highland Ave. 5	206.65	777.91	1.04		985.60
Ch. Vista Coronado 6	1698.09	9507.32	24.53	129567.93	140,797.87
Bonita 7	259.18	1004.62	1.31		1,265.11
Imperial Blvd. 8	259.18	468.24	1.31		728.73
San Pasqual 9	259.18	468.24	1.31		728.73
Revolving Fund	100.00				100.00
Grand Total	17332.58	94174.53	6306.72	753075.47	\$870,929.30

Respectfully submitted,
D. A. Fraser
Secretary

Col. Fletcher

STATEMENT OF DISBURSEMENTS-MONTH OF

APRIL, 1921.

	Adminis- tration Overhead	Engineering & Surveying Overhead	Right of way	Const.	Total
Commissioners per diem & Expense	85.00				
Salaries General	550.00				
General Expense	383.92				
Chief & Asst. Eng Salaries Office		675.00			
Salaries Field		3053.83			
Salaries Office		228.15			
Office Supplies		10.00			
Field Supplies		31.71			
General Expense		255.42			
Auto Expense		563.19			
Cost of Land					
General Expense					
Mission Road 1-A				25897.22	
Mission Road 1-B				19720.03	
Mission Road 1-C				6135.95	
San Luis Rey 2				19950.35	
Julian Road 3-A				2234.76	
Julian Road 3-B				13235.92	
Lemon Grove 4				532.69	
Chula Vista-Cor. 6				41.51	
	1018.92	4817.30		87748.43	93,584.65

ANNUAL RECAPITULATION

	Admin.	E & S	R of W	Const.	Total
Mission Road 1-A	2534.73	18402.97	2818.66	207339.33	231095.69
Mission Road 1-B	2124.49	9304.83	581.80	22249.07	34260.19
Mission Road 1-C	2665.26	12345.37	1641.03	21194.86	37846.52
San Luis Rey 2	1206.51	8896.86	326.73	74759.19	85189.29
Julian Road 3-A	3097.48	14568.91	65.09	177456.61	195188.09
Julian Road 3-B	2973.74	15584.81	166.47	36773.05	55498.07
Lemon Grove 4	823.06	7382.46	677.44	171442.35	180325.31
Highland Ave 5	218.32	790.95	1.04		1010.31
Chula Vista-Cor. 6	1794.44	9724.37	24.53	129609.44	141152.78
Bonita 7	305.69	1021.02	1.31		1328.02
Imperial Blvd. 8	273.89	484.64	1.31		759.84
San Pasqual 9	273.89	484.64	1.31		759.84
Revolving Fund	100.00				100.00
GRAND TOTAL	18391.50	98991.83	6306.72	840823.90	964513.95

Respectfully submitted,

J. A. Fraser
Secretary

STATEMENT OF DISBURSEMENTS - MONTH OF

MAY 1921.

	Adminis- tration Overhead	Engineering & Surveying Overhead	Right of way	Construct.	Total
Commissioners per diem & Expense	85.00				
Salaries Gen.	550.00				
General Expense	237.12				
Chief & Asst. Eng. Salaries Office		535.00			
Salaries Office		625.00			
Salaries Field		3005.85			
Salaries Office		393.81			
Office Supplies		92.12			
Field Supplies		142.54			
General Expense		346.62			
Auto Expense		384.43			
Cost of Land				1344.00	
General Expense					
Mission Road 1-A					16738.10
Mission Road 1-B					22062.32
Mission Road 1-C					8383.19
San Luis Rey 2					27440.13
Julian Road 3-A					58705.56
Julian Road 3-B					18585.61
Lemon Grove 4					6.50
Chula Vista-Coro. 6					42789.29
Bonita Road 7					373.89
	872.12	4990.37	1344.00	195084.79	202,291.28

ANNUAL RECAPITULATION

	Admin.	E & S	R of W	Const.	Total
Mission Road 1-A	2655.85	19229.35	2818.66	224077.43	248781.29
Mission Road 1-B	2226.00	10131.96	731.80	44311.39	57401.15
Mission Road 1-C	2792.34	12944.37	2835.03	29578.05	48149.79
San Luis Rey 2	1264.17	9379.42	326.73	102199.32	113169.64
Julian Road 3-A	3245.45	15262.97	65.09	236162.17	254755.68
Julian Road 3-B	3115.81	16743.80	166.47	55358.86	75384.94
Lemon Grove 4	862.39	7436.09	677.44	171448.85	180424.77
Highland Ave 5	228.70	805.13	1.04		1034.87
Chula Vista Coro. 6	1880.17	9920.84	24.53	172398.73	184224.27
Bonita 7	318.78	1123.27	1.31	373.89	1817.25
Imp. Blvd. 8	286.98	502.50	1.31		790.79
San Pasqual 9	286.98	502.50	1.31		790.79
Revolving Fund	100.00				100.00
GRAND TOTAL	19263.62	103982.20	7650.72	1035908.69	1166805.23

Respectfully submitted

J. A. Fraser
Secretary

STATEMENT OF DISBURSEMENTS

MONTH OF JULY, 1921.

	Adminis- tration Overhead	Engineering Surveying Overhead	Right of Way	Construction	Total
Commissioners per diem & Expense	70.00				
Salaries General	550.00				
General Expense	229.83				
Chief & Asst. Eng. Salaries Office		500.00			
Salaries Field		2994.67			
Salaries Office		283.33			
Office Supplies					
Field Supplies		27.73			
General Expense		349.31			
Auto Expense		784.81			
Cost of Land General Expense			307.62		
Mission Road 1-A				23,048.29	
Mission Road 1-B				2,272.59	
Mission Road 1-C				18,196.17	
San Luis Rey 2				263.25	
Julian Road 3-A				37,571.03	
Julian Road 3-B				7,897.43	
Bonita Road 7					
Total	849.83	4939.85	307.62	89,248.56	95,345.86

ANNUAL RECAPITULATION

	Admin.	E & S	R of W	Construct.	Total
Mission Road 1-A	2897.03	21056.90	2818.66	281142.24	307914.83
Mission Road 1-B	2428.14	11678.02	736.80	89860.85	104703.81
Mission Road 1-C	3045.35	14595.17	2946.74	57747.19	78334.45
San Luis Rey 2	1378.96	10063.57	499.81	115822.96	127765.30
Julian Road 3-A	3540.15	16012.12	66.09	236197.97	255815.33
Julian Road 3-B	3398.73	18895.37	166.47	105314.13	127774.70
Lemon Grove 4	940.70	7523.09	677.44	171854.85	180996.08
Highland Ave. 5	249.38	828.13	1.04		1078.55
Chula Vista-Coro. 6	2050.91	10110.55	24.53	172403.53	184589.52
Bonita Road 7	344.84	1808.02	244.14	11067.69	13464.69
Imperial Blvd. 8	313.04	531.45	1.31		845.80
San Pasqual 9	313.04	531.45	1.31		845.80
Revolving Fund	100.00				100.00
Grand Total	21000.27	113633.84	8183.34	1241411.41	1384228.86

Respectfully submitted

J. A. Fraser
Secretary

STATEMENT OF DISBURSEMENTS

MONTH OF AUGUST, 1921.

	Adminis- tration Overhead	Engineering & Surveying Overhead	Right of way	Construction	Total
Commissioners per diem & Expense	130.00				
Salaries General	550.00				
General Expense	310.32				
Chief & Asst. Engrs Salaries Office		500.00			
Salaries Field		3130.73			
Salaries Office		175.00			
Office Supplies		22.13			
Field Supplies		18.31			
General Expense		367.67			
Auto Expense		488.15			
Credit acct Penalty S.W. Pav. Co		805.81			
Cost of Land			700.00		
General Expense			17.73		
Mission Road 1-A				18054.96	
Mission Road 1-B				33920.35	
Mission Road 1-C				15472.05	
San Luis Rey Road 2				38009.75	
Julian Road 3-B				20160.70	
Bonita Road 7				25380.38	
Total	990.32	3896.18	717.73	150998.19	156602.42

ANNUAL RECAPITULATION

	Admin.	E & S	R of W	Construct.	Total
Mission Road 1-A	3034.58	21853.29	2818.66	299197.20	326903.73
Mission Road 1-B	2543.43	12350.96	736.80	123781.20	139412.39
Mission Road 1-C	3189.67	15548.63	2946.74	73219.24	94904.28
San Luis Rey 2	1444.39	9353.03	499.81	153832.71	165129.94
Julian Road 3-A	3708.20	16254.36	765.09	236197.97	256925.62
Julian Road 3-B	3560.09	20226.20	166.47	125474.83	149227.59
Lemon Grove Road 4	985.34	7573.91	677.44	171854.85	181091.54
Highland Ave. Road 5	261.17	841.56	1.04		1103.77
Chula Vista-Coro. 6	2148.25	10221.36	24.53	172403.53	184797.67
Bonita 7	359.69	2210.04	261.87	36448.07	39279.67
Imperial Boulevard 8	327.89	548.34	1.31		877.54
San Pasqual 9	327.89	548.34	1.31		877.54
Revolving Fund	100.00				100.00
Grand Total	21,990.59	117,530.02	8,901.07	1392,409.60	1540,831.28

Respectfully submitted

J. A. Fraser
Secretary

STATEMENT OF DISBURSEMENTS
MONTH OF SEPTEMBER 1921

	Adminis- tration Overhead	Engineering Surveying Overhead	Rights of way	Construction	Total
Commissioners per diem & Expense	70.00				
Salaries General	550.00				
General Expense	219.85				
Chief & Asst. Engineers					
Salary Office		450.00			
Salaries Field		2802.06			
Salaries Office		152.91			
Office Supplies		62.85			
Field Supplies		7.50			
General Expense		370.71			
Auto Expense		525.56			
Cost of Land			100.00		
General Expense			55.22		
Mission Road 1-A				3242.02	
Mission Road 1-B				23788.49	
Mission Road 1-C				37789.92	
Julian Road 3-B				20747.41	
Bonita Road 7				80.86	
Total	839.85	4371.59	155.22	85648.70	91015.36

ANNUAL RECAPITULATION

	Admin.	E & S	R of W	Construct.	Total
Mission Road 1-A	3151.22	22754.17	2818.66	302439.22	331163.27
Mission Road 1-B	2541.18	13194.29	736.80	147569.69	164141.96
Mission Road 1-C	3312.05	16571.54	3101.96	111009.16	133994.71
San Luis Rey 2	1499.89	9409.51	499.81	153832.71	165214.92
Julian Road 3-A	3850.72	16658.10	755.09	236197.97	257471.88
Julian Road 3-B	3696.91	21102.78	166.47	146222.24	171188.40
Lemon Grove 4	1023.20	7612.42	677.44	171854.85	181167.91
Highland Ave. 5	271.16	851.72	1.04		1123.92
Chula Vista-Cor. 6	2230.81	10306.27	24.53	172403.53	184964.14
Bonita 7	372.30	2319.51	261.87	35528.93	39482.61
Imperial Blvd. 8	340.50	561.15	1.31		902.96
San Pasqual 9	340.50	561.15	1.31		902.96
Revolving Fund	100.00				100.00
Total	22830.44	121901.61	9056.29	1478058.30	1631846.64

Respectfully submitted

L. H. Fraser
Secretary

STATEMENT OF DISBURSEMENTS
MONTH OF OCTOBER 1921.

	Adminis- tration Overhead	Engineering & Surveying Overhead	Rights of Way	Construction	Total
Commissioners per diem & Expense	115.00				
Salaries General	550.00				
General Expense	285.11				
Chief & Asst Engineer) salary office		500.00			
Salary Field Office		248.65			
Salary Field		2916.33			
Office Supplies					
Field Supplies		31.43			
General Expense		346.98			
Auto Expense		752.23			
Credit Mission 1 A				3574.88	
Credit Bonita 7	26.85			127.38	
Cost of Land					
General Expense			10.98		
Mission Road 1.A					79146.62
Mission Road 1.B					6523.84
Mission Road 1.C					32047.00
San Luis Rey 2					99.20
Julian Road 3.A					2823.18
Julian Road 3.B					27544.78
Bonita 7					12461.65
TOTAL	923.26	1093.36	10.98	160646.27	162673.87

ANNUAL RECAPITULATION

	Admin.	E & S	R of W	Construct.	Total
Mission Road 1.A	3283.18	19791.17	2829.64		381585.84
Mission Road 1.B	2751.77	14031.90	736.80		154093.53
Mission Road 1.C	3450.48	17704.73	3101.96		143056.16
San Luis Rey 2	1562.71	9591.97	499.81		153931.91
Julian Road 3.A	4011.95	17665.32	755.09		165586.40
Julian Road 3.B	3851.69	21886.66	166.47		239021.15
Lemon Grove 4	1066.04	7666.33	677.44		173767.02
Highland Ave 5	282.49	865.95	1.04		171854.85
Chula Vista Cor. 6	2324.22	10422.78	24.53		181264.66
Bonita 7	369.69	2210.04	261.87		1149.48
Imperial Blvd 8	354.74	579.06	1.31		172403.53
San Pasqual 9	354.74	579.06	1.31		185175.06
Revolving Fund	100.00				51822.18
Credit				100.00	935.11
Total	23753.70	122994.97	8967.27	1638704.57	1794420.51

Respectfully submitted

L. H. Fraser
Secretary

STATEMENT OF DISBURSEMENTS
MONTH OF NOVEMBER, 1921.

	Adminis- tration Overhead	Engineering Surveying Overhead	Right of Way	Construction	Total
Commissioners per diem and Expense	75.00				
Salaries General	550.00				
General Expense	184.68				
Chief and Asst. Engineers					
Salary Office		500.00			
Salaries Field		2662.48			
Salaries Office		157.92			
Office Supplies					
Filed Supplies					
General Expense		295.25			
Auto Expense		285.01			
Cost of Land					
General Expense			25.00		
Mission Road 1-A				2981.08	
Mission Road 1-B				27106.87	
Mission Road 1-C				27080.50	
San Luis Rey 2				15.95	
Julian Road 3-A				7878.91	
Julian Road 3-B				12255.57	
Total	809.68	3901.16	25.00	77318.88	82054.72

ANNUAL RECAPITULATION

	Admin	Eng. & Surv.	R of W.	Construction	Total
Mission Road 1-A	3395.62	20078.60	2854.64	384566.92	410895.78
Mission Road 1-B	2846.01	14697.22	736.80	181200.40	199480.43
Mission Road 1-C	3568.45	18512.08	3001.96	170136.66	195219.15
San Luis Rey 2	1616.23	9671.89	499.81	153947.86	165735.79
Julian Road 3-A	4149.36	18747.30	765.09	246900.06	270561.81
Julian Road 3-B	3983.60	22667.82	166.47	186022.59	212846.48
Lemon Grove 4	1102.56	7712.91	677.44	171854.85	181347.76
Highland Ave. 5	292.14	875.39	1.04		1168.57
Chula Vista Cor. 6	2403.82	10520.34	24.53	172403.53	185352.22
Bonita 7	371.83	2230.68	261.87	48990.58	51854.95
Imperial Blvd. 8	366.88	590.95	1.31		959.14
San Pasqual 9	366.88	590.95	1.31		959.14
Revolving Fund	100.00				100.00
Total	24563.38	126896.13	8992.27	1716023.45	1876475.23

Respectfully submitted

J. A. Fraser
Secretary

STATEMENT OF DISBURSEMENTS MONTH OF MAY 1922.

	Adminis- tration Overhead	Engineer & Survey Overhead	Right of Way	Construction	Total
Commissioners per diem & expense	70.00				
Salaries general	450.00				
General expense	70.00				
Chief & Asst Eng salaries Office		250.00			
Salaries office		100.00			
Salaries field		660.00			
Office supplies					
Field supplies					
General expense		5.00			
Auto expense		75.55			
Cost of Land			104.43		
General expense					
Construction					
Julian Road 3-A.				1457.27	
Totals	590.00	1090.55	104.43	1457.27	3242.25

ANNUAL RECAPITULATION

	Adminis.	E.&S.	R.of W.	Construction	Total
Mission Road 1-A.	3939.69	20342.51	4994.44	383279.95	412556.57
Mission Road 1-B.	3301.98	15587.59	947.73	213138.09	272975.39
Mission Road 1-C.	4139.11	20509.76	3279.96	274575.04	302503.87
San Luis Rey 2.	1875.14	9797.44	499.81	153975.36	166147.75
Julian Road 3-A.	4814.17	22200.84	815.09	292380.51	320210.61
Julian Road 3-B.	4621.70	24155.65	266.47	231443.61	260487.43
Lemon Grove 4.	1279.24	7798.59	677.44	171854.85	181610.12
Highland Ave 5.	338.77	898.01	1.04		1237.82
Chula-Vista					
Coronado Road 6.	2788.90	10707.14	24.53	172403.53	185924.10
Bonita Road 7.	430.66	2259.19	261.87	48990.58	51942.30
Imperial Blvd 8.	425.71	619.46	1.31		1046.48
San Pasqual 9.	425.71	619.46	1.31		1046.48
Revolving Fund	100.00				100.00
Total	28480.78	136495.64	11771.00	1942041.50	2117788.92
Balance in Highway Improvement Fund June 1st 1922.					182211.08

Respectfully submitted

J. A. Fraser
Secretary

STATEMENT OF DISBURSEMENTS MONTH OF APRIL 1922.

	Adminis- tration Overhead	Engineering Surveying Overhead	Right of Way	Construction	Total
Commissioners per diem & expense	55.00				
Salaries general	475.00				
General expense	82.60				
Chief & Asst Eng Salaries office		250.00			
Salaries office		86.66			
Salaries field		478.34			
Office supplies		12.20			
Field supplies					
General Expense		43.68			
Auto Expense		141.85			
Cost of Land General Expense Construction			517.12		
Julian Road No.3-A				12726.29	
Total	612.60	1012.73	517.12	12726.29	14868.74

ANNUAL RECAPITULATION

	Admin	E.&.S.	R.of W.	Construction	Total
Mission Road 1-A	3857.75	20304.34	4994.44	383279.93	412436.46
Mission Road 1.B	3233.32	15555.60	893.30	213138.09	232820.31
Mission Road 1.C	4053.15	20469.72	3279.96	274575.04	302377.87
San Luis Rey 2	1836.15	9779.28	499.81	153975.36	166090.60
Julian Road 3.A	4714.04	21638.48	765.09	290923.24	318040.85
Julian Road 3.B	4525.59	23810.87	266.47	231443.61	260046.54
Lemon Grove 4	1252.64	7786.20	677.44	171854.85	181571.13
Highland Ave 5	331.73	894.73	1.04		1227.50
Chula Vista					
Coronado Road 6	2730.91	10680.12	24.53	172403.53	185839.09
Bonita Road 7	421.80	2255.07	261.87	48990.58	51929.32
Imperial Blvd 8	416.85	615.34	1.31		1033.50
San Pasqual 9	416.85	615.34	1.31		1033.50
Revolving Fund	100.00				100.00
Total	27890.78	134405.09	11666.57	1940584.23	2114546.67

Balance in Highway Improvement Fund May 1st 1922. 185453.33

Respectfully submitted

D.A. Fraser
Secretary

STATEMENT OF DISBURSEMENTS MONTH OF MARCH 1922.

	Adminis- tration Overhead	Engineering Surveying Overhead	Right of Way	Construction	Total
Commissioners per diem & expense	110.00				
Salaries General	475.00				
General Expense	105.94				
Chief & Asst Eng Salaries Office		250.00			
Salaries Office					
Salaries Field		453.34			
Office Supplies					
Field Supplies					
General Expense		5.00			
Auto Expense		114.19			
Cost of Land General Expense Construction			71.30		
Julian Road 3-A				7461.48	
Julian Road 3-B				15128.71	

	690.94	822.53	226.44	22590.19	24330.10
Credits	140.00	482.00			622.00
	550.94	340.53	226.44	22590.19	23708.10

ANNUAL RECAPITULATION

	Admin	E.&.S.	R.of W.	Const	Total
Mission Road 1.A.	3792.12	20358.21	4477.32	383279.93	411907.58
Mission Road 1.B.	3178.31	15600.78	893.30	213138.09	232810.48
Mission Road 1.C.	3984.31	20526.24	3379.96	276011.30	303901.81
San Luis Rey 2.	1804.91	9804.92	499.81	153975.36	166085.00
Julian Road 3.A.	4633.84	21062.84	765.09	278.19695	304658.72
Julian Road 3.B.	4448.62	23844.35	266.47	231443.61	260003.05
Lemon Grove 4.	1231.33	7803.70	677.44	171854.85	181567.32
Highland Ave 5.	326.10	899.35	1.04		1226.49
Chula Vista-					
Coronado Road 6.	2684.44	10718.24	24.53	172403.53	185830.74
Bonita Road 7.	414.70	2260.89	261.87	48990.58	51928.04
Imperial Blvd 8.	409.75	621.74	1.31		1032.22
San Pasqual 9.	409.75	621.74	1.31		1032.22
Revolving Fund	100.00				100.00

27415.16 134121.54 11249.45 1929294.20 2102083.57

Balance in Highway Improvement Fund

200322.07

Respectfully submitted

D.A. Fraser
Secretary

SEC. 26
T. 15 S., R. 2 E.
S. B. B. & M.

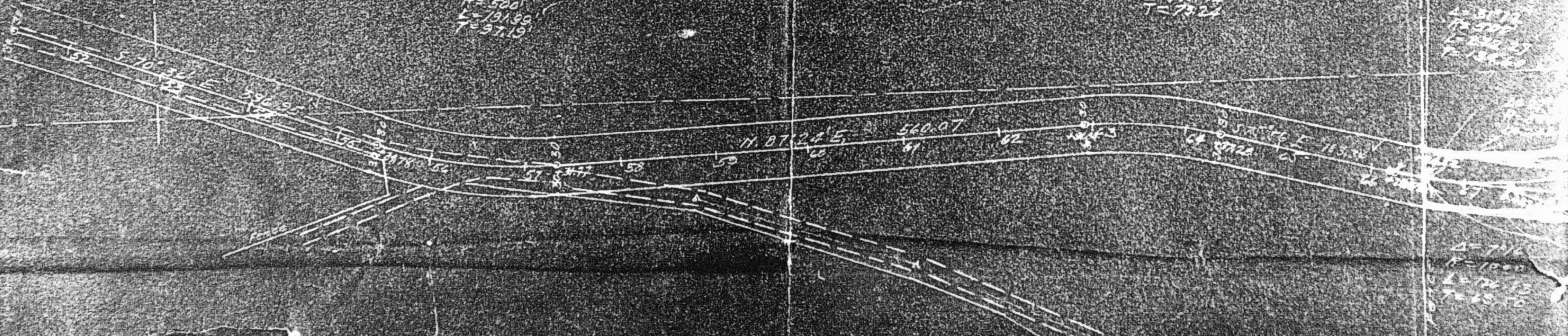
Florence Pearce

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R=500
L=191.89
T=97.19

A=1640
R=500
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T=79.24

A=3110
R=500
L=232.27
T=104.20

A=716
R=500
L=72.13
T=45.10



S 10° 30' E 396.95
52 53

N 87° 24' E 560.97
59 60 61

S 75° 15' E 713.34
62 63 64

FENCE

SEC. 26
T. 15 S. R. 2 E
S. B. B. & M.

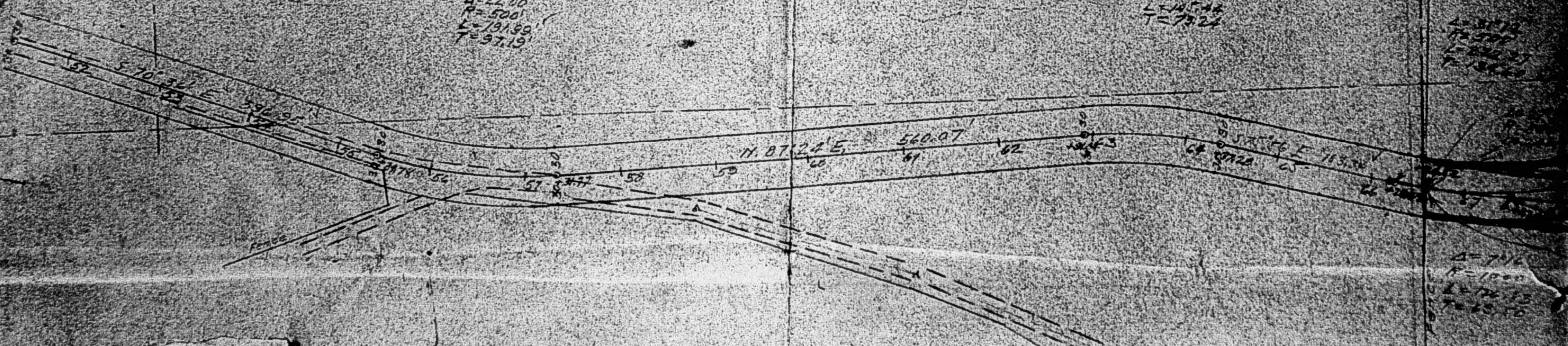
Florence Pearce

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L=191.89'
T=97.19'

A=1640
R=300'
L=141.44'
T=73.21'

A=5000
R=500'
L=242.51'
T=121.25'

A=716
R=1000'
L=274.15'
T=137.07'



E
M.



FROM P.C. of 500' - N 61° 24' 30" E 3004.391 to P.
 FROM P.C. of 1000' - N 61° 24' 27" E 3684.64 to P.
 Ida May Russell

Cap. between 500' 25' 24"
 " " " " " "

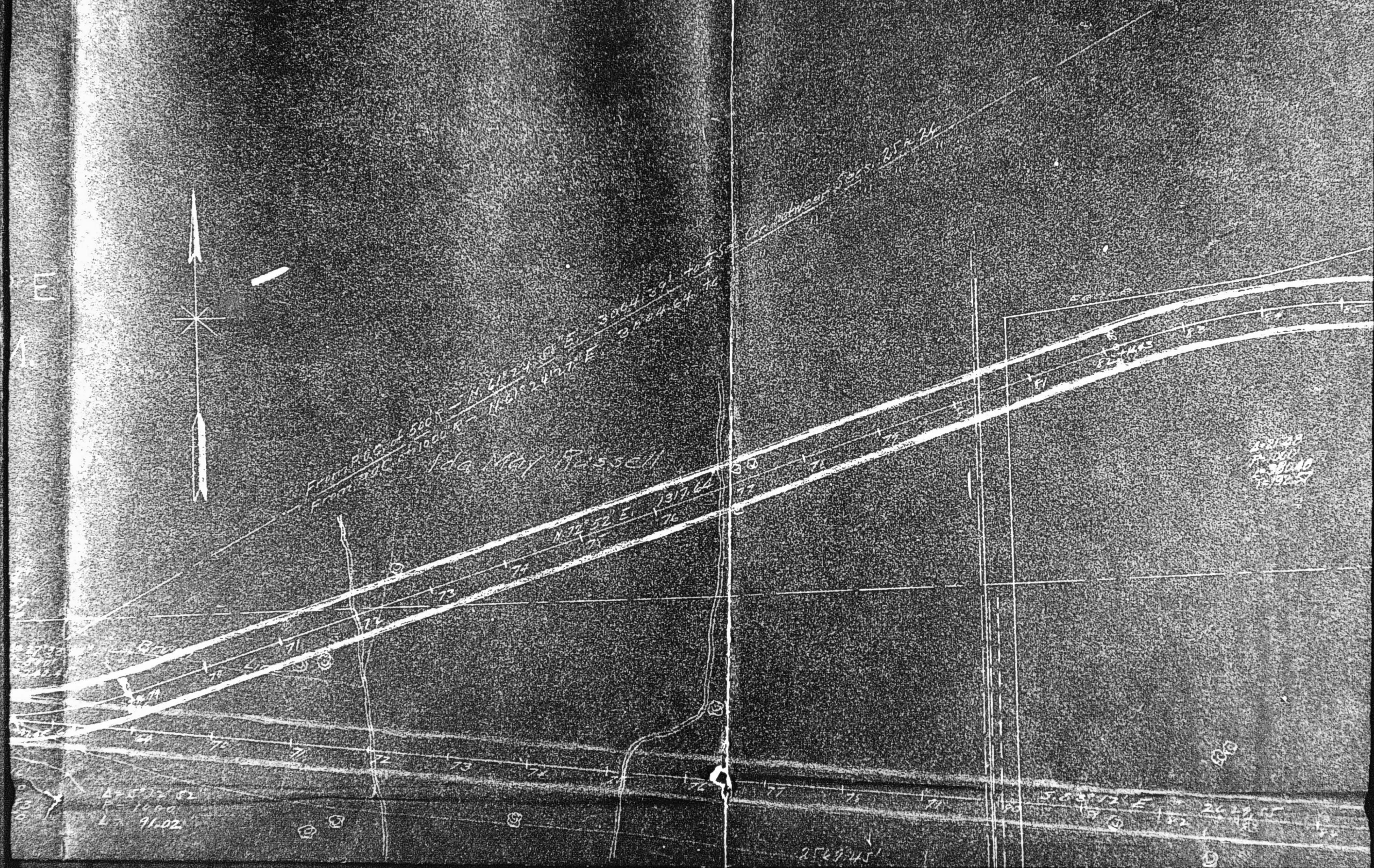
N 72° 52' E 1317.64
 76

2521.28
 71.001
 12.881
 71.92.57

A = 57.12 02
 P = 1000
 L = 91.02

S 53° 12' E 2529.15
 78

2529.45





FROM P.C. of 500' - N 61° 24' 30" E 3004.39' to P.
 FROM P.C. of 1000' - N 61° 24' 30" E 3004.64' to P.
 Ida May Russell

Cor. between Sects 25 & 24
 " " " "

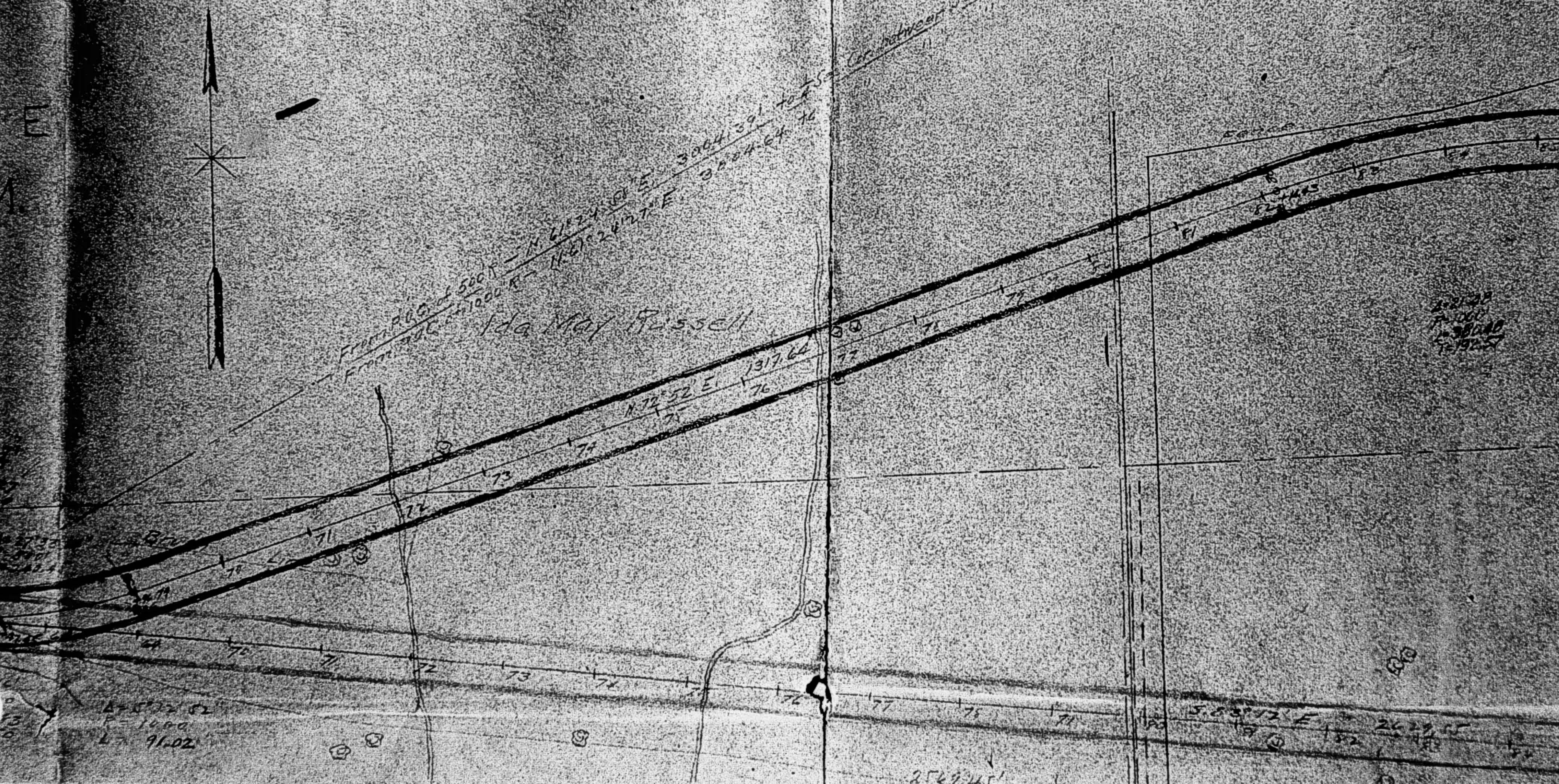
N 72° 52' E 1317.64'
 76

S 83° 12' E 2629.45'
 78

2529.45'

$\Delta = 572.52$
 $P = 1000$
 $L = 91.02$

401.30
 7.000
 1.3000
 4.1925



D. C. F. P.

"L" Line

ALTERNATE

LINE

S. 85° 20' E. 1/4 AC. LOT

W. May Russell

Original Location

10.36 W. 10570 to stone
1/3 sec corner Sect. 25 + 26

10.36 W. 10570 + 1/4 sec to 20-21-22
S. 21° 16' E. 10570 to 1/4 sec
1/3 sec corner Sect. 25 + 26

$\Delta = 16^{\circ} 20'$
 $R = 500$
 $L = 162.70$
 $T = 82.17$

500.00

N. 78° 15' E.

$\Delta = 16^{\circ} 20'$
 $R = 500$
 $L = 162.70$
 $T = 82.17$

D. C. R.

$\Delta = 18^\circ 20'$
 $R = 500$
 $L = 162.70$
 $T = 82.17$

$\Delta = 18^\circ 20'$
 $R = 500$
 $L = 162.70$
 $T = 82.17$

N 0° 06' 11" W 10570 to a stone
1/4 Sec corner Sect. 2 T + 24

N 0° 06' 11" W 12570 to a stone
5.20' 16' E 1847.0 to 1/4 Sec corner
Pipe (Cant. section) 20' 20'

S 85° 20' E 1266.07

$\Delta = 18^\circ 20'$
 $R = 500$
 $L = 162.70$
 $T = 82.17$

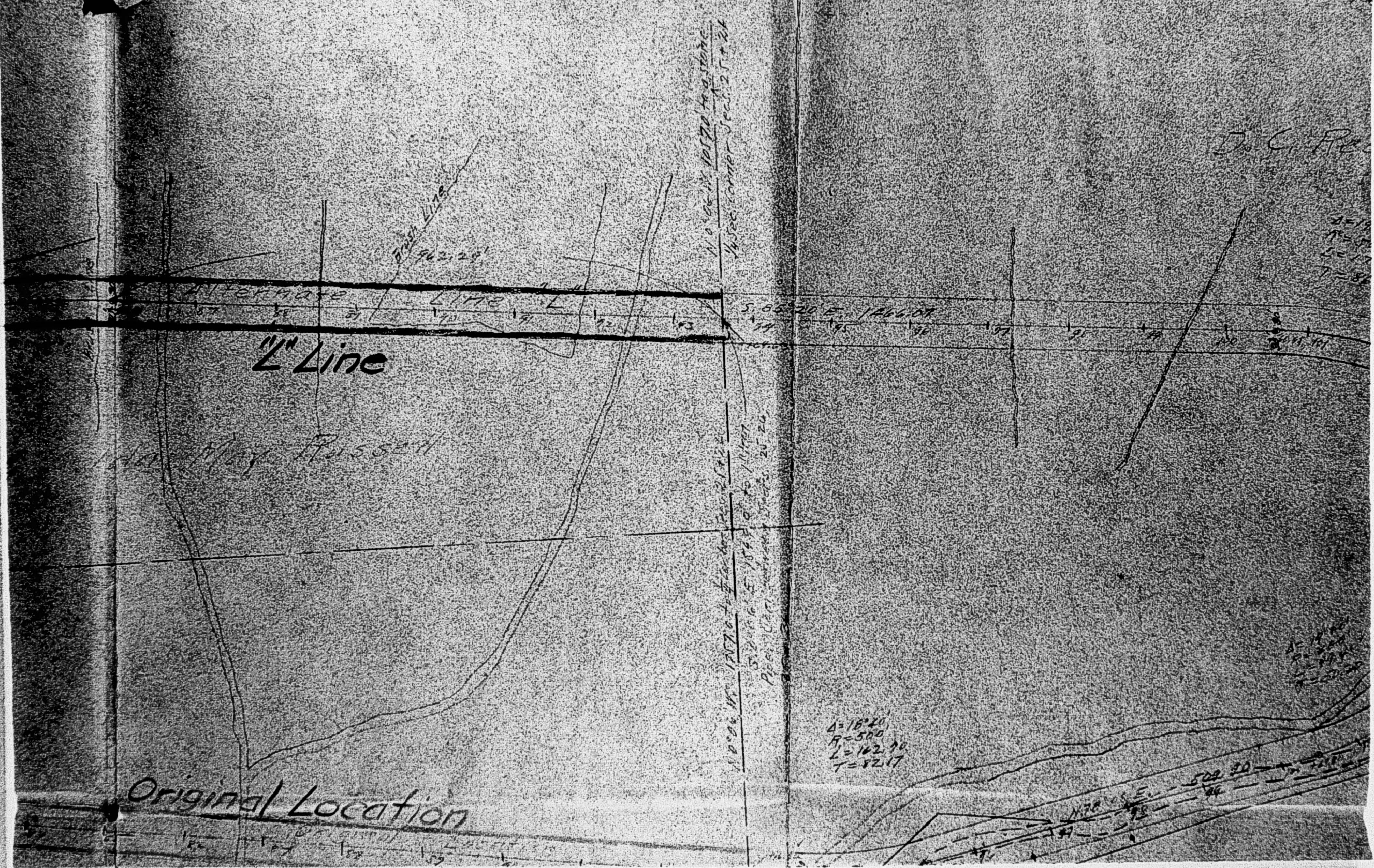
Brush Line
94 2.20'

"L" Line

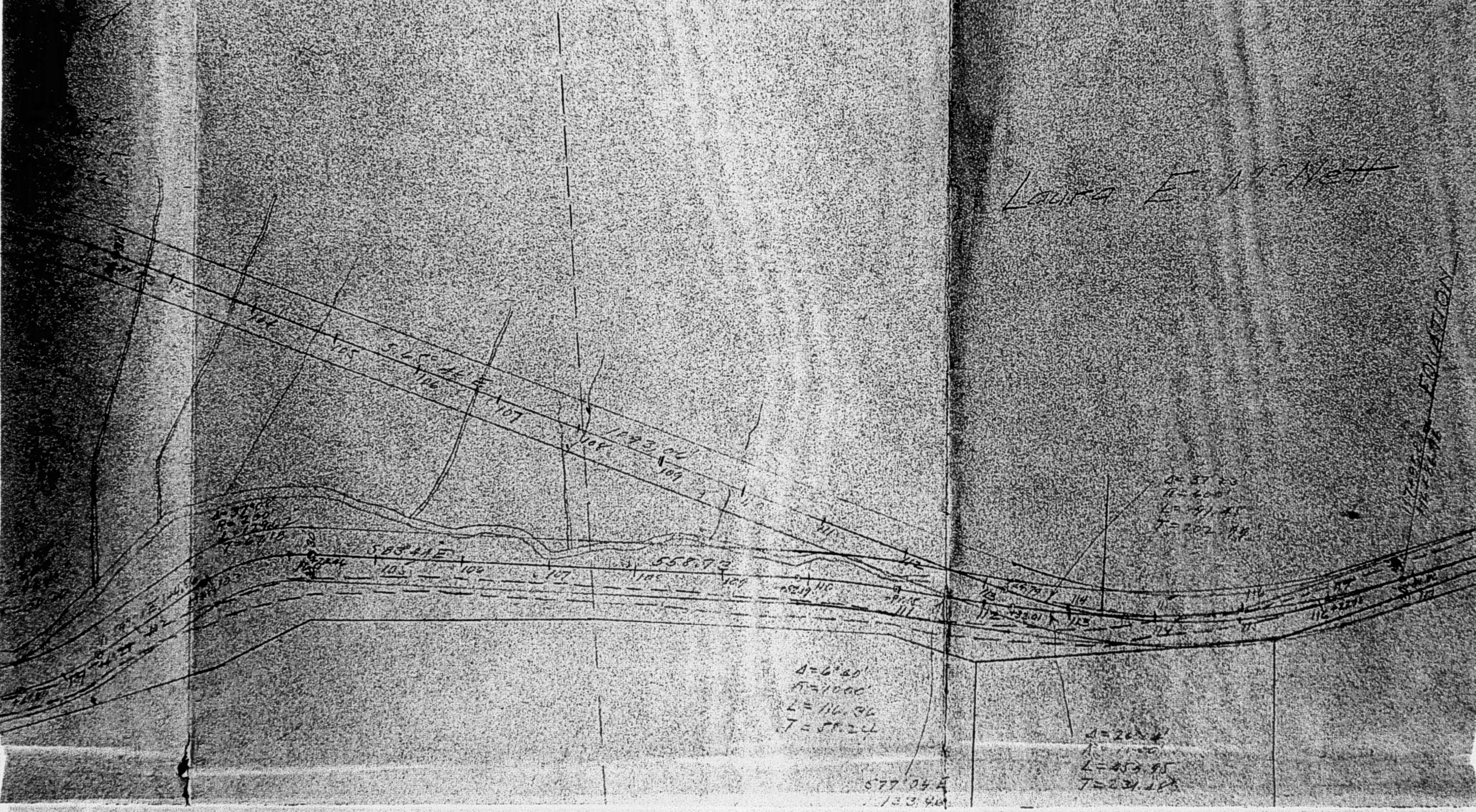
INTERMEDIATE LINE

May Russell

Original Location



Laura E. McNett



SEC 25
T 5 S R 2 E
S B B & M.

CAL. HIGHWAY COMMISSION

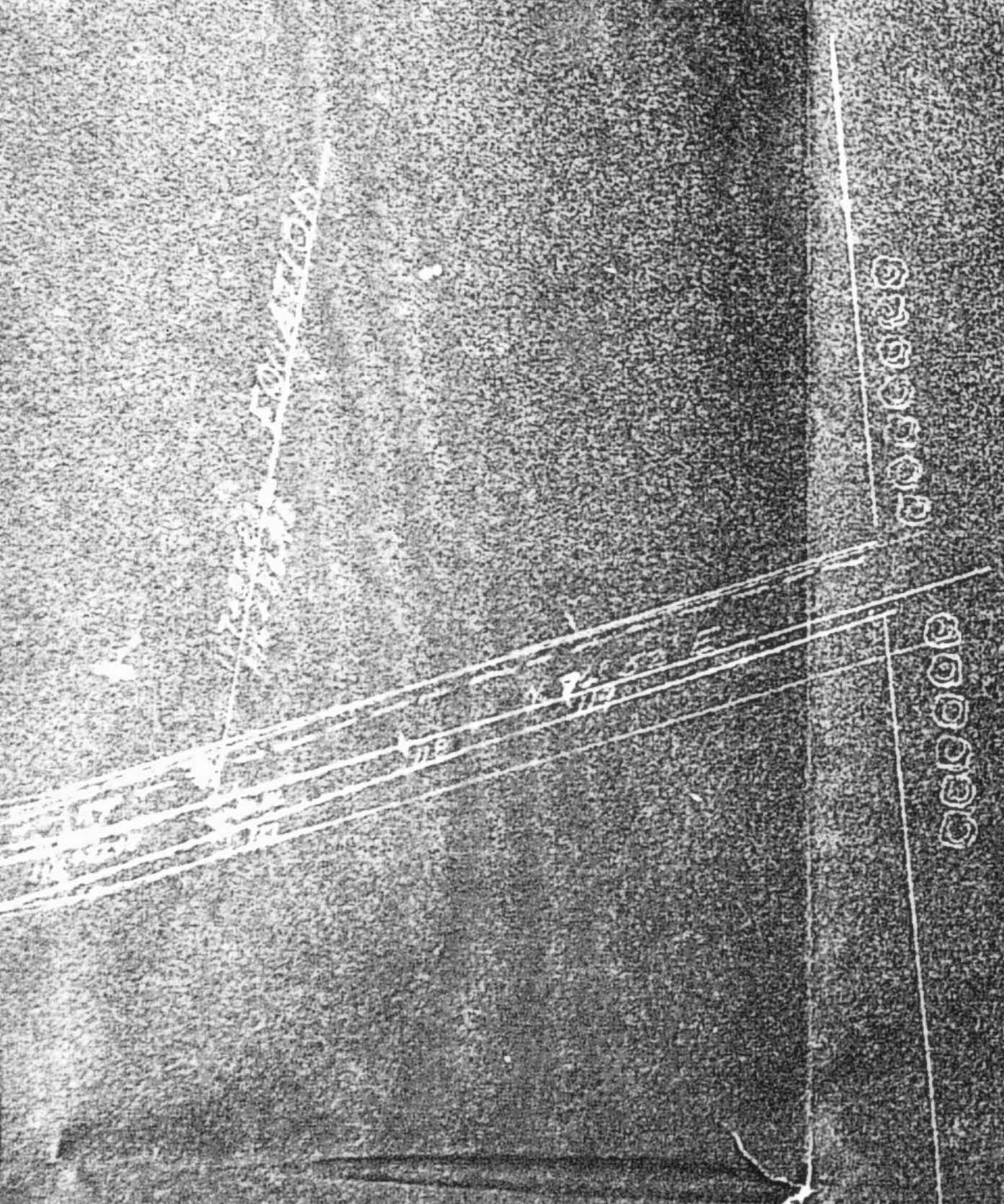
ENV.	COUNTY	ROUTE	SECT.
VII	SD	112	D

ALTERNATIVE LINES
THROUGH RUSSELL RANCH

Scale, 1"=100'

April 23 1917

M.



SEC 25
T. 5 S. R. 2 E.
S. B. B. & M.

CAL. HIGHWAY COMMISSION

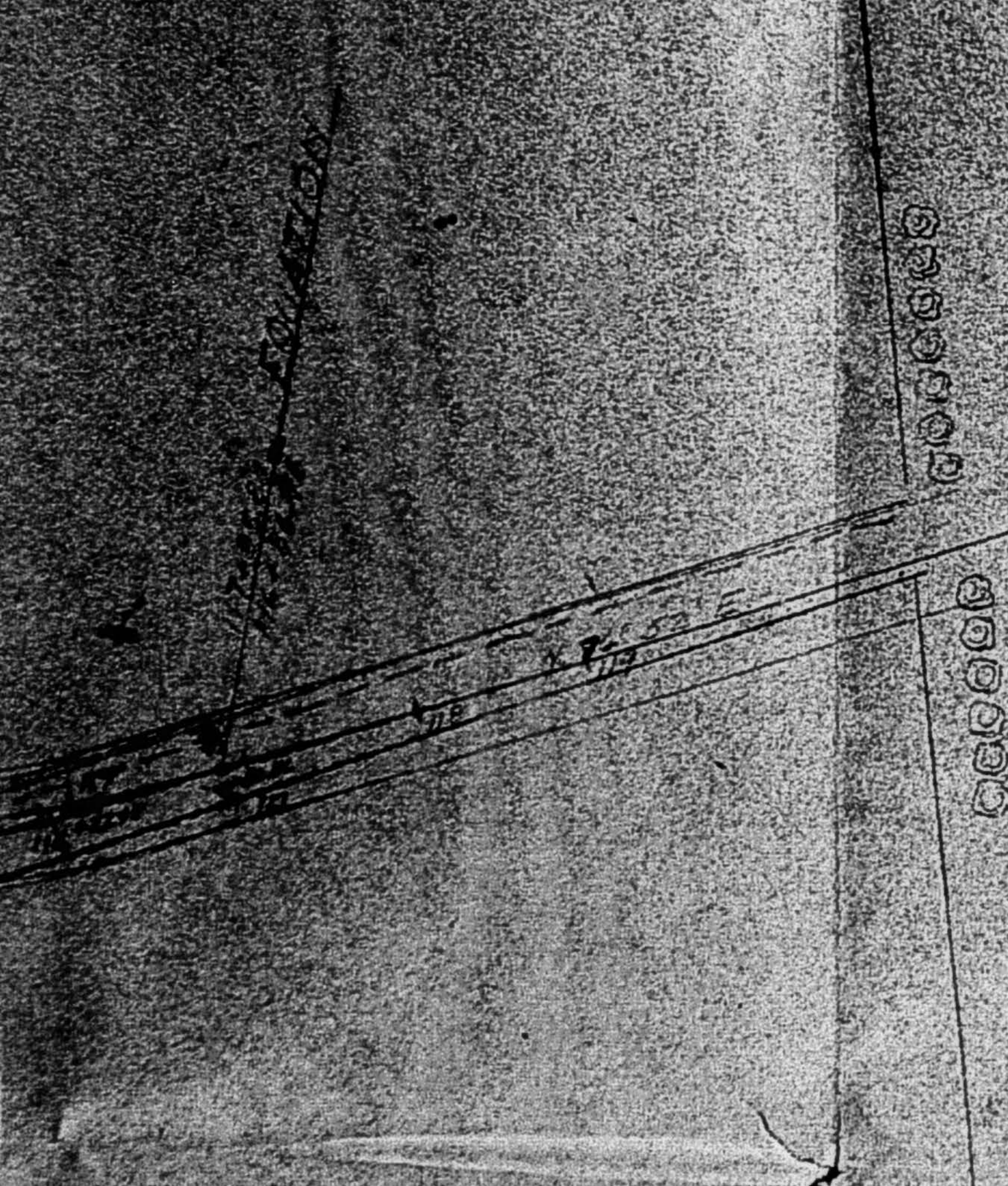
DIV.	COUNTY	ROUTE	SECT.
VII	S.D.	12	D

ALTERNATIVE LINES
THROUGH RUSSELL RANCH

Scale, 1"=100'

April 23, 1917

M.



10-10-10
10-10-10
10-10-10

W. Buxtonford
G. A. Fox

THE UNIVERSITY OF CHICAGO PRESS

1000
L-12013
T-13150

W. B. Westford
G. A. Fox

A=57.12 02
P=1000
L=96.02

2569.45'

10.03 12 E
26-11-53

John May, Pasadena

San Diego County Highway Location

COMMUNITY

A=12.02
P=1000
L=9602

2569.45'

0.0372 E 26-2.5
19 182 183

Edna May Russell

San Diego County Highway Location

COMMERCIAL

LOCATION

1000

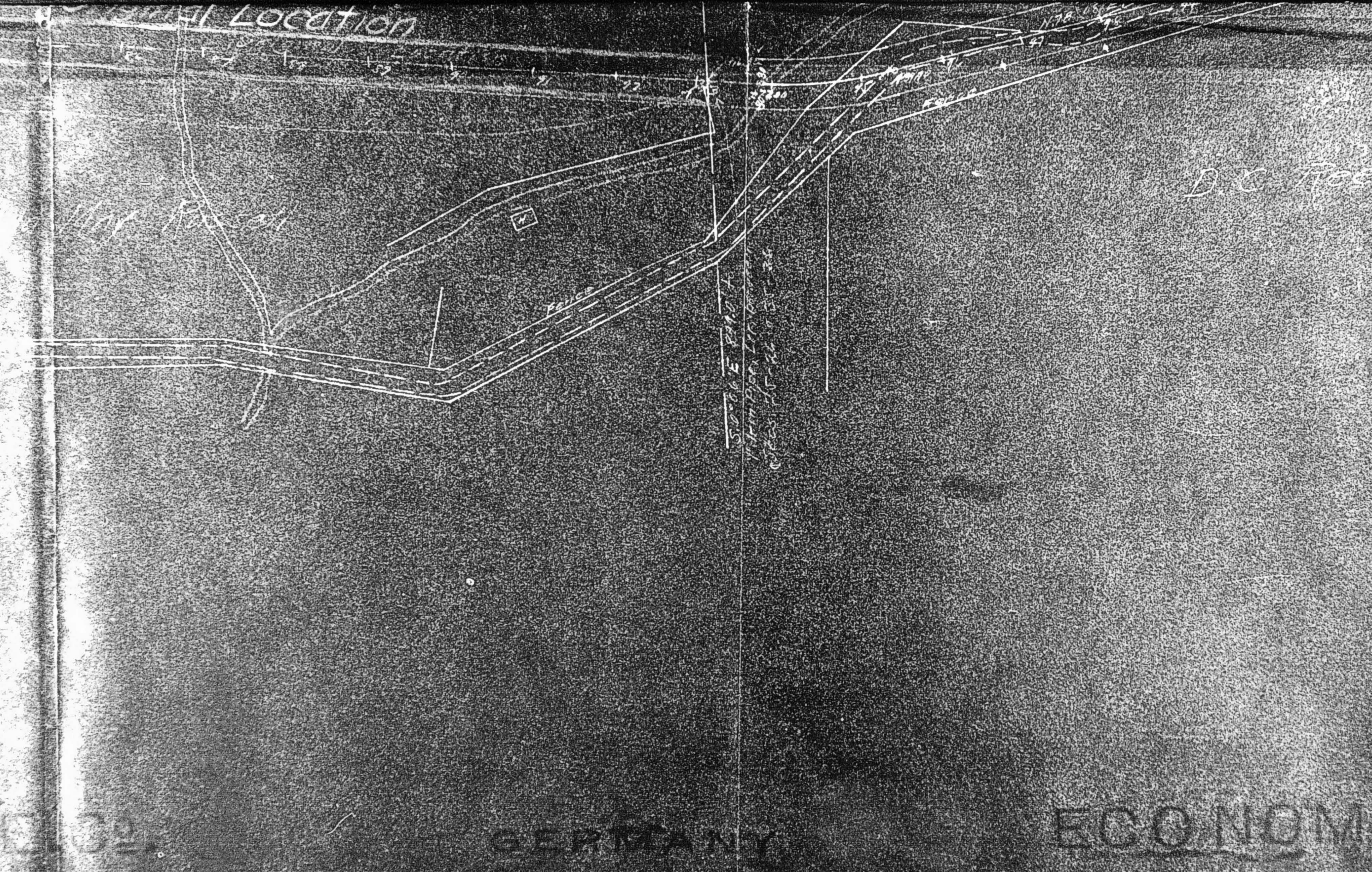
D.C. TREE

FENCE

SUBJECT AREA

1000

ECONOMI



WORLD BOOT

WORLD BOOT

D.C. 100

FENCE

FENCE

5000 E 8100 A

WORLD BOOT, INC. DIST.

WORLD BOOT, INC. DIST.

N. 78° 08' E

97

98

99

100

101

102

103

104

105

106

ECONOMY

ECONOMY

577 03 A
133 00

4-2024
11-11-50
L-455 95
T-231 46

LIBRO E. M. J. H. E. H.

LIBRO

LIBRO

LIBRO

577 04 A
133 90

2 = 26.24
1 = 11.00
4 = 45.95
7 = 23.48

LIBRO E. M. M. M.

ECOLOGY

AND ENVIRONMENT

GREEN



Ed Fletcher Papers

1870-1955

MSS.81

Box: 69 Folder: 22

**Business Records - Other Fletcher Activities
- Highways - San Diego County Highway
Commission: minutes, disbursements,
reports to city; miscellaneous highway photos**



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