

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.

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
9	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 1/4 see inside of back cover.
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Made in U. S. A.

MICROFILMED

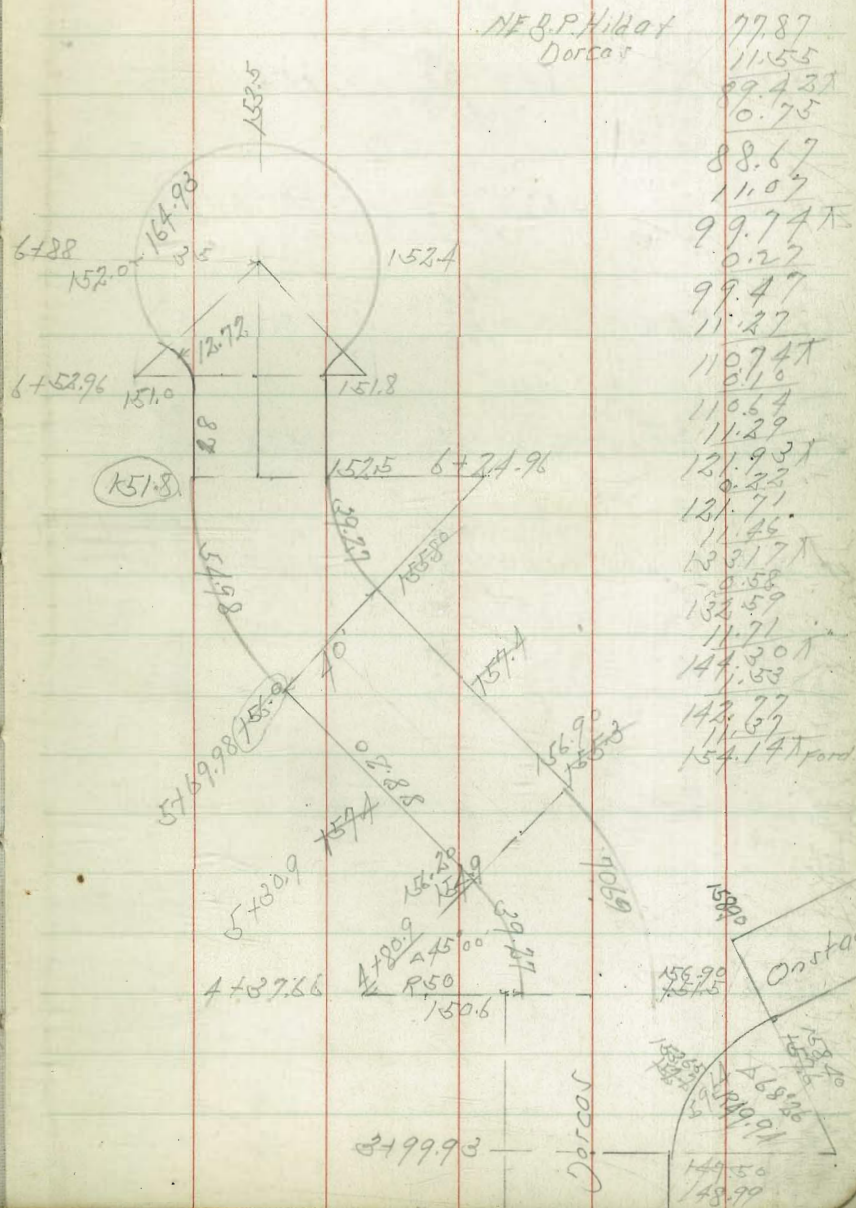
APR 1 1965

Dorcas Street, Gradar
 Lillian North #1 For #2 Page 96 3P.63

	H	F
0+0	MA. Lillian 100.50	101.50
+50	$\frac{4.6}{5.6}$ F1.0 106.08	107.08
1+0	$\frac{10.3}{10.7}$ F0.4 111.66	112.66
+55.65	BC. 09L 117.87 $\frac{4.1}{4.6}$ F0.5	118.87 $\frac{3.1}{3.9}$ C2.2 oncb
2+0	122.82 $\frac{10.4}{11.7}$ F1.3	123.82 $\frac{9.4}{7.0}$ C2.4 oncb
+50	128.40 $\frac{4.8}{7.3}$ F2.5	129.40 $\frac{3.8}{0.7}$ oncb
3+0	Brk 134.00 $\frac{-0.8}{1.8}$ F3.6	135.00 $\frac{9.3}{5.6}$ C3.9 oncb
+50	140.25 $\frac{4.1}{6.6}$ F2.5	141.25 $\frac{12.9}{9.1}$ C3.8
3+99.93	146.50 $\frac{7.6}{9.8}$ F3.2	147.50 $\frac{6.6}{3.8}$ C3.8

Indexed
 JB

March 23 1908
 S.W. 500
 Northrup
 W. Moore 8 1



4+3766 BCLT	150.6	$\frac{3.5}{11.5}$ F1.0	151.5 out
4+809 FC	154.9	$\frac{7.5}{9.3}$ F1.8	155.0 $\frac{7.1}{5.3}$ C4.8
5+30.9	157.4	$\frac{5.0}{7.9}$ F2.9	157.4 $\frac{5.0}{2.8}$ C2.2
5+6998 B.C. RA	156.0	$\frac{6.4}{7.2}$ F0.8	155.8 $\frac{6.6}{5.1}$ C1.5
6+24.96 FC	151.80	$\frac{10.6}{12.6}$ F2.0	152.5 $\frac{9.9}{8.1}$ C1.8
6+52.96 BCLT	151.0	$\frac{9.5}{11.3}$ F1.8	151.8 $\frac{8.7}{5.8}$ C2.9
6+88	152.0	$\frac{8.5}{11.8}$ F3.3	152.4 $\frac{8.1}{0.9}$ C7.2
f of Banjo	153.5	$\frac{7.0}{1.0}$ C3.0	

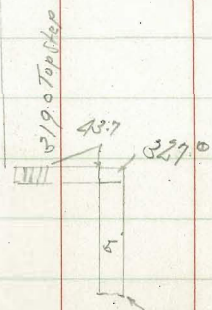
Dorcas to Onstad

	F		154.14 T
B.C.	147.50	$\frac{6.6}{2.8}$ C3.8	152.90 9.54
f Curve	152.2	$\frac{10.2}{7.0}$ C3.2	162.44 T 8.13
F.C.	157.6	$\frac{4.8}{2.8}$ C2.2	152.31 6.24 160.55 T 0.25
			160.30 11.92 172.22 T 0.82
			172.20 11.70 183.90 6.26
			BM 177.68

144.8 P
Cor Porcy
Onstad
Every 100
177.64

40th St. Foot Bridge
Between Landis & Dwight

BM	0.61	330.77		330.16	N End Cb Scb Landis + 40th St
TP	0.39	319.57	11.59	319.18	
TP	0.72	308.87	11.42	308.15	
TP	0.64	299.03	10.48	298.39	
TP	0.48	298.87	0.64	298.39	
TP	3.57	291.72	10.72	288.15	
TP	11.34	302.51	0.55	291.17	
TP	11.90	314.34	0.07	302.44	
TP	8.47	322.46	0.35	313.99	
BM	1.35	331.51		330.16	
	7.24	330.60	8.15	322.36	
Bottom of Cap 312.00				30.16	pL
39.02				1.35	
SL Landis				1.94	
30.16 > 5				322.46	
29.94 > 5				315	
29.20 > 5				7.46	
317.00				8.81	
				F 0.85 For Check	
				2.31	
				29.20	
				3.36	
				F 1.03	
				14.51	
				16.89	
				F 1.88	
				319.0	Top Sta
				43.7	
				327.0	
				329.10	Existing Alt
Top Steps				1.66	
319.00				323.0	
11.60				329.0	
10.65				3.60	
C 0.95				4.88	
				3.85	
				F 0.15	



Indexed
B

March 28-40
Jesse
Hortland
H Moore

N End Deck	315.00			4.57	
				5.43	
				F 0.86	
Best		Top Pier		Top Pier	
# 1 7.5	5.37	305.50		303.50	5.37 9.5
	2.08			6.88	
	C 1.28			F 1.51	
	3.25			3.55	
# 2 15	2.03	297.00		294.00	5.03 19.0
	1.56			5.57	
	C 0.47			F 0.49	
	4.95			5.55	
# 3 23	1.77	290.00		286.00	5.72 27.0
	1.98			5.85	
	F 0.03			F 0.15	
	3.35			7.15	
# 4 30	8.72	283.00		280.00	11.72 33.0
	8.85			11.88	
	F 0.12			50.04	
	7.95			3.35	
# 5 32.0	10.77	281.00		281.00	10.77 32.0
	11.63			10.63	
	F 0.39			C 0.03	
	8.15			3.15	
# 6 30.6	8.72	283.00		283.00	8.72 30.00
	10.06			8.67	
	F 1.34			C 2.03	
	7.75			7.75	
# 7 19.00	8.51	294.00		297.00	5.51 16.0
	8.90			4.95	
	F 0.39			C 0.56	
	5.55			4.95	
# 8 11.0	12.34	302.00		305.00	9.34 8.0
	12.18			9.12	
	C 0.16			C 1.12	
	3.95			3.35	
# 9 5.0	6.34	308.00		310.00	4.34 3.0
	5.81			4.45	
	C 0.83			3.45	
	3.75			C 1.79	
				3.35	
S End Deck	315.00				
	7.46				
	4.88				
	C 3.24				

Grades Alley Block 174 Univ. Hts.
Lincoln to Polk Alabama & Mississippi

2	+40	Exc Co. 28	299.50	5.52 5.22 Co. 30	299.80	
	+20	Co. 17	299.30	5.82 5.50 Co. 22	299.50	
	2+0	Co. 84	298.95	2.26 1.81 Co. 85	299.10	
	+80	Co. 21	298.55	2.76 2.37 Co. 37	298.60	
	1+60	PIC Co. 43	298.05	2.31 2.91 Co. 40	298.05	293.05 8.31 2.91 Co. 40
	1+10	Co. 21	296.67	4.84 4.35 Co. 49	296.53	
	+60	Exc Co. 61	295.30	6.06 5.25 Co. 28	295.00	
	+40	Co. 65	294.38	7.33 7.01 Co. 32	294.03	
	+20	Co. 70	292.70	9.01 7.02 Co. 99	292.35	
	0+0	Exc Co. 361 Lincoln	290.38	6.03 5.38 Co. 25	289.96	

April 4^o
V. Moore
Northern
H. Moore

Indexed
9/2 11

6+0	Exc Polk		300.84	6.06 6.03 on Pav.		5.34 5.29 on Pav.	301.56	294.36 7.00 267.367
+80			301.40	5.50 5.25 Co. 25		5.12 3.03 Co. 09	301.78	299.32 305.327
+60			301.70	5.20 5.28 Co. 28		4.90 5.25 Co. 65	302.00	300.86 6.04 306.901
+40			301.80	5.10 5.00 Co. 10		4.80 4.78 Co. 62	302.10	800.907 0.926
+20			301.85	5.05 5.52 Co. 48		4.75 5.34	302.15	
5+0	PIC		301.80	5.10 4.88 Co. 22		4.80 4.52 Co. 28	302.10	
4+48			301.33	5.57 6.22 Co. 70		5.27 5.35 Co. 08	301.63	
4+0			300.91	4.41 4.81 Co. 40		5.68 5.60 Co. 08	301.21	
3+51			300.48	4.84 5.02 Co. 18		4.51 4.14 Co. 40	300.78	
2+92			299.96	5.36 4.91 Co. 45		5.06 4.37 Co. 69	300.26	

J.F. 8P
Lincoln 4
M. Moore
B.M. 285.86
10.12
295.997
1.62

Grades E & M Alley Black Hill Chm. Hts
30th St + Ohio FICajont Ohio
Meads S

Indexed
PB

May 2-40
Sisson
Northern
Market

B.M. 36310 S.F.B.P.
FICajont Ohio
8.22
37789X

12.9
359.00
7.2
8.0

+40	366.82	$\begin{array}{r} 5.07 \\ 7.66 \\ \hline 12.73 \\ \hline 0.45 \end{array}$	366.61	$\begin{array}{r} 5.28 \\ 7.87 \\ \hline 13.15 \\ \hline 0.47 \end{array}$
+25.7 = Sewer laterals				
2+20 = P.V.C.	366.75	$\begin{array}{r} 5.14 \\ 7.05 \\ \hline 12.19 \\ \hline 0.09 \end{array}$	366.55	$\begin{array}{r} 5.34 \\ 7.85 \\ \hline 13.19 \\ \hline 0.47 \end{array}$
+90	366.56	$\begin{array}{r} 5.33 \\ 7.06 \\ \hline 12.39 \\ \hline 0.78 \end{array}$	366.36	$\begin{array}{r} 5.52 \\ 7.96 \\ \hline 13.48 \\ \hline 0.58 \end{array}$
+60 = F.L.H.S.	366.37	$\begin{array}{r} 5.52 \\ 7.52 \\ \hline 13.04 \\ \hline 0.98 \end{array}$	366.17	$\begin{array}{r} 5.71 \\ 7.93 \\ \hline 13.64 \\ \hline 0.74 \end{array}$
1+40 = H.L.H.S.	366.25	$\begin{array}{r} 5.64 \\ 7.64 \\ \hline 13.28 \\ \hline 0.00 \end{array}$	366.05	$\begin{array}{r} 5.84 \\ 7.80 \\ \hline 13.64 \\ \hline 0.34 \end{array}$
+90	365.94	$\begin{array}{r} 5.95 \\ 5.15 \\ \hline 11.10 \\ \hline 0.80 \end{array}$	365.74	$\begin{array}{r} 6.15 \\ 5.37 \\ \hline 11.52 \\ \hline 0.78 \end{array}$
+40 = F.V.C.	365.63	$\begin{array}{r} 6.26 \\ 5.26 \\ \hline 11.52 \\ \hline 0.00 \end{array}$	365.43	$\begin{array}{r} 6.46 \\ 5.48 \\ \hline 11.94 \\ \hline 0.98 \end{array}$
+20	365.42	$\begin{array}{r} 6.47 \\ 7.47 \\ \hline 13.94 \\ \hline 0.00 \end{array}$	365.24	$\begin{array}{r} 6.65 \\ 6.21 \\ \hline 12.86 \\ \hline 0.44 \end{array}$
0+0 = F.L. 30th St	365.03	$\begin{array}{r} 6.86 \\ 6.80 \text{ on Pen.} \\ \hline 13.66 \end{array}$	364.91	6.98

3+00.9 = H.L. Ohio	366.31	5.58	365.93	$\begin{array}{r} 5.91 \\ 5.96 \text{ on Pen.} \end{array}$
+80	366.60	$\begin{array}{r} 5.79 \\ 7.29 \\ \hline 13.08 \\ \hline 0.80 \end{array}$	366.53	$\begin{array}{r} 5.56 \\ 7.98 \\ \hline 13.54 \\ \hline 0.58 \end{array}$
2+60	366.76	$\begin{array}{r} 5.13 \\ 7.69 \\ \hline 12.82 \\ \hline 0.44 \end{array}$	366.53	$\begin{array}{r} 5.66 \\ 7.79 \\ \hline 13.45 \\ \hline 0.59 \end{array}$

Grades N+5 Alley Block III Univ. Hts.

	W	E
3+30	367.65 4.41 4.19 Co.22	367.65 4.41 6.65 Co.76
3+10	367.53 4.53 4.16 Co.27	367.53 4.53 3.95 Co.58
2+90 - PVC	367.41 4.65 4.17 Co.48	367.41 4.65 4.51 Co.09
2+38	367.20 4.86 4.72 Co.14	367.20 4.86 4.74 Co.12
1+86	366.99 5.07 4.85 Co.22	366.99 5.07 4.85 Co.22
1+34	366.79 5.27 5.10 Co.17	366.79 5.27 4.27 Co.100
0+82	366.58 5.48 4.99 Co.37	366.58 5.48 5.20 Co.28
0+30 Brk	366.37 5.69 4.89 Co.100	366.37 5.69 3.69 Co.100
0+0 - HLFYH	366.25	366.37

RM 363.10 S.F.P.
El Cajon 10410

	W	E
4+50 = S.L. Meach	369.08 2.98	369.34 2.72 2.71 out part
4+30	369.35 2.71 2.55 Co.16	369.41 2.65 2.15 Co.50
4+10 - PVC	369.17 2.89 2.82 Co.07	369.17 2.89 2.51 Co.38
3+70 - PVC	368.67 3.69 3.42 Co.27	368.67 3.60 3.29 Co.45
3+50	368.01 4.05 out	368.01 4.05 3.56 Co.49

Hutweg

Fdkt

66

10. Setkt

7

Bancroft

May 4-70
5:55

Brant

RP LKT
10

10
LKT

7

17th St Grades F/Cajon to Hwy 5176 of ^{index} _{cas.}
Granada Tract

3+41.19 - H.L. Meade	348.70	3.9 3.9 0.0	348.15	4.5 4.9 F0.4
3+21.19 - BM 34881 out			348.55	4.1 5.9 F0.9
3+01.19 - S.L. Meade	349.00	3.9 3.5 0.4	348.45	4.3 4.5 F0.3
3+81.19 - P.V.C.	348.91	4.0 3.5 0.5	348.44	4.4 4.3 0.1
3+34.33	348.70	4.3 3.2 0.8	348.29	4.6 4.2 0.24
1+87.46	348.50	4.4 3.9 0.5	348.14	4.7 4.5 0.1
1+40.60	348.29	4.6 4.4 0.3	348.00	4.9 4.6 0.3
0+93.73 +	348.07	4.8 4.9 0.4	347.85	5.0 4.3 0.8
0+46.86	347.86	5.0 4.5 0.5	347.70	5.1 5.2 0.0
0+0 - H.L. F/Cajon	347.61	5.3 5.39 0.7F	347.55	5.38 5.67 0.70

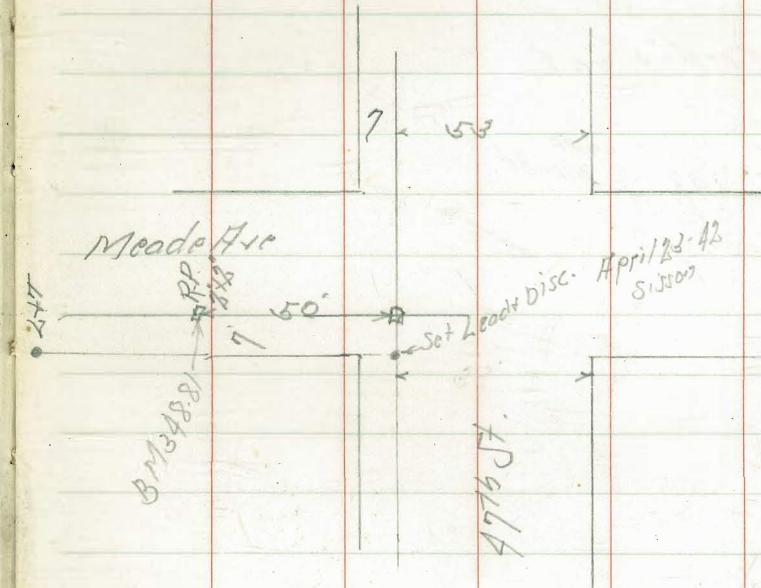
BM 347.20	347.20	5.87	343.20	4.7 5.3 F0.6
7+58	348.38	352.87 4.49 4.26 8.49	343.20	4.7 5.3 F0.6
7+12	344.15	352.64 4.21 4.36 5.77	343.34	4.5 6.4 F1.9
6+66	342.59	348.57 5.29	343.48	4.9 5.7 F0.8
6+20 = F.V.C.	343.66	5.46 347.88	344.22	4.7 5.2 F0.5
5+80	343.87		344.44	4.7 4.3 0.3
5+40	344.38		344.84	4.0 3.7 0.3
5+00 = P.V.C.	345.14		345.44	7.5 7.3 0.3
4+53.73	346.17		346.24	6.5 6.1 0.4
4+07.46	347.21		347.05	5.4 4.9 0.5
3+61.19 = F.V.C.	348.25		347.85	4.4 3.9 0.5
6+90 = 1/2 to 7/8	343.40			4.8 5.4 F0.6

W

F

9+42.40 - 1/4 Gravel	339.52	5.00 5.04 on cb End	339.93	4.59 4.67 on cb End
9+70 - F.V.C. on F	340.98	6.9 5.6 6.9	341.33	6.5 2.9 6.36
8+90	342.21	5.7 3.7 6.0	342.75	5.1 2.3 6.39
8+70 - P.V.C.	342.71	5.2 2.1 6.1	343.30	4.6 1.8 6.28
8+50 - P.V.C.	342.92	5.0 3.0 6.0	343.52	4.4 1.8 6.26
8+04	343.06	4.8 4.0 6.8	343.66	4.2 1.8 6.3

342.88 T
5.81
342.37
2.25
344.52 T
4.17
BM 340.35 δ F Top Fire Hyd
Mon root 47' Hyd
340.38 Miller



47th St Sewer Lateral

4 + 48 = Sewer Lateral #1	340.86	12.48
0.72		8.17
		4.31

4 + 712 = Sewer Lateral #2	340.99	12.05
0.71		7.45
		4.90

5+03 Fire Hyd. 07 E

BM	348.81	0.71	Wood
	4.53		
	353.34		

348.25	47.75	47.90	47.35	347.85	346.19
348.59	48.09	48.27	47.65	348.15	
348.70	48.16	48.45	47.85	348.35	
348.80	48.30	48.57	47.95	348.45	
348.98	48.48	48.52	47.94	348.44	348.19
349.10	48.60				
	48.55				
	48.54				
	48.61				
	48.55				

347.88	47.38	47.65	47.30	347.80	
			47.21	347.71	
			47.05	347.57	
	47.20				
			46.85	347.22	

El Gajon Bird.

BM 347.20 SNBP
 5.06 El Gajon 117
 35226 T 347.22 347.57 347.71 347.80
 5.04 4.69 4.55 4.46
 5.06

17th St.

42.83

42.37

42.35

42.98

43.05

6+20

343.62

43.12

43.53

43.77

43.83

43.72

344.22

343.71

43.21

43.62

43.85

43.91

43.80

344.30

343.87

43.37

43.77

44.00

44.05

43.94

344.41

344.01

43.51

43.92

44.16

44.22

44.12

344.62

344.38

43.88

44.25

44.46

44.48

44.34

344.84

344.73

44.23

44.58

44.77

44.77

44.61

345.11

5+0

345.14

44.64

44.97

45.14

45.12

44.94

345.44

47th St

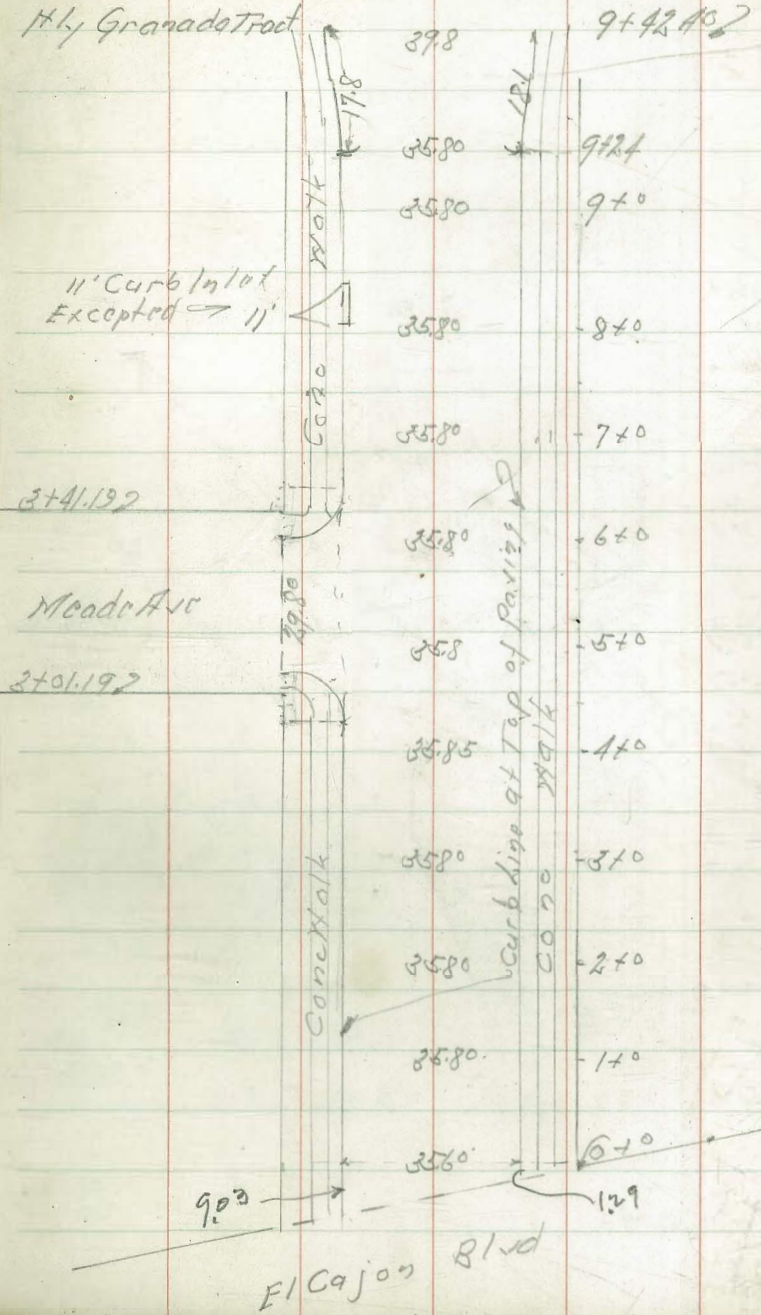
9+42.4°	339.52	39.02			39.43	339.93
9+30	340.34	39.84	40.19	40.37	40.37	340.71
	340.98					341.33
	341.42	40.92	41.29	41.50	41.53	341.89
	341.86					342.36
	342.21	41.71	42.10	42.33	42.37	342.75
	342.50					343.07
	342.71	42.21	42.61	42.85	42.91	343.30
	342.85					343.45
8+50	342.92	42.42	42.83	43.07	43.13	343.53

Final Improvement of 47th
 El Cajon Blvd to Hwy Granada Tract

Jan 29 40
 Sidney
 North

Indexed
 C.S.K.

Hwy Granada Tract



3+41.132

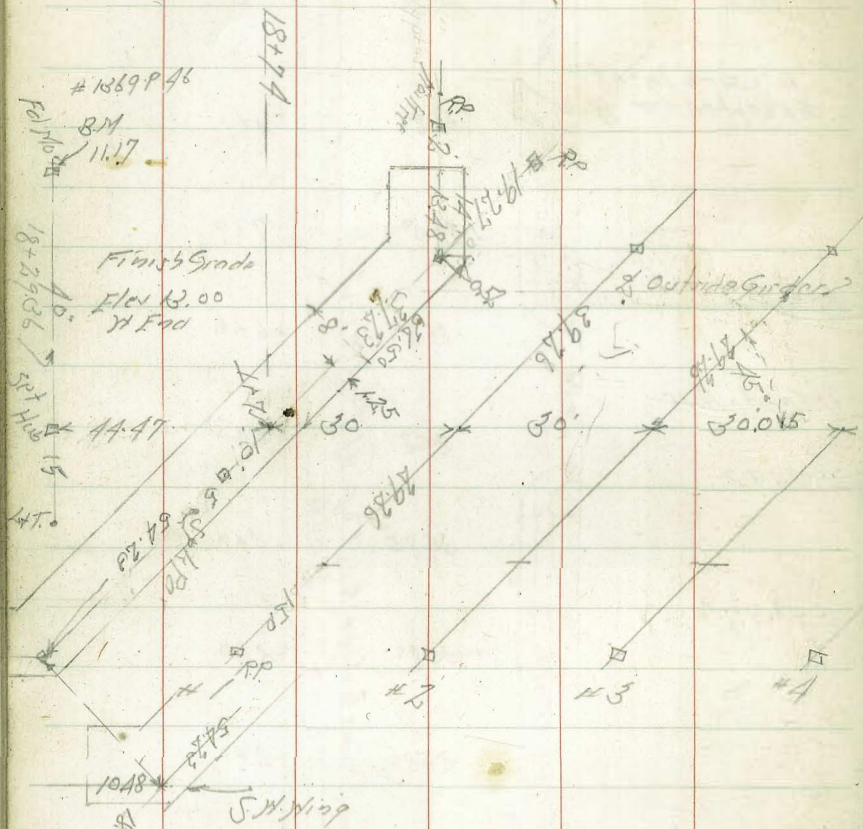
Meadow Ave

2+01.192

El Cajon Blvd

Balboa Ave Bridge Rose Canyon Creek

For Revised Deck Grades Page 52



B.M.	5.89	17.06	11.17	1109 N.E. Balboa
B.M.	3.93	13.13	11.17	1109 N.E. Balboa

Indexed

4.83 below Deck Grade
for Cut off
3.83 below for Top Cap
5.33 below Deck for Bot Cap

May 14-46
S.W. 07
Northway
W Moore



B.M.	3.93	15.10	11.17
TP	1.99	4.95	12.14
			-5.80 Bot Footing
			1109.50 -4.55 Top

July 21-40

N End Bridge		Deck Grade	
1.24 1.59 0.037	0715' Right Soft	13.00	1.24 1.06 0.074
1.24 1.59 0.037	0736' RP N Angle Footing	13.00	1.24 1.06 0.074
1.24 1.59 0.037		13.00	1.24 1.06 0.074
BM 11.17 3.07 14.24T 11.20 3.07 3.47 3.51T 0.47 3.04 11.39 14.43T		13.03 F 14.01	-9.52 4.29 14.01
BM 11.17 3.07 14.24T 11.20 3.07 3.47 3.51T 0.47 3.04 11.39 14.43T		13.07 F 14.27	-9.36 4.21 14.27
BM 11.17 3.07 14.24T 11.20 3.07 3.47 3.51T 0.47 3.04 11.39 14.43T		13.10 F 14.37	-9.59 4.78 14.37
BM 11.17 3.07 14.24T 11.20 3.07 3.47 3.51T 0.47 3.04 11.39 14.43T		13.13 F 13.96	-9.62 3.22 13.96
BM 11.17 3.07 14.24T 11.20 3.07 3.47 3.51T 0.47 3.04 11.39 14.43T		13.17 F 13.34	-9.66 4.62 13.34
1.23 3.77 F 2.54	0710' RP N Angle Footing	13.20	1.04 1.45 F 0.41
1.23 3.77 F 2.54		13.20	1.04 1.45 F 0.41
1.23 3.77 F 2.54		13.20	1.04 1.45 F 0.41

Pile		Cut off 4.83 Below Deck Grade	
BM 11.17 6.77 17.94T 12.09 5.85 0.31 6.16T 0.31 5.85 0.19 6.04T 5.48 0.56 2.22 3.85T 8.17 3.68 11.27 15.45T 4.28 11.17 B.M.		8.20 F 10.93	-4.35 6.68 10.93
BM 11.17 6.77 17.94T 12.09 5.85 0.31 6.16T 0.31 5.85 0.19 6.04T 5.48 0.56 2.22 3.85T 8.17 3.68 11.27 15.45T 4.28 11.17 B.M.		8.24 F 8.54	-4.39 4.15 8.54
BM 11.17 6.77 17.94T 12.09 5.85 0.31 6.16T 0.31 5.85 0.19 6.04T 5.48 0.56 2.22 3.85T 8.17 3.68 11.27 15.45T 4.28 11.17 B.M.		8.27 F 7.71	-2.22 5.48 7.71
BM 11.17 6.77 17.94T 12.09 5.85 0.31 6.16T 0.31 5.85 0.19 6.04T 5.48 0.56 2.22 3.85T 8.17 3.68 11.27 15.45T 4.28 11.17 B.M.	Mon	8.30 F 8.71	-2.26 8.71
BM 11.17 6.77 17.94T 12.09 5.85 0.31 6.16T 0.31 5.85 0.19 6.04T 5.48 0.56 2.22 3.85T 8.17 3.68 11.27 15.45T 4.28 11.17 B.M.		8.34 F 8.37	-2.09 6.30 8.37
BM 11.17 6.77 17.94T 12.09 5.85 0.31 6.16T 0.31 5.85 0.19 6.04T 5.48 0.56 2.22 3.85T 8.17 3.68 11.27 15.45T 4.28 11.17 B.M.		8.34 F 7.77	-2.09 5.66 7.77

Paving Grady Alley Block 26 Ocean Beach
 From Ebers to Freyde Between Santa Monica & San Diego
 S

2+88	63.93	$\begin{matrix} 9.61 \\ 8.86 \\ \hline c 0.75 \end{matrix}$	63.63	$\begin{matrix} 9.91 \\ 16.16 \\ \hline c 0.19 \end{matrix}$
2+36	61.12	$\begin{matrix} 13.43 \\ 12.10 \\ \hline c 0.33 \end{matrix}$	60.82	$\begin{matrix} 13.72 \\ 12.17 \\ \hline c 0.55 \end{matrix}$
1+84	58.30	$\begin{matrix} 15.21 \\ 15.39 \\ \hline c 0.15 \end{matrix}$	58.00	$\begin{matrix} 73.54X \\ 3.77 \\ 3.78 \\ \hline c 0.59 \end{matrix}$
1+32	55.49	$\begin{matrix} 6.28 \\ 6.19 \\ \hline c 0.09 \end{matrix}$	55.19	$\begin{matrix} 61.77X \\ 2.08 \\ 1.85 \\ \hline c 0.23 \end{matrix}$
+80 = F.V.C.	52.67	$\begin{matrix} 4.60 \\ 3.28 \\ \hline c 1.32 \end{matrix}$	52.37	$\begin{matrix} 4.90 \\ 4.18 \\ \hline c 0.72 \end{matrix}$
+60	51.46	$\begin{matrix} 5.81 \\ 4.35 \\ \hline c 1.46 \end{matrix}$	51.18	$\begin{matrix} 6.09 \\ 4.81 \\ \hline c 1.28 \end{matrix}$
+40	50.02	$\begin{matrix} 2.25 \\ 4.71 \\ \hline c 2.39 \end{matrix}$	49.82	$\begin{matrix} 7.45 \\ 6.82 \\ \hline c 1.81 \end{matrix}$
+20	48.34	$\begin{matrix} 8.93 \\ 5.76 \\ \hline c 3.17 \end{matrix}$	48.25	$\begin{matrix} 9.02 \\ 6.33 \\ \hline c 2.69 \end{matrix}$
0+0 = F.V.C.	46.42		46.50	$\begin{matrix} 2.79 \\ 2.70 \\ \hline c 0.79 \end{matrix}$

~~Indexed~~

5+40	83.42	$\begin{matrix} 2.01 \\ 5.96 \\ \hline c 1.05 \end{matrix}$	83.13	$\begin{matrix} 2.30 \\ 1.22 \\ \hline c 1.17 \end{matrix}$
5+30	82.39	out	82.09	out
5+20 P.V.C.	81.44	$\begin{matrix} 3.99 \\ 2.19 \\ \hline c 0.80 \end{matrix}$	81.14	$\begin{matrix} 4.39 \\ 3.81 \\ \hline c 0.45 \end{matrix}$
4+80	77.75	$\begin{matrix} 7.68 \\ 6.52 \\ \hline c 1.16 \end{matrix}$	77.45	$\begin{matrix} 7.98 \\ 6.80 \\ \hline c 1.18 \end{matrix}$
4+40 = F.V.C.	74.07	$\begin{matrix} 11.36 \\ 11.12 \\ \hline c 0.18 \end{matrix}$	73.77	$\begin{matrix} 11.66 \\ 10.72 \\ \hline c 0.94 \end{matrix}$
4+20	72.30	$\begin{matrix} 13.13 \\ 12.22 \\ \hline c 0.91 \end{matrix}$	72.00	$\begin{matrix} 13.43 \\ 14.82 \\ \hline c 1.61 \end{matrix}$
4+0	70.68	$\begin{matrix} 2.86 \\ 4.87 \\ \hline c 0.99 \end{matrix}$	70.38	$\begin{matrix} 15.05 \\ 13.65 \\ \hline c 1.40 \end{matrix}$
3+80	69.21	$\begin{matrix} 4.32 \\ 3.28 \\ \hline c 1.55 \end{matrix}$	68.91	$\begin{matrix} 4.63 \\ 3.61 \\ \hline c 1.02 \end{matrix}$
3+60	67.91	$\begin{matrix} 5.63 \\ 5.38 \\ \hline c 0.27 \end{matrix}$	67.61	$\begin{matrix} 5.93 \\ 5.43 \\ \hline c 0.51 \end{matrix}$
3+40 P.V.C.	66.75	$\begin{matrix} 6.78 \\ 6.18 \\ \hline c 0.61 \end{matrix}$	66.45	$\begin{matrix} 7.09 \\ 6.14 \\ \hline c 0.95 \end{matrix}$

May 27-46
 5
 17
 H. Moore

Set of Laterals #1	5+1000	75.68	9.75 2.58 c 5.17
#2	4+3500	69.54	15.89 14.20 c 4.89
#3	2+6000	56.64	16.90 10.68 c 6.22
#4	2+1000	53.86	19.68 13.19 c 6.54
#5	1+8500	52.58	9.19 5.12 c 6.07
#6	1+6000	51.29	10.48 4.87 c 5.87
11	5	5	4.90
5+992 - 1/2 L Froude	91.69	499	5.14 91.93
5+90	90.70	91.00	6.13 5.28 F 0.15 5.83 4.10 c 1.73
5+70 F.S.C.	87.50	87.50	9.33 9.51 F 0.18 9.33 9.56 F 0.23
5+60	85.99	85.80	10.84 10.86 c 0.48 11.03 11.15 F 0.13
5+50	84.62	84.40	12.21 11.38 c 0.83 12.23 10.94 c 1.49
			96.83

B.M. 25.03 NW 1/4 Saratoga & Sarret

12.17
27.20 T
0.39
36.91
12.38
49.29 T
6.18
49.11
8.16
57.27 T
1.85
55.42
6.35
61.77 T
0.36
61.41
12.13
73.54 T
70.48
73.86
12.37
85.43 T
0.96
84.47
12.36
96.83 T
4.47
92.36 on top of H.L. H. 1/4
H.L. Froude
92.21

92.82
92.13
92.70 c 5 cb Froude
92.7

Paving Grades Hoyt barn St.
1913 to Date

BM	1.33	277.37	276.04	S.F.P. Hoyt barn St. Date
TP	3.18	268.46	12.09	265.28

Indexed
JF

June 1-40

19

Date St.

275.17	74.95	273.50
73.98	73.99	73.74
	73.26	72.41

0.586

0.526

63.44	63.61	63.58	63.35	62.93
-------	-------	-------	-------	-------

268.86

262.44

2916.57

Paving Grades Monroe Park Blvd to Alabama
 Mission Ave. Florida to Louisiana

June 3-10
 S. W. 1/4
 H. Moore
 S.F.B.P.
 Park Blvd
 Monroe

B.M. 5.56 350.54 344.98

Indexed

20
 St.

Florida

321.57⁵ 320.66^v
 10 323.17 22.78 22.16 21.78 321.41

346.10 46.34 46.32 46.05 345.50
 10 346.91^v 346.28^v
 Georgia St.

347.45⁵ 346.75⁵
 10 347.44 47.68 47.66 47.38 346.84

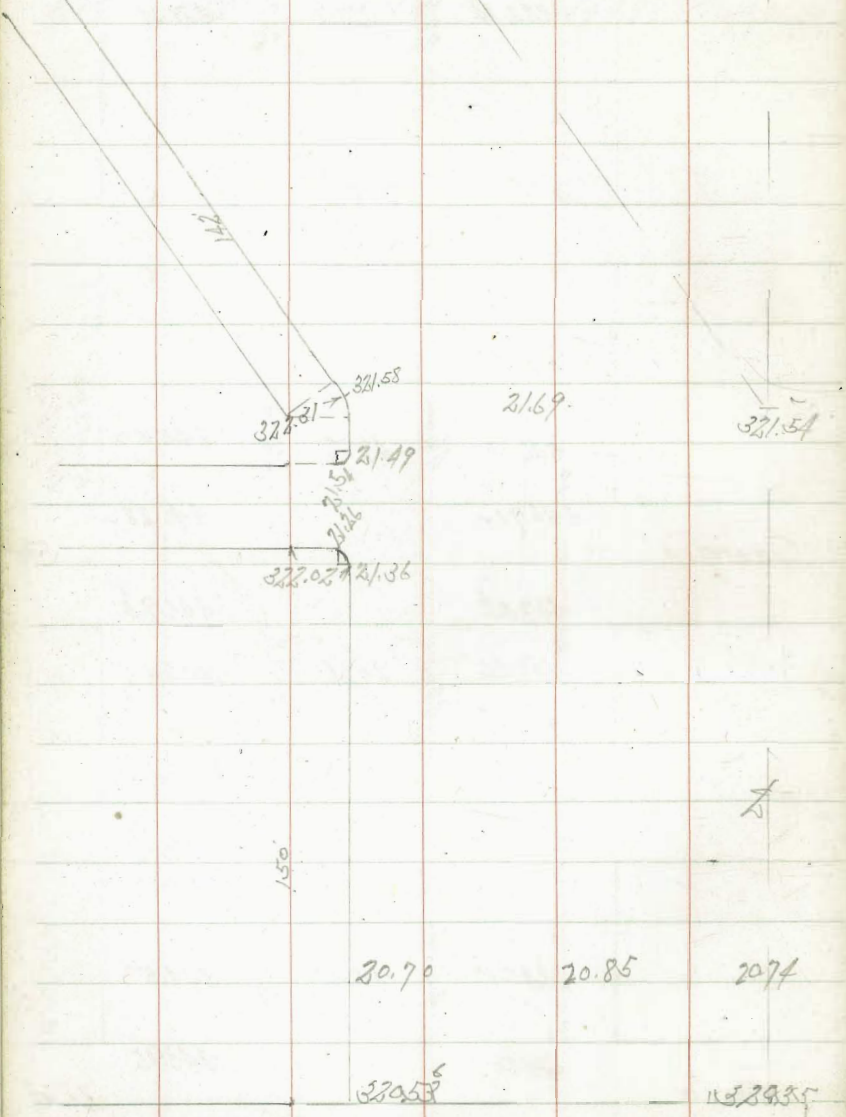
46.33 45.70
 46.28 45.50
 46.11

345.10 45.34 45.32 45.04 344.50
 10 344.50 343.95
 Park Blvd

B.M. S.F.B.P.
 347.06⁻

B.M. S.F.B.P.
 344.98

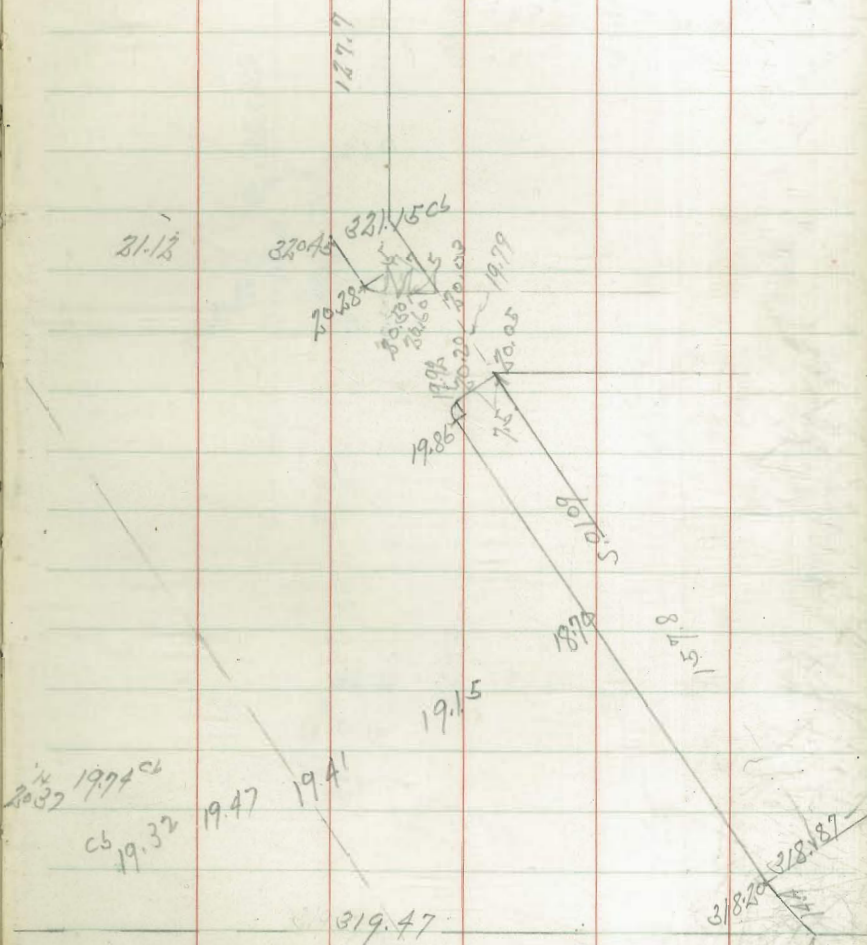
53
373.71 Par 227.0 323.69 Flabagger 23.11 Pav 23.46 323.05 23.1 Pav



Florida

22.84 Pav 22.75 322.35 322.87

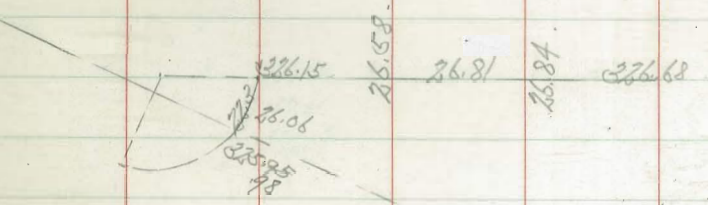
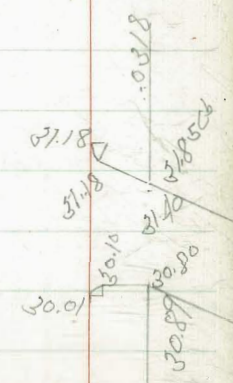
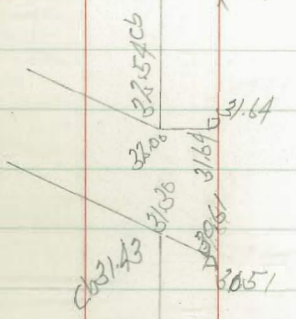
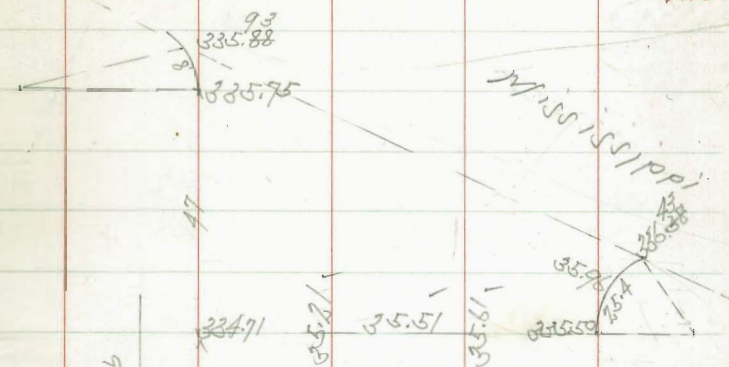
Parings Grades
June 28.40
5.15.00



Florida

318.14

MISSISSIPPI A10



Alabama

BM 15
B.P.
324.99
325.05
327.61

MISSION A/C

23

B.M. 589
Madison
Louisiana
342.31

Louisiana

341.22

50.5

340.88

197.0

50.6

340.68

40.96

41.04

40.92

340.60

40.21

1000

37.8

37.9

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37.84

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37.84

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37.84

39.14

28.3

180

39.18

37.9

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337.65

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38.09

38.01

337.76

103

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37.9

Mississippi

337.35

37.9

37.9

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37.9

337.78

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37.9

Sancho Road Culverts

36'-18"

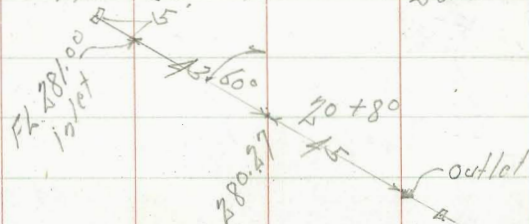
BM 4.19 318.307 314.11 36+23.47 EC
 25+70 P.O.C. (Radius)
 FL 307.50 16 20 15 FL 307.00
 10.80
 5.70
 C 5.10
 11.30
 8.60
 C 2.70

Culvert #2

Placed 88'-48" Conc. Pipe

3x6 Box

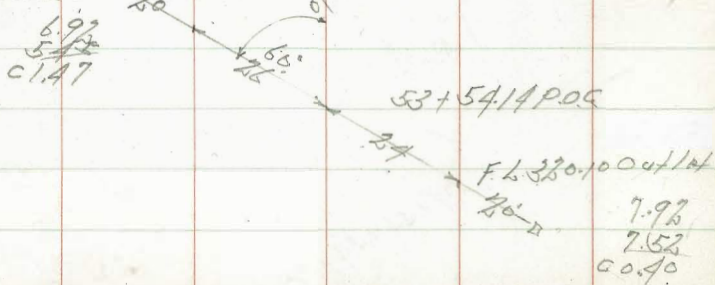
BM 3.79 285.347 281.60 on 5' pipe stub
 20+86 outlet



281.00
 1.34
 4.07
 C 0.27
 280.27
 5.07
 4.53
 C 0.54
 279.50
 5.84
 5.41
 C 0.43

BM 3.48 328.027 324.54 Conc. Man
 H.H.

171st FL 321.10 20 2-36"-50' Conc. Corq. Pipe



320.10
 7.92
 7.52
 C 0.40

Indexed

34'-18"

BM 3.54 321.417 317.87 Nail Pole
 316.98 E.G.
 171st FL 314.50 10 16 90 45+50
 90 18 15
 6.91
 3.25
 C 3.76
 314.00
 2.41
 15.17
 C 2.24

38'-18"

E.G. 378.52 67+45.50 EC
 378.54 Fin. Grade
 R.P. 10 16 190 22 15 R.P.
 8.17
 8.47
 8.67
 2.27
 F 0.66 375.00 FL out
 171st FL 375.50 C 7.70 376.59 21 R.P. EC
 67+45.50
 BM 7.13 383.671 376.59

36'-18"

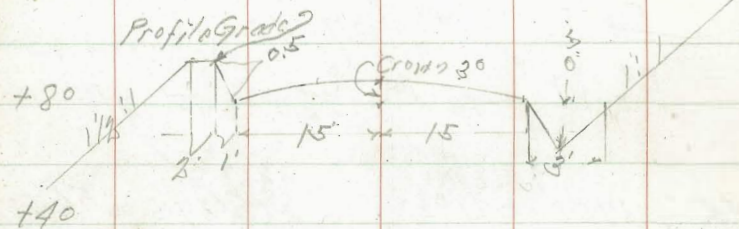
Fin. G. 412.86 73+80.26 E.C. R.P.
 R.P. 16 16 90 20 15
 BM 5.40 412.29 412.89 on 5' stub
 H.E.C.
 171st FL 410.00
 8.29
 0.94
 C 7.35
 409.50
 8.79
 7.96
 C 0.83

Grades Jamaica Road
Imperial A/c. to City Limits
Ties Book # 1558

Indexed
c.s.K.

4+02	BM 250.44 7.64 251.08 1.18 259.90 11.80 271.70	Top 2' P.P.P. 5' to Cor. Current Imperial 469'
3+56	271.70	Ford.
3+10 = F.L. Chester		
2+84.86 = G. Chester	RR H06 23	RR H03
2+60 = H.L. Chester		

2+20



1+0 = P.I.C.

25

June 17.40
5,559.2
1,057.2
4,502.0

3.1 8.1 0.0 20.0 on Vert. 20.0	268.59	R.S. Gutter 268.09	G.S. 6 1.5 02.0 20.0
5.6 3.6 0.0 19.6 on Vert. Cut	266.09	265.59	6.1 4.8 1.7 19.9
8.1 8.7 F0.3 18.9	263.59	263.09	8.6 4.8 03.8 31.8
10.7 11.9 F1.2 19.8	260.98	260.51	11.2 5.2 05.9 33.9
2.0 2.0 F1.0 19.5	259.11	258.72	13.0 8.2 04.8 33.8
3.6 4.6 F1.0 19.5	257.48	257.22	3.9 5.2 F1.0 30.0
5.1 5.4 F0.3 18.5	256.00	255.94	5.1 7.7 F2.6 31.9
6.3 6.3 0.0 18	254.76	254.94	6.1 8.5 F2.4 31.6

8+60

271.70A Bl. Ford

294.82

271.17

8+20

BM 293.36

570 Pidgeon

282.70A

292.37

282.44

12.38

294.82A

7+93.85 - E.L. Pidgeon

7+68.85 - Pidgeon

RP Hub

50

90° 140'

RP Hub

7+43.85 - W.L. Pidgeon

7+40

7+0

6+60 - PVC

6+02

22

5+44 - E.L. Flicker

5+18.85 - Flicker

RP Hub

75

90° 150'

RP Hub

4+94 - W.L. Flicker

4+48

Lt N Gutter Grade

RTS Gutter Grade

4.8
5.0
C1.8
19.8

289.98

289.48

5.3
5.8
C1.5
19.5

5.7
3.8
C1.9
19.9

289.06

288.56

6.3
4.3
C1.9
19.9

6.5
4.6
C1.9
19.9

288.29

287.79

2.0
6.0
C2.0
20.0

7+80
8.3
6.7
C1.6
19.6

287.87 out

287.37

8.8
7.5
C1.3
19.3

286.54

286.04

10.2
8.9
C2.2
20.2

286.39 out

286.89

10.7
9.4
C1.3
19.3

12.2
10.5
C1.7
19.7

282.60

282.10

12.7
11.7
C1.0
19.0

5.3
3.6
C1.7
18.5

279.45

278.95

3.8
3.1
C0.7
18.7

6.4
5.1
C1.3
19.3

276.30

275.80

6.9
5.4
C1.5
19.5

9.1
8.1
C1.0
19.0

273.59

273.09

9.6
7.8
C1.8
20.1

0.6
0.6
0.0
19.5 on Vert
20.4

271.09

270.59

13.1
9.4
C2.7
20.7

Samacho Road

12+60 - F.V.C.

292.37
1.48
296.85
295.91
297.84
303.757 Ford

12+20

11+80

11+40

11+0

10+60

10+20 - P.V.C.

9+80

9+40

9+0 = F.V.C.

L.H. Gut. Gr.

4.9
3.2
01.8
19.8
299.78

5.9
5.0
00.9
18.9
297.86

7.6
7.0
00.6
18.6
296.19

2.1
2.5
F0.4
18.6
294.78

3.2
4.0
F0.8
19.2
293.64

4.1
4.4
F0.3
18.5
292.75

4.2
4.6
00.7
18.7
292.120

5.2
4.4
00.8
18.8
291.62

5.2
4.2
01.2
19.2
291.12

6.2
4.8
01.4
19.4
290.620

R.H. Gut. Grade

4.5
4.1
00.4
18.4
299.28

6.4
7.2
F0.8
19.2
297.36

8.1
1.8
F2.3
31.5
295.69

2.6
2.3
F1.7
20.6
294.28

3.7
5.4
F1.9
20.6
293.14

4.6
5.9
F1.3
20.0
292.25

5.2
6.3
F1.5
19.5
291.62

5.7
6.0
F0.3
18.5
291.12

6.2
5.9
00.3
18.3
290.62

6.7
5.6
01.2
19.2
290.12

303.75 A. Bl. Ford
 0.54
 303.21
 7.64
 310.85 A
 2.06
 308.79 on Hub
 14+17.06
 308.78 Miller

16+0 F.V.C.

15+60 308.78 on Hub 14+17.06
 3.68
 311.86 A Ford

15+20 BM 308.50 on 50 tie
 14+17.06

14+80

14+40

14+17.06 P.O.T. RP
 Hub 50 → 98.50 → RP
 Hub

14+0

13+60

13+20

12+80 P.V.C.

Lt H Gut Grade

RHS Gut Grade

7.7
 5.7
 0.15
 19.5

304.68

6.3
 4.9
 0.14
 19.4

305.56

5.8
 4.4
 0.16
 19.6

306.06

5.7
 2.7
 0.12
 20.0

306.17

6.0
 1.5
 0.15
 20.5

305.88

5.6
 1.7
 0.39
 21.9

305.21

6.7
 2.7
 0.40
 22.0

304.13

8.3
 5.0
 0.33
 21.3

302.56

3.9
 0.6
 0.23
 20.0

300.81

7.7
 6.8
 0.9
 18.9

304.18

6.8
 6.8
 0.6
 18.6

305.06

6.3
 6.1
 0.3
 18.8

305.56

6.2
 6.3
 0.1
 18.1

305.67

6.5
 4.6
 0.2
 20.0

305.38

6.1
 4.6
 0.16
 19.6

304.71

7.2
 6.3
 0.7
 19.7

303.63

8.8
 7.1
 0.7
 19.7

302.06

3.4
 2.6
 0.8
 18.8

300.31

20+40

311.86 T-BL Ford

11.37

300.49

3.38

20+0

303.87 T

10.28

293.59

2.20

19+60

295.79 T Ford

19+20 = P.V.C.

19+0

18+60

18+0

B.M. 300.49 on 50' R.P.P.
17+25.01 Δ ht.

17+60

17+25.10 Δ 0° 02' ht.

R.P.
Hub 50'

294.49 50'

R.P.
Hub

17+0

16+50

L.H. Gut Gr

1.4
10.2
F8.8
31.2

294.39

1.3
7.9
F6.7
28.1

294.56

0.7
3.9
F3.2
22.8

295.09

-0.2
1.3
F1.2
19.8

295.99

7.3
7.8
F0.5
18.8

296.53

6.0
4.4
C1.7
19.7

297.89

4.6
1.6
C3.0
21.0

299.25

11.3
9.3
C2.1
20.1

300.60

9.9
8.5
C1.4
19.4

301.96

8.5
6.2
C1.7
19.7

303.32

R.S. Gut Gr

1.9
15.9
F14.0
39.0

293.89

1.7
16.2
F8.5
30.9

294.06

1.2
6.8
F5.6
22.4

294.59

0.3
3.5
F2.2
22.8

295.49

7.8
10.0
F2.5
21.8

296.03

6.5
6.7
F0.2
18.3

297.39

5.1
3.9
C1.2
19.2

298.75

11.8
10.1
C1.7
19.7

300.10

10.4
9.5
C0.9
18.9

301.46

9.0
8.2
C0.8
18.8

302.82

Jamaica Road

24+40	295.79 \times St Ford 0.83 294.96 14.30 306.26 \times 11.07 305.19 11.88 317.07 \times Ford	6.4 2.5 0.9 21.9	N Gut Gr 310.71	S Gut Gr 310.21	6.9 4.5 2.4 20.4
24+0		8.6 0.3 21.1	308.45	307.95	9.5 2.5 2.6 20.6
23+60		11.0 2.8 0.2 20.2	306.05	305.55	11.5 2.4 0.2 20.1
23+20 = P.R.V.C.		2.7 1.7 0.0 19.0	303.53	303.03	3.2 1.8 0.4 19.4
22+80		5.1 5.5 0.4 18.6	301.12	300.62	5.6 5.3 0.3 18.3
22+40		16.2 1.0 F3.0 22.5	299.08	298.58	2.7 6.4 F2.0 21.0
22+0		1.6 2.8 F5.8 26.7	297.41	296.91	1.5 F5.6 26.4
21+60		-0.3 9.4 F2.7 32.6	296.11	295.61	0.2 8.2 F8.3 30.5
21+20		0.6 13.4 F12.8 37.2	295.17	294.67	1.1 12.1 F11.0 34.3
20+80		1.2 14.2 F13.0 37.5	294.59	294.09	1.7 13.7 F14.0 39.0

		217.07 T B Ford	
		0.65	
		316.42	
		11.46	
28+0 = E.V.C.		327.88 T	
		2.06	
		326.82	
		7.12	
27+60		333.94 T	
		2.54	
	B.M.	331.40 on 2nd Hub 29+82	
		331.44	
		Miller	
27+20			
26+80			
26+40			
26+0			
25+60			
25+20			
24+80			

H.N Gut.		H.S Gut.	
26			
1.1			
0.15	325.27	324.77	3.1
19.8			1.5
			FL.4
			20.1
3.2			
2.5	324.17	323.67	4.2
0.2			5.9
19.2			FL.7
			20.6
1.9			
3.8	322.94	322.44	5.4
0.1			6.6
19.1			FL.2
			19.8
6.3			
4.2	321.58	321.08	6.8
0.9			7.2
19.9			FL.4
			18.6
2.8			
2.9	320.10	319.60	8.2
0.9			7.9
20.9			FL.4
			18.4
2.4			
6.3	318.48	317.98	9.0
0.7			9.1
21.1			FL.8
			18.8
11.1			
7.8	316.74	316.24	11.6
0.3			10.3
21.3			FL.3
			19.3
13.0			
9.6	314.86	314.36	13.5
0.3			12.1
21.4			FL.4
			19.4
4.8			
6.8	312.85	312.35	4.7
0.6			6.6
21.6			FL.7
			19.7

31+80		BM 331.44 5.25 336.697 Ford	on R Hub 29+82	10.9 5.2 65.7 22.7	Lt Gut. 325.78	Rt Gut. 325.41	14.5 9.9 61.5 19.5
31+40				9.8 3.4 65.7 21.4	326.88	326.47	10.2 8.2 62.2 20.2
31+0				8.9 2.5 66.4 27.4	327.77	327.34	9.4 8.5 62.5 20.5
30+60		336.697 8.61 BM 328.08 on RP Hub 40 R+ 29+82		8.3 2.4 65.9 23.9	328.35	327.89	8.8 6.7 62.1 20.1
30+20				8.1 2.6 65.5 23.5	328.62	328.15	8.5 8.5 62.0 20.0
29+80		29+82 POT RP Hub 40 RP Hub 40		8.1 2.6 64.5 22.5	328.60	328.12	8.6 8.6 62.0 20.0
29+40				8.4 2.6 63.8 21.8	328.29	327.80	8.9 8.4 60.5 18.5
29+0				9.0 6.2 62.7 20.7	327.69	327.20	9.5 10.5 F10 19.5
28+60	P.V.C.			9.9 2.7 62.2 20.2	326.81	326.31	10.4 11.6 F12 19.8
28+20				10.7 8.2 61.9 19.9	326.04	325.54	11.2 12.8 F14 20.1

35+30	8° 57.7'	BM 314.11 40' Lt 36+23.47 Fc 2.19 318.30
34+90	6° 40.18	228.38' R500.0' T127.60 L249.87
34+50	4° 22.66'	
34+10	2° 05.14'	
33+73.60 B.C. Lt.	RP 46' → 40' → RP Hob	
33+70 = P.L.C.		326.69 X Bt. Ford 12.14 324.55 3.46 328.61 X 14.77 316.24 0.72 1/2 33+73.60 316.26 Miller
33+40		
33+0		316.26 1.82 318.08 X Ford.
32+60 = F.V.C.		Start Trans
32+20		

7.7 5.9 C1.2 19.3	Lt. Gut 310.85	L 312.05	Rt. Gut 313.25	5.1 F1.2 30.0 17.0 Road
6.2 5.2 C1.0 19.0	311.91	313.11	314.31	4.0 8.6 F2.6 21.9 3.8 8.6 F1.7 25.1 old No.
4.9 4.5 C0.4 18.4	313.21	314.41	315.61	2.5 8.1 F0.6 12.6 2.7 7.0 F4.3 24.5
3.2 3.2 C1.0 18.0	314.84	315.94	316.89	1.2 5.4 F4.2 24.3
11.4 10.5 C0.9 18.9	316.61	317.51	318.20	9.8 13.0 F3.2 22.8
	out	317.68		
9.7 7.7 C2.0 20.0	318.31	319.06	319.41	8.6 1.1 F2.5 21.8
7.6 7.4 C3.2 21.2	320.41	320.91	320.85	7.2 8.1 F0.9 19.1
5.6 0.8 C4.8 22.8	322.42	322.76	322.54	5.6 5.5 0.0 18.0
12.4 7.6 C4.8 22.8	324.34		324.00	12.7 12.6 C0.5 18.5

Samocha Road

39+0 318.08 T Bl. Ford
 5.26
 312.32
 7.14
 319.46 T Ford Trans

38+50

38+0

37+70 = F.V.C.

37+30

36+90

36+50 318.08
 3.97 BM 319.11 on 40' RP on Lt. 36+2347 EC.

36+2347 EC 14° 19' RP
 Hub 40' 90° 40' RP
 Hub

36+10 13° 32.70

35+70 11° 15.22 = Culvert

Station	Left Gut	Right Gut	Right Gut	Notes
311.08	311.40	311.28	6.8 7.5 F.O. 7 19.1	
310.62	310.95	310.70	7.2 6.9 F.O. 7 18.7	10000.
310.20	310.50	310.20	7.9 5.9 F.O. 20.0	
309.93	310.23	309.93	8.2 4.7 F.O. 21.5	
309.62	309.97	309.77	8.5 4.1 F.O. 22.2	
309.40	309.94	310.00	8.1 4.6 F.O. 21.5	
309.40	310.14	310.59	7.5 5.2 F.O. 20.3	
309.52	310.42	311.12	7.0 6.0 F.O. 19.0	
309.55	310.55	311.35	6.7 6.3 F.O. 18.7	
309.97	311.12	312.22	5.9 7.3 F.O. 20.1	6.1

June 29: 40
P.M. start 42+0

35

43+50

319.41 A. B. Ford

BM 309.09 0240' R+RP
113.34 39+75.27 B.C.H.

43+0

320.43 A. Ford

42+50

42+0

41+66.97 F.C.

5°29.5' R.P. 30' 90°40' R.P.
Hob Hob

41+19.05

4°07.12'

Δ10°59'
R 1000'
T 96.15
L 191.70

40+71.11

2°44.75'

40+23.19

1°22.87'

4-47.92

39+75.27 B.C. Lt.

20' 90°40' R.P.
Hob

39+50

319.41
102.36
BM 309.70 02 R.P. Hob
40 R+ 39+75.27
309.09 Miller

5.3
4.8
C 6.8
18.8

315.18

315.48

315.18

5.5
5.6
F 0.3
18.5

5.7
4.7
C 1.0
19.0

314.72

315.02

314.72

5.7
5.7
9.0
18.0

6.3
3.6
C 2.6
20.6

314.22

314.57

314.42

6.0
5.5
F 0.5
18.8

6.8
3.8
C 3.0
31.2

313.67

314.12

314.24

6.2
7.0
F 0.8
19.2

6.1
2.2
C 1.9
19.9

313.31

313.81

314.11

5.2
6.0
F 0.7
19.1

6.5
2.3
C 4.2
22.3

312.93

313.38

313.91

5.5
6.9
F 1.4
20.1

7.1
3.2
C 3.9
21.9

312.34

312.94

313.54

5.9
7.5
F 1.6
20.4

7.4
6.0
C 1.4
19.4

312.06

312.51

313.04

6.4
8.1
F 1.7
20.6

7.9
2.6
C 0.9
18.9

311.58

312.08

312.38

7.1
8.8
F 1.9
20.6

8.1
7.0
C 1.1
19.1

311.40

311.85

311.97

7.5
9.2
F 1.7
20.6

409.04

		Lt	L	Rt		
48+50	320.43 T St Ford 2.56 317.87 8.98	7.2 2.2 C 2.8 206	319.70	320.00	319.70	7.2 6.7 C 0.5 18.5
48+0	326.85 T Ford.	7.6 5.8 C 1.8 19.8	319.24	319.54		7.6 7.6 C 0.0 18.0
47+50		8.1 6.5 C 1.6 19.6	318.79	319.09		8.1 9.1 C 1.0 19.5
47+0		3.1 0.8 C 1.3 19.3	318.34	318.64		3.1 2.6 C 0.5 18.8
46+50		2.5 1.7 C 0.8 18.8	317.89	318.19		2.5 2.7 C 0.2 18.3
46+0		3.0 2.2 C 0.7 18.7	317.44	317.74		3.0 2.8 C 0.2 18.3
45+50		3.4 2.7 C 1.0 19.0	316.98	317.28		3.4 3.1 C 0.3 18.3
45+0		3.9 2.4 C 1.5 19.5	316.53	316.83		3.9 3.6 C 0.3 18.3
44+50		4.3 2.9 C 1.4 19.4	316.08	316.38		4.3 4.0 C 0.3 18.7
44+0		4.8 3.8 C 1.0 19.3	315.63	315.93	315.63	4.8 4.3 C 0.5 18.5

Jonacocho Road

July 28-40 **37**

52+05.49 5°34.5' 326.85 T 04 Ford

3.1
4.6
F1.5
20.3

325.32

324.12

322.92

5.5
6.5
F1.0
19.5

52+56.84 2°47.25' 322.83 025 to 6 19.7 Lt. 5070

5.8
4.8
F1.0
19.5

324.66

323.68

322.58

5.9
7.0
F1.1
19.7

4-4865

A 22°18'

P 500'

T 98.55

L 194.60

328.45 X Ford.

52+08.19 B.C. RT RP 40 RP 40 19.8

1.5
4.8
F0.3
18.5

323.94

323.24

322.34

6.1
7.7
C1.4
19.4

52+0

out

323.75

323.17

322.32

out

51+50

5.6
4.5
C1.1
19.1

322.83

322.71

322.16

6.3
6.1
C0.2
18.3

51+0

6.4
4.2
C1.5
19.5

322.06

322.26

321.91

6.5
8.0
C0.2
18.2

50+50

7.0
4.6
C2.4
20.4

321.50

321.80

7.2
6.4
C0.6
18.6

50+0

5.8
4.1
C1.7
19.7

321.05

321.35

5.8
5.6
C0.2
18.2

49+50

6.2
4.8
C1.4
19.4

320.60

320.90

6.2
6.0
C0.2
18.2

49+0

6.7
4.9
C1.8
19.8

320.16

320.45

6.7
6.7
C0.0
18.0

40000'

58+0 P.V.C.

328.45 T.H. Ford

57+50

B.M. 327.56 on Mon A on Lt

57+30.90

Δ Rt 0° 02' RP

RP

0.75 pit of

57+0

Mon

56+50

56+0

B.M. 327.54 on Mon A on Lt

55+50

327.87 on Rt Stus

327.58 57+50

343.18 T Ford

55+0 = F.V.C.

54+50

54+05.29 Equ.

54+03.79 F.C.

11° 09'

40

40

53+54.14+

8° 21.75

10.7
10.5
00.2
18.2

Lt \$ 322.44 322.74

Rt 322.44 322.74

11.7
00.6
18.6

321.47 321.77

3.8
2.5
F.V.C.
20.6

321.10

3.4
3.2
0.6
18.0

320.50 320.80

4.2
4.8
0.6
19.0

329.53 329.83

0.15
0.00
18.8

328.56 328.86

6.3
6.2
0.0
18.0

327.59 327.89

7.1
3.4
F.V.C.
20.0

326.77 326.97

7.6
9.2
F.V.C.
21.2

326.25 326.00

3.2
4.9
F.V.C.
21.6

325.98 325.28

3.9
7.5
F.V.C.
24.9

325.59 324.61

4.0
4.1
0.6
18.2

327.59 327.89

7.3
4.3
0.10
19.0

326.55

7.5
8.8
F.V.C.
20.0

325.55

4.1
4.1
6.0
18.0

324.38

4.9
6.7
F.V.C.
19.2

323.51

Samocha Food

39

62+0

5.8
1.9
c 4.1
22.1

Lt 348.93

♀ 348.98

Rt 348.43

6.3
1.3
c 2.9
20.0

61+60

343.18 X 8. Fard
0.158
343.60
12.09
354.69 X

7.9
c 1.9
19.9

346.75

346.80

346.25

8.4
7.9
c 0.5
18.5

61+20

E-10

10.1
8.5
c 1.6
19.6

344.570

344.62

344.07

10.6
10.9
c 0.3
18.5

60+80

0.8
0.8
c 0.8
18.8

342.41

342.52

342.03

1.2
1.7
c 0.5
18.8

60+40

2.7
2.5
c 0.2
18.2

340.46

340.60

340.14

2.0
2.4
c 0.4
18.6

60+0

4.5
4.5
c 0.0
18.0

338.64

338.84

338.44

4.7
4.7
c 0.0
18.6

59+60

6.3
6.0
c 0.2
18.2

337.02

337.26

336.90

6.0
6.6
c 0.6
18.2

59+20

7.6
7.2
c 0.4
18.4

335.60

335.87

335.53

7.7
7.7
c 0.0
18.0

58+80

8.8
8.5
c 0.3
8.3

334.36

334.65

334.33

8.8
8.7
c 0.1
18.1

58+40

9.9
9.9
c 0.0
18.0

333.31

333.61

333.30

9.9
9.4
c 0.5
18.5

66+65.21	Lt.		
	2°18'		
66+25.07	1°43.5'	A 6°54'	
		R 2000'	
		T 120.57	
		L 240.85	
65+84.93	1°09'		
65+44.79	0°34.5'		
6-40.14			
65+04.65	B.C. Lt.	RP 50' 45' 50' 70' RP Hds	
		354.69 T Bt Ford	
64+50	378.78 X	0.28	
		354.41	
		11.60	
		366.01 X	
		2.78	
		TP 363.23 07 Rkt Lab	
		64+50	
64+0		378.78 X	
		1.89	
		371.89	
		12.84	
63+50		384.23 X Ford	
63+0			
62+50			

10.1 6.7 C3.4 21.4	Lt.	374.11	374.26	Rt.	9.8 14.0 F 22 21.3
12.3 9.3 C3.1 21.1		371.92	372.07		1.6 3.6 F 20 21.0
4.0 2.8 C1.2 19.2		369.75	369.89		5.8 3.2 F 14 20.1
6.2 1.9 C4.3 22.3		367.56	367.70		6.0 2.5 F 0.5 18.8
8.4 3.8 C4.6 22.6		365.41	365.52		8.4 3.2 C 0.5 18.2
11.3 6.1 C5.2 23.2		362.51	362.59		3.7 2.9 C 0.9 18.9
6.3 1.8 C4.4 22.4		359.80	359.86		6.6 3.3 C 1.3 19.3
8.9 4.9 C4.0 22.0		357.10	357.15		9.4 7.9 C 1.5 19.5
11.6 7.6 C4.0 22.0		354.37	354.42		12.1 11.5 C 0.6 18.6
14.4 9.9 C4.5 22.5		351.65	351.70		3.5 0.9 C 2.6 20.6

St.			
71+50			
71+0		Trans.	
70+50		384.20 T Ford	
70+0		396.17 T 11.24 396.17 T 1.19 TP 394.92	0.7 Stub 20.5 to 70+0
69+50		466.29 T Ford	
69+0		Trans	
68+50			
68+0			
67+45.50	E.C.	3° 27'	90° 45' RP 50' RP
67+05.36		2° 52.5'	

St.			Rt.	
400.49	400.72	400.57	5.7 5.7 0.0 18.0	
397.89	397.99	397.54	8.8 8.8 0.0 18.0	
395.22	395.27	394.72	11.6 11.7 F 0.1 18.3	
392.50	392.55	392.00	2.1 2.1 F 0.5 18.8	
389.77	389.82	389.27	6.8 7.5 F 0.7 19.1	
387.05	387.10	386.55	9.6 11.6 F 1.2 20.9	
384.33	384.38	383.90	0.5 1.8 F 1.0 21.0	
381.58	381.65	381.33	2.9 3.2 F 2.3 21.5	
378.52	378.63	378.54	5.7 7.7 F 2.0 21.0	
376.31	376.45	376.50	7.7 16.0 F 2.3 21.5	

78+24.33 = 2 Tack Narragansett Ave

77+90 E.V.C.

429.35 T. B. Ford

5.5
4.8
66.7
18.7

429.09

429.04

429.01

5.6
5.6
60.0
18.0

77+50

434.58 T

5.7
5.7
66.6
18.6

428.88

428.86

428.66

5.0
7.0
61.0
30.0B.M. 428.99 2 Lt T Janney
Narragansett
429.03
Miller

77+10

1.0
2.5
61.5
30.3

428.30

428.31

427.93

1.4
6.0
61.0
19.2

76+70

2.0
1.6
66.4
18.4

427.38

427.40

426.86

2.5
2.2
60.4
18.6

76+30

3.3
2.0
61.2
19.2

426.19

426.13

425.58

3.3
4.5
60.7
19.1

75+90

4.9
3.5
61.4
19.4

424.45

424.50

423.95

5.4
5.6
60.8
19.2

Samacho Road

Culverts

Aug 7-40

Elev. 292.53 10+46 38'-18"

RP

Inlet FL 289.50

10+60 RP
Outlet FL 289.00

BM 5.06 297.51

292.45 10+60

4 Stabs

Inlet

Outlet

289.50 FL

FL 289.00

8.01

8.51

4.01

7.31

C4.00

C1.20

Darcas St Grader #2
William North to Onstad For #3 Page 63

	M	F	
0 to = H. Hillier	100.50	101.50	
+50	106.82 ^{6.5} _{F17}	107.66	
1 to:	113.15 ^{0.3} _{F3.6}	113.83	
140828 New B.C. one			
+558585 one	120.20 ^{5.3} _{F3.7}	120.70 ^{4.8} _{C2.8}	
2 to	124.42 ^{4.9} _{F41}	125.09 ^{11.4} _{C4.6}	
+50	129.20 ^{7.3} _{F4.6}	130.04 ^{6.5} _{C3.7}	
3 to = Brk	134.00 ^{7.5} _{F4.7}	135.00 ^{12.7} _{C5.2}	
+50	141.00 ^{6.7} _{F4.5}	142.00 ^{17.4} _{C6.7}	
3+9993 = B.C.F	147.99 ^{-0.3} _{F5.8}	148.99 ^{10.4} _{C5.3}	
1/2 Curk	on Onstad	153.65 ^{5.8} _{C4.7}	
F.C. See Page 1	158.90	158.40 ^{12.7} _{C2.6}	
07 on Onstad			
54 F.C. = Frithy Cb		165.61 ^{5.5} _{C4.0006}	

Indexed
JG

Aug. 28 40
G. West
North 3000
W. West
46

BM 7787 ^{H.F.B.P.}	Hilda + Darcas
12.03	
89.90	
0.00	
89.90	
12.46	
102.36 X	
0.48	
101.78	
11.84	
113.33 X	
0.21	
113.11	
12.34	
125.45 X	
0.45	
125.00	
11.53	
136.531	
0.34	
136.19	
11.51	
147.70 X	
6.44	
147.26	
12.16	
159.42 X	
6.31	
159.11	Poonpook
12.02	
171.13 X	
170.47	
170.66	
10.06	
186.72 X	
3.07	
177.65 BM	H.W.B.P. + Onstad + For view 19764

	N		E	
4+38.62=BC Sta.	152.40	$\frac{11.0}{12.0}$ F3.0		
4+93.60=FCR	156.20	$\frac{7.2}{14.0}$ F3.8	156.90	$\frac{6.5}{9.0}$ C3.2
5+20	156.60	$\frac{6.8}{9.8}$ F3.0	157.00	$\frac{6.4}{3.4}$ C3.0
5+40	156.40	$\frac{7.0}{10.4}$ F3.4	156.80	out
5+75.60=BC	154.60	$\frac{8.8}{9.2}$ F0.5	155.10	out

Onstad St.

	H	
EC	158.90	$\frac{1.5}{0.7}$ C3.8
Angle Onstad x Dorcas	156.60	$\frac{6.8}{5.5}$ C3.5
15911 TP P46		$\frac{4.25}{16.3}$ C6.7

Curb Grades Monroe + Alabama

Sept 12, 40

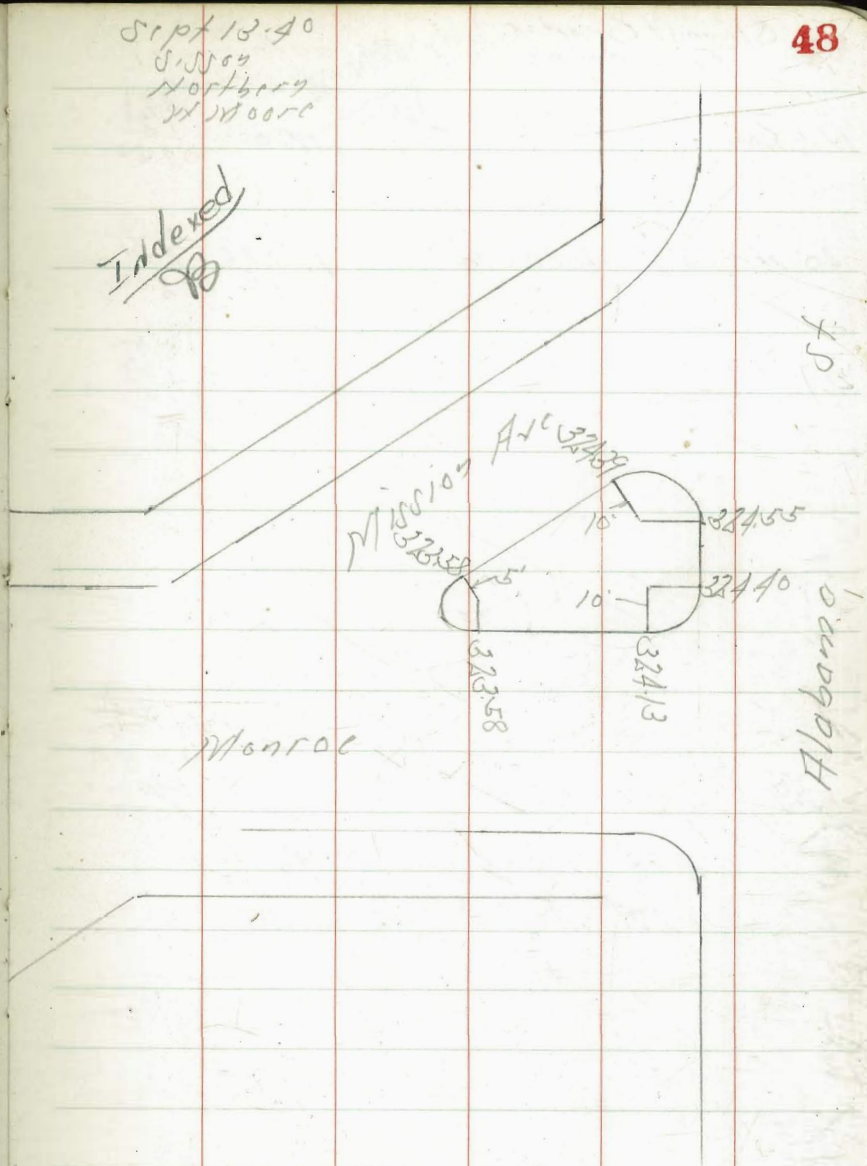
S. W. Co.
Northway
W. Moore

BM 311 327.72 324.61

J.F.B.P.
Monroe
Alabama

24.55	24.39	24.40	24.13	23.58
3.17	3.33	3.32	3.59	4.14
3.28	3.90	3.95	4.12	4.98
F0.61	F0.57	F0.63	F0.53	F0.84

Indexed
88



ST

Alabama

Monroe

Clovest Grades
For wall North of Macaulay

H.L. Macaulay				117.00	3.70 1.20 02.50
---------------	--	--	--	--------	-----------------------

40' H of H.L. Macaulay				115.86	4.84 2.86 02.00
------------------------	--	--	--	--------	-----------------------

80' H " " "				114.73	5.98 4.28 01.50
-------------	--	--	--	--------	-----------------------

B.M.	11.86	99.08		87.22	S.W.B.P. P.L. no 4 Lorrell
TP	12.32	110.33	1.07	98.01	
TP	11.29	120.70	0.93	109.41	

Sept 23, 40
S. Brown
Northboro
Holt

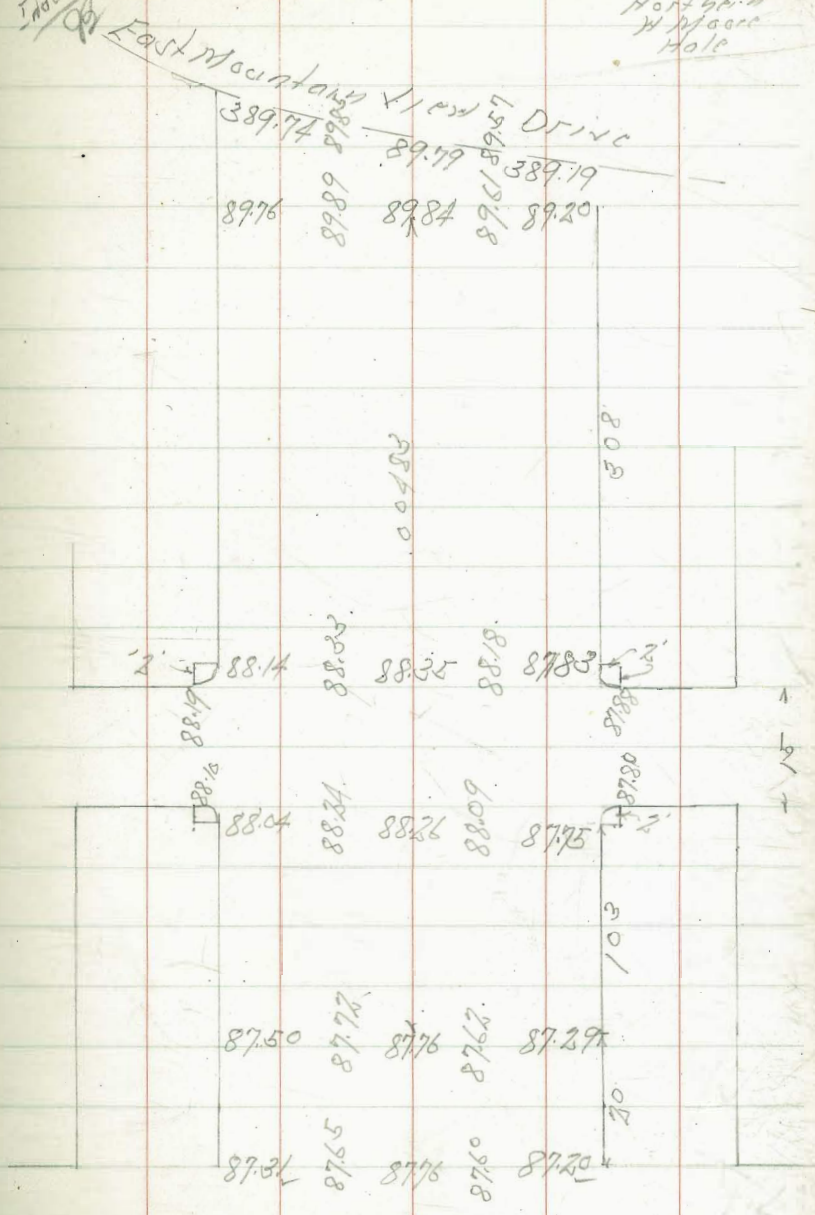
Indexed
98

38th St Paving
 Adams Ave. to East Mountain View Drive

BM	6.94	392.72		385.78	No Good S.E.P.P. Adams & Cherokee
TP	5.13	394.17	368	389.09	

Use Curb Cuts

Indexed
 98
 Oct. 9-40
 Sisson
 North
 W. Moore
 Hole



Adams Ave.

Medlo A/c Paving
El Cajon Blvd to North 1/2 line Granada Tract

350.90

350.10

52 Meeds

352.14

351.57

352.27

351.94

352.28

351.83

352.36

351.84

352.33

351.76

351.69

351.05

351.64

351.00

351.57

El Cajon Blvd.

Oct. 17-40
S. 10/20
North 1/2 line
2nd Moor

Indexed

52

347.80

47.86

1824

347.80

47.90

SM 353.15
S. 10/20
3.42
356.57

49.10

49.42

49.56

49.52

49.30

50.50

50.60

50.67

50.25

49.78

49.81

49.82

49.97

49.90

50.68

50.58

50.50

49.95

50.20

50.22

50.90

50.97

50.86

50.57

50.15

50.16

50.10

50.15

50.15

50.18

SM 353.15
Top F.H.
353.28

Manila Ave Sewer Laterals

BM	9.18	356.38	347.20	SW.B.P K100102 x 47+3
----	------	--------	--------	-----------------------------

	3.69	354.03	350.84	8.46
Nº 1	02W		345.57	4.79 03.67

Nº 2	02W		344.77	9.26 4.80 4.46
------	-----	--	--------	----------------------

Nº 3	02E		344.97	9.06 4.53 4.53
------	-----	--	--------	----------------------

Indexed
98

Palm St Kettner Blvd. to Pacific Highway

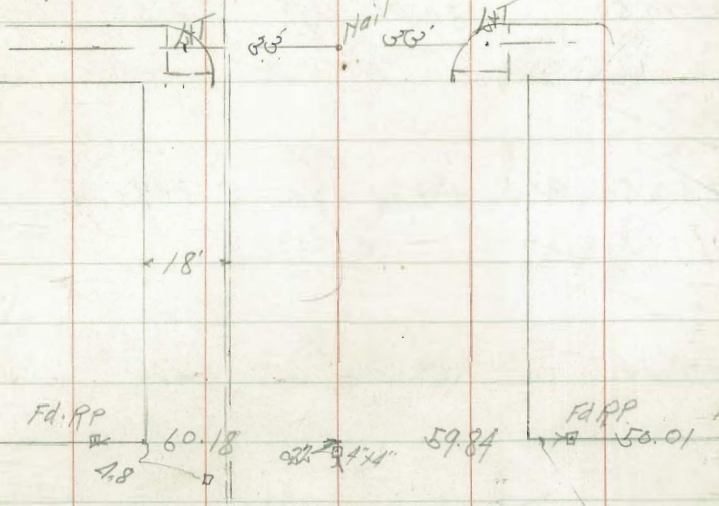
Oct. 21. 10
L. Wilson
R. Moore

Indexed
B

55

Kettner

Blvd



California

Santa St. 40.3



Pacific

Highway

Palm St Grader Kettner to Pacific

	E	W	S.E.P. Kettner
1+70.50	30.50 19.3 10.5 c 8.7	31.00 18.7 8.1 c 10.6	BM 5749 3.78 6.18 12.06 493.1 0.50 497.11 12.21 37.50 37.81 37.81
1+50.50 - P.V.C.	33.73 16.5 8.1 c 8.4	33.73 16.0 8.4 c 9.6	497.11 12.21 37.50 37.81
1+10.34	39.83 9.9 6.5 c 6.5	40.33 20.9 12.9 c 8.5	
0+70.17	46.43 14.8 9.4 c 5.4	46.93 14.3 9.1 c 5.2	
0+30 - F.V.C.	53.03 8.2 7.6 c 3.6	53.53 7.7 7.1 c 3.6	
0+10	55.51 5.8 1.9 c 8.7	56.09 5.2 3.8 c 3.4	
0+0 = S.E. Kettner	56.25 5.03 50.8 c 8.5	56.81 4.41 4.97 c 8.6	

	E	W
BM 32.27	32.15 0.16 32.27 P.V.C. 32.30	37.81 12.20 25.61 6.84 32.45 11.67 38.78 3.21 34.99
3+45 - P.V.C.	18.88 6.1 7.5 F 1.4	18.68 6.0 7.5 F 0.5
3+17.5	22.10 2.9 7.6 F 4.1	22.18 3.8 7.3 F 6.5
2+90	25.33 12.5 8.4 c 4.1	25.68 out
2+60 - P.V.C.	27.39 10.4 4.6 F 1.2	27.89 9.9 6.0
2+30.25 - P.V.C.	27.83 10.0 11.7 F 1.7	28.37 9.4 11.2 F 1.8
2+00.5 - P.V.C.	28.27 9.5 0.9 c 8.6	28.85 6.6 0.0 c 6.6
1+90.50	28.85 9.0 1.3 c 7.7	29.40 20.3 7.5 c 8.8

	E		H	
				24.99 10.46 14.53 4.65 19.18
4+96	N.L. Pacific	14.75	10.24 10.27 Top ch	14.25 4.93 5.08 on Cont N.Y. Pacific
4+60		14.85	10.1 10.1 0.0	14.35 4.8 Top ch 5.1 14.75 F0.3 4.55 19.20
4+25		15.06	9.9 9.8 cont	14.56 4.7 5.2 F0.5
4+03	N.Y. Pacific	14.90	10.1 10.4 10.3	14.40 10.6 10.9 F0.1
3+85	S.E. V.C.	15.67	9.2 10.3 F1.0	15.21 9.8 10.6 F0.8
3+65		16.89	9.6 8.1 F1.5	16.56 8.4 9.9 F1.5

BM 2.80 35.107

3230

Nail Post
Palmer
Calif

N.Y. Pacific N.W. Co. Grade

2865

6.45
5.98
0.47

N.Y. Pacific S.E. Pacific Grade

2720

7.90
7.53
0.37

56.81	56.11	55.60	56.25
56.09	55.42	54.84	55.51
55.00	54.33	53.73	54.40
53.53	52.86	52.36	53.03

120.5

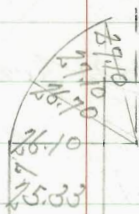
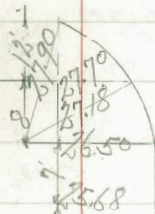
33.73	32.06	32.56	32.23
32.21	31.54	31.04	31.71
31.00	30.33	29.83	30.50
29.07	29.40	28.90	29.57
29.40	28.77	28.27	28.85
29.32		28.76	
28.85		27.92	28.75
28.50			28.55
28.40			28.52

27.63

27.20

California

26.72



55.6

18.68	18.88
17.51	17.80
16.55	16.89
15.78	16.18
15.21	15.67
14.40	14.90
14.40	14.90
14.56	15.06
14.35	

82 Palm St. Storm Drain
India St to Calif. St

offset 10 ft

0+0 = H.L. India

Station	Description	Flow Line	Grade	Offset
+3333	Bcg. Pipe		77.80	0.477
+55	BM 9930 ^{N.E. BP} Palmito ^{India}		74.40	0.55
1+0			67.35	0.89
+35			61.90	0.5
1+70	= P.V.C.		56.40	0.62
1+90			53.90	0.54
2+10	= F.V.C.		52.70	0.54 on cb
2+40			51.80	0.57
2+70	= P.V.C.		50.90	0.62

Indexed
of

Oct. 21 - 40
S. J. J. J.
North Star
H. Moore

59

2+90		64.39 X	49.60	14.8 8.4 0.64
3+10	= F.V.C.	52.72 0.00 52.72 X	47.10	17.3 12.6 0.47
3+50		40.27 12.43 40.27 X	40.70	12.7 2.4 0.53
4+0			32.70	8.0 2.5 0.55
4+20	P.V.C.		29.40	11.3 5.7 0.56
4+40			26.80	13.9 8.7 0.52
4+60			25.40	15.0 10.0 0.50
4+89.5	= Cross Cut in Calif		24.3	16.4 12.9 0.35

BM	1.17	32.08		30.91	N.W. RP Canyon Road Locust
TP	3.80	25.16	10.72	21.36	

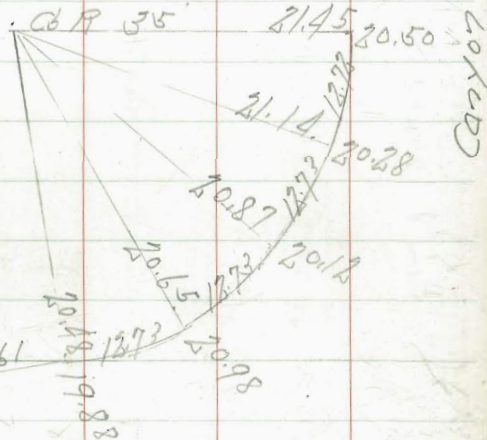
~~Indexed~~
~~08~~

BC				IC	
21.45	21.14	20.87	20.65	20.48	20.32
3.71	4.03	4.39	4.51	4.68	4.84

20.25	20.18	20.10
4.91	4.98	5.06
✓	✓	5.08

20.10
4.91
19.51

20.32-19.76
20.25 20
19.55
19.18 19.58
Rosecrans



Grades Alley Returns
N. Side of Sts. Between Howard + El Cajon
Univ. Hts.

B.M. 4.47 378.15 373.68

Top of Alley
Return
on South

~~Indexed~~

Nov 9-40

61

El Cajon Blvd

73'
CT

14969

373.75

□ 373.41 Fo. 51

X CT

373.77

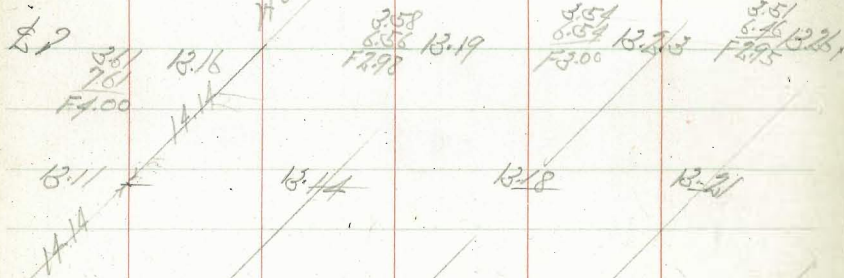
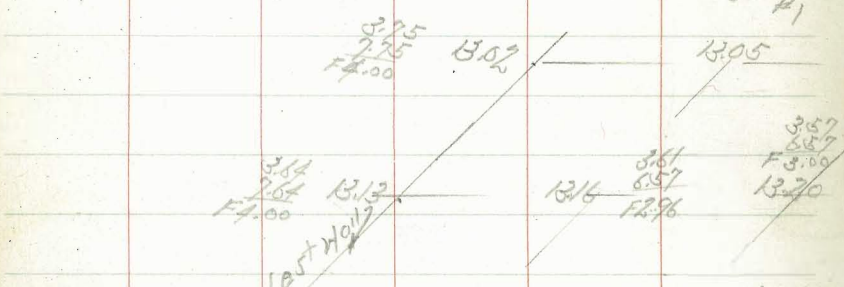
□ 373.60

192.00

Howard

Balboa Ave Bridge
Revised Deck Grades

BM	5.60	16.77		11.17		Page 15
BM	6.96	18.131		11.17		
040 W End		Curb Grades on N		0+60		0+90
13.69	13.71	13.72	13.74	13.76	13.77	13.79
4.41	4.47	4.41	4.39	4.37	4.36	4.34
5.11	5.12	5.07	5.10	5.09	5.06	5.03
F0.67	F0.70	F0.66	F0.71	F0.67	F0.70	F0.69



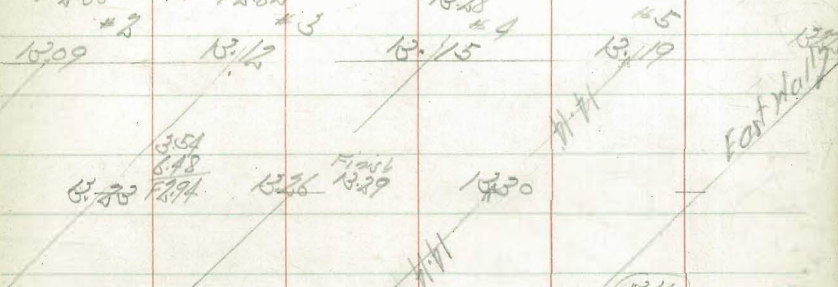
13.98	13.01	13.05	13.08	13.11		
040 W End	+15	180' 18 end	+45	+60.2	+75	+90.3
13.65	13.67	13.68	13.70	13.72	13.73	13.75
4.33	4.31	4.30	4.28	4.26	4.25	4.23
5.00	4.94	4.85	4.71	4.64	4.56	4.53
F0.67	F0.63	F0.55	F0.63	F0.66	F0.61	F0.60
5.25	5.23	5.22	5.20	5.18	5.17	5.15
BM	4.85	17.98		13.13		Bridge
West Wall S End						
BM	4.86	17.99				

Indexed
JB

Nov 26-40

Page 67 For 2.83 Below Deck

13.81	13.82	13.84	13.86	13.87	13.89
4.33	4.31	4.29	4.27	4.26	4.24
4.92	4.89	4.86	4.82	4.87	4.87
F0.67	F0.58	F0.64	F0.66	F0.61	F0.63
3.68	3.65	3.67	3.65	3.64	3.63
6.54	6.47	6.47	6.46	6.45	6.44
F2.86	F2.83	F2.83	F2.83	F2.83	F2.83



13.15	13.18				
1405	1430.4	1435	1450.5	1465	1480.5 End
13.77	13.78	13.80	13.82	13.83	13.85
4.21	4.20	4.18	4.16	4.15	4.13
4.39	4.39	4.36	4.32	4.31	4.29
F0.68	F0.69	F0.68	F0.66	F0.66	F0.60
5.13	5.12	5.10	5.08	5.07	5.05
East Wall S End					
BM	4.48	17.61			
				13.13	East Wall Bridge

Dorcas St. Grader #3 For #1 Page 1
 Lillian to Orsted " #2 " #46

0+0	100.50	0.1 2.1 F2.0	101.00
+50	106.08	10.2 16.0 Fo.2	106.67
+100	111.66	4.9 5.4 Fo.4	112.33 out
+148.99		new Cb B.C. out	115.60 9.8 112.27 4.2 C3.0
+55.65	117.87	old BC. out F 10.2 10.5 Fo.3 5.7 5.8 Fo.5	118.64 16.2 9.5 112.48 4.8 C4.7 C4.7
+200	122.82	5.3 6.0 Fo.7	123.67 11.2 5.3 C5.0
+50	128.40	6.4 -0.3 9.0 2.1 Fo.5 F2.4	129.33 5.5 2.9 C4.5
+300	134.00	0.8 5.9 4.2 8.6 Fo.2 F2.7	135.00 11.6 4.9 6.5 10.2 C6.1 C5.1
+50	141.00	5.6 -1.1 9.7 1.7 Fo.4 F2.8	142.00 14.6 9.4 7.9 2.7 C6.7 C6.7
3499.93	147.99	-1.4 3.4 1.8 2.6 Fo.3 F6.2	148.99 7.6 2.3 C5.3

Indexed
 April 19. 41
 413 Station #

Jan 3-41
 Sidco
 Northport
 N. Moore

63

116.25
 3.28
 119.53
 114.50
 1408.28
 113.60
 113.40
 114.10
 115.60
 118.07
 116.33
 0.32
 5.9
 6.1
 5.4
 3.9
 116
 160.63
 0.41
 12.12
 0.9
 609
 60.1
 4.2
 1.91
 100.32
 128.12
 11.57
 5.25
 111.77
 237.77
 0.46
 12.11
 111.33
 139.87
 11.72
 150.69
 123.05
 139.19
 0.26
 12.20
 132.79
 151.39
 134.05
 0.34
 134.84
 151.05
 6.18
 11.47
 162.52
 134.66
 11.95
 146.61
 0.40
 152.40
 156.60
 146.81
 10.1
 12.3
 5.9
 10.36
 8.9
 13.0
 156.57
 2.32
 157.25
 3499.93 out
 1755.65
 154.25
 4.07
 143.8
 156.50
 6.0
 14.4
 0.46
 1708.28
 113.60
 115.07
 158.90
 162.50
 166.13
 5.7
 8.5
 0.32
 158.40
 162.00
 165.61
 0.00700
 7.2
 3.6
 0.02
 4.6
 7.5
 C2.6
 0.11

Lillian St

Paving Grader Alley Block 64 E W. Morgan
Broadway & 40 St. between 28th & 29th St.

Pencil Grade					
1+60.67	H.L. E.W. Alley	189.13	2.05 3.77 F1.72	189.26	1.92 0.27 0.05
1+40.67	S.L.E.W. Alley	187.54	3.64 5.80 F1.66	187.84	5.34 2.56 0.78
1+20.67	E.W.C.	185.99	5.19 6.97 F1.78	186.29	1.89 2.15 0.37
1+00.67	H.L. Conc Hall on Stalk	184.17	7.01 8.93 F1.92	184.42	6.76 2.48 0.38
0+80.67	on Conc Apron 1' Back	182.09	9.09 10.11 F1.02	182.39	8.79 3.54 0.55
0+60.67	on Conc Apron 1' Back	179.74	11.44 10.77 0.67	180.04	11.14 5.14 0.60
0+40.67	on Conc Apron	177.27	4.33 7.53 0.18	178.57	12.61 7.54 0.07
0+20.67	"	174.83	6.77 8.59 0.58	175.08	6.52 0.03 0.49
0+10.67	"	173.60	8.00 4.21 0.69	173.84	7.76 1.00 0.76
0+0	H.L. Broadway	173.30	9.30 9.26 0.00 on Pav	173.50	

Indexed
83

Jan. 16. 41
S. 11007
N. 11007
64

811	176.05	N.E.B.P.
	6.73	C+28' 1/2"
	182.78	
	8.60	
	183.18	
	9.00	
	191.18	
	11.80	
	179.38	
	2.22	
	181.60	

Polk A/C Rowing

M

For Rowing
 US 0.05
 Texas 324.95 St.

322.55 322.38 323.00 2.60
 320.77 211.2 321.22 210.5 320.62
 313.70 317.30
 311.49 11.9 11.83 12.00 11.91 11.79 311.26
 309.95 10.47 10.39 10.66 10.55 10.47 310.12
 308.83 9.22 30.934 9.21 10.47 308.87
 303.58 2.87 303.89 2.66 303.16 - 8.4
 302.00 301.41 301.59 300.85

Louisiana

St.

Carb Cut
March 26-41

Indexed
P

Feb. 8-41
5.500
Hockberry
H. Wood

65

Arizona St.

327.18 27.85 327.41 328.00 3.52
 331.55 327.18 27.65 27.52 327.13 20
 325.95 26.47 26.34 325.95 326.62 4.93
 325.71 26.10 26.23 26.10 325.71
 324.73 25.25 25.12 324.73 8.4
 324.53 2494 25.09 2498 25.12 324.61
 324.46 2494 25.07 2498 25.12 324.50

Texas

St.

Balboa H.C. Gradge East + West of Bridge

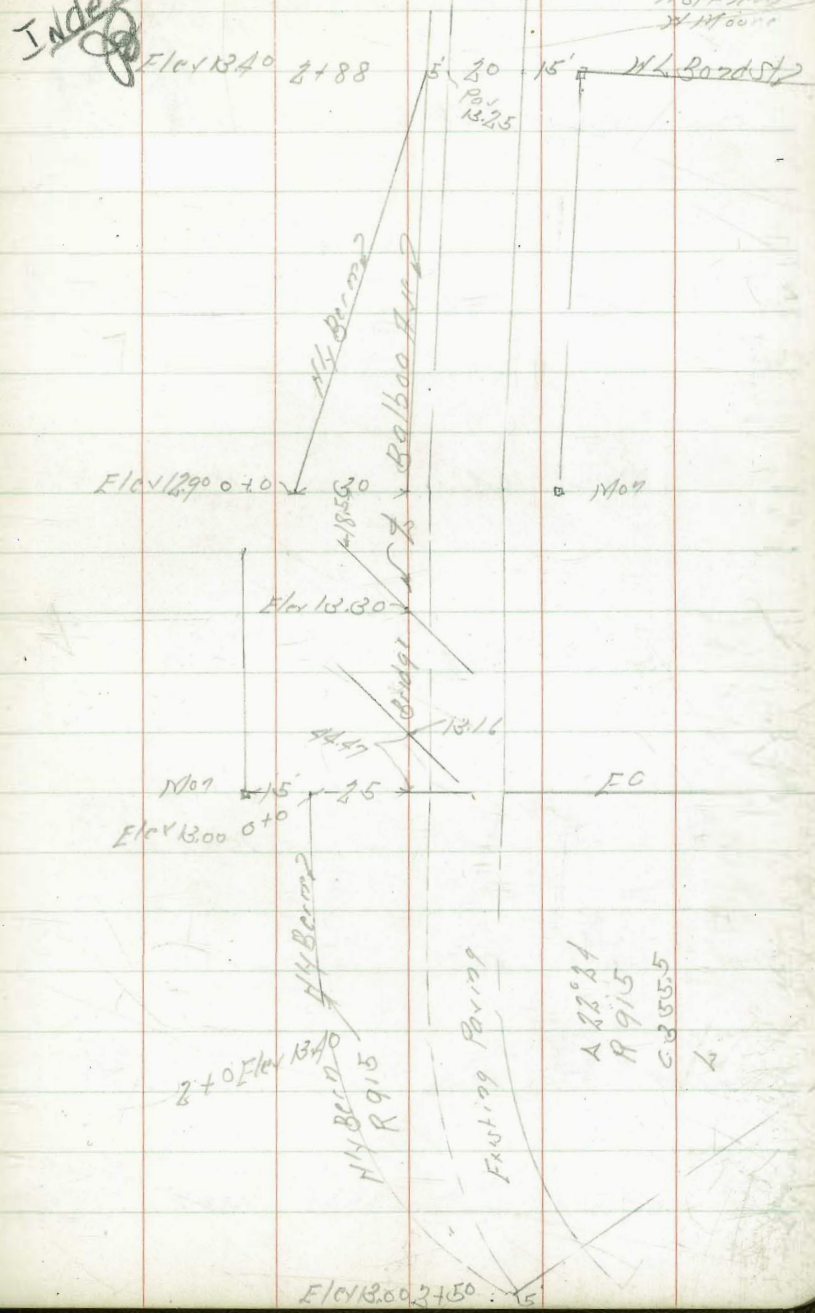
BM	6.98	18.15	11.17	Mon. H.C. Balboa H.C. W of Bridge
Grades East of Bridge				
0+0			12.90	
+50			12.99	0.09 0.09
+100			13.08	0.09 0.09
+150			13.17	0.09 0.09
+200			13.25	0.08 0.08
+250			13.34	0.09 0.09
+300			13.40	0.06 0.06

Grades West of Bridge

BM	6.89	17.56	11.17	
0+0 = F.C.			13.00	4.6 3.6 1.0 1.5
+50			13.10	4.5 3.5 1.0 1.1
+100			13.20	4.4 3.4 1.0 0.9
+150			13.30	4.3 3.3 1.0 0.8
+200 = Brk			13.40	4.2 3.2 1.0 0.8
+250			13.27	4.1 3.1 1.0 0.8
+300			13.14	4.0 3.0 1.0 0.8
+350 = 5' N of Edge Pav			13.00	4.0 3.0 1.0 0.0

Indexed

Feb 18-41
J. J. ...
Hort ...
H. Moore



Balboa Hbr Bridge Sky Part

Feb. 2-44

May 30-44
67

Indexed
B

	Grades 2.83 below Deck		28.3850/2	
	14.14 50/2		Rt.	
	6.18		6.31	
	8.18		8.31	
East End	-2.00	10.48	10.35	-2.00
Beet # 5	6.31		6.34	
	6.71		6.34	
	-0.50	10.45	10.32	0.00
# 4	6.25		6.48	
	6.25		6.38	
	0.00	10.41	10.28	0.00
# 3	6.28		6.41	
	0.01	10.38	10.25	
# 2	6.31		6.44	
	6.81		6.44	
	-0.50	10.35	10.22	0.00
Beet # 1	6.35		6.48	
	6.85		6.98	
	-0.50	10.31	10.18	-0.50
West End	6.38		6.51	
	8.38		8.51	
	-2.00	10.28	10.15	-2.00
BM	353	16.66	12.73	2.447 West End Bridge

# 4	5.15		8.03	
	12.29	Deck	8.15	
		10.41	-0.1207.697	10.28
				8.16
				8.25
				-0.09 07.697
# 3	5.23 Deck		8.06	
		10.28	8.56	
			-0.50	10.25
				8.19
				8.69
				-0.50
			8.22	
		10.22		18.05
				5.49 Deck
				5.87
BM	531	18.44		13.13
				2.447 W End Bridge

44th St Paving El Cajon Blvd to
 N. L. O'Connellwood

M
 Indexed
 (Signature)

March 17-41
 S. Wood
 North San
 N. Wood

68

BM 323 357.95 354.72
 S. W. B. P.
 El Cajon
 44th St

Sewer Laterals

N° 1 02E 350.36
 8.61
 3.08
 5.53

TP 1.72 357.22 2.45 355.50

N° 2 " " 349.55
 7.67
 2.68
 4.99

N° 3 " " 348.67
 8.55
 4.55

BM 4.84 352.38
 S. W. B. P.
 Wood
 44th St
 35240

N° 4 " " 348.21
 9.01
 3.84
 5.17

TP 4.43 358.97 2.68 354.59

N° 5 " " 348.05
 9.17
 3.92
 5.25

N° 6 07W 350.54
 7.51
 2.24
 5.27

N° 7 02E 348.54
 9.41
 3.25
 6.16

397 355.00
 S. W. B. P.
 N. L.
 O'Connellwood
 44th St

44th St. Paving
El Cajon Blvd to N.E. of Orangewood

355.19 54.43 54.82 55.01 55.01 354.80 355.60
 355.43 54.68 55.19 55.20 55.21 355.12 355.84
 355.57 54.76 55.19 55.11 55.14 355.26 355.97
 355.58 54.75 55.11 55.16 55.17 355.27 356.00
 355.48 54.68 55.16 55.14 55.15 355.41 355.90
 54.54 55.01 55.22 55.15 55.16 55.33
 54.28 54.88 55.18 55.28 355.18
 50.82 29.49 53.43 53.90 54.16 54.22 354.08
 51.95 52.17 52.79 52.91 352.23
 352.61 51.85 352.68 353.42
 14.6 52.92
 116.01
 5.007
 5.007

El Cajon

Curb Cut
April 25-41

69

355.05 54.28 55.59 55.68 356.19
 54.21 54.85 55.29 55.52 55.56
 5.00 9.65 55.05 55.60 55.95 54.10 54.05
 5.00 54.99 5.00 5.00 5.00 5.00 5.00 5.00
 817.8.P 352.38 352.38 51.57 51.61 51.59 51.65 52.10 52.34 52.39 52.23 352.94
 Meade Par 51.58 51.72 51.82 52.00 52.01 51.95
 51.06 51.09 51.11 51.10 51.60 51.74 51.80 51.10
 51.13 51.87 51.75 51.87 51.74 51.80 51.10
 351.87 51.15 51.52 51.39 51.75 51.87 51.74 51.80 51.85 352.34
 51.15 51.81 52.00 52.08 51.95 51.10
 815.10 52.21 52.51 52.81 52.60 50. 50.50 51.96

Paving a Grocer Alley Block 6 City H.S. Annex No. 1
From Wightman to University Highland + 25th St.

	H	F		
2+62.5	350.89	350.80	3.41 2.85 Co.84	3.80 3.17 Co.83
2+20 = F.V.C.	350.42	350.38	3.88 3.73 Fo.05	3.93 3.63 Co.88
2+0	350.22	350.20	4.08 3.92 Co.67	4.10 4.10 0.0
1+80	350.06	350.05	4.24 3.72 Co.76	4.25 3.72 Co.83
1+60	349.93	349.93	4.37 4.50 Fo.13	4.37 3.38 Co.99
1+40 P.V.C.	349.84	349.84	4.46 4.60 Fo.14	4.46 4.56 Fo.10
0+90	349.65	349.65	4.65 4.65 0.0	4.65 4.46 Co.17
0+40 = F.V.C.	349.47	349.47	4.83 3.55 Co.28	4.83 4.15 Co.68
0+20	349.28	349.28	5.57 3.39 Co.85	5.02 3.97 Co.66
0+0 = 1/2 Wightman	348.80	348.80	5.50	5.50
B.M. 6.93	359.50	347.37		N.W.B.P. Wightman + 45th St.

April 23-41
Silt
No. 12007
W. 120011

Indexed
H

	H	F		
6+0 = S&U. Div	350.75	350.39	6.78 on Pav.	7.14 7.18 Co.72
5+80	351.00	350.70	6.53 6.38 Co.15	6.83 Co.80
5+45	351.52	351.22	6.01 6.05 Fo.04	6.31 5.74 Co.39
5+10 = F.V.C.	352.05	351.75	5.48 5.59 Fo.11	5.78 5.68 Co.18
4+90	352.31	352.01	5.22 5.22 0.0	5.53 5.73 Fo.21
4+70	352.48	352.18	5.05 5.08 Fo.03	5.35 4.47 Co.88
4+50	352.56	352.27	4.97 5.66 Fo.03	5.26 4.47 Co.79
4+30	352.56	352.28	4.97 4.57 Co.40	5.25 4.89 Co.36
4+10	352.47	352.21	5.06 5.18 Fo.12	5.32 5.02 Co.24
3+90 = P.V.C.	352.29	352.05	5.21 4.72 Co.52	5.48 5.04 Co.44
3+47.5	351.83	351.64	5.70 5.68 Co.02	5.89 5.68 Co.21
3+0.5	351.26	351.22	6.17 5.82 Co.37	6.31 5.96 Co.41
TP 6.07	357.53	351.46	2.84	
	354.207			

Paving Grades Alley Block 37 City Hill
From University to Polk between 37th & 38th St

2+70 = Water	352.87	352.67	8.71
2+60 = Sewer	351.74	351.54	8.71
1+70 = F.V.C.	350.62	350.42	8.71
1+50	350.21	350.02	8.71
1+30	349.89	349.70	8.71
1+10	349.64	349.49	8.71
TP 6.32	356.91	349.69	8.71
0+90 = P.V.C.	349.48	349.36	8.71
0+72 = End Exc on Y	349.28	349.22	8.71
0+55	349.28	349.22	8.71
0+30 = S End Exc on Y	349.07	349.07	8.71
0+20 = Brk	349.07	349.07	8.71
0+0 = All Univ	349.04	348.59	8.71
B.M. 1.24	353.03	352.09	8.71

Apr 28 1907
North 30th

~~Indexed~~

6+00.52 = Polk	358.81	358.43	8.71
5+80	358.90	359.04	8.71
5+60	358.98	359.28	8.71
5+50 = End Exc on Y	358.84	359.17	8.71
5+40	358.84	359.17	8.71
5+20 = P.V.C.	358.50	358.70	8.71
4+80 = Brk on E	357.60	357.40	8.71
4+60	357.15	356.95	8.71
TP 7.21	363.63	356.42	8.71
4+20	356.24	356.04	8.71
4+0 = S End Exc on Y	355.12	354.92	8.71
3+70	355.12	354.92	8.71
3+20	354.00	353.80	8.71
TP 6.01	360.53	354.53	8.71

Union St Grades West Side
Tborn to Sassafras
Skater Set on West Side

BM	1230	199.57	187.27	SEBP Tborn x 4 Stair
TP	9.71	2090.3	0.25	199.32
0+0	SL Tborn		204.45	4.6 3.3 c1.3
0+45			201.50	7.5 5.6 c2.0
0+90	P.V.C.		198.50	10.5 9.1 c3.4
1+30			194.90	14.1 8.4 c5.7
1+70			189.90	19.1 14.9 c7.2
TP	0.38	197.56	11.85	197.18
2+10	E.V.C.		183.10	19.4 5.8 c8.6
2+25			180.25	17.3 7.9 c9.4
TP	0.48	186.09	11.95	185.61
2+62.3			173.20	12.8 6.7 c6.1
TP	0.10	179.47	6.72	179.37
2+99.6	N.L. Sassafras		169.30	10.2 12.0 F1.8

May 9-41

Indexed

Stak 072
on CB line

BM	18727			
	11.51			
	198.781			
	0.54		2.72	
	198.24	204.45	2.70 on CB	20.589
	8.93			1.28
	207.171			1.26 on CB
	14.15			
	196.02	201.50	5.7 4.1 c1.6 on cut Slope	202.50
	0.33			4.7 5.1 F0.4
	196.25+			
	11.84			
	184.51	198.50	8.7 7.2 c1.5 on Slope	199.10
	6.27			8.1 9.5 F1.4
	184.88x			
		194.90	12.3 11.1 c1.2 on Slope	195.20
				1.0 3.7 F2.7
		189.90	6.4 6.4 c0.0 on Slope	190.00
				6.2 10.0 F3.7
		183.10	1.8 5.2 F3.4	183.10
				1.8 5.8 F3.7
		180.25	4.6 3.4 F3.8	180.50
				4.4 8.2 F3.8
		173.20	11.6 13.2 F1.6	175.40
				9.5 14.2 F4.7
	2+82 Sassafras Fill on East	173.00		11.9 14.4
		169.30	15.6 14.7 c0.9	173.00
				F2.5 = 84 FM

April 29-41 78

Stak 072
28 on CB

32nd St Pavement Cedar St to E 1/2 St

			Date St.
30.50	30.97 30.52 30.76	30.03	2+02
34.30	34.49	34.08	2+70
38.147 11.71	36.63	36.92	2+50
38.187 11.51	38.55	38.85	2+30
38.167 1.10			
38.277 6.21	40.06	40.35	2+10
38.256 Date + 320054	41.16	41.45	1+90
	41.85	42.15	1+70
	42.13	42.42	1+50
	42.00	42.28	1+30
	41.48	41.75	1+10
	40.53	40.79	0+90
	39.17	39.42	0+70
	37.41	37.66	0+50
	35.26	35.48	0+30
10' 31.77 30.61	31.24	31.31	222.00 0+02

Cedar St.

BM 231.47 85

May 28 41	Curbs Cuts	Indexed	First Grade	74
S. 15599 North 6417 17001 71610	19.36			
	2+85.69-CBCC	18.50	19.30	19.50
		10.69	11.40	11.50
		9.00	9.73	9.86
226.56 BM		8.05	8.79	8.92
227.817		7.69	8.58	8.55
216.14 0.06		8.39	9.09	9.19
216.207 0.58		9.67	10.33	10.39
215.62 5.75		11.50	12.20	12.30
221.377		22.50	22.81	22.58
				0+0
				BM 226.56
				NE 1/4
				4-110
				26.10
				26.60
				27.58
				30.03

4-201

30.50



Latest Paving 2200 to Bancroft.

75

~~Indexed~~

Bancroft.

22724 2822 22800 2102

2730 2800 2810 / 1480

26.03 26.60 26.56 040

25 pc 25

Ohio St + Monroe Ave Paving

NW Top of Mon.

384.65
2.73
387.38

M

St

7900 37950
7917

26°

Monroe

7860
37900 20
7865

3016

Indexed

Madison

889.00 8833

Asc

8833 889.00

8261

8225
8585

8638

Walton Pl.

8625

8405 8815
8425
80.82
80.85
80.88

85.24 386.00

81.08

82.85
80.00
84.00
83.15
81.72
381.22
16667

8421 385.00

81.20 382.11

20°

Sewer Grades Block 49 + Across Block 48
 Eastern Addition

0+50	BN 251.34	245.80	14.09 8.73 57.36
	259.89 11.82		14.29
1+0	248.25	245.40	3.19
	0.66		0.11.32
	248.91		
	11.60		14.89
1+50 = MH	237.21	245.00	8.00
	0.30		5.29
	237.61		
	11.60		15.19
1+65 P.V.C.	226.61	244.70	8.20
	0.19		5.29
	226.20		
	11.79		15.81
1+75	214.41	244.05	9.29
	6.52		6.55
	214.93		
	12.31		17.39
1+85 = F.V.C.	202.62	242.50	10.24
	0.14		6.45
	202.76		
	11.80		15.21
2+30	195.96	233.50	10.62
	0.39		5.79
	196.35		
	19.94		13.11
2+75 = Brk	181.41	224.50	10.40
			0.71
3+10.83		216.17	16.03
			10.72
			0.53
3+46.66		195.84	6.92
			2.77
			0.10
3+82.50 = Brk		181.50	9.85
			5.25
			0.41
3+92.0 = Existing MH		172.85	18.50
			10.29
			0.85

M
 Stub
 33' MH D2
 245.20 245.60
 14.09 14.39
 5.17 8.98
 69.43 5.51

Indexed
 July 26-41
 S. No. 7
 North
 38' 10" 100'

Fulton

Block 48
 Eastern Add.

M.H. #1
 1+50
 Hartborn
 87.58
 51.28
 17.87
 66.08

Elm 245.60

0+50 Bag Project

B1449

0+0 D.F.

Gregory

Existing
 M.H.
 3+92.0

Paving Gravel N. S. Hill / Block 24 Bread & Cheese
 From 9th to F St. Between 25th & 26th St.

East West Hill / Block 24 Bread & Cheese 78

3+0	SL FST	161.55	4.99	159.63	
2+80		163.74	2.80 1.76 c1.04	163.04	3.50 2.22 FO.92
2+60	PVC	164.02	2.52 1.64 c0.88	163.72	2.82 2.44 c0.38
2+10		162.30	4.24 1.34 c2.90	162.00	4.54 6.02 F1.48
1+60	NL FST Hill	160.59	5.95 0.95 c5.00	160.29	6.25 7.10 FO.85
1+40	SL FST Hill	159.90	6.64 0.45 c6.19	159.61	6.93 5.88 c1.05
0+90		158.19	8.35 6.04 c2.31	157.89	8.65 9.24 F1.29
0+40	FVC	156.48	10.66 7.85 c2.81	156.18	10.36 11.77 FO.76
TP	11.33	166.54	6.45	155.21	6.31
0+20		155.95	10.59 8.82 c1.77	155.35	6.78 FO.47
0+0	NL GSI	155.70	5.93 1.45 c1.48	154.20	7.46 7.32 c0.14
TP	0.50	161.66	11.38	161.16	
BM	0.36	172.54		172.18	NWRP GSI + 20th

~~Indexed~~

1+0		143.30	6.48 5.84 c1.14	143.00	6.78 5.06 c1.73
TP	2.75	149.78	8.14	149.03	
0+70		148.25	6.92 6.66 c0.92	147.95	7.22 6.86 c0.42
0+40	FVC	153.20	1.97 0.26 c1.91	152.90	2.27 1.42 c0.85
TP	0.93	155.17	12.30	154.24	10.31 8.98 c1.33
0+20		156.62	9.97 7.97 c1.98	156.23	
0+0	NL FST Hill	160.29		159.61	
		166.54			

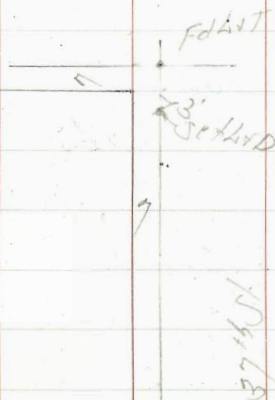
Tie Point National + 37th St

5024642
5.0000

Indexed
82

National

FLC



S.E. Cor. Fern + Grape

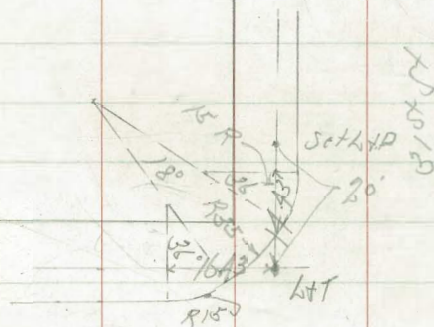
May 1-42 79

5.0000
Northwest
W. Moore

Indexed
83



H.W. Cor Grape + 31st St



Grape St.

TABLE I.—MINUTES IN DECIMALS OF A DEGREE.

Table with 11 columns representing minutes from 1 to 10 and 11 rows representing decimal values from .0167 to 1.0000.

TABLE II.—INCHES IN DECIMALS OF A FOOT.

Table with 11 columns representing inch fractions from 1-16 to 7/8 and 11 rows representing decimal values from .0052 to .9167.

TABLE III.—RADI, ORDINATES AND DEFLECTIONS.

Large table with 10 columns: Deg., Radius, Mid. Ord., Tan. Offset, Def. for 1 Foot, and then the same 5 columns repeated. It lists data for angles from 0 to 30 degrees.

Note. Chord Deflection=2 times tangent deflection.

TABLE IV.—TANGENTS AND EXTERNALS TO A 1° CURVE.

Table with 9 columns: Central Angle, Tangent, External, Central Angle, Tangent, External, Central Angle, Tangent, External. It lists data for angles from 1 to 30 degrees.

TABLE IV.—TANGENTS AND EXTERNALS TO A 1° CURVE.

Table with 9 columns: Central Angle, Tangent, External, Central Angle, Tangent, External, Central Angle, Tangent, External. Rows 31-40.

TABLE IV.—TANGENTS AND EXTERNALS TO A 1° CURVE.

Table with 9 columns: Central Angle, Tangent, External, Central Angle, Tangent, External, Central Angle, Tangent, External. Rows 61-70.

TABLE IV.—TANGENTS AND EXTERNALS TO A 1° CURVE.

Table with columns for Central Angle, Tangent, and External for angles 91° to 100°. Each angle entry is followed by five sub-entries (10', 20', 30', 40', 50').

TABLE V.—CORRECTIONS FOR TANGENTS AND EXTERNALS.

These corrections are to be added to the approximate values, found by dividing the tangent, or external, for a 1° curve (Table IV) by the degree of curve, in order to obtain the true tangents, or externals. Intermediate values may be obtained by interpolation.

FOR TANGENTS ADD

Table showing corrections for tangents by degree of curve. Columns include Central Angle (10° to 120°) and Degree of Curve (5° to 70°).

FOR EXTERNALS ADD

Table showing corrections for externals by degree of curve. Columns include Central Angle (10° to 120°) and Degree of Curve (5° to 70°).

TABLE VI.—CORRECTIONS FOR SUB-CHORDS AND LONG CHORDS.

FOR SUB-CHORDS ADD										Excess of arc per 100 ft.	LONG CHORDS				
D	10	20	30	40	50	60	70	80	90		D	200	300	400	500
4°	.00	.00	.01	.01	.01	.01	.01	.01	.00	.02	1	199.99	299.97	399.92	499.85
6	.00	.01	.01	.02	.02	.02	.02	.02	.01	.05	2	199.97	299.88	399.70	499.39
8	.01	.02	.02	.03	.03	.03	.03	.03	.02	.08	3	199.93	299.73	399.32	498.63
10	.01	.02	.03	.04	.05	.05	.05	.05	.04	.13	4	199.88	299.51	398.78	497.57
12	.02	.04	.05	.06	.07	.07	.07	.07	.05	.18	5	199.81	299.24	398.10	496.20
14	.02	.05	.07	.08	.09	.10	.10	.09	.07	.25	6	199.73	298.90	397.26	494.53
16	.03	.06	.09	.11	.12	.12	.12	.09	.05	.33	7	199.63	298.51	396.28	492.57
18	.04	.08	.11	.14	.15	.16	.15	.12	.07	.41	8	199.51	298.05	395.14	490.31
20	.05	.10	.14	.17	.19	.20	.18	.15	.09	.51	9	199.38	297.54	393.86	487.75
22	.06	.12	.17	.21	.23	.24	.22	.18	.10	.62	10	199.24	296.96	392.42	484.90
24	.07	.14	.20	.25	.28	.28	.26	.21	.12	.74	12	198.90	295.63	389.12	478.34
26	.09	.17	.24	.29	.32	.33	.31	.25	.15	.86	14	198.51	294.06	385.22	470.65
28	.10	.19	.27	.34	.37	.38	.36	.29	.17	1.00	16	198.05	292.25	380.76	461.86
30	.11	.22	.31	.39	.43	.44	.41	.33	.19	1.15	18	197.54	290.21	375.74	452.02
32	.13	.25	.36	.44	.49	.50	.47	.38	.22	1.31	20	196.96	287.94	370.17	441.15
34	.15	.28	.40	.50	.55	.57	.53	.43	.25	1.48	22	196.32	285.44	364.06	429.30
36	.17	.32	.45	.56	.62	.64	.59	.48	.28	1.66	24	195.63	282.71	357.43	416.53
38	.18	.36	.51	.62	.70	.71	.66	.53	.31	1.86	26	194.87	279.76	350.30	402.89
40	.21	.40	.56	.69	.77	.79	.73	.59	.35	2.06	28	194.06	276.59	342.69	388.43
42	.23	.44	.62	.76	.85	.87	.81	.65	.38	2.28	30	193.18	273.20	334.61	373.20
44	.25	.48	.68	.84	.94	.96	.89	.72	.42	2.50	32	192.25	269.61	326.08	357.28
46	.27	.52	.75	.92	1.02	1.05	.98	.78	.46	2.74	34	191.26	265.81	317.12	340.73
48	.30	.57	.81	1.00	1.12	1.14	1.06	.86	.50	2.99	36	190.21	261.80	307.77	323.61
50	.32	.62	.89	1.09	1.21	1.24	1.15	.93	.55	3.24	38	189.10	257.60	298.03	305.99
52	.35	.67	.96	1.18	1.31	1.35	1.25	1.01	.59	3.52	40	187.94	253.21	287.94	287.94
54	.38	.73	1.04	1.28	1.42	1.46	1.35	1.09	.64	3.80	42	186.72	248.63	277.51	269.57
56	.41	.78	1.12	1.38	1.53	1.57	1.46	1.17	.69	4.09	44	185.44	243.87	266.78	250.85
58	.44	.84	1.20	1.48	1.65	1.69	1.57	1.26	.74	4.40	46	184.10	239.93	255.78	231.95
60	.47	.91	1.29	1.59	1.76	1.81	1.68	1.35	.80	4.72	48	182.71	233.83	244.51	212.92

NOTE.—When a chord of less than 100 ft. is used the corrections given in the above table should be added to the nominal length of chord to get the length which should be used in order that the 100 ft. points will check with those obtained by using the standard 100 ft. chord. Thus in locating a 14° curve by 25 ft. chords measure 25'06" for each chord. Long chords are useful in passing obstacles.

TABLE VII.—MIDDLE ORDINATES FOR RAILS IN FEET.

Deg. of Curve	LENGTH OF RAILS						Deg. of Curve	LENGTH OF RAILS.							
	32	30	28	26	24	22		20	32	30	28	26	24	22	20
1°	.022	.020	.016	.013	.011	.009	.008	16°	.356	.313	.273	.236	.200	.170	.139
2	.045	.038	.034	.029	.025	.021	.017	17	.378	.333	.290	.252	.213	.180	.148
3	.067	.058	.051	.044	.037	.031	.026	18	.400	.351	.306	.265	.225	.190	.156
4	.089	.079	.069	.060	.050	.042	.035	19	.423	.371	.324	.280	.238	.201	.165
5	.112	.099	.088	.074	.063	.053	.044	20	.445	.392	.341	.296	.250	.212	.174
6	.134	.117	.102	.088	.076	.064	.052	21	.466	.410	.357	.309	.262	.222	.182
7	.156	.137	.120	.104	.088	.074	.061	22	.487	.430	.375	.325	.275	.233	.191
8	.179	.158	.137	.119	.100	.085	.070	23	.509	.450	.390	.338	.287	.243	.199
9	.201	.175	.153	.133	.112	.095	.078	24	.531	.469	.408	.354	.299	.253	.208
10	.223	.196	.171	.148	.125	.106	.087	25	.552	.486	.424	.367	.311	.263	.216
11	.245	.216	.188	.163	.139	.117	.096	26	.573	.506	.441	.382	.323	.274	.225
12	.268	.236	.206	.179	.151	.128	.105	27	.594	.524	.457	.396	.335	.284	.233
13	.290	.254	.222	.192	.163	.138	.113	28	.618	.545	.475	.411	.348	.294	.242
14	.312	.275	.239	.207	.175	.148	.122	29	.638	.564	.491	.424	.361	.303	.250
15	.334	.295	.257	.223	.188	.159	.131	30	.660	.583	.508	.438	.374	.313	.259

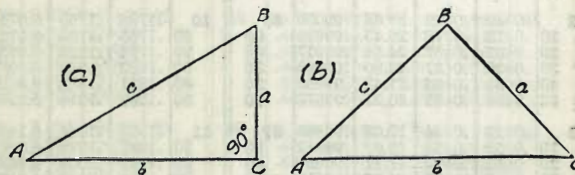
SLOPE REDUCTIONS.

When distances are measured on a slope they may be reduced to the equivalent horizontal distance by the following approximate rule:— subtract from the slope distance the square of the rise divided by twice the slope distance. Thus for a slope distance of 250.3 ft. and a rise of 15 ft. correction=15²÷2×250.3=.45 (by slide rule) or horizontal distance=250.3—.45=249.85. When vertical angle=V. A. is measured horizontal distance=slope distance—slope distance (1—Cos. V. A.). Thus for slope distance of 248.7 ft. and V. A. of 4° 20' from Table VIII Cos=.99714 and correction=1—.99714=.00286 per foot or total of .286×2½ (near enough)=.57 and horizontal distance=248.7—.57=248.13 ft.

See fig. (a).

TRIGONOMETRICAL FORMULAS.

- sin. $A = \frac{a}{c}$
- cos. $A = \frac{b}{c}$
- tan. $A = \frac{a}{b}$
- cot. $A = \frac{b}{a}$
- sec. $A = \frac{c}{b}$
- cosec. $A = \frac{c}{a}$



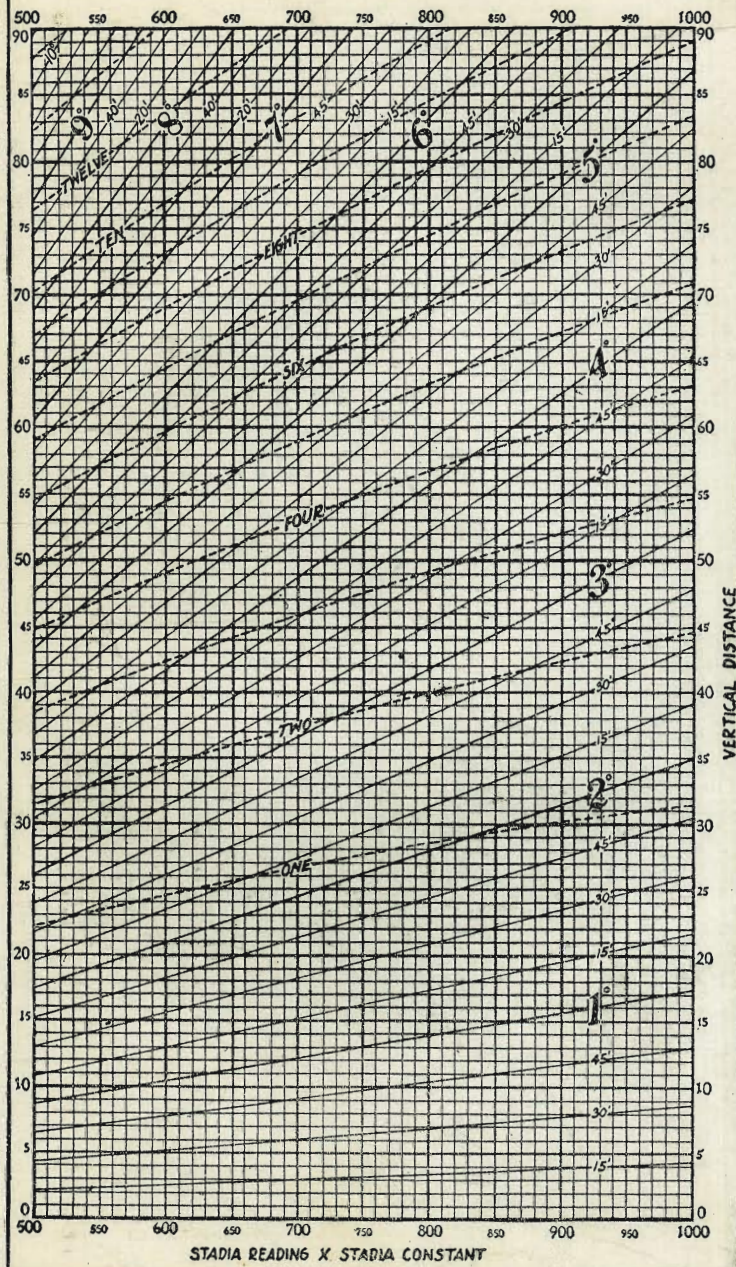
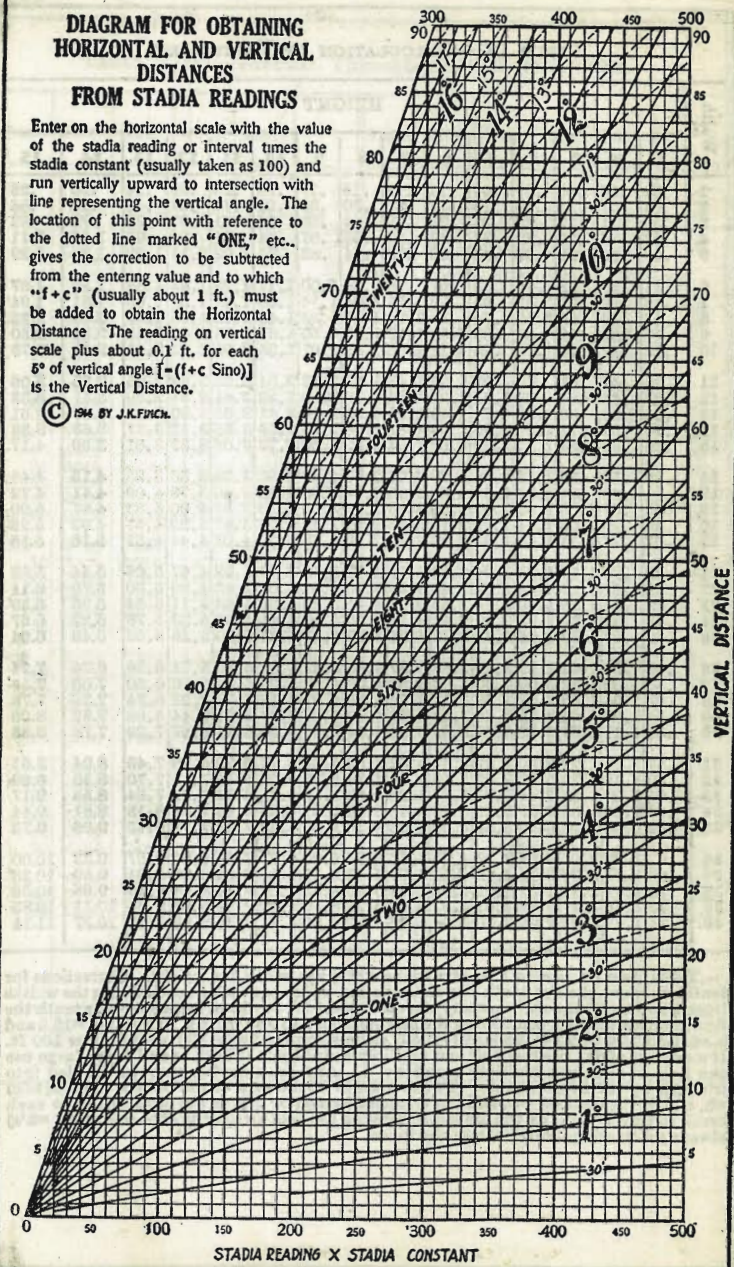
FORMULA FOR SOLVING TRIANGLES.

Given	Sought.	Right triangles. See fig. (a).
a, c	A, B, b	sin. $A = \frac{a}{c}$, cos. $B = \frac{a}{c}$, $b = \sqrt{(c+a)(c-a)}$
a, b	A, B, c	tan. $A = \frac{a}{b}$, cot. $B = \frac{a}{b}$, $c = \sqrt{a^2 + b^2}$
A, a	B, b, c	$B = 90^\circ - A$, $b = a \cot. A$, $c = \frac{a}{\sin. A}$
A, b	B, a, c	$B = 90^\circ - A$, $a = b \tan. A$, $c = \frac{b}{\cos. A}$
A, c	B, a, b	$B = 90^\circ - A$, $a = c \sin. A$, $b = c \cos. A$
Given	Sought.	Oblique triangles. See fig. (b).
A, B, a	b	$b = \frac{a \sin. B}{\sin. A}$
A, a, b	B	sin. $B = \frac{b \sin. A}{a}$
a, b, C	A - B	tan. $\frac{1}{2}(A - B) = \frac{(a - b) \tan. \frac{1}{2}(A + B)}{a + b}$
a, b, c	A	$\left\{ \begin{array}{l} \text{If } s = \frac{1}{2}(a + b + c), \sin. \frac{1}{2} A = \sqrt{\frac{(s-b)(s-c)}{bc}} \\ \cos. \frac{1}{2} A = \sqrt{\frac{s(s-a)}{bc}}, \tan. \frac{1}{2} A = \sqrt{\frac{(s-b)(s-c)}{s(s-a)}} \\ \sin. A = 2 \sqrt{\frac{s(s-a)(s-b)(s-c)}{bc}} \end{array} \right.$
A, B, C, a	area	area = $\frac{a^2 \sin. B \sin. C}{2 \sin. A}$
A, b, c	area	area = $\frac{1}{2} bc \sin. A$
a, b, c	area	$s = \frac{1}{2}(a + b + c)$, area = $\sqrt{s(s-a)(s-b)(s-c)}$

DIAGRAM FOR OBTAINING HORIZONTAL AND VERTICAL DISTANCES FROM STADIA READINGS

Enter on the horizontal scale with the value of the stadia reading or interval times the stadia constant (usually taken as 100) and run vertically upward to intersection with line representing the vertical angle. The location of this point with reference to the dotted line marked "ONE" etc., gives the correction to be subtracted from the entering value and to which "+f+c" (usually about 1 ft.) must be added to obtain the Horizontal Distance. The reading on vertical scale plus about 0.1 ft. for each 5° of vertical angle [$= (f+c \text{ Sino})$] is the Vertical Distance.

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DISTANCES FROM CENTER OF ROADWAY FOR
CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1½
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 $41.9 + (20 - 16) \div 2$ or 2 ft. added to 41.9 = 43.9. For slopes of 1 on 1 see inside of front cover.

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