

1328

Reynard Hills

REYNARD
HILLS.
FB 1328

blue tip?

EUGENE DIETZGEN CO.

DRAWING MATERIALS, MATHEMATICAL and
SURVEYING INSTRUMENTS

Chicago New York San Francisco New Orleans Pittsburg Toronto

Distances from Center of Roadway for Cross-Sectioning
Roadway 16 feet wide. Side Slopes 1 on 1.
For Single Track Embankment.

129833 CAL
1930

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	0
1	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	1
2	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	2
3	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	3
4	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	4
5	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	5
6	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	6
7	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	7
8	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	8
9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	9
10	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	10
11	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	11
12	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	12
13	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	13
14	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	14
15	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	15
16	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	16
17	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	17
18	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	18
19	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	19
20	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	20
21	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	21
22	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	22
23	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	23
24	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	24
25	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	25
26	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	26
27	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	27
28	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	28
29	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	29
30	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	30
31	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	31
32	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	32
33	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	33
34	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	34
35	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	35
36	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	36
37	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	37
38	46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.8	46.9	38
39	47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8	47.9	39
40	48.0	48.1	48.2	48.3	48.4	48.5	48.6	48.7	48.8	48.9	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 30.6. For same slopes but other widths of roadbed, correct above figures by one-half difference in width of roadbed; thus in example above, for 20 ft. roadbed distance will be $30.6 + (20 - 16) \div 2$ or 2 ft. added to $30.6 = 32.6$. For slopes of 1 on 1 $\frac{1}{2}$ see inside of back cover.

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Tom J. Allen. C.E.

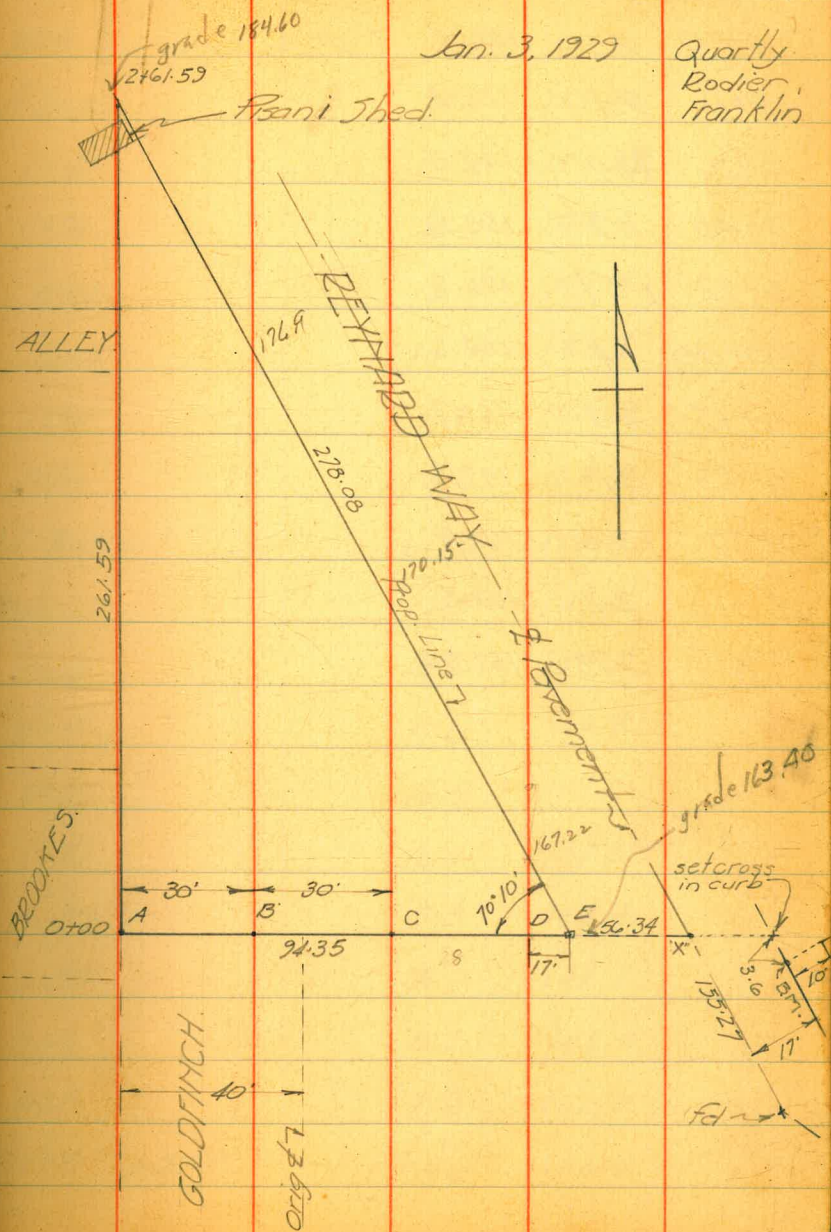
309 G. St. San Diego

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CROSS SEC. PORTION OF GOLDFINCH

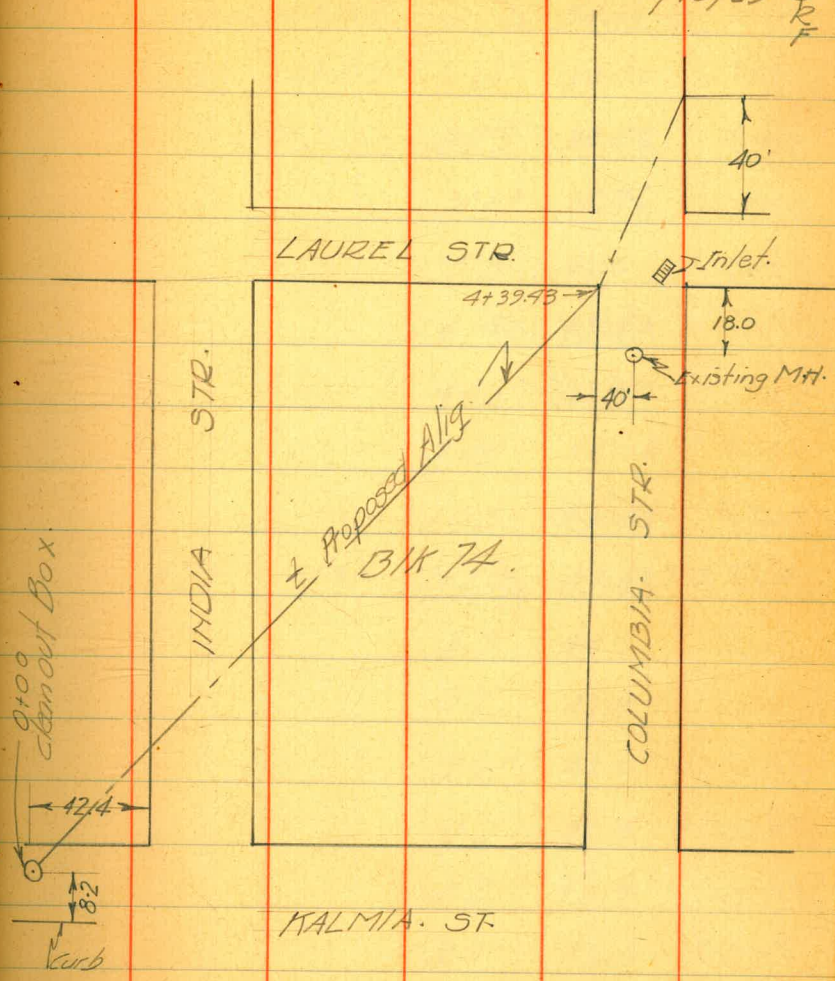


Sta.		HI. 165.67
		Elev.
C-0+00	92	156.5
0+11	93	156.4
0+26	162	149.5
0+40	11.9	153.8
C-0+92	+5.1	170.8
D-0+00	1.4	164.3
0+15	4.0	161.7
0+23	8.1	157.6
D-0+70	+3.0	168.7
E-0+0	2.2	163.5
"X"	3.73	161.94

Sta.		GOLDFINCH STR.		Elev
		4.37	HI.	
B.M. Top Curb		165.67		161.30
A-0+00			9.1	156.26
0+47			12.4	153.3 2
0+56			16.3	149.4
0+62			16.3	149.4
1+00			10.1	155.6
1+34			9.8	155.9
1+96			+2.2	167.9
A2+36 (shed)			+17.6	183.3
B-0+00			19.5	146.2
0+07			18.2	147.5
0+10			17.8	147.9
0+33			16.6	149.1
0+47			16.4	149.3
0+50			17.3	148.4
0+55			16.0	149.7
1+00			8.3	157.4
1+25			4.5	161.2
B1+75 (Top Bank)			+11.2	176.9

ALIGNMENT- PROPOSED STORM SEWER-

3/15/29 QRF



10						Profile		
sta.						+	H.I.	- Elev
B.M. Br. plug S.E. Cor India & Laurel.						1.14	55.84	54.70
T.P.						2.83	47.53	11.14 44.70
0+00	Top of Clean Out Box							7.97 39.56
0+00	FL " " " "							31.67 15.86
0+40								5.5 42.5
0+76	Top Curb							4.10 43.43
"	Gutter							4.46 43.07
1+00								2.48 45.05
1+47	Gutter							1.03 46.50
1+47 T.P.	Top Curb					4.29	51.62	0.26 47.33
2+00								3.3 48.3
2+10								3.7 47.9
2+10								9.6 42.0
2+50								10.2 41.4
3+00								9.2 42.4
3+50								9.0 42.6
3+87								7.6 44.0
T.P.						10.08	57.52	4.18 47.44

"

+

H.I.

-

Elev

57.52

4+22

10.4

47.1

4+23

6.8

50.7

4+39.43

P.

6.8

50.7

4+54.9

Top. Curb

6.70

50.82

"

Gutter

7.65

49.87

37± FI Inlet

5+00

6.98

50.54

5+25

6.64

50.88

5+50

4.90

52.62

5+62

Gutter

3.86

53.66

16± FI Curb Inlet

"

Top Curb

3.25

54.27

5+81.

P.

1.1

56.4

Top of grate of Inlet.

7.70

49.82

Flow Line

31.67

25.85

T.P.

7.21

58.58

6.15

51.37

check on B.M.

3.91

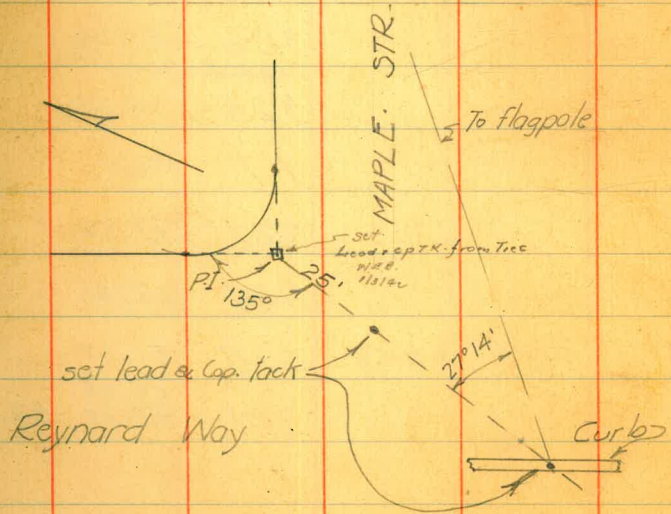
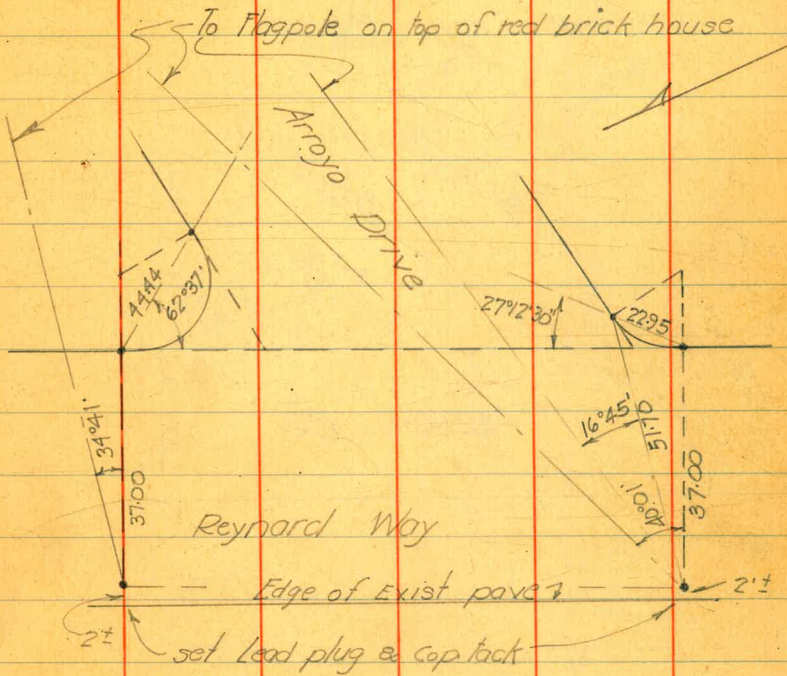
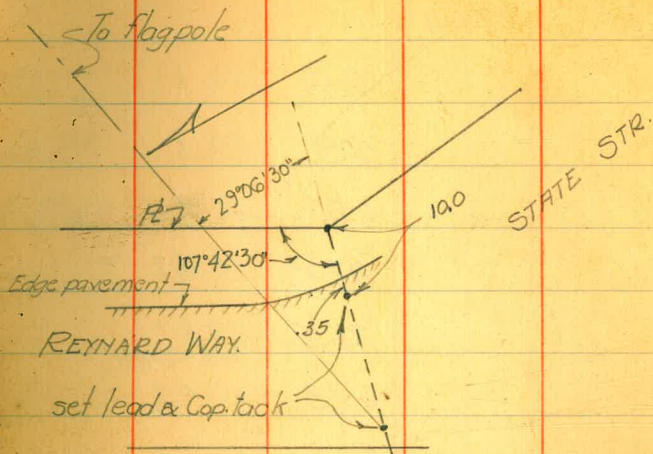
54.67

~~53.61~~

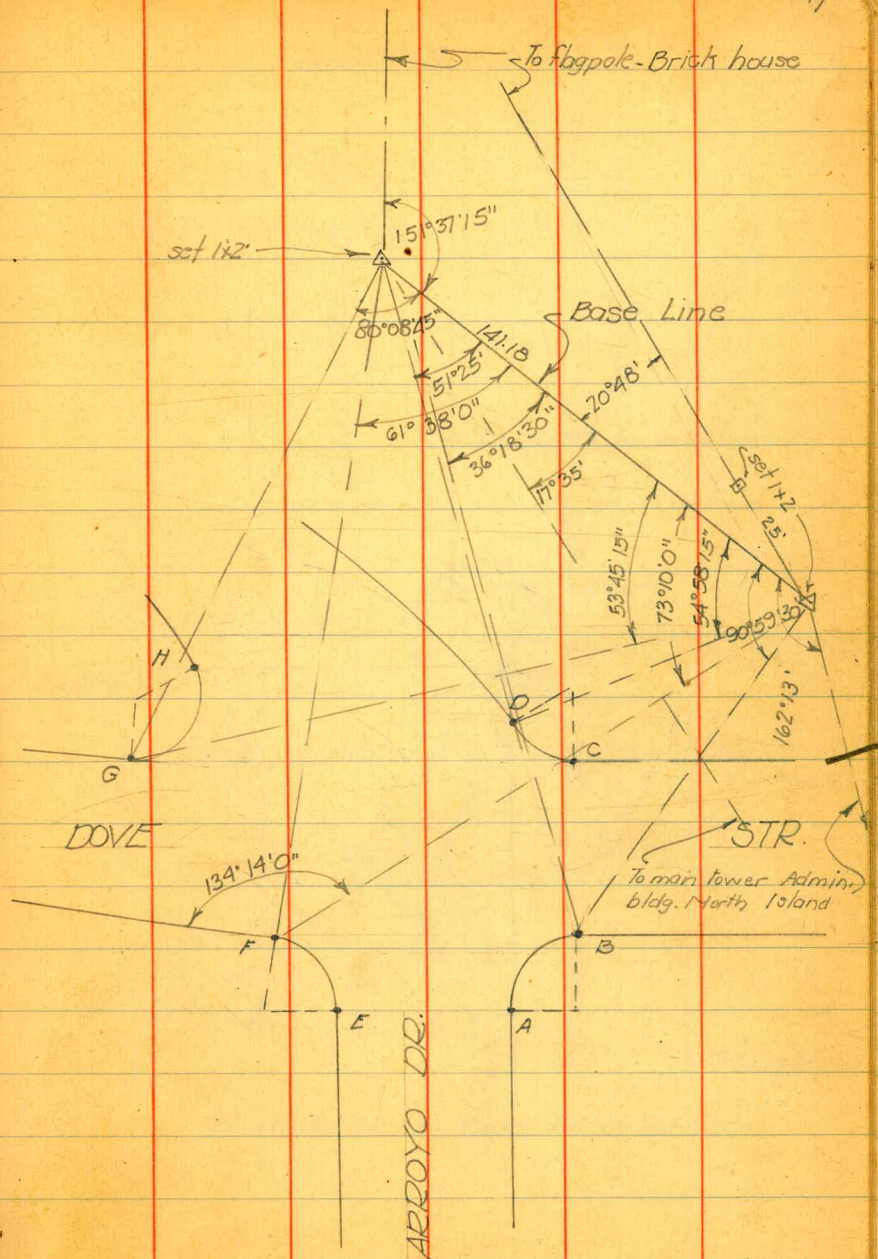
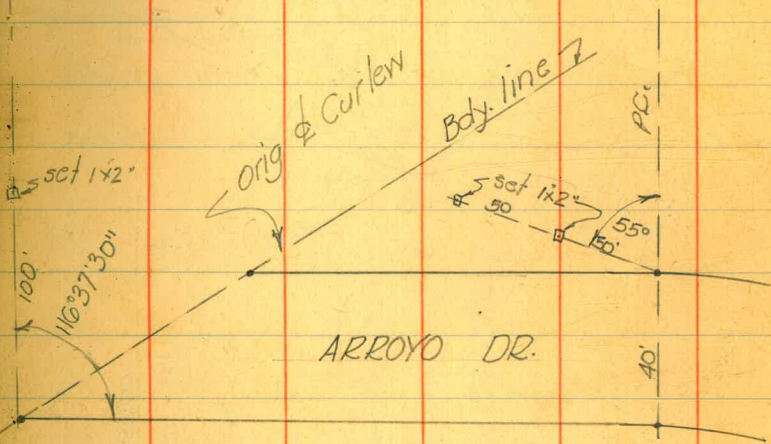
54.70

ARROYO DR. & REYNARD WAY

Q.P.F.

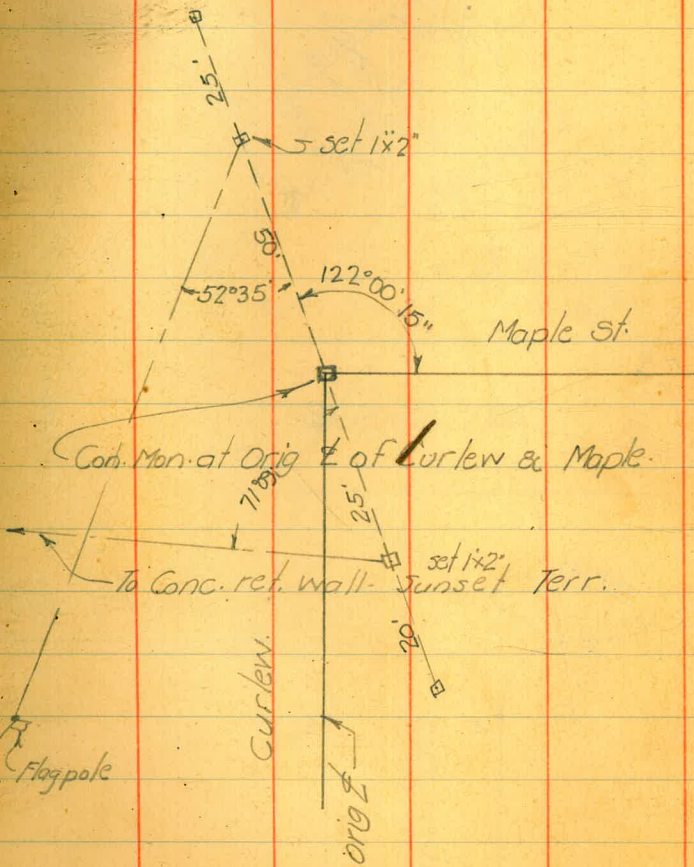


Cap lock in frame of sewer Manhole

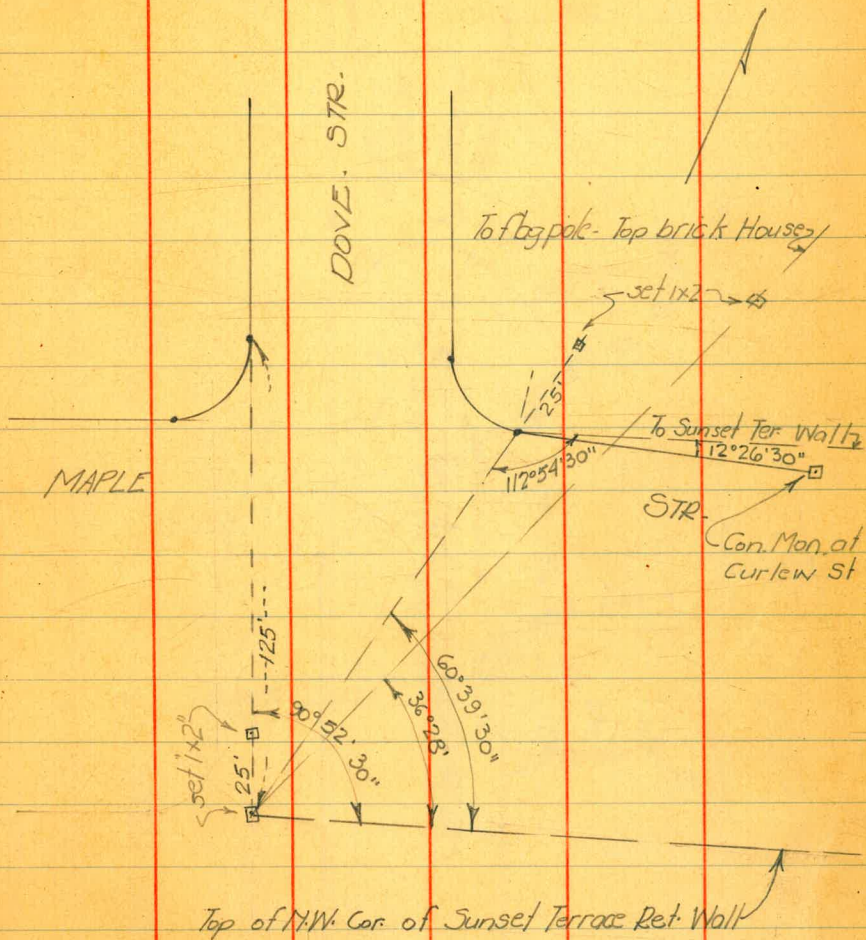


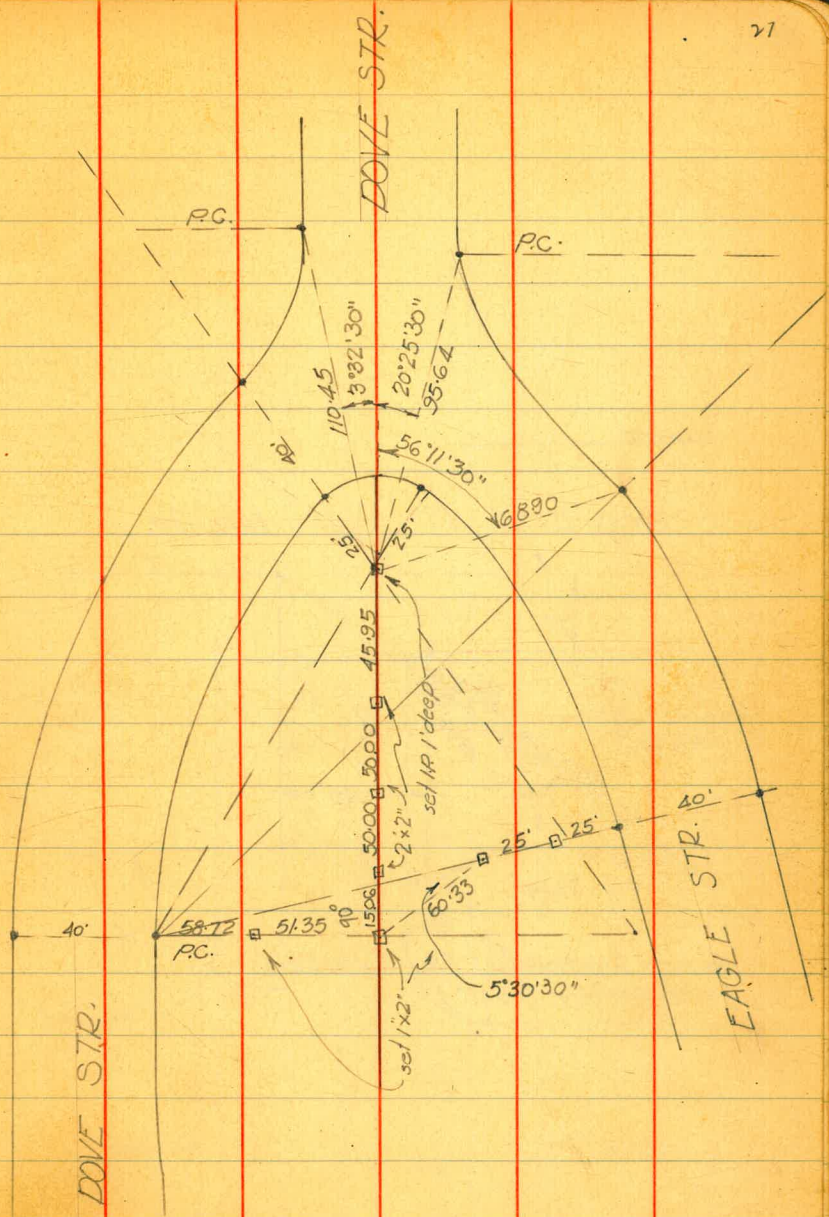
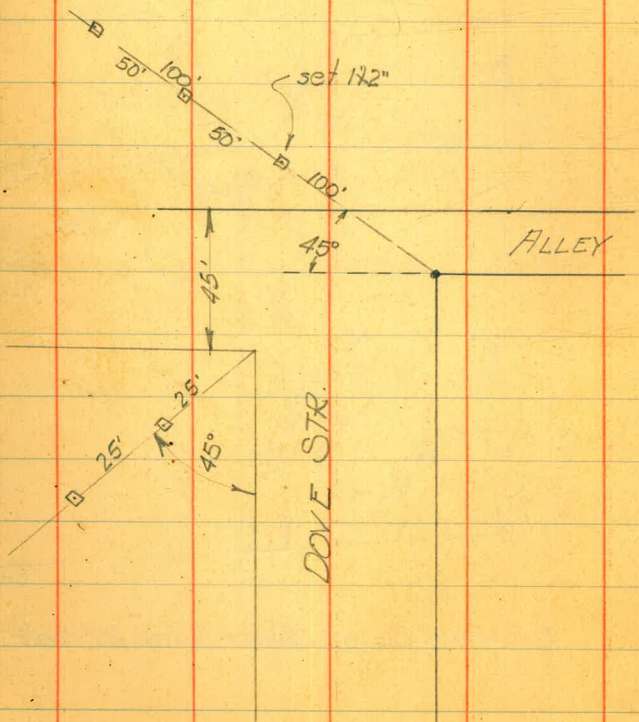
CURLEW & MAPLE

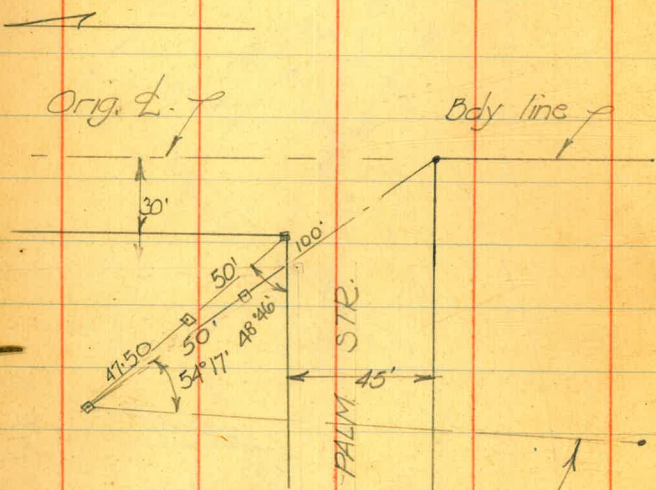
122° 0' 15"
90
32 0' 15"



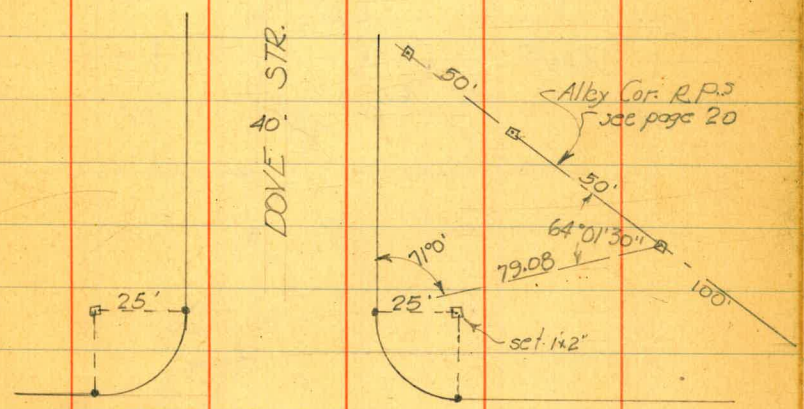
DOVE & MAPLE STR.





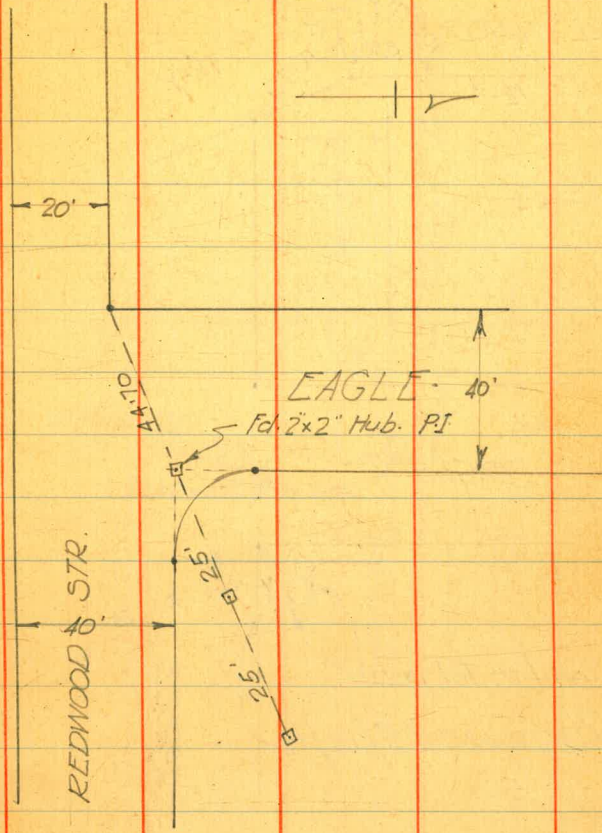
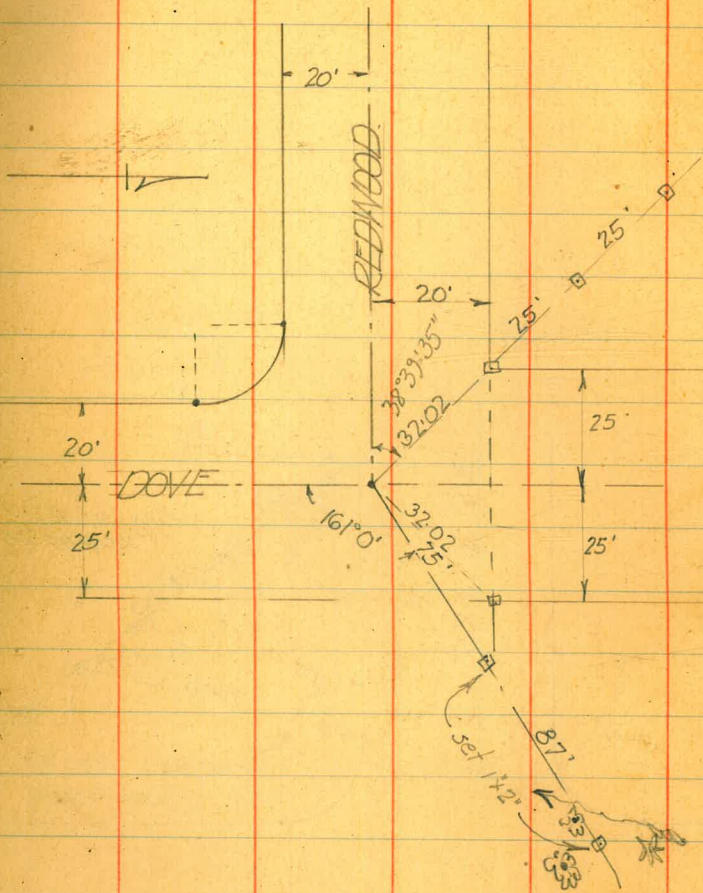


To Main tower, Hotel Del Coronado -
(most easterly tower)

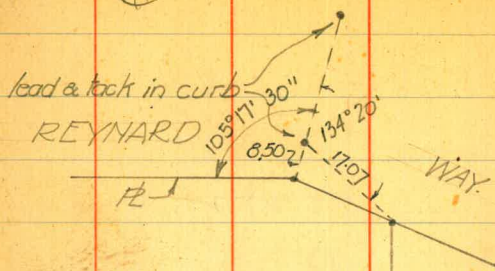


PALM

STR.

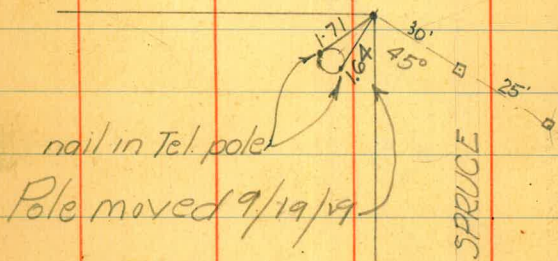


R



EAGLE

40'

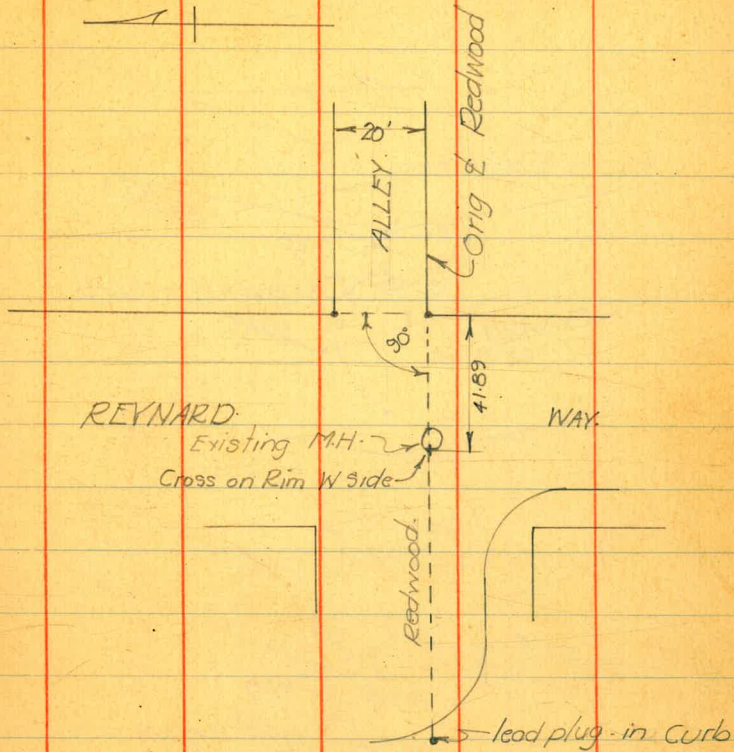


nail in Tel. pole

Pole moved 9/19/19

SPRUCE

R



REYNARD

Existing M.H.
Cross on Rim W Side

Orig. Redwood

ALLEY 20'

80'

41.69

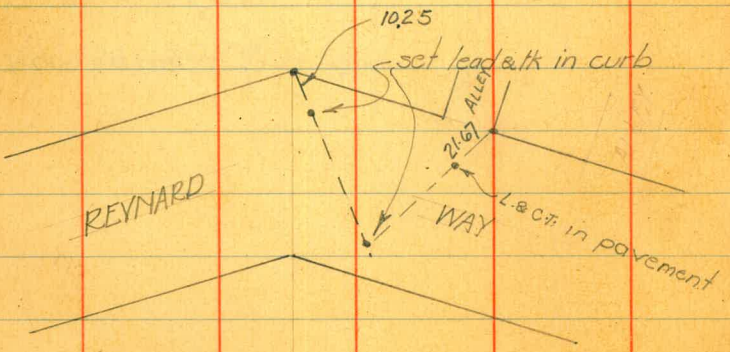
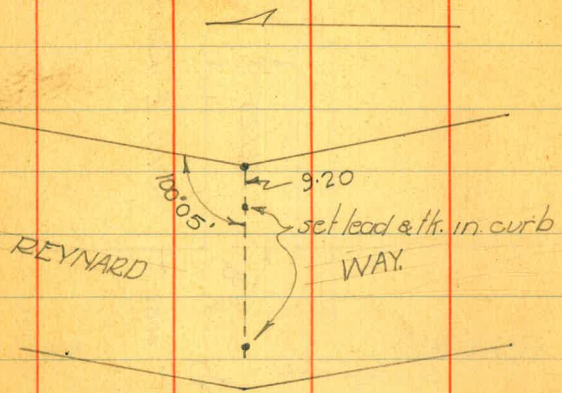
WAY

Redwood

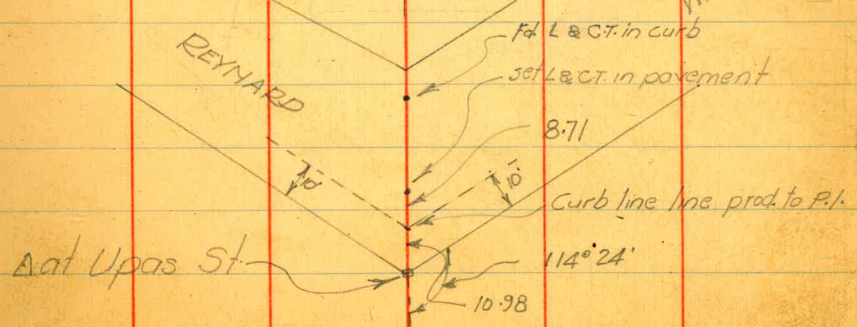
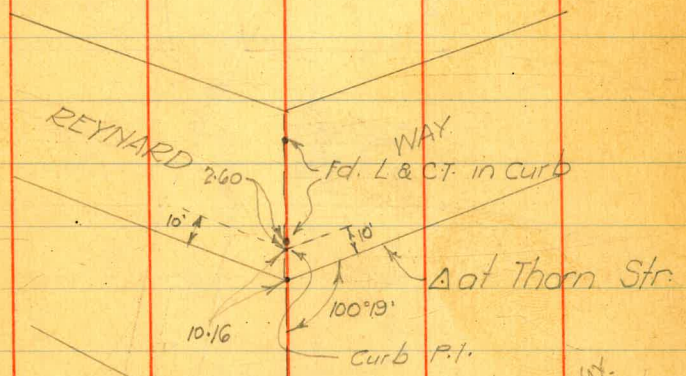
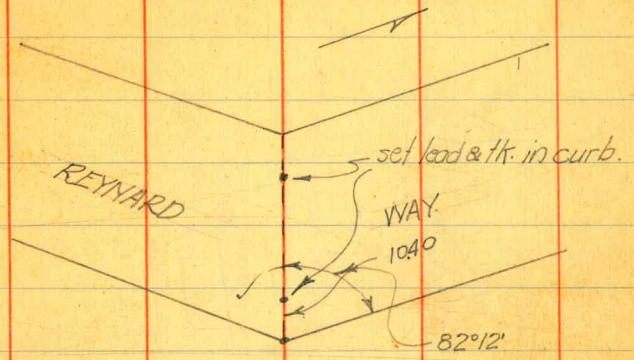
lead plug in curb

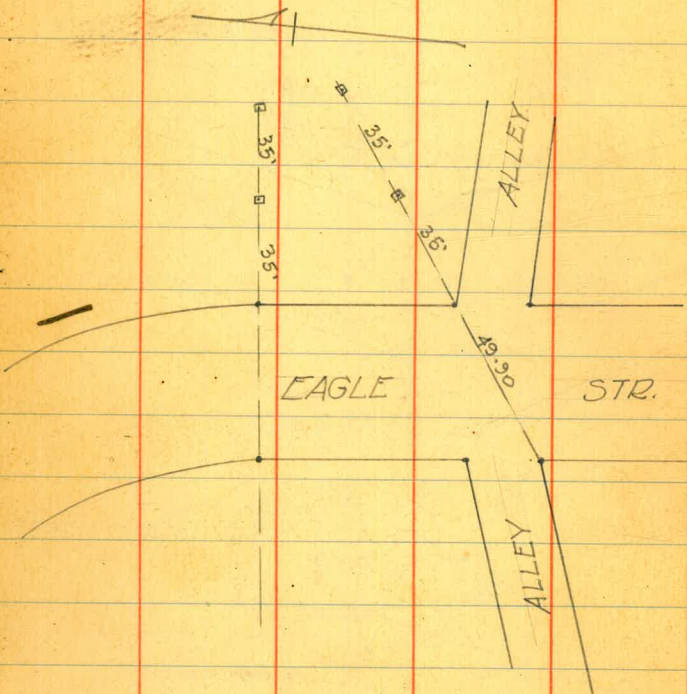
EAGLE STR. 28

Q



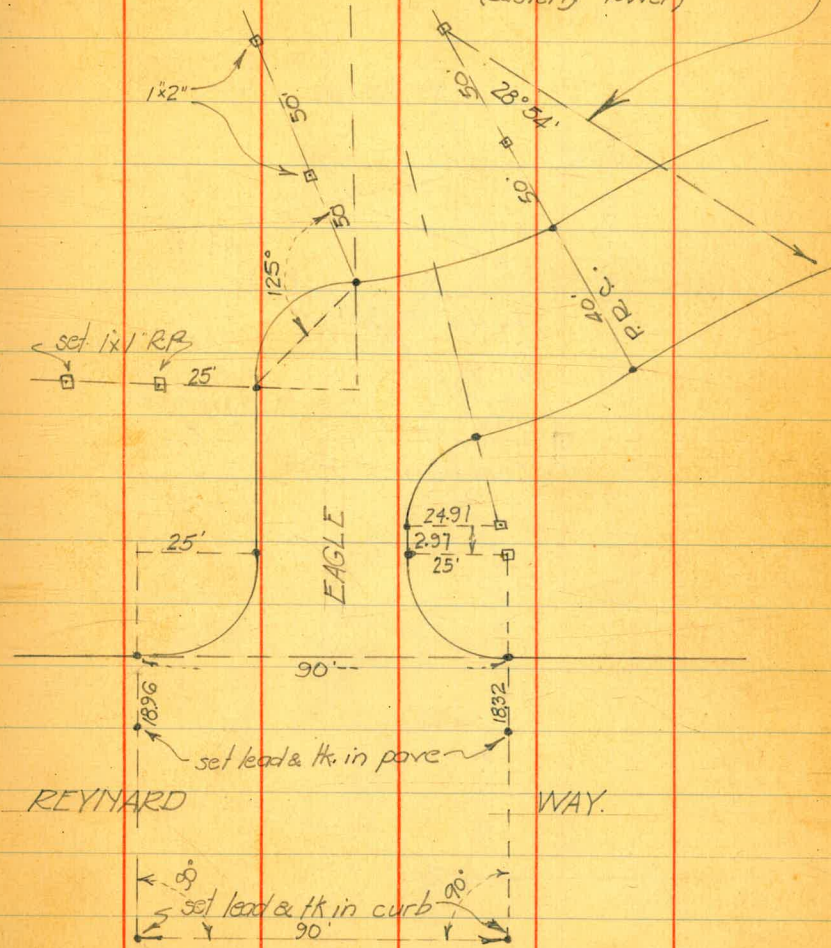
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Eagle Str. & Reynard Way

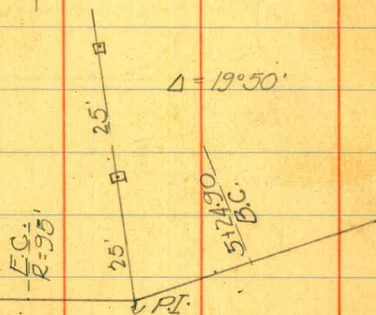
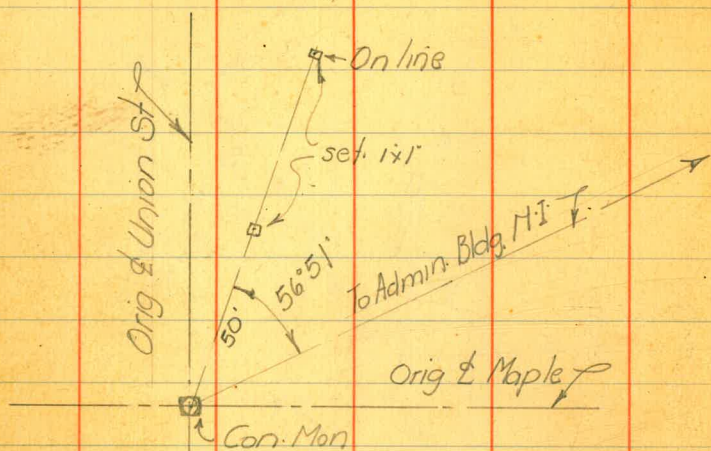
To Main Tower Hotel Del Coronado
(easterly Tower)



6/13/29.

MAPLE AND UNION STRS

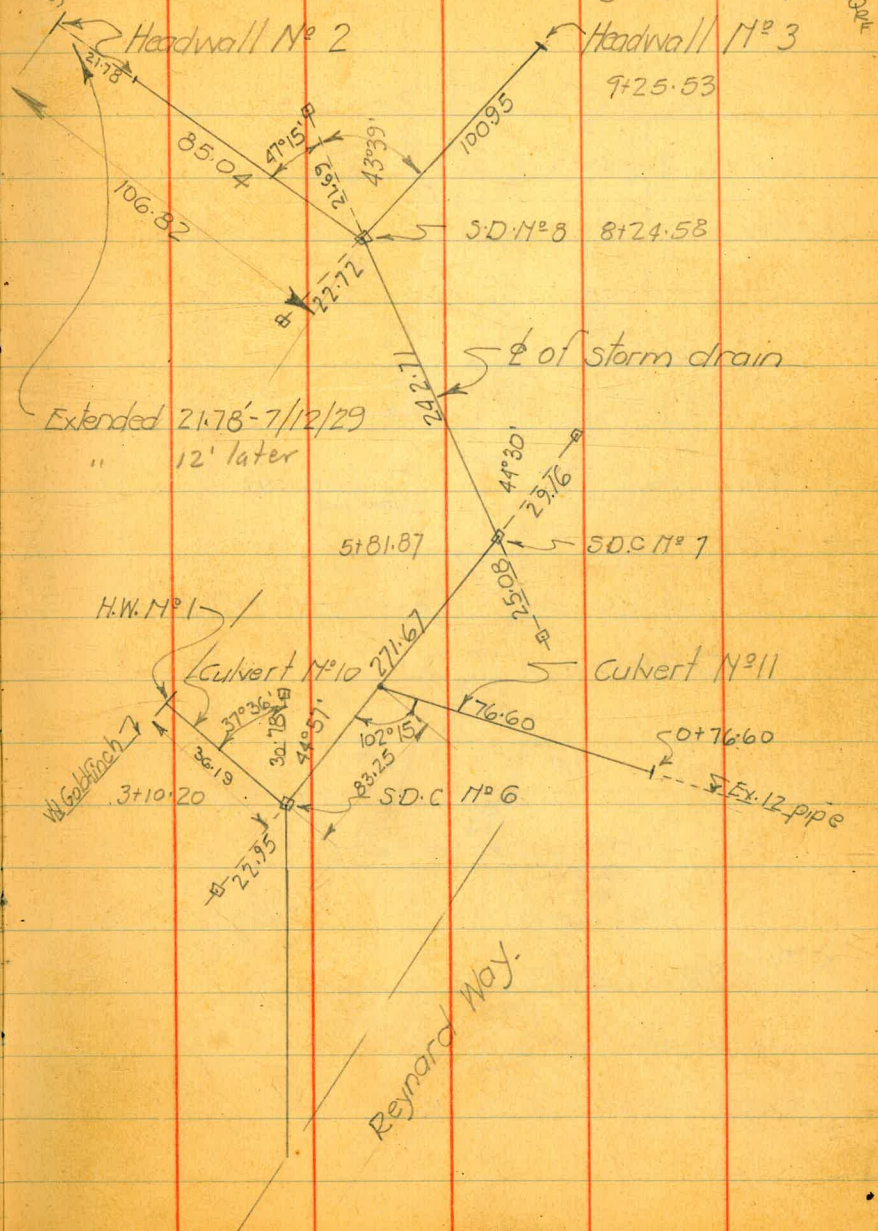
to Radio tower on Apt. Ho.

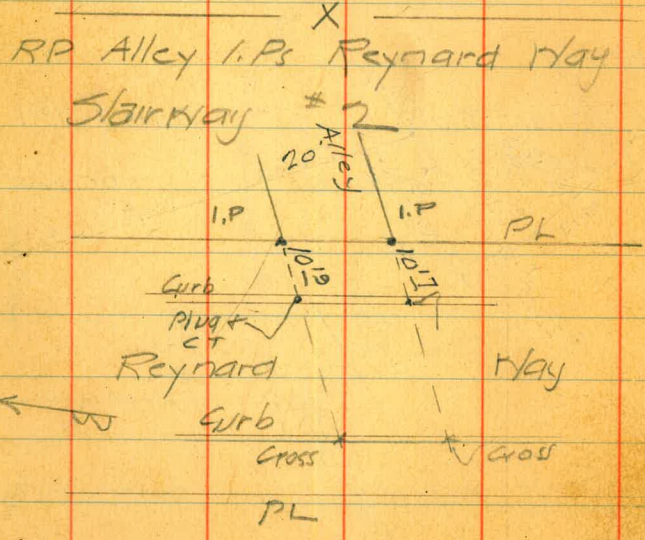
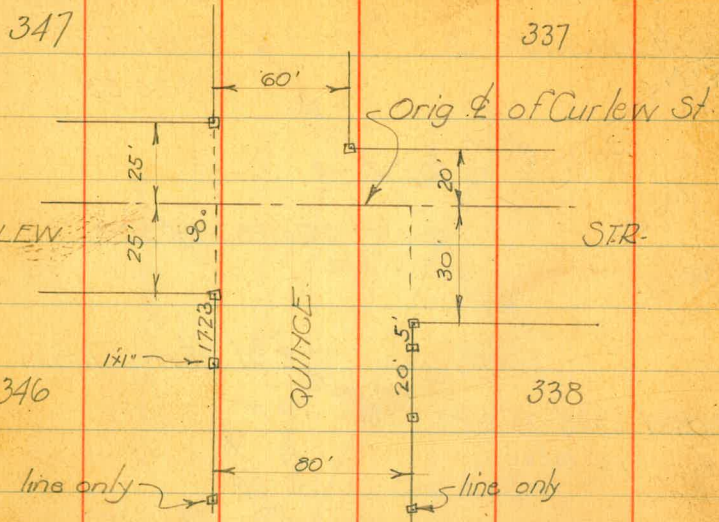


Maple = 40' S and parallel with Sly. line of Reynard Hills

Goldfinch Str Storm Drain
Ticouts to final Alignment 6/19/29

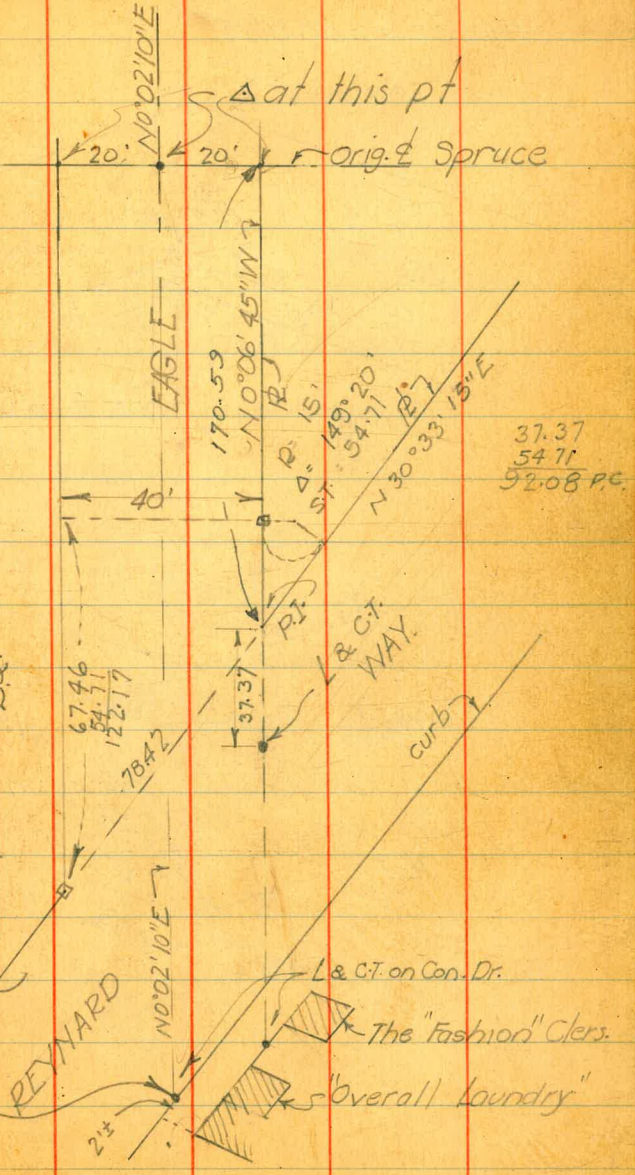
33





Eagle St. & Reynard Way. 6/20/29

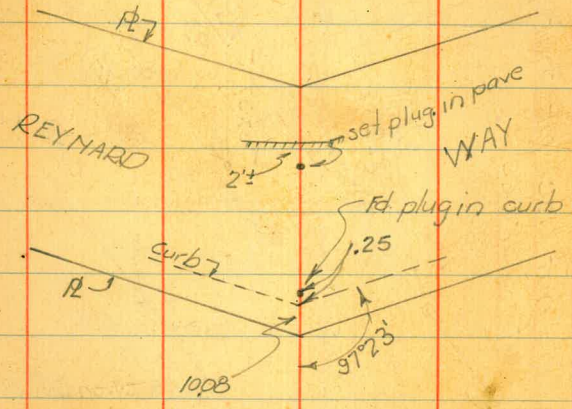
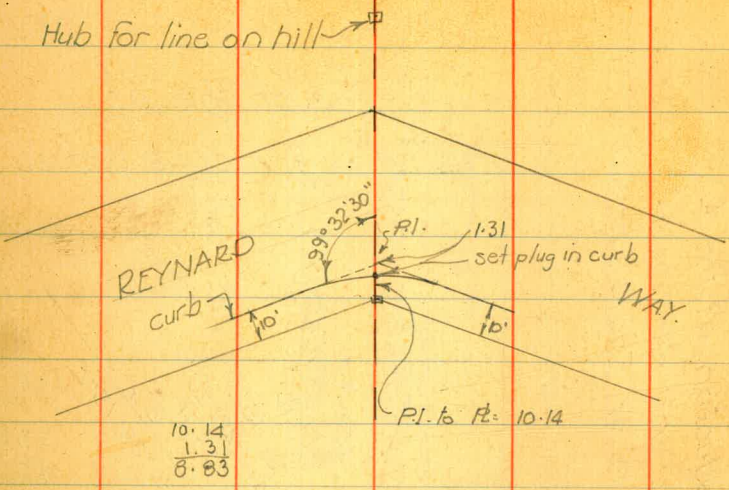
Note: Plug is set on the production of the Δ of Eagle St. bet. Spruce and Redwood. do not use for that portion of Eagle North of Spruce E.Q.



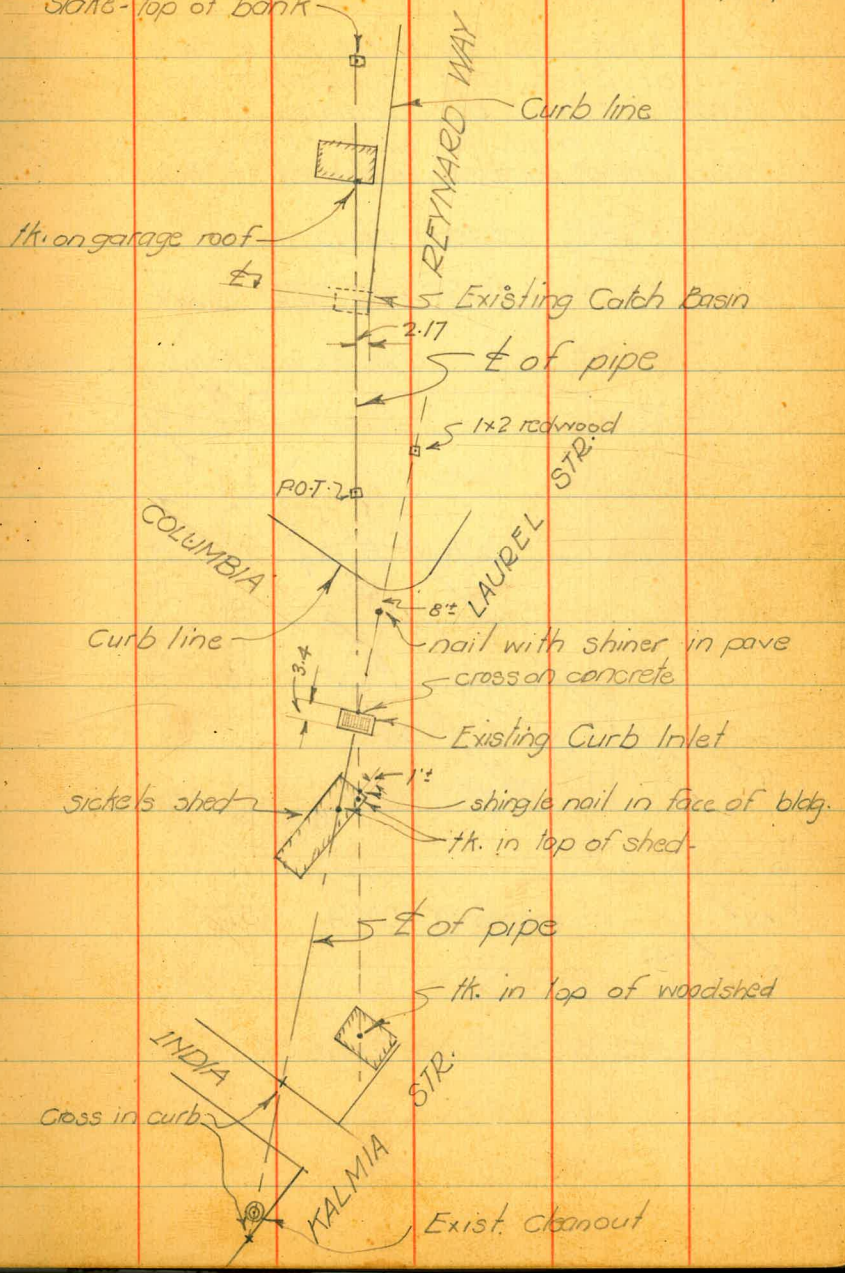
37.37
54.77
92.08 P.C.

The "Fashion" Clers.
"Overall laundry"

Hub for line on hill



TIES TO \pm OF 54" STORM DRAIN
state-top of bank 6/25/29



ALIG. & GR. FOR INDIA STR. SHAFT:

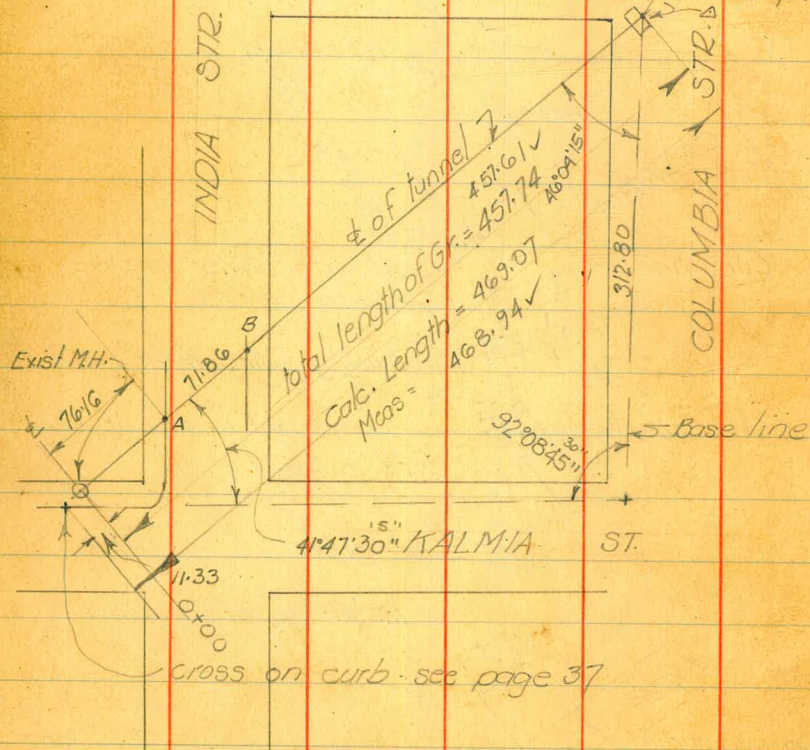
6/29/29

Note A for pipe line is the inside face of N. wall of Exist. Inlet at Columbia and Laurel. Grade rate is to be calculated to this pt. no deduction made for width of inlet on account of pipe passing under exist Inlet.

Note: Pts A-B are lead plugs in curb

LAUREL STR.

cross on inlet frame - see p. 37



	+	H.I.	-	Elev	Cut.
BM.	0.841	55.541		54.700	
B			8.17	47.37	27.01 ✓
A	2.743	46.176	12.108	43.433	25.19 ✓
cleanout			30.19	15.99	✓
T.P.	9.670	55.348	0.498	45.678	✓
BM.			0.638	54.710	✓
(Columbia)	3.322	58.022		54.700	✓
on Cross-Inlet			8.044	49.978	✓
FL.			18.47	39.55	

Grade at pt A = 18.246

" " " B = 20.365

Gr. Rate = 2.95011 %

0+76.16 = 18.246 = Grade

diff. for 1' = .0295011

" " 5' = .1475

" " 10' = .295011

" " 25' = 0.7375

MAPLE STR.

Sta	+	H.I.	-	Elev	Rod.	Grade	Cut.	Fill	Remarks.
B.M. 11 ^o 1	2.531	63.096		60.565					
B.M. 11 ^o 14			3.293	59.803					On L & C.T. near end of curb W side of State Str.
0+27.50 S				61.62 ✓	1.48	58.00	3.62		
0+60.5 T.P.	11.189	73.764	0.521	62.575		58.47	4.10		
1+00 S				62.58 ✓	11.18	59.62	2.96		
1+40 S				63.17 ✓	10.59	61.80	1.37		
1+40 N				59.06 ✓	14.70 ^{HL}	61.80		2.74	
1+80 S				63.24 ✓	10.52	64.22		0.98	
1+80 N				70.08 ✓	3.68	64.22	5.86		
T.P.	10.566	84.250	0.080	73.684					
2+20 S				77.89 ✓	6.36	65.87	12.02		
2+20 N.				73.34 ✓	10.91	65.87	7.47		
2+60 S				81.00 ✓	3.25	66.76	14.24		
2+60 N.				72.95 ✓	11.30	66.76	6.19		
2+75 S				82.71 ✓	1.54	66.96	15.75		B.V.C.
3+00 S				82.06 ✓	2.19	67.27	14.79		
3+00 N.				71.20 ✓	13.05	67.27	3.93		
3+50 S				77.93 ✓	6.32	67.91	10.02		
T.P.	1.368	73.116	12.502	71.748					

MAPLE STR

41 Sta	+	H.I.	-	Elev	Rod	Gr.	Cut	Fill	
3+50 N		73.116		63.64 ✓	9.48	67.91 ✓		4.27 ✓	
4+00 N				61.54 ✓	11.58	68.55 ✓		7.01 ✓	
4+00 S				68.69 ✓	4.43	68.55 ✓	0.14 ✓		
4+50 S				62.34 ✓	10.78	69.18 ✓		6.84 ✓	
4+50 N				69.18 ✓	3.94	69.18 ✓	0 ✓	0 ✓	
4+75 N				70.60 ✓	2.52	69.50 ✓	1.10 ✓		Ret.
4+75 S				64.72 ✓	8.40	69.50 ✓		4.78 ✓	
5+21.90 S				66.19 ✓	6.93	70.12 ✓		3.93 ✓	P.G.
P.O.C. S				66.31 ✓	6.81	70.35 ✓		4.04 ✓	1/2 A
5+65.03 5+64.63 S				66.89 ✓	6.23	71.00 ✓		4.11 ✓	E.G.
6+00 S				67.68 ✓	5.44	72.13 ✓		4.45 ✓	
6+62.88 S				69.08 ✓	4.04	74.00 ✓		4.92 ✓	
T.P.	9.967	82.182	0.901	72.215					
5+50.04 N				77.08 ✓	5.10	70.50 ✓	6.58 ✓		Ret.
6+00 N				78.44 ✓	3.74	72.13 ✓	6.31 ✓		
6+50 N				80.03 ✓	2.15	73.76 ✓	6.27 ✓		
7+02.88 N				79.82 ✓	2.36	75.50 ✓	4.32 ✓		
7+02.88 S				74.30 ✓	7.88	75.50 ✓		1.20 ✓	
BM. N° 2		7.543		74.639	74.688				

ARROYO DRIVE

Stn.	+	H.I.	-	Elev.
BM. N ^o 2	1.155	75.794		74.639
6+66.15 E				71.60 ✓
6+24.89 E	12.563	84.587	3.770	72.024
6+00 E				72.99 ✓
5+31.91 E				75.10 ✓
5+00 E				75.80 ✓
4+50 E				78.21 ✓
4+00 E				77.92 ✓
3+50 E				80.07 ✓
3+00 E				82.24 ✓
2+50 E				81.29 ✓
TP	10.592	93.844	1.335	83.252
1+50 E				83.40 ✓
2+00 E				81.56 ✓
1+11.60 E				80.53 ✓
0+50 E				83.84 ✓
0+00 E				88.61 ✓
BM. N ^o 12	4.970	96.903	1.911	91.933

Rod	Gr.	Cut	Fill	
4.19	72.00'		0.40	Ret.
3.77	72.40'		0.38	POG
11.60	72.70'	0.29'		
9.49	73.50'	1.60'		P.C.
8.79	74.19'	1.61'		
6.38	75.28'	2.93'		
6.67	76.36'	1.56'		
4.52	77.44'	2.63'		
2.35	78.52'	3.72'		
3.30	79.60'	1.69'		
10.44	81.76'	1.64'		
12.28	80.68'	0.88'		
13.31	82.60'		2.07'	
10.00	83.92'		0.08'	
5.23	85.00'	3.61'		

Top of 1/2" I.P. on Side Euc. Tree. 100' N of N End. Arroyo

Sta	T	H.I.	-	Elev	Rod.	Gr.	Cut	Fill	
		96.903							
0+00 W.				95.40 ✓	1.50	85.00'	10.40		
0+50 W				92.99 ✓	3.91	83.92'	9.07		
1+00 W				91.46 ✓	5.44	82.84'	8.62		
1+50 W				88.41 ✓	8.49	81.76'	6.65		
2+00 WTP	3.790	88.808	11.885	85.018	11.89	80.68'	4.34		
2+50 W.				78.51 ✓	10.30	79.60'		1.09	
3+00 W				77.71 ✓	11.10	78.52'		0.81	
3+50 W				76.70 ✓	12.11	77.44'		0.74	
4+00 WTP	2360	78.206	12.962	75.864	12.96	76.36'		0.50	
4+50 W				75.05 ✓	3.16	75.28'		0.23	
5+00 W				74.43 ✓	3.78	74.19'	0.24		
5+31.91 W				73.46 ✓	4.75	73.50'		0.04	P.G.
6+00 W.				72.68 ✓	5.53	72.70'		0.02	
6+24.89 W	11.643	83.849	6.000	72.206	6.00	72.40'		0.19	Ret.
7+45.72 N				78.21 ✓	5.64	70.00'	8.21		Ret.
7+43.24 S				76.97 ✓	6.88	70.00'	6.97		Ret.
7+65.72 N				77.89 ✓	5.96	69.60'	8.29		
7+65.72 S				73.15 ✓	10.70	69.60'	3.55		

ARROYO DRIVE

Sta.	+	H.I.	-	Elev	Red.	Gr.	Cut	Fill
		83.849						
79	0.895	72.193	12.551	71.298				
8+05.72S				66.27 ✓	592	67.58 ✓		1.31 ✓
8+05.72N				67.32 ✓	487	67.58 ✓		0.26 ✓
8+25.72N				69.29 ✓	290	65.95 ✓	3.34 ✓	
8+25.72S				64.18 ✓	801	65.95 ✓		1.77 ✓
8+35.72N				61.65 ✓	1054	60.48 ✓	1.17 ✓	
8+35.72S				55.46 ✓	1073 ^{H.L.}	60.48 ✓		5.02 ✓
9+25.72S	1.277	61.852	11.618	60.575	11.62	57.36 ✓	3.21 ✓	
9+25.72N				55.12 ✓	673	57.36 ✓		2.24 ✓
9+65.72N				56.07 ✓	578	55.32 ✓	0.75 ✓	
9+65.72S				57.55 ✓	430	55.32 ✓	2.23 ✓	
10+05.72S				56.64 ✓	521	54.36 ✓	2.28 ✓	E.V.C.
9+85.72N				56.20 ✓	565	54.70 ✓	1.50 ✓	E.V.C.
10+39.72N				55.76 ✓	609	53.00 ✓	2.76 ✓	Ret.
10+39.72S				54.49 ✓	736	54.00 ✓	0.49 ✓	
10+79.72S				55.80 ✓	605	53.80 ✓	2.00 ✓	
11+03.70S	6.615	61.487	6.980	54.872	698	54.00 ✓	0.87 ✓	Ret.
B.M. 141			0.921	60.566	60.565			

45 Sta	+	H.I.	DOVE -	STR Elev	Bet Palm & Maple Str. Rod	Gr	Cut	Fill	
BM H ^o 4	0.398	160.359		159.961					
14+25 E				149.37 ✓	1099	144.50 ✓	4.87 ✓		Ret.
14+25 W				146.89 ✓	13.47 ^{H.L.}	144.50 ✓	2.39 ✓		Ret.
T.P.	1.669	149.340	17.688	147.671					
14+45 W				146.23 ✓	311	144.30 ✓	1.93 ✓		
14+05 E				146.52 ✓	2.82	142.00 ✓	4.52 ✓		
14+65 W				145.30 ✓	4.04	143.30 ✓	2.00 ✓		
14+85 W				144.71 ✓	4.63	142.00 ✓	2.71 ✓		
15+00 VV				144.18 ✓	5.16	141.10 ✓	3.08 ✓		
15+00 E				145.65 ✓	3.69	141.10 ✓	4.55 ✓		
15+50 E				142.38 ✓	6.96	138.10 ✓	4.28 ✓		
15+50 VV				142.44 ✓	6.90	138.10 ✓	4.34 ✓		
16+00 W				141.13 ✓	8.21	135.10 ✓	6.03 ✓		
16+00 E				138.67 ✓	10.67	135.10 ✓	3.57 ✓		
16+50 W	T.P. 0.719	138.682	11.377	137.963	11.38	132.10 ✓	5.86 ✓		
16+50 E				135.05 ✓	3.63	132.10 ✓	2.95 ✓		
16+85 E				132.48 ✓	6.20	130.00 ✓	2.48 ✓		P.C.
16+85 W				135.84 ✓	2.84	130.00 ✓	5.84 ✓		P.C.
17+00 W				132.99 ✓	5.69	129.10 ✓	3.89 ✓		

sta.	+	H.I.	-	Elev.	Rad.	Gr.	Cut.	Fill
		138.682						
17+00 E				131.10 ✓	7.58	129.10 ✓	2.00 ✓	
17+50 E				127.42 ✓	11.26	126.10 ✓	1.32 ✓	
17+50 W				129.68 ✓	9.00	126.10 ✓	3.58 ✓	
18+00 W				127.23 ✓	11.45	123.10 ✓	4.13 ✓	
TP	0.921	127.359	12.244	126.438				
18+00 E				124.29 ✓	3.07	123.10 ✓	1.19 ✓	
18+50 E				121.60 ✓	5.76	120.10 ✓	1.50 ✓	
18+50 W				124.45 ✓	2.91	120.10 ✓	4.35 ✓	
19+00 W				126.12 ✓	1.24	117.09 ✓	9.03 ✓	
19+00 E				121.76 ✓	5.60	117.09 ✓	4.67 ✓	
19+18.14 E				121.59 ✓	5.77	116.00 ✓	5.59 ✓	P.R.C.
19+18.14 W				123.07 ✓	4.29	116.00 ✓	7.07 ✓	
BM M ^o 13			4.862	122.497	On I.P. Radius Pt. at Eagle & Dove. (see book 1260, Page 40)			
BM. M ^o 11			7.326	120.033 ^(120.22) (120.18)				
19+43.98 E				120.58 ✓	6.78	114.50 ✓	6.08 ✓	
19+69.82 E				119.57 ✓	7.79	112.90 ✓	6.67 ✓	
20+04.15 E				118.06 ✓	9.30	110.00 ✓	8.06 ✓	E.C.
19+83.31 W				117.58 ✓	9.78	111.50 ✓	6.08 ✓	E.C.

St	+	H.I.	-	Elev	Rod	Gr.	Cut	Fill
		127.359						
20+04.15 W	1.031	117.001	11.389	115.970	11.39	110.00	5.97	
20+50 E				115.46 ✓	1.54	104.65	10.81	
20+50 W				112.38 ✓	4.62	104.65	7.73	
21+00 W				108.07 ✓	8.93	98.82	9.25	
21+00 E				110.93 ✓	6.07	98.82	12.11	
21+50 E	0.862	104.984	12.879	104.122	12.88	92.99	11.13	
21+50 W				102.10 ✓	2.88	92.99	9.11	
22+00 W				96.52 ✓	8.46	87.16	9.36	
22+00 E				95.07 ✓	9.91	87.16	7.91	
22+50 W				89.38 ✓	H.L. 15.60	81.33	8.05	
TP	1.300	93.491	12.793	92.191				
22+50 E				82.81 ✓	10.68	81.33	1.48	
22+95.64 E				72.17 ✓ 84.93 ✓	H.L. 21.32	76.00		3.83 Ret
22+95.64 W	0.786	81.851	12.426	81.065	8.56	76.00	8.93	
23+46.30 W				78.29 ✓	3.56	71.50	6.79	Ret.
24+50 E				75.28 ✓	6.57	71.47	3.81	
25+00 E				85.93 ✓	H.L. 4.08 +	70.81	15.12	
25+50 E				84.48 ✓	H.L. 2.63 +	70.29	14.19	

48			DOVE	STR.
Sta	f	HI	-	Elev
		81.851		
24+20.16W				69.79 ✓
24+05.58E				70.65 ✓
24+50.W				69.21 ✓
25+00 W				70.65 ✓
25+50 W				71.39 ✓
25+70.16W				72.15 ✓
25+74.61E				78.13 ✓
BM. N ^o 2			7.215	74.636 (74.639)
BM. N ^o 4	0.486	160.447		159.961
TP	1.203	148.879	12.771	147.676
TP	0.014	137.990	10.903	137.976
TP	1.217	127.669	11.538	126.452
TP	1.030	117.011	11.688	115.981
TP	1.040	105.170	12.881	104.130
TP	0.722	93.111	12.781	92.389
TP	0.938	82.104	11.945	81.166
BM. N ^o 2			7.440	74.664 (74.639)
6+24.89 W - Arroyo TP			9.886	72.218 (72.206)

Bet. Palm & Maple			
Rod	Gr.	Cut	Fill
12.06	71.50'		1.71' Ret.
11.20	72.00'		1.35' Ret
12.64	71.20'		1.99' ✓
11.20	70.70'		0.05' ✓
10.46	70.20'	1.19'	
9.70	70.00'	2.15'	Ret.
3.72	70.00'	8.13'	Ret

check levels. Bet. BM. N^o2 & N^o4.
 corrected elev. of BM N^o4 = 159.961

49 sta.	CHECK LEVELS - REYNARD WAY			
	+	H.I.	-	Elev
BM. N°1	0.390	60.955		60.565 ✓
T.P.	6.978	60.221	7.712	53.243 ✓
BM. N°15	8.222	64.609	3.834	56.387 ✓
T.P.	9.896	72.894	1.611	62.998 ✓
BM. *10			(5865)	67.029 ✓ 67.104
T.P.	10.378	82.794	0.478	72.416 ✓
BM. N°9			(6664)	76.130 ✓ (74203)
T.P.	9.473	90.687	1.580	81.214
10+25 W				87.55 ✓
10+46.23 W				89.47 ✓
T.P.	11.261	101.268 ✓	0.680	90.007
10+25 E				90.64 ✓
10+55.93 E				92.96 ✓
E				91.46 ✓
E				102.88 ✓
10+92.66 W				93.31 ✓
11+25 W				92.71 ✓
11+59.57 W				94.47 ✓
T.P.	12.360	112.705 ✓	0.923	100.345 ✓

Eagle Street.			
Rod.	Gr.	Cut.	Fill
(First Δ N. of State St) On Lead & C.T. in Top of Curb. W. Side Reynard Way			
3.14	81.00 ✓	6.55 ✓	Ret.
1.22	82.50 ✓	6.97 ✓	
10.63	82.00 ✓	8.64 ✓	Ret.
8.31	83.50 ✓	9.46 ✓	Ret.
9.81	85.00 ✓	6.46 ✓	1/2 Δ P.O.C.
11.61 ^{H.L.}	86.50 ✓	16.38 ✓	P.R.C.
7.96	88.50 ✓	4.81 ✓	P.R.C.
8.56	93.36 ✓	0.65 ✓	Ret.
6.80	98.55 ✓	4.08	B.V.C.

50 Sta	+	H.I.	-	Elev.	Red	Gr.	Cut	Fill
		112.7051						
10+92.66 E				106.89 ✓	5.81	89.50 ✓	17.39 ✓	
11+25 E				109.36 ✓	3.34	94.02 ✓	15.34 ✓	
11+59.57 E				113.33 ✓	^{H.L.} + 0.63	98.85 ✓	14.48 ✓	B.V.C.
11+79.57 E				116.30 ✓	^{H.L.} + 3.60	101.45 ✓	14.85 ✓	
11+79.57 W				95.85 ✓	^{H.L.} 16.85	101.20 ✓		5.35 ✓
11+99.57 W				99.74 ✓	12.96	103.50 ✓		3.76 ✓
12+19.57 W				105.50 ✓	7.20	105.45 ✓	0.05 ✓	
12+39.57 W				106.70 ✓	6.00	107.03 ✓		0.33 ✓ P.R.C.
T.P.	8.792	121.043	0.454	112.251 ✓				
11+99.57 E				117.15 ✓	3.89	103.70 ✓	13.45 ✓	
12+19.57 E				118.37 ✓	2.67	105.55 ✓	12.82 ✓	
12+39.57 E				119.86 ✓	1.18	107.03 ✓	12.83 ✓	P.R.C.
12+59.57 E				119.23 ✓	1.81	108.17 ✓	11.06 ✓	
12+59.57 W				104.89 ✓	^{H.L.} 16.15	108.17 ✓		3.28 ✓
12+79.57 W				103.79 ✓	^{H.L.} 17.25	109.00 ✓		5.21 ✓
13+00 W				105.59 ✓	15.45	109.61 ✓		4.02 ✓
12+79.57 E				116.91 ✓	4.13	109.00 ✓	7.91 ✓	
13+00 E				114.21 ✓	6.83	109.61 ✓	4.60 ✓	

51 Sta	+	H.I.	-	Elev.	Rod.	Gr.	Cut	Fill
		121.043 ✓						
13+25 E				114.94 ✓	6.10	110.36 ✓	4.58 ✓	
13+50 E				119.79 ✓	1.25	111.11 ✓	8.68 ✓	
13+25 W				107.81 ✓	13.23	110.36 ✓	2.55 ✓	
13+50 W				109.46 ✓	11.58	111.11 ✓	1.65 ✓	
13+75 W				110.36 ✓	10.68	111.86 ✓	1.50 ✓	
14+00 W				112.35 ✓	8.69	112.61 ✓	0.26 ✓	
14+42.96 W				112.30 ✓	8.74	113.90 ✓	1.60 ✓	B.V.C. P.C.
14+82.96 W				111.46 ✓	9.58	114.89 ✓	3.43 ✓	
15+22.96 W				112.32 ✓	8.72	115.39 ✓	3.07 ✓	
13+75 E				119.98 ✓	10.6	111.86 ✓	8.12	
T.P.	4.231	124.741 ✓	0.533	120.510 ✓				
14+00 E				120.13 ✓	4.61	112.61 ✓	7.52 ✓	
14+42.96 E				121.49 ✓	3.25	113.90 ✓	7.59 ✓	B.V.C. E.C.
14+82.96 E				121.04 ✓	3.70	114.89 ✓	6.15 ✓	
15+22.96 E				122.00 ✓	2.74	115.44 ✓	6.56 ✓	
15+62.96 E				121.45 ✓	3.29	115.55 ✓	5.90 ✓	
16+02.96 E				120.75 ✓	3.99	115.17 ✓	5.58 ✓	
16+42.96 E				120.10 ✓	4.64	114.30 ✓	5.80 ✓	E.V.C.

Sta.	+	H.I.	-	Elev.	Red.	Gr.	Cut.	Fill
		124.71						
16+98.48 E				118.80 ✓	594	112.76 ✓	6.04 ✓	
17+18.52 E				118.13 ✓	661	112.15 ✓	5.98 ✓	
15+62.96 W				112.74 ✓	12.00	115.40 ✓		2.66 ✓
16+02.96 W				112.65 ✓	12.09	114.92 ✓		2.27 ✓
16+42.96 W				112.43 ✓	12.31	113.95 ✓		1.52 ✓ E.V.C.
17+07.49 W				111.03 ✓	13.71 ^{HL.}	112.00 ✓		0.97 ✓
T.P.	6.530	118.639	12.632	112.109 ✓				
17+28.39 W				110.64 ✓	8.00	111.37 ✓		0.73 ✓
17+50 W				109.96 ✓	8.68	110.69 ✓		0.73 ✓
18+00 W				108.41 ✓	10.23	109.17 ✓		0.76 ✓
18+50 W				106.80 ✓	11.84	107.61 ^S		0.86 ✓
19+00 W				105.03 ✓	13.61	106.12 ✓		1.09 ✓
17+50 E				117.18 ✓	1.46	111.19 ✓	5.99 ✓	
18+00 E				116.92 ✓	1.72	109.67 ✓	7.25 ✓	
18+50 E				116.55 ✓	2.09	108.15 ✓	8.40 ✓	
19+00 E				115.83 ✓	2.81	106.63 ✓	9.20 ✓	
19+50 E				114.86 ✓	3.78	105.10 ✓	9.76 ✓	
19+75.39 E				114.04 ✓	4.60	104.33 ✓	9.71 ✓	E.V.C.

53

Sta	+	H.I.	-	Elev.	Red.	Gr.	Cut	Fill
		118.639						
19+95.39 E				113.42 ✓	5.22	103.85 ✓	9.57 ✓	
20+15.39 E				111.94 ✓	6.70	103.62 ✓	8.32 ✓	P.C.
20+35.39 E				111.83 ✓	6.81	103.65 ✓	8.18 ✓	
20+55.39 E				111.88 ✓	6.76	103.93 ✓	7.95 ✓	
20+75.39 E				112.93 ✓	5.71	104.40 ✓	8.53 ✓	
20+95.39 E				113.88 ✓	4.76	105.10 ✓	8.78 ✓	E.V.C.
T.P.	3.392	109.120	12.911	105.728 ✓				
19+50 W				103.63 ✓	5.49	104.60 ✓	0.97 ✓	
19+75.39 W				102.24 ✓	6.88	103.83 ✓	1.59 ✓	B.V.C.
20+15.39 W				100.69 ✓	8.43	103.12 ✓	2.43 ✓	
20+35.39 W				98.77 ✓	10.35	103.15 ✓	4.38 ✓	
20+55.39 W				98.73 ✓	10.39	103.53 ✓	4.80 ✓	
20+75.39 W				98.44 ✓	10.68	104.20 ✓	5.76 ✓	
20+95.39 W				99.47 ✓	9.65	105.10 ✓	5.63 ✓	E.V.C.
21+50 W				106.63 ✓	2.49	107.85 ✓	1.22 ✓	
T.P.	12.283	120.977	0.426	108.694 ✓				
21+50 E				121.41 ✓	10.43	107.85 ✓	13.56 ✓	
22+00 W				117.57 ✓	3.41	110.38 ✓	7.19 ✓	

Sta.		Eagle Str.		Elev		Rod.	Gr.	Cut	Fill
		120.977 ✓							
22+12.29 W				119.58 ✓		1.40	111.00 ✓	8.58 ✓	P.R.C.
TP. B.M. 11	5840	125.889 ✓	0.928	120.049 ✓	(120.033)				
22+00 E				122.88 ✓		3.01	110.38 ✓	12.50 ✓	
22+35.99 E				122.09 ✓		3.80	113.00 ✓	9.09 ✓	Ret.
22+38.26 W				120.14 ✓		5.75	111.80 ✓	8.34 ✓	
22+64.24 W				118.93 ✓		6.96	112.00 ✓	6.93 ✓	
B.M. M ^o 13			3.368	122.521	122.497				

55 CORRECTED BENCH MARKS.

- B.M. N^o 1 60.565 Hub with nail at foot of bank
 N^o 2 74.639 Hub with nail on sly. prod. of
 3 92.238. Out. see B.M. N^o 12
 4 159.961 Hub with Nail 25^t N.W. ly.
 5 219.965 On 7' point at N.W. Cor.
 6 Out. - see B.M. N^o 16
 7
 8 91.136 On cross in curb West side
 9 76.130 On cross in curb West side
 10 67.029 on cross in curb west side
 11 120.033 on Iron Pin West side
 12 91.933 Top of 1/2" Iron Pin at the
 13 122.497 on Iron Pin - Radius Pt.
 14 59.803 On lead Plug in curb, West side
 15 56.387 on lead plug on west side
 16 147.512 On 1 1/2" 25' R.P. for N.W.
 17 66.360 On N.W. Cor. lower step
 18
 19

AND LOCATIONS.

- W. Side Reynard Way at junction of White, Black ^{pave.}
 Dove St. about 80^t S. of N. Line of Maple St.
 from the N.W. Cor. of Curlew and Palm Str.
 of Spruce and Curlew.
 Reynard Way - A at Spruce St.
 Reynard Way. Second A of State Str.
 Reynard Way third A of State Str.
 Eagle Str. P.R.C. Lots 39-41
 S. side of Euc. tree about 100' N. of M. End Arroyo
 for 25' Radius at Eagle & Dove St. lots 111-112
 State St. a few feet S. of N. End of exist. Curb.
 Reynard Way. at first A of State Str.
 Cor. of Redwood & Dove Str.
 of Balboa Contract. Co's office. E. Side State

DOVE STR.

56

St	+	H.I.	-	Elev	Red.	Gr.	Cut	Fill
B.M. N ^o 4	0.419	160.380 ✓		159.961 ✓				
T.P.	1.106	148.758 ✓	12.728	147.652 ✓				
5' out Blk Cor. E				140.89 ✓	7.87	136.00	4.89 ✓	
11+50 E				142.66 ✓	6.10	136.67	5.99 ✓	
11+00 E				144.80 ✓	3.96	137.73	7.07 ✓	
10+50 E	12.405	159.435 ✓	1.728	147.030 ✓		138.78	8.25 ✓	
10+00 E				147.01 ✓	12.42	139.84	7.17 ✓	
9+50 E				148.54 ✓	10.89	140.89	7.65 ✓	
9+00 E				149.83 ✓	9.60	141.95	7.88 ✓	
8+50 E				152.56 ✓	6.87	143.00	9.56 ✓	
8+00 E				154.69 ✓	4.74	144.06	10.63 ✓	
7+50 E	9.592	165.367 ✓	3.660	155.775 ✓		145.11	10.66 ✓	
7+20 E				156.31 ✓	9.06	145.74	10.57 ✓	E.V.G.
6+80 E				158.13 ✓	7.24	146.14	11.99 ✓	
6+40 E				156.02 ✓	9.35	145.67	10.35 ✓	
6+00 E				154.77 ✓	10.60	144.33	10.44 ✓	B.V.G.
T.P.	3.709	157.154 ✓	11.922	153.445 ✓				
5+50 E				148.10 ✓	9.05	142.11	5.99 ✓	

DOVE STREET

Sta	t.	H.I.	-	Elev
		157.154		
T.P.	5448	150.139	12.463	144.691 ✓
5+20E				141.57 ✓
4+80E				136.94 ✓
4+40E				139.16 ✓
4+00E				146.86 ✓
B.M. M ^o 16	4.580	152.049	2.670	147.469 ✓ (147.512)
5+50W				137.35 ✓
6+00W				147.73 ✓
6+40W				149.11 ✓
6+80W				147.29 ✓
7+20W	2.222	147.951	6.320	145.729 ✓
7+50W				144.67 ✓
8+00W				143.96 ✓
8+50W				144.33 ✓
9+00W				143.10 ✓
9+50W				142.20 ✓
10+00W				141.25 ✓
10+50W				140.07 ✓

Bet Redwood & Palm Str.

57

Red	Gr.	Cut	Fill
8.57	140.78	0.79 ✓	
13.20	139.82		2.88 ✓
10.98	140.50		1.34 ✓
3.28	142.95	3.91 ✓	
^{H.L.} 1470	142.11		4.76 ✓
4.32	144.33	3.40 ✓	E.V.C.
2.94	145.67	3.44 ✓	
4.76	146.14	1.15 ✓	
	145.74		0.01 ✓ E.V.C.
3.28	145.11		0.44 ✓
3.99	144.06		0.10 ✓
3.62	143.00	1.33 ✓	
4.85	141.95	1.15 ✓	
5.75	140.89	1.31 ✓	
6.70	139.84	1.41 ✓	
7.88	138.78	1.29 ✓	

Sta	DOVE		STR.		Elev
	t	H.I.	-		
		147.951 ✓			
11+00W	8.805	147.786 ✓	8970	138.981 ✓	
11+50W				137.92 ✓	
11+81.49W				137.07 ✓	
12+21.49W				136.08 ✓	
TP	12.639	160.179 ✓	0.246	147.540 ✓	
BM N°4			0.246	159.933 ✓	159.961

Bet. Redwood & Blm-

58

Red	Gr	Cut	Fill
	137.73	1.25 ✓	
9.87	136.67	1.25 ✓	
10.72	136.00	1.07 ✓	
11.71	135.50	0.58 ✓	

✓

Sta.	EAGLE		STR.	Elev.
	t	H.I.	-	
B.M. N ^o 9	11.313	87.443		76.130
T.P.	12.512	99.625	0.330	87.113 ✓
B.M. N ^o 8			8.486	91.139 (91.230)
T.P.	8952	106.852	1.725	97.900
1+34.13 W				98.19
1+50 W				99.04
2+00 W				104.63
T.P.	10.073	116.102	0.823	106.029
0+11.85 E				104.40
0+50 E				111.96
0+74.13 E				112.51
0+94.13 E				113.10
1+14.13 E	6919	121.782	1.239	114.863
1+34.13 E				116.09
1+54.13 E				117.14
2+00 E				116.86
2+46 E				117.67
2+40 W				107.44
2+80 W				111.54

✓

Bet Reynard Way & Redwood				59
Red.	Gr.	Cut	Fill	
8.66	98.00	0.19		Ret.
7.81	99.91		0.87	
2.22	105.93		1.30	
11.70	98.60	5.80		
4.14	97.47	14.49		
3.59	96.77	15.74		
3.00	96.56	16.54		
1.24	97.09	17.77		
5.69	98.37	17.72		
4.64	100.40	16.74		EVC
4.92	105.93	10.93		
4.11	110.75	6.92		
14.34	110.75		3.31	
10.24	114.96		3.42	

✓

Eagle Street

60

Sta	+ H.I.	-	Elev.	Rod	Gr	Cut	Fill	
	121.782							
3+20 W			115.06	672	117.93		2.87	
3+60 W			117.47	431	119.65		2.18	E.V.C.
T.P.	9.438	130.250	0.970	120.812				
2+80 E			124.36	589	114.96	9.40		
3+20 E			128.51	1.74	117.93	10.58		
3+60 E			130.21	^{H.L.} 0.04	119.65	10.56		
4+00 W			116.48	^{H.L.} 1377	120.75		4.27	
T.P.	9.533	127.400	12.383	117.867				
4+50 W			115.36	12.04	122.11		6.75	
5+00 W			118.32	9.08	123.48		5.16	
5+55.75 W			118.83	8.57	125.00		6.17	
5+80.75 W			119.81	7.59	125.50		5.69	
T.P.	12.922	137.390	2.932	124.468				
4+00 E			131.11	628	120.75	10.36		
4+50 E			129.55	7.84	122.11	7.44		
5+00 E			134.28	3.11	123.48	10.80		
5+55.75 E			134.24	3.15	125.00	9.24		Ref

Sta.	Redwood +	H.I.	Str. -	Elev.
		137.390		
T.P.	12.696	141.225	8.861	128.529 ✓
1+66.13 S				132.93
1+66.13 N				138.61
2+00 S				134.29
2+50 S				136.19
T.P.	9033	149.419	0.839	140.386 ✓
2+00 N				141.99
2+50 N				145.69
3+00 N				144.57
3+36.11 N				145.42
Blk Cor N.				145.71
B.M. N° 16		1.899		147.520 (147.512)

Rod	Gr.	Cut	Fill
8.29	128.00	4.93	✓
2.61	128.00	10.61	✓
6.93	130.00	4.29	✓
5.03	132.94	3.25	✓
7.43	130.14	11.85	✓
3.73	133.30	12.39	✓
4.85	136.46	8.11	✓
4.00	138.75	6.67	✓
3.71	140.65	5.00	✓

✓

✓

Sta	+	H.I.	-	Elev.	Rod	Gr.	Cut	Fill
		217.735						
3+80.90 E				214.61	3.12	210.00	4.61	✓
4+00.90 E				214.73	3.00	209.80	4.93	✓
4+20.90 E				214.53	3.20	209.25	5.28	✓
4+40.90 E				214.22	3.51	208.50	5.72	✓
5+39.48 E				212.81	4.92	200.95	11.86	✓
T.P.	1.131	209.316	9.550	208.185				✓
4+60.90 E				219.84	+ H.L. 10.52	207.00	12.84	✓
4+40.90 W				207.18	2.14	208.52		1.34 ✓
4+60.90 W				205.97	3.35	207.00		1.03 ✓
5+00 W				204.25	5.07	203.94	0.31	✓
5+50 W				201.42	7.90	200.13	1.29	✓
6+00 W				198.10	11.22	196.28	1.82	✓
6+00 E				199.94	9.38	196.28	3.66	✓
T.P.	1.072	197.637	12.751	196.565				✓
6+50 W				192.71	4.93	192.42	0.29	✓
6+50 E				193.05	4.59	192.42	0.63	✓
7+00 E				188.47	9.17	188.57		0.10 ✓
7+00 W				191.14	6.50	188.57	2.57	✓

Sta	t	H.I	-	Elev	Rod	Gr.	Cut	Fill
		197.637						
7+61.49 W				189.69	7.95	184.56	5.13	✓
8+21.59 W				195.68	1.96	180.07	15.61	✓
8+41.59 W				193.14	4.50	178.57	14.57	✓
9+00 W				185.35	12.29	173.15	12.20	
T.P.	1.383	186.168	12.852	184.785				
7+61.59 E				180.23	5.94	184.72		4.49 ✓
8+21.59 E				177.76	8.41	180.26		2.50 ✓
8+50 E				183.36	2.81	177.00	6.36	✓ x
9+00 E				178.67	7.50	173.15	5.52	✓
9+50 E				175.00	11.17	169.29	5.71	✓
9+00 W				185.35	0.82	173.15	12.20	✓
9+50 W				177.74	8.43	169.29	8.45	✓
T.P.	0.220	174.746	11.642	174.526				
10+00 W				170.56	4.19	165.44	5.12	✓
10+00 E				167.12	7.63	165.44	1.68	✓
10+50 W				164.37	10.38	161.58	2.79	✓
T.P.	1.069	162.767	13.048	161.698				
11+00 W				159.34	3.43	157.73	1.61	✓

Sta.	Curlew	St.	Elev
	162.767		
10+50 E			158.59
11+00 E			150.76
11+22.28 E			146.47
11+42.28 E			146.77
11+62.28 E			148.71
12+02.28 E			142.05
11+57.28 W			155.16
BM. 11° A	2.794	159.973	159.961

65

Rad.	Gr.	Cut	Fill
4.18	161.58		2.99 ✓
12.01	157.73		6.97 ✓
^{H.L.} 16.30	156.00		9.53 ✓ B.V.C.
^{H.L.} 16.00	154.60		7.83 ✓
^{H.L.} 14.06	153.50		4.79 ✓
^{H.L.} 20.72	152.50		10.45 ✓
7.61	153.00	2.16 ✓	✓
	✓	✓	

Palm Str.

66

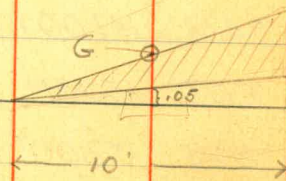
Sta	+	H.I.	-	Elev.	Rod	Gr.	Cut	Fill
BM N ^o 4	2.794	162.755		159.961 ✓				
2+50 N				154.82	7.93	150.80	4.02	
2+00 N				158.72	4.03	147.32	11.40	
1+50 N	0.326	157.039	6.042	156.713 ✓		143.83	12.88 ✓	
1+00 N				145.83	11.21	140.34	5.49	
T.P.	3.678	147.656	13.001	143.978 ✓				
0+45 S				136.96	10.70	136.00	0.96	
1+20.49 S				144.12	3.54	142.00	2.12	Ret
T.P.	13.105	159.996	0.764	146.891 ✓				
2+10.49 S				150.57	9.43	147.00	3.57	Ret.
2+50 S				153.43	6.57	150.31	3.12	
2+70 S				154.48	5.52	152.00	2.48	
3+00 S				155.15	4.85	152.50	2.65	
B.M. N ^o 4			0.046	159.950 ✓ (159.961)				

REYNARD WAY.

Sta	t	H.I.	-	Elev
B.M. M ^o l	1.51	62.07		60.56
1+00.59				
1+50				
2+00				
2+50				
3+00				
T.P.	6.65	59.63	9.09	52.98

3+50				
4+00				
4+50				
5+00				
5+50				
6+00				
6+50				
7+00				
7+49.92				
8+00				
8+50				
9+00				

C = Curb Elev.



$$A = (G - C - .05) \times 10$$

$$\frac{A \times 50}{27} = c.g.$$

Curb Elev.	Ground Elev.	Elev	A	c.g.
56.5	55	56.6	0.5	2
55.8	6.1	56.0	1.5	3
55.1	6.8	55.3	1.5	1
54.7	7.6	54.5	0	3
54.0	7.7	54.4	3.5	
				18
				21
53.3	3.7	55.9	15.5	43
52.6	3.9	55.7	30.5	53
7.44	52.19	4.7	26.9	44
6.71		4.6	20.6	34
6.09		4.4	16.4	27
5.33		4.0	12.8	16
4.55		4.0	5.0	10
3.92		3.3	5.7	7
3.24		3.0	1.9	3
2.50		2.3	1.5	4
1.84		1.5	2.9	6
1.15		0.8	3.0	13

Fwd. 274

Sta	t	H.I.	-	Elev
		59.63		
T.P.	10.28	68.99	0.92	58.71
9+50				
10+00				
10+50				
11+00				
11+50				
12+00				
12+50				
13+00				
13+50				
^Δ 14+01				
T.P. B.M. 10	12.52	79.55	1.96	67.03 67.029
14+50				
15+00				
15+50				
16+00				
16+50				
17+00				

Curb	Elev	Ground	Elev.
			274
			8
9.82		9.2	5.7 13
9.04		8.2	7.9 10
8.14		7.8	2.9 6
7.41		7.0	3.6 6
6.36		6.0	3.1 16
5.54		4.1	13.9 14
4.78		4.7	0.3 4
3.71		3.2	4.6 14
2.86		1.8	10.1 14
1.81		1.3	4.6 13
11.56		10.6	9.1 10
10.16		10.0	1.1 6
9.31		8.7	5.6 11
8.06		7.4	6.1 10
6.92		6.4	4.7 10
5.92		5.3	5.7

sta	+	H.I.	-	Elev	Curb	Elev.	Ground	Elev.	70
		101.69							585
4 25+50.73					10.62		10.2	3.7	8
B.M. 11°			10.53	91.16					14
26+00					9.26		8.1	11.1	13
26+50					7.93		7.6	2.8	13
27+00					6.42		5.3	10.7	20
27+50					5.08		4.0	10.3	13
28+00					3.74		3.4	2.9	6
28+50					2.40		2.0	3.5	
T.P.	12.87	113.39	1.17	100.52					10
29+00					12.75		12.0	7.0	13
29+50					11.29		10.6	6.4	18
△ 29+88.44					10.32		9.0	12.7	24
30+50					8.64		7.3	12.9	20
31+00					7.26		6.4	8.1	15
31+50					5.87		5.0	8.2	12
32+00					4.61		4.1	4.6	11
32+50					3.30		2.6	6.5	12
33+00					1.85		1.2	6.0	

sta	+	H.I	-	Elev	Curb	Elev	Ground	Elev.	
		147.38							72
41+00					9.40		8.9	4.5	997
41+50					6.04		5.5	4.9	10
42+00					2.85		2.0	7.9	9
T.P.	12.37	159.59	0.16	147.22					12
42+50					11.75		10.8	9.0	16
43+10.64					7.51		7.1	3.6	9
43+50					4.93		4.8	0.8	4
44+00					1.78		0.9	8.3	9
	13.13	172.43	0.29	159.30					16
44+50					11.04		10.1	8.9	8
45+00					7.21		7.2	0	6
45+50					3.46		2.8	6.1	7
T.P.	12.75	184.97	0.21	172.22					1
46+00					11.96		11.8	1.1	1
46+50					8.01		8.7	0	21
47+00					4.20		2.0	21.5	28
T.P.	12.54	197.13	0.38	184.59					28
47+50					12.54		11.7	7.9	1156

Sta.	t	H.I.	-	Elev.	Curb	Elev	Grand	Elev.	
		197.13							73 1156
48+00					830		9.6	0	7
48+50					436		45	0	
T.P. P.C.	13.00	209.83	0.30	196.83					
49+05.9					11.87		12.3	0	
49+50					855		8.7	0	3
50+00					438		4.0	3.3	
P.I. L&CT BM. M ^o 17			5.89	203.94					5
T.P. E.C.	13.00	222.27	0.56	209.27					
50+68.67					11.27		11.0	2.2	2
51+00					871		8.7	0	10
51+50					4.75		3.6	11.0	14
52+00					1.14		0.7	3.9	
T.P.	12.27	234.35	0.19	222.08					15
52+65					816		6.9	12.1	27
53+09.95					483		3.1	16.8	28
53+50					141		0.1	12.6	
T.P.	12.92	247.05	0.22	234.13					26
54+00					10.02		84	15.7	

1293

REYNARD WAY.									74
sta	+	H.I.	-	Elev	Curb	Elev	Ground	Elev.	
		247.05							1293
54+50					5.68		4.5	11.3	25 15
55+00					1.77		1.2	5.2	
T.P.	9.89	256.91	0.03	247.02					5
55+50					7.22		7.1	0.7	1
56+15.13					1.93	254.98	1.8	0.8	

← = & line Sutter St.

1339

Note: Pages 67 to 74 are Cross Section notes for the Ely portion of Reynard Way. (bet. Curb & #2.) to be used for figuring yardage of same.

Stationing is that of the Ely. #2 of Reynard Way.

Rod readings shown under heading of "ground" are average readings taken 5' from face of curb.

MAPLE STR - (East End) 7/5/29
 Sta + H.I. - Elev.

12.70 87.341 74.64 ✓

7+42.88 S 1.27 86.07 ✓

7+42.88 M 11.15 76.19 ✓

Grade both sides = 76.00

7+42.88 M = Cut 0.19 ✓

7+42.88 S = Cut 10.07 ✓

India Street Shaft 7/17/29

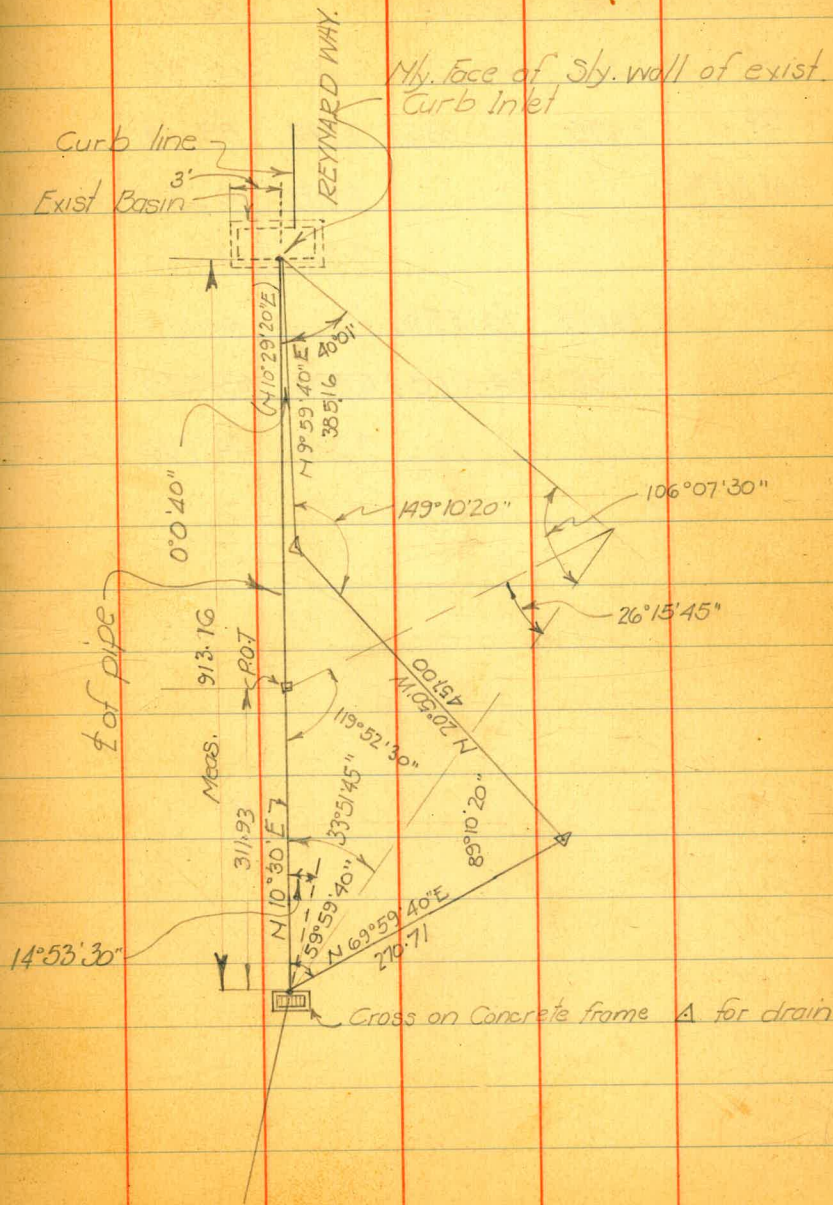
76.16
 12.90
 89.06 = total dist. from Cleanout

P.A. = 43.433 El.
 5.078
 48.503 = H.I.
 3.023
 45.480 = Top nail on Bucket Guide

89.06 @ 2.9493 = 1000 = Elev cleanout
 2.62
 18.62

45.48
 18.62
 26.86 = cut

TRIANGULATION FOR TUNNEL - 54" PIPE 75
 7/5/29



CHECK LEVELS- BMN^o1 TO MASTER B.M.

	+	H.I.	-	Elev
B.M.	11.684	66.384		54.700
T.P.	1.362	66.158	1.588	64.796
T.P.	2.695	60.886	7.967	58.191
B.M. N ^o 1			0.372	60.514 (60.565)
Intake			13.96	46.93
T.P.	10.016	70.530		60.514
T.P.	0.068	64.018	6.580	63.950
B.M.			9.318	54.700 (54.700)

Goldfinch Str. Drain

Sta.	F.S. +	H.I.	B.S. -	Elev
B.M.	0.53	161.83 ✓		161.30 ✓
T.P.	0.78	149.69 ✓	12.92	148.91 ✓
T.P.	3.67	142.41 ✓	10.95	138.74 ✓
Top of Orig 0+00			9.61	132.80 ✓
0+00				137.23 ✓
0+50				137.79 ✓
1+00				139.67 ✓
T.P. ^{on 1+00}	11.42	151.08 ✓	2.75	139.66 ✓
1+50				139.74 ✓
2+00				146.14 ✓
2+50				146.34 ✓
3+10+20				147.03 ✓
3+50				146.73 ✓
4+00				147.62 ✓
T.P.	11.09	161.47 ✓	0.70	150.38 ✓
4+50				149.58 ✓
5+00				149.32 ✓
5+50				156.02 ✓
5+81.87				157.01 ✓

Cut stakes

7/10/29 77

Rad.	Grade	Cut	Fill	
5.18	137.60		0.37	1.0960%
4.62	138.15		0.36	
2.74	138.70	0.97 ✓		
11.34	139.24	0.50 ✓		
4.94	139.79	6.35 ✓		
4.74	140.34	6.00 ✓		
4.05	141.00	6.03 ✓		S.D.C.M. #6
4.35	142.32	4.41 ✓		
3.46	143.97	3.65 ✓		
11.89	145.63	3.95 ✓		
12.15	147.29	2.03 ✓		
5.45	148.94	7.08 ✓		
4.46	150.00	7.01 ✓		S.D.C.M. #7

sta	+	H.I.	-	Elev	Rod	Grade	Cut	Fill	
		161.47							
Invert.			5.07	156.40 ✓					12" pipe
6+00				157.51 ✓	3.96	150.60	6.91 ✓		
6+50				156.74 ✓	4.73	152.24	4.50 ✓		
7+00				160.04 ✓	1.43	153.89	6.15 ✓		
7+40	5.16	160.10	0.53	160.94 ✓	0.53	155.22	5.72 ✓		
8+00				162.84 ✓	3.26	157.21	5.63 ✓		
8+24.58				158.64 ✓	7.46	158.00	0.64 ✓		SDC M ^o 8
BM.			4.73	161.37 ✓					Top M.H.
8+50				158.62 ✓	7.48	159.01		0.39	
9+00				164.60 ✓	1.50	160.99	3.61		
9+25.53				162.14 ✓	3.96	162.00	0.14		H.W. M ^o 3
		Culvert M ^o 13							
BM.	7.51	168.88		161.37					Top of M.H.
8+50				159.76	9.12	160.08		0.32	
9+00				162.74	6.14	164.17		1.43	
9+31.40				168.63	0.25	166.75	1.88		
H.W. M ^o 2				166.75	2.13				Ground-

Sta	Culvert No 10		Elev.
	+	H.I. -	
TP 1+00	12.17	151.83	139.66
H.W. No 1			150.13 ✓
Ground			149.97 ✓
3+10.20		4.79	147.04 (14703)
	Culvert No 11		
	5.88	152.92	147.04
0+00		4.7	148.2
0+13		5.4	147.5
0+14		6.5	146.4
0+20		7.3	146.6
0+23		5.1	147.8
0+25			
0+29		4.8	148.1
0+30		6.2	146.7
0+31		4.8	148.1
0+50		4.4	148.5
0+57		3.5	149.4
0+68		1.6	151.3
0+76.60		70.38	153.30

Cut stakes					79
Elev.	Rod	Gr.	Cut	Fill	
	1.70	150.00	0.13		offset.
	1.86				Ground-
					check
					$\begin{array}{r} 146.83 \\ 6.91 \\ \hline 153.74 \\ 2.30 \\ \hline 151.44 \end{array}$
146.83	6.09	146.12	0.71		$\Delta \text{ at } 0+66 \text{ Grade} = 150.00 = 9.454\%$ $\text{Grade at } 0+00 = 143.76$
149.67	3.25	148.48	1.19		
					End Pipe (F.L.)

Sewer Cuts.

sta	+	H.I.	-	Elev
BM.	12.81	145.61		132.80
0+85			4.90	140.71 ✓
1+00			3.94	141.67 ✓
T.P.	11.96	156.49	1.08	144.53
1+50			11.00	145.49 ✓
2+00			8.60	147.89 ✓
2+50			5.38	151.11 ✓
2+69			3.65	152.84 ✓
3+00			2.04	154.45 ✓
T.P.	13.05	168.92	0.02	155.87
3+50			11.35	157.57 ✓
4+00			7.65	161.27 ✓
4+50			3.72	165.20 ✓
T.P.	13.03	181.94	0.01	168.91
5+00			12.89	169.05 ✓
5+50			9.27	172.67 ✓
5+69			7.76	174.18 ✓
6+00			5.55	176.39 ✓
6+50			1.27	180.67 ✓
	50.85		1.71	

Bet Penn & Walnut Str's ⁸⁰
7/18/29
Grade Cut.

Top Curb at Orig 0+00 - Culvert profile			
133.00	7.71	✓	M.H. 17° 28
134.06	7.61	✓	
137.59	7.90	✓	
141.12	6.77	✓	
144.65	6.46	✓	
146.00	6.84	✓	M.H. 17° 29
148.28	6.17		
151.95	5.62		
155.62	5.65		
159.29	5.91		
162.96	6.09		
166.63	6.04		
168.00	6.18	✓	M.H. 17° 30
170.44	5.95		
174.36	6.31		

sta	+	H.I	-	Elev
		181.94		
T.P	12.74	194.48	0.20	181.74
7+00			9.39	185.09
7+50			7.65	186.83
8+00			2.72	191.76
T.P	13.05	206.32	1.21	193.27
8+50			10.64	195.68
8+62			8.19	198.13
BM. M ^o 17	6.01	209.83	2.50	203.82 (203.94)
8+69.12			11.52	198.31
9+00			8.75	201.08
9+25			7.50	202.33
9+50			4.96	204.87
9+75			1.00	208.83
10+00			1.55	208.28
T.P	12.99	222.53	0.29	209.54
10+27.20			9.72	212.81
10+50			8.30	114.23

Gr.	Cut
178.28	6.81
182.20	4.63
186.12	5.64
190.04	5.64
191.00	7.13
191.58	6.73
194.09	6.99
196.12	6.21
198.15	6.72
200.18	8.65
202.21	6.07
204.43	8.38
206.29	7.94

MHM^o 31
 On L & CT P/
 P.C.
 B.C.

sta	t	H.I.	-	Elev	Gr.	Cut.	
		222.53					
11+00			4.76	217.77	210.35	7.42	
T.P.	8.72	227.77	3.48	219.05			
11+50			6.10	221.67	214.42	7.25	
11+93.14			3.71	224.06	217.94	6.12	M.H. N ^o 31
T.P.	0.73	216.10	12.40	215.37		✓	
B.M. N ^o 17		✓	12.28	203.82 (203.82)			
B.M.	10.73	143.53		132.80			
F.L.			16.46	127.07	Existing M.H. = 0+02.75 -		
0+41			5.74	137.79	130.03	7.76	
B.M.	5.64	138.44		132.80			
0+02.75 -							Exist. M.H.
0+07.6 -			1.82	136.62	127.59	9.03	6" plug.

sta	Sewer +	Cuts H.I.	-	Elev.
BM. N ^o 8	10.33	101.47 ✓		91.14 ✓
0+41.96			3.99	97.48 ✓ ✓
1+00			0.99	100.48 ✓
1+50			1.28	100.19 ✓
T.P.	11.77	111.91 ✓	1.33	100.14 ✓
2+00			10.22	101.69 ✓ ✓
2+50			7.18	104.73 ✓ ✓
2+96.45			0.71	111.20 ✓ ✓
3+50			6.50	105.41 ✓
4+00			5.10	106.81 ✓
4+50			4.12	107.79 ✓
5+00			2.23	109.68 ✓
5+50			1.10	110.81 ✓
5+80.95	3.99	115.41 ✓	0.49	111.42 ✓
BM.			0.64	114.77 ✓ (114.85)

Bet Upas and Eagle St.				83
Grade	Cut.			7/20/29
91.70	5.78 ✓			M.H.M ^o 22
92.91	7.57 ✓			
93.95	6.24 ✓			
94.99	6.70 ✓			
96.03	8.70 ✓			
97.00	14.70 ✓			M.H.M ^o 23
98.32	7.09 ✓			
99.55	7.26 ✓			
100.78	7.01 ✓			
102.01	7.67 ✓			
103.24	7.57 ✓			
104.00	7.42 ✓			
not on our circuit				DE. M ^o 10
7 pt at Upas Str. (Curlew)				

	Maple	left	street.	Elev.
	+	M.I.	-	
BM. M ^o 1	1.34	61.90		60.56
0+02.50			3.9 20 58.0	
0+25	5.1 4.5 56.8	9.1 37 52.8	10.4 20 51.5	
0+50	12.4 40 49.5	14.3 33 47.6	15.0 20 46.9	
0+75	13.3 40 48.6	14.4 36 47.5	15.4 20 46.5	
1+00		7.8 32 54.1	9.3 20 52.6	
1+25		4.4 34 57.5	4.1 20 57.8	
1+50		0.4 30 61.5	0.5 20 61.4	
1+75				
1+75	12.62	74.24	0.28	61.62
1+75		7.0 28 67.2	7.4 20 66.8	
2+00			2.7 20 71.5	

Cross sections			
±	Right		
5.6	4.8	4.3	2.9
0	20	23	25
56.3	57.1	57.6	59.0
10.8	6.3	4.5	0.6
0	20	24	26
51.1	55.6	57.4	61.3
14.6	4.9	0.4	
0	20	26	
47.3	57.0	61.5	
11.4	2.3	10.5	
0	20	25	
50.5	59.6	62.4	
5.8	1.1	10.9	
0	20	22	
56.1	60.8	62.8	
2.5	10.8	11.4	
0	20	22	
59.4	62.7	63.3	
4.0	2.4	11.3	
0	14	20	
57.9	59.5	63.2	
0.4	3.0	12.4	
0	10	20	
61.5	58.9	64.3	
1.7	10.8		
0	20		
72.5	75.0		

7/22/84
84

Fire Hydrants - Reynard Way.

7/24/29 85

	+	H.I.	-	Elev
B.M.	5.34	229.40		224.06 ✓
F.H. M° C			5.24	224.16 ✓

B.M. N° 17	0.99	204.81		203.82
F.H. M° B			11.78	193.03 ✓

B.M.	11.85	144.65		132.80
T.P.	12.81	156.61	0.85	143.80
T.P.	11.81	168.35	0.07	156.54
F.H. M° A			5.49	162.86 ✓
check.			3.12	165.23 (165.20)

Grade	Cut	Fill	
On 11+93.14			Sewer cut stake
224.64 ✓		0.48 ✓	Penn.
193.62 ✓		0.59 ✓	Torrence
163.08 ✓		0.22 ✓	Brookes-
4+50-	cut 591		sewer stake

	+	H.I.	-	Elev
B.M.	0.421	55.121		54.700
Pt. A.	11.680	55.057	11.744	43.377 (43.433)
B.M.			0.355	54.702
	4.49	47.89		43.40
			1.07	46.82

✓

Master B.M. at India & Laurel.
Use 43.40

Pt. for Gr.

= 92.3' from cleanout. Gr = 18.72

Cut = 28.10 ✓
" = 28' 1/4"

48.5
92.3
140.8
17.90

18.72
4.39
23.11 = H.I.
3.26
19.85

295011
4.85
1475055
2360088
1180044
143080335 ✓

18.72
1.43
20.15 = Grade -
19.85
.30

295011
43.25
1475055
550022
885033
1180044
1275922575 ✓

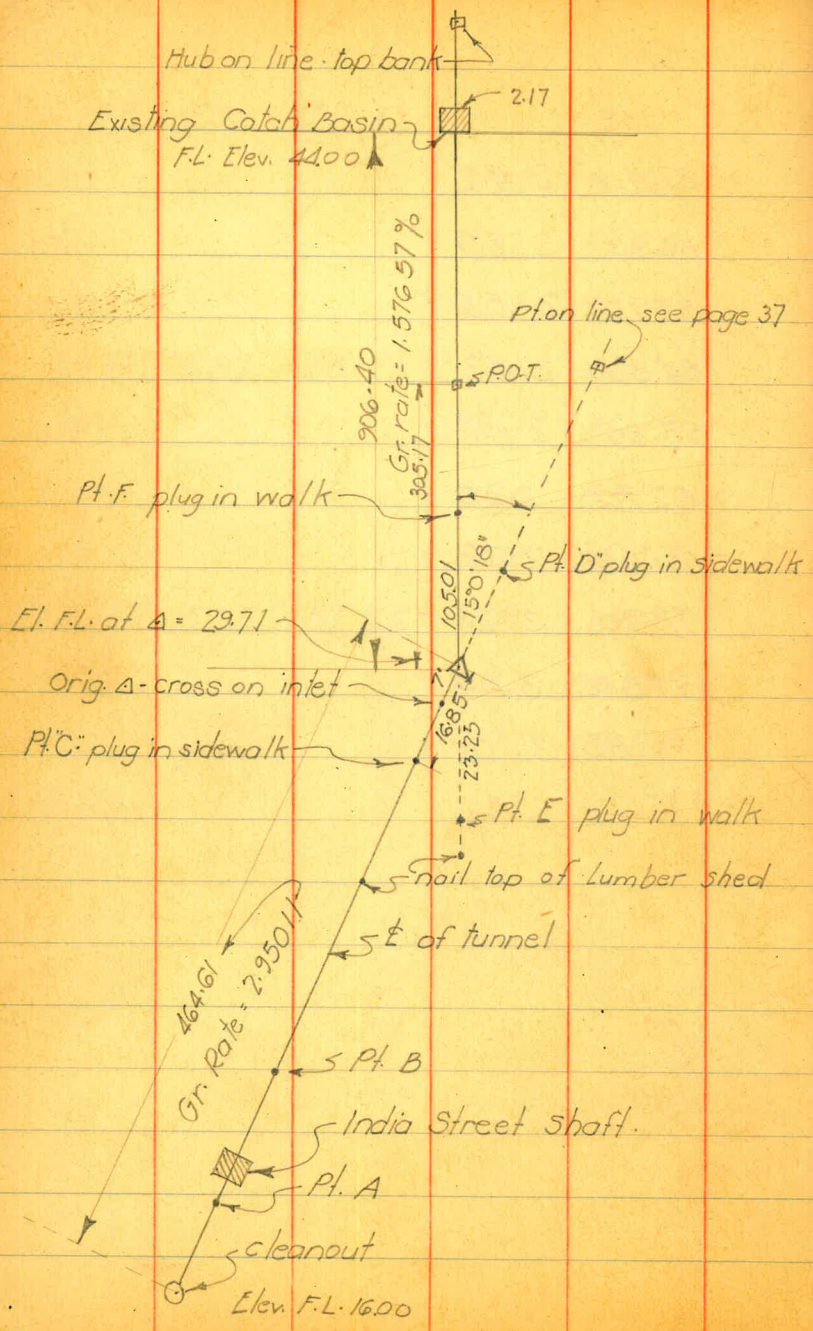
18.72
2.50
21.22
3.91
17.31 =

18.72
1.28
17.44 = Grade -
17.31
0.13 ✓

Water Cuts-			Reynard Way	
sta	t	H.I.	-	Elev.
BM. N°8	3.33	94.47		91.14
0+00			3.95	90.52 ✓
0+40			4.82	89.65 ✓
0+90			6.02	88.45 ✓
1+40 T.P.	0.87	88.20	7.14	87.33
1+90			2.01	86.19 ✓
2+40			3.20	85.00 ✓
2+90			3.84	84.36 ✓
4+20 T.P.	5.55	87.66	6.09	82.11
4+70			6.82	80.84 ✓
5+20			7.77	79.89 ✓
BM. N°9			11.57	76.09 ✓ (76.13)

Gr	Cut.
87.80	2.72 ✓
86.90	2.75 ✓
85.90	2.55 ✓
84.80	2.53 ✓
83.80	2.39 ✓
82.70	2.30 ✓
81.60	2.76 ✓
78.90	3.21 ✓
77.80	3.04 ✓
76.80	3.09 ✓

7/27/29
87



	+	H.I.	-	Elev.
B.M.	2.038	56.738		54.700
Pt. C"	6.001	56.771	5968	50.770
B.M.			2.069	54.702 ✓

50.77
 29.71 ✓
 21.06 = Cut at A below pt. C"

Culvert	M ² 9	Elev.
+ H.I.	-	
0.94	255.94	255.00
F.L.	8.81	247.13
0+06	7.03	248.91
0+16	8.09	247.85
0+20	9.29	246.65

7/31/19 89

Grade	Cut	Fill
Top of curb at Sutter E Side		
Outlet of Existing pipe		
247.11	1.80	✓
246.78	1.07	✓

outlet

Exist pipe has 2" rise in 4'

247.13

247¹⁷/₃₀ - intake

246.65

.65 / 20 = 3.25% ✓

247.30

19

247.11

33

246.78

13

246.65 ✓

Eagle Str Sewer

7/31/29

90

sta	+ H.I.	-	Elev	Gr.	Cut.	
B.M. #	8.72	84.85	76.13			
T.P.	6.20	86.16	4.89 79.96			
0+00			10.61 75.55			FL. Exist. M.H. Reynard Way.
0+32			6.20 79.96	76.35	3.61	✓
0+50			5.61 80.55	76.80	3.75	✓
0+75			2.86 83.30	77.43	5.87	✓
0+98	10.46	95.96	0.66 85.50	78.00	7.50	M.H. M ^o 17
1+43.5			7.85 88.11			FL. Existing M.H.

78.00
75.55
2.45 / 98' = 2.50%

75.55
80
76.35
45
76.80
63
77.43
57
78.00

8/1/29

	+	H.I.	-	Elev
BM	0.663	55.363		54.700
T.P.	1.725	46.884	10.204	45.159
			7.428	39.456

Reynard Inlet #

BM 15	2.738	59.125		56.387
-------	-------	--------	--	--------

$$\begin{array}{r} 18.72 \\ 300 \\ \hline 4.72 \end{array}$$

$$\begin{array}{r} 351 \\ 147 \\ 204 \\ 147 \\ \hline 0.57 \\ 21 \\ \hline 0.36 \end{array}$$

$$\begin{array}{r} 200.0 \\ 92.3 \\ \hline 107.7 \\ 92.3 \\ \hline 200.0 \end{array}$$

$$\begin{array}{r} 200 @ 29.50 \\ 2 \\ \hline 5.900 \\ 16.00 \\ \hline 21.90 \end{array}$$

$$\begin{array}{r} 295 \\ 147 \\ \hline \end{array}$$

$$\begin{array}{r} 39.46 \\ 16 \\ \hline 23.46 \end{array}$$

$$\begin{array}{r} 22.19 \\ 351 \\ \hline 18.68 \end{array}$$

(18.72)

$$\begin{array}{r} 351 \\ 295 \\ \hline 56 \end{array}$$

$$\begin{array}{r} 111 \\ 57 \\ \hline .54 \end{array}$$

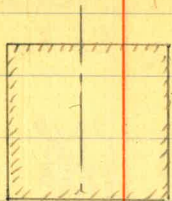
$$\begin{array}{r} 39.46 \\ 20.72 \\ \hline 18.74 \end{array}$$

$$\begin{array}{r} 18.74 \\ 1.09 \\ \hline 17.65 \end{array}$$

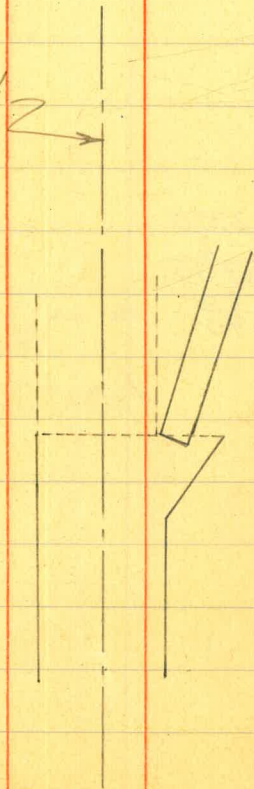
$$\begin{array}{r} 17.65 \\ 4.54 \\ \hline 22.19 \\ 21.90 \\ \hline 0.29 \end{array}$$

H.I.

91



± of drift



Proposed Change of City Line of
Reynard Hwy at Upas St.

BM	8.14	121.94	113.80
		0+0 = B.C. Lt.	
$\frac{1}{2}$			10.5
1.0	RT = Top Curb		10.81
1.0	" = Gutter		11.51
		0+25	3°34'86"
$\frac{1}{2}$			9.3
3	RT		10.1
11.5	RT = Top Curb		10.10
11.5	RT = Gutter		10.79
		0+50	7°09'72"
$\frac{1}{2}$			7.9
6	RT		9.0
16.3	RT = Top Cb		9.31
16.3	RT = Gutter		10.03
		0+75	10°41'53"
$\frac{1}{2}$			5.2
10	RT		6.8
20.7	RT = Top Cb		8.53
20.7	RT = Gutter		9.29

8 P.M. 6
Reynard
Hwy
at
Upas
1/16/21-15

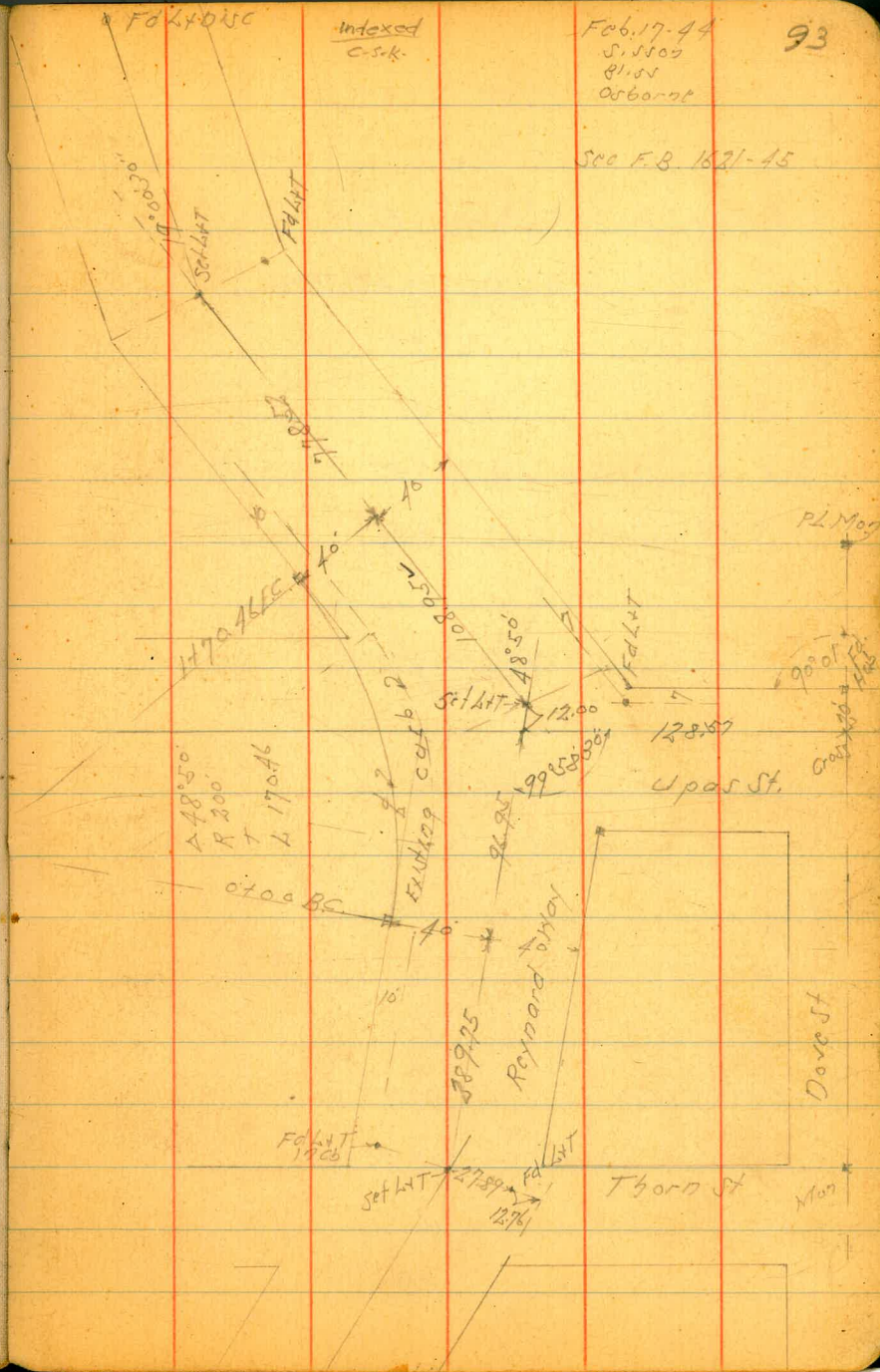
FOLYDNC

Indexed
C.S.K.

Feb. 17-44
S. S. 100
81.55
Orborn

93

See F.B. 1621-45



121.94

0+80

17.3 Rt of $\frac{1}{2}$ = Wly Power Pole

1+0 17° 19.45' POC

~~$\frac{1}{2}$~~ 2.7

8' Rt 4.8

20.5 Rt = Top Curb 7.53

20.5 Rt = Gutter 8.43

1+02

$\frac{1}{2}$ = Top 24" CI Water Main 7.02

1+03

17.4 Rt = Wly Anchor Pole

1+25 17° 54.31'

$\frac{1}{2}$ 1.5

1' Rt 5.2

15.5 Rt = Top Curb 6.61

15.5 Rt = Gutter 7.26

1+50 21° 29.18'

$\frac{1}{2}$ 3.1

5' Rt 5.8

121.94

11' Rt Top Curb 5.74

11' Rt Gutter 6.37

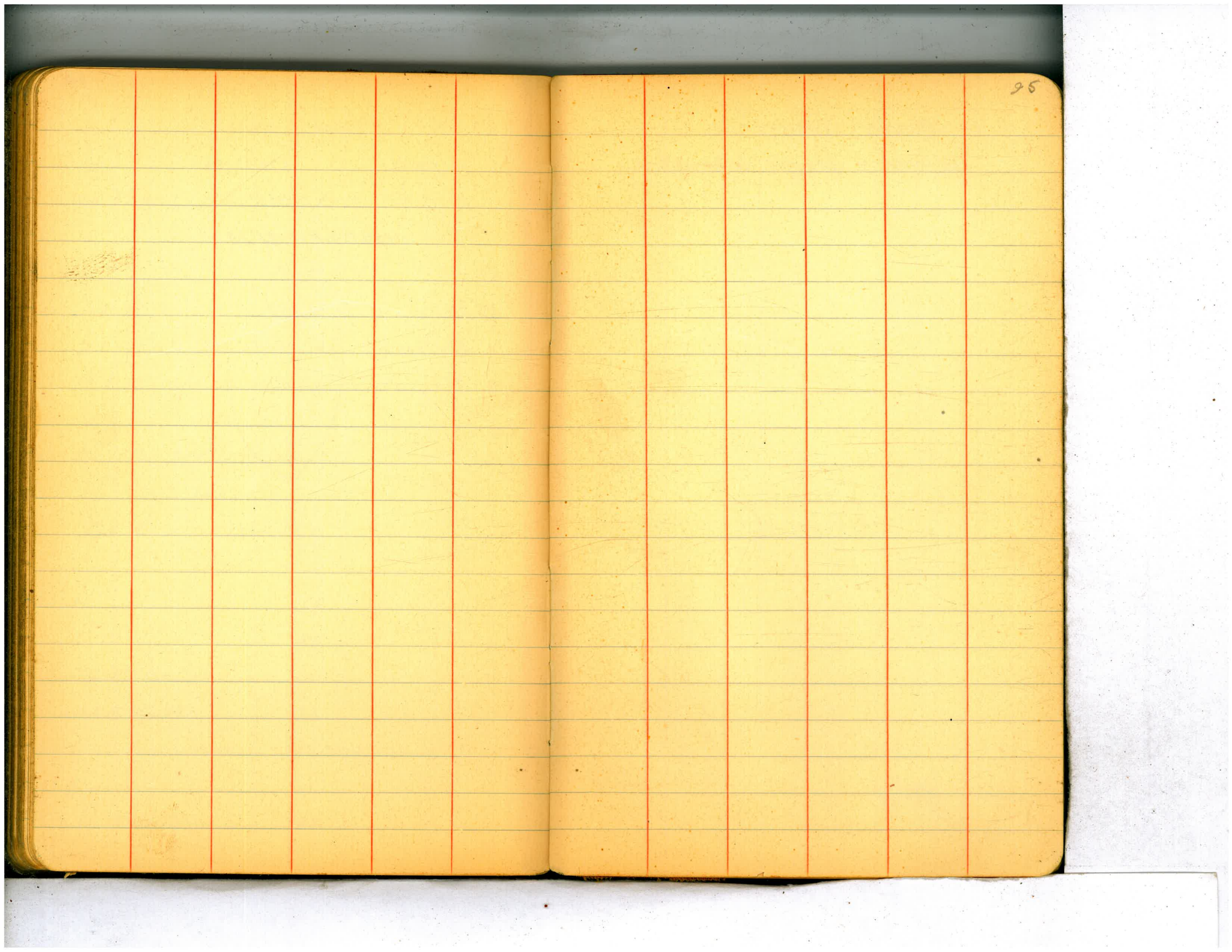
1+70.46 = F.C. 21° 25'

$\frac{1}{2}$ 3.1

5' Rt 4.8

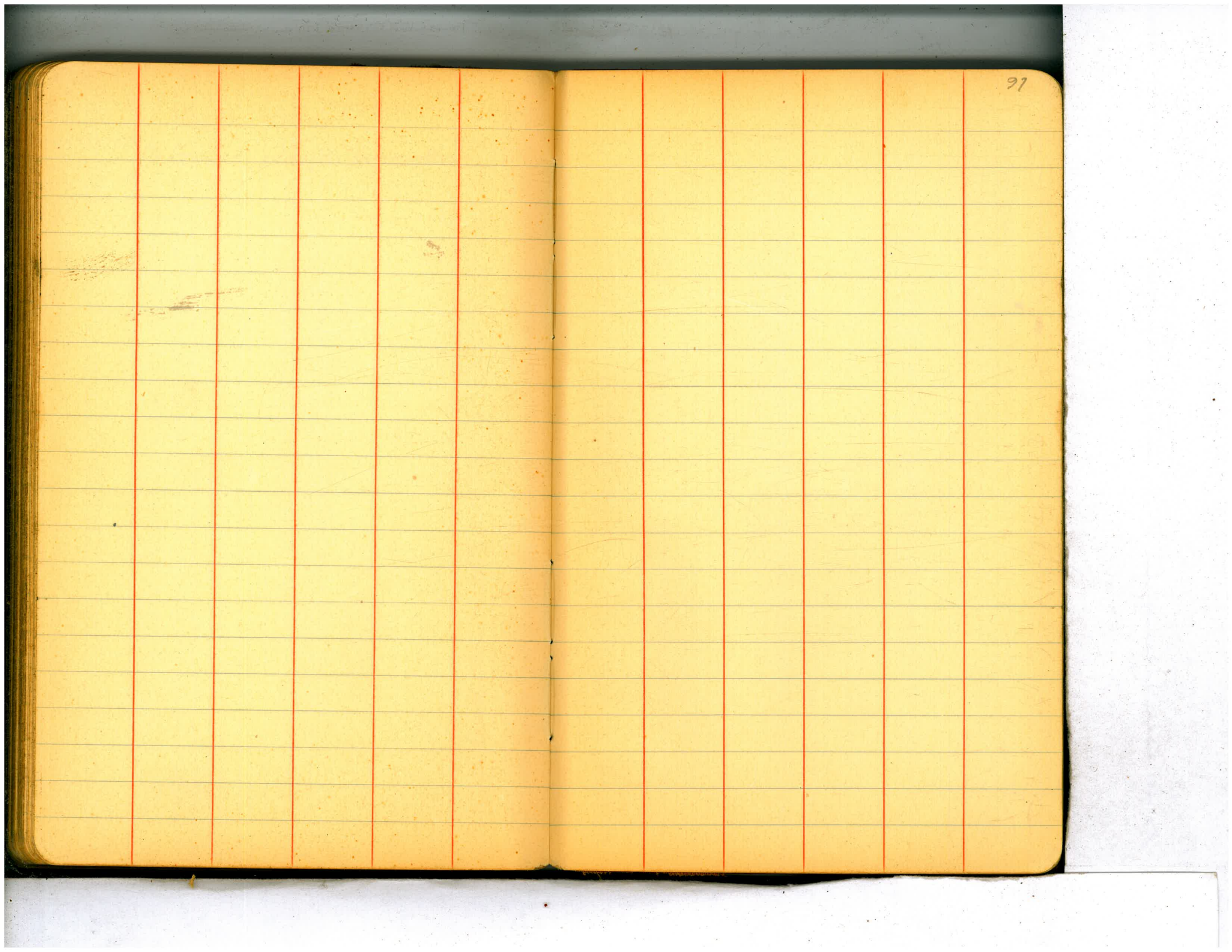
10' Rt Top Curb 5.03

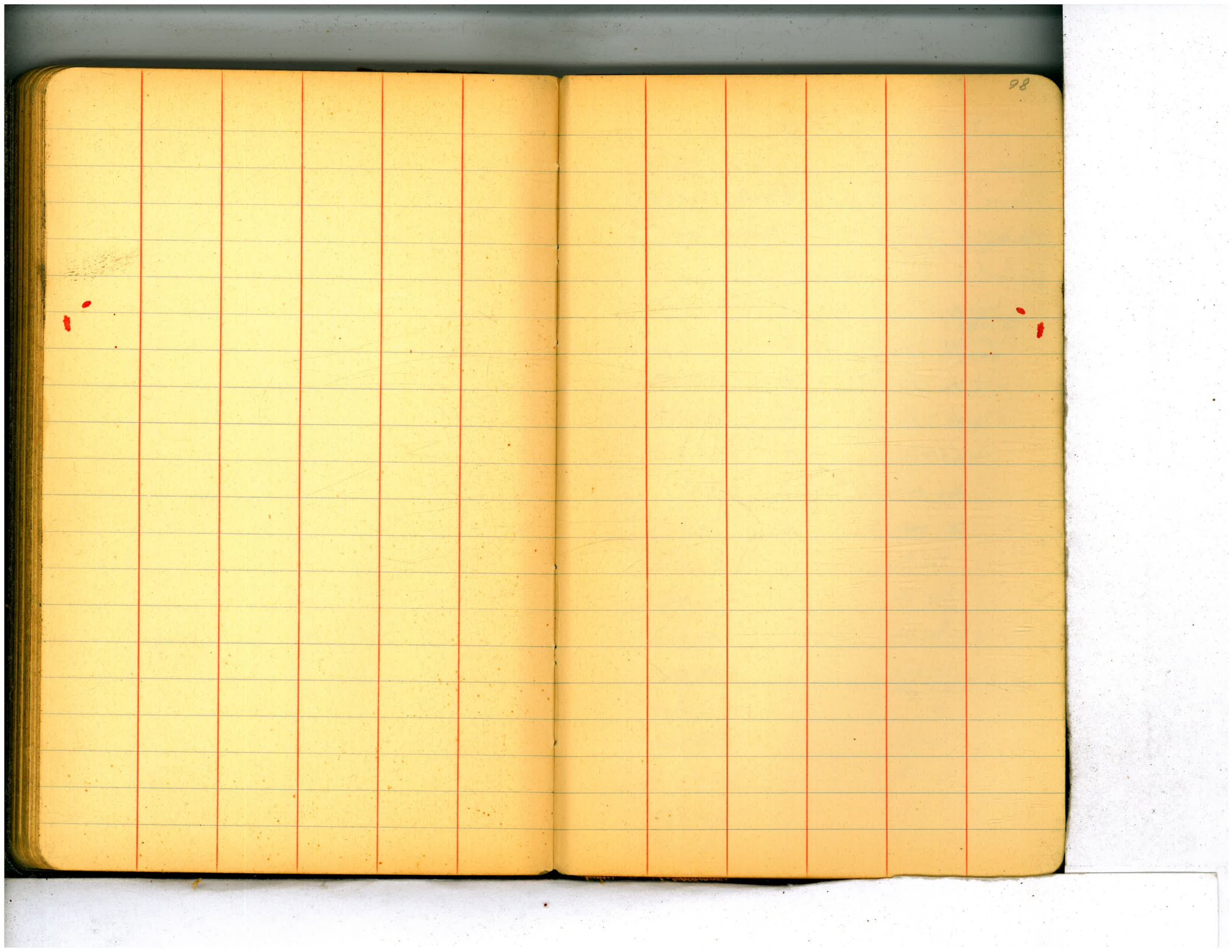
10' Rt = Gutter 5.70



Maple Street
Reference pts. Intersection

Reynard Way.





West side
 None Not Torrance
 Torrance to Brooks Ave. 5 \square per ft.
 Brooks to Walnut Ave 2 \square
 Walnut to Upes Ave. 4
 to Thurn Ave 2.5
 to Spruce Ave 5
 to Reynard 4
 to Hoffman 4
 to Olive 7
 to Nutmeg 12
 to Maple 15

99

Stake tally - 9/12/29

Rough grades -	all set
Finish grades	none set
Sewer Laterals	all set except 138, 139 142-151, 191-3
Sewer Main	all set except MH 9 to 26 MH 13 MH 27 to DE#8 and plug. MH 22 to DE#11
Man Holes	All set except 27, 18, 19, 20
Dead Ends	All set except 8, 11
Curb Inlets	Only #2 set.
outlets	None set
Fence	None set
Cleanouts	All set
Storm Drain	All set
Culverts	All set except 1, 3, 4, 5, 6
Water Main	None set except Reynard Way, Nutmeg to Sutter.
Water Services	do.
Head walls	All set
Cut-off wall	Not set
Stairways	All set except No. 1
Hydrants	8 Set (on Reynard Way)

6.56

89 60
19.50
0.10

179.60
149.20
30.40

111
20
56
30

54-58-50
109-56-50
54-58-15
58.72
51.35
0.07

93.844
1670
92.174
92.138
0.064

179-60
149-20
30-39-60
30-33-15
06-45

0+50
39
0+12

73-10-30
146-20
73-10
53-48-15
107-30-30
53-48-15
80-09-15
160-17-30
80-08-45

160.489
13.470
147.019

51-25-00
102-50
01-25-0
61-57-45
123-14-30
61-58-15

149.470
2.45
147.030

718
1129
8.47

36-19-0
72-37
26-18-30
151-37-15
303-17-30
151-37-15
134-18-15
268-27-30
184-13-45

11.4
21.3
5.7
18

160.091
486
160.599
12.771
147.806

160.091
730
159.961

119-53
237-55
119-53
239-41
119-53
127-259
3256
120-073

149.42
371
145.71

93.4
8.18
85.06
52
49.7
0.27
51
46.9
6.43

119-52-30
33-51-45
26-15-45
00-00

147.51
1.14
148.65
9.20
139.45
113.00
26.45

BM.

111.11
109.61
1.50

475.00
49.90
524.90

89-10-30
89-10-20
267-31-0

10.00
7.37
2.63

6.56
23.63

179.5930.69
332-30
176.27.30

46.18
30.19
15.99

5-69-59-40 W
89-10-20
159-10-00
174-60
20-50

92-08-30
46-04-15
41-47-15
180-00-00

111.11
75
86

106-07-30 1.50

33-51-45
67-43-30
33-51-45

112.61
111.11
1.50

179-59-60
149-10-20
30-49-40
20-50

473
165
3.00
1.50
1.50
0.38120

106-07-30
33-51-45
40-01-00
180-00-15

29-109-40
20-15
9.59.40

3+31.40
8+24.58
106.82
85.04
21.78

109.61
75
110.36

92-08-45
46-04-15
41-47-30
180-00-30

149-10-45
149-10-20
47.51

58.02
18.47
39.55

3+10.20
271.67
5+81.87
242.71

58.02
71.8
50.84100.95
9+25.53
86.50
80.50

83.50
1.50
85.00

23
22+46.30
50.66
41-47-45
83-35
41-47-45

83-35
41-47-45
148.65
8.41
140.24
113
27.24

TABLE IX.—CALCULATION OF EARTHWORK.

HEIGHT

Width	HEIGHT														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	.02	.04	.06	.07	.09	.11	.13	.15	.17	.18	.20	.22	.24	.26	.28
2	.04	.07	.11	.15	.18	.22	.26	.30	.33	.37	.41	.44	.48	.52	.56
3	.06	.11	.17	.22	.28	.33	.39	.44	.50	.56	.61	.67	.72	.78	.83
4	.07	.15	.22	.30	.37	.44	.52	.59	.67	.74	.81	.89	.96	1.04	1.11
5	.09	.19	.28	.37	.46	.56	.65	.74	.83	.93	1.02	1.11	1.20	1.30	1.39
6	.11	.22	.33	.44	.56	.67	.78	.89	1.00	1.11	1.22	1.33	1.44	1.55	1.67
7	.13	.26	.39	.52	.65	.78	.91	1.04	1.16	1.30	1.42	1.55	1.68	1.81	1.94
8	.15	.30	.44	.59	.74	.89	1.04	1.19	1.33	1.48	1.63	1.78	1.92	2.08	2.22
9	.17	.33	.50	.67	.83	1.00	1.17	1.33	1.50	1.67	1.83	2.00	2.17	2.33	2.50
10	.18	.37	.56	.74	.93	1.11	1.30	1.48	1.67	1.85	2.04	2.22	2.41	2.59	2.78
11	.20	.41	.61	.82	1.02	1.22	1.43	1.63	1.83	2.04	2.24	2.44	2.65	2.85	3.06
12	.22	.44	.67	.89	1.11	1.33	1.56	1.78	2.00	2.22	2.44	2.67	2.89	3.11	3.33
13	.24	.48	.72	.96	1.20	1.44	1.68	1.92	2.16	2.41	2.65	2.89	3.13	3.37	3.61
14	.26	.52	.78	1.04	1.30	1.55	1.81	2.08	2.33	2.59	2.85	3.11	3.37	3.63	3.89
15	.28	.56	.83	1.11	1.39	1.67	1.94	2.22	2.50	2.78	3.06	3.33	3.61	3.89	4.17
16	.30	.59	.89	1.18	1.48	1.78	2.07	2.37	2.67	2.96	3.26	3.56	3.85	4.15	4.44
17	.31	.63	.94	1.26	1.57	1.89	2.20	2.52	2.83	3.15	3.46	3.78	4.09	4.41	4.72
18	.33	.67	1.00	1.33	1.67	2.00	2.33	2.67	3.00	3.33	3.67	4.00	4.33	4.67	5.00
19	.35	.70	1.06	1.41	1.76	2.11	2.46	2.82	3.17	3.52	3.87	4.22	4.57	4.92	5.28
20	.37	.74	1.11	1.48	1.85	2.22	2.59	2.96	3.33	3.70	4.07	4.44	4.81	5.18	5.56
21	.39	.78	1.17	1.55	1.94	2.33	2.72	3.11	3.50	3.89	4.28	4.67	5.06	5.44	5.83
22	.41	.81	1.22	1.63	2.04	2.44	2.85	3.26	3.67	4.07	4.48	4.89	5.30	5.70	6.11
23	.43	.85	1.28	1.70	2.13	2.56	2.98	3.41	3.83	4.26	4.68	5.11	5.54	5.96	6.39
24	.44	.89	1.33	1.78	2.22	2.67	3.11	3.56	4.00	4.44	4.89	5.33	5.78	6.22	6.67
25	.46	.92	1.39	1.85	2.31	2.78	3.24	3.70	4.17	4.63	5.09	5.56	6.02	6.48	6.94
26	.48	.96	1.44	1.92	2.41	2.89	3.37	3.85	4.33	4.82	5.30	5.78	6.26	6.74	7.24
27	.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50
28	.52	1.04	1.55	2.07	2.59	3.11	3.63	4.15	4.67	5.18	5.70	6.22	6.74	7.26	7.78
29	.54	1.07	1.61	2.15	2.68	3.22	3.76	4.30	4.83	5.37	5.91	6.44	6.98	7.52	8.06
30	.56	1.11	1.67	2.22	2.78	3.33	3.89	4.44	5.00	5.55	6.11	6.67	7.22	7.78	8.33
31	.57	1.15	1.72	2.30	2.87	3.44	4.02	4.59	5.17	5.74	6.32	6.89	7.46	8.04	8.61
32	.59	1.18	1.78	2.37	2.96	3.56	4.15	4.74	5.33	5.92	6.52	7.11	7.70	8.30	8.89
33	.61	1.22	1.83	2.44	3.05	3.67	4.28	4.89	5.50	6.11	6.72	7.33	7.94	8.55	9.17
34	.63	1.26	1.89	2.52	3.15	3.78	4.40	5.04	5.67	6.29	6.93	7.56	8.18	8.81	9.44
35	.65	1.30	1.94	2.59	3.24	3.89	4.53	5.18	5.83	6.48	7.13	7.78	8.42	9.08	9.72
36	.67	1.33	2.00	2.67	3.33	4.00	4.66	5.33	6.00	6.67	7.33	8.00	8.67	9.33	10.00
37	.68	1.37	2.06	2.74	3.42	4.11	4.79	5.48	6.17	6.85	7.54	8.22	8.91	9.59	10.28
38	.70	1.41	2.11	2.82	3.52	4.22	4.92	5.63	6.33	7.03	7.74	8.44	9.15	9.85	10.56
39	.72	1.44	2.17	2.89	3.61	4.33	5.05	5.78	6.50	7.22	7.95	8.67	9.39	10.11	10.83
40	.74	1.48	2.22	2.96	3.70	4.44	5.18	5.92	6.67	7.41	8.15	8.89	9.63	10.37	11.11

Table gives cu. yds. in 1 ft. of a triangle of given width and height. Corrections for tenths of width are one tenth the values found under each height considering the widths from 1 to 9 as tenths and similarly the corrections for tenths of height are one tenth the figures opposite width considering the heights from 1 to 9 as tenths. Thus if w = 16.2 and h = 5.3, cu. yds. = 1.43 + .028 + .089 = 1.597 cu. yds. or practically 160 cu. yds. per 100 ft. If w exceeds 40 ft., use one half and multiply result by 2, if both w and h are large use one half of each and multiply result by 4. Any cross-section may be divided into triangles by the following rule. To the triangle of the sum of the outside cuts (or fills) = h, and 1/2 the roadbed = w, add the triangles formed by taking the distance out to each break in turn (=w) by the difference between the cuts (or fills) on each side of it (=h's) always subtracting the outer from the inner.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1 1/2.
For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.2	8.3	8.5	8.6	8.8	8.9	9.1	9.2	9.4	0
1	9.5	9.7	9.8	10.0	10.1	10.3	10.4	10.6	10.7	10.9	1
2	11.0	11.2	11.3	11.5	11.6	11.8	11.9	12.1	12.2	12.4	2
3	12.5	12.7	12.8	13.0	13.1	13.3	13.4	13.6	13.7	13.9	3
4	14.0	14.2	14.3	14.5	14.6	14.8	14.9	15.1	15.2	15.4	4
5	15.5	15.7	15.8	16.0	16.1	16.3	16.4	16.6	16.7	16.9	5
6	17.0	17.2	17.3	17.5	17.6	17.8	17.9	18.1	18.2	18.4	6
7	18.5	18.7	18.8	19.0	19.1	19.3	19.4	19.6	19.7	19.9	7
8	20.0	20.2	20.3	20.5	20.6	20.8	20.9	21.1	21.2	21.4	8
9	21.5	21.7	21.8	22.0	22.1	22.3	22.4	22.6	22.7	22.9	9
10	23.0	23.2	23.3	23.5	23.6	23.8	23.9	24.1	24.2	24.4	10
11	24.5	24.7	24.8	25.0	25.1	25.3	25.4	25.6	25.7	25.9	11
12	26.0	26.2	26.3	26.5	26.6	26.8	26.9	27.1	27.2	27.4	12
13	27.5	27.7	27.8	28.0	28.1	28.3	28.4	28.6	28.7	28.9	13
14	29.0	29.2	29.3	29.5	29.6	29.8	29.9	30.1	30.2	30.4	14
15	30.5	30.7	30.8	31.0	31.1	31.3	31.4	31.6	31.7	31.9	15
16	32.0	32.2	32.3	32.5	32.6	32.8	32.9	33.1	33.2	33.4	16
17	33.5	33.7	33.8	34.0	34.1	34.3	34.4	34.6	34.7	34.9	17
18	35.0	35.2	35.3	35.5	35.6	35.8	35.9	36.1	36.2	36.4	18
19	36.5	36.7	36.8	37.0	37.1	37.3	37.4	37.6	37.7	37.9	19
20	38.0	38.2	38.3	38.5	38.6	38.8	38.9	39.1	39.2	39.4	20
21	39.5	39.7	39.8	40.0	40.1	40.3	40.4	40.6	40.7	40.9	21
22	41.0	41.2	41.3	41.5	41.6	41.8	41.9	42.1	42.2	42.4	22
23	42.5	42.7	42.8	43.0	43.1	43.3	43.4	43.6	43.7	43.9	23
24	44.0	44.2	44.3	44.5	44.6	44.8	44.9	45.1	45.2	45.4	24
25	45.5	45.7	45.8	46.0	46.1	46.3	46.4	46.6	46.7	46.9	25
26	47.0	47.2	47.3	47.5	47.6	47.8	47.9	48.1	48.2	48.4	26
27	48.5	48.7	48.8	49.0	49.1	49.3	49.4	49.6	49.7	49.9	27
28	50.0	50.2	50.3	50.5	50.6	50.8	50.9	51.1	51.2	51.4	28
29	51.5	51.7	51.8	52.0	52.1	52.3	52.4	52.6	52.7	52.9	29
30	53.0	53.2	53.3	53.5	53.6	53.8	53.9	54.1	54.2	54.4	30
31	54.5	54.7	54.8	55.0	55.1	55.3	55.4	55.6	55.7	55.9	31
32	56.0	56.2	56.3	56.5	56.6	56.8	56.9	57.1	57.2	57.4	32
33	57.5	57.7	57.8	58.0	58.1	58.3	58.4	58.6	58.7	58.9	33
34	59.0	59.2	59.3	59.5	59.6	59.8	59.9	60.1	60.2	60.4	34
35	60.5	60.7	60.8	61.0	61.1	61.3	61.4	61.6	61.7	61.9	35
36	62.0	62.2	62.3	62.5	62.6	62.8	62.9	63.1	63.2	63.4	36
37	63.5	63.7	63.8	64.0	64.1	64.3	64.4	64.6	64.7	64.9	37
38	65.0	65.2	65.3	65.5	65.6	65.8	65.9	66.1	66.2	66.4	38
39	66.5	66.7	66.8	67.0	67.1	67.3	67.4	67.6	67.7	67.9	39
40	68.0	68.2	68.3	68.5	68.6	68.8	68.9	69.1	69.2	69.4	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 41.9. For same slopes but other widths of roadbed correct above figures by one-half difference in width of roadbed; thus in example above for 20 ft. roadbed distance will be 41.9 + (20 - 16) ÷ 2 or 2 ft. added to 41.9 = 43.9. For slopes of 1 on 1 see inside of front cover.