

1592



UNITED STATES  
FISH AND WILDLIFE SERVICE  
FIELD BOOK  
No. 407



# 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
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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# 1592

(70)

ENGINEERING DEPARTMENT  
CITY OF SAN DIEGO,  
CALIFORNIA.

The paper stock of this book is made of a high grade 50% rag paper having a water resisting surface and is sewed with Bing Special Enamel Waterproof Thread.

Made in U. S. A.



1

Kurtz St.	Harosthy to Knight St	2-26
Clayton St.	Pacific v Hancock	27-36
Emerson St.	Evergreen to Willow	37-42
Noell St.	Pacific v Moore	<del>43-54</del> 46-80
Dalbergia St.	Thor v Una	55-60
Collier Ave.	Hawley v Mansfield	61-65
Sewer Arbor Dr.	N. of Front	66-67
Curb Ret. levels	Maple T 33rd	68-69
Vine St.	Pacific to Kettner	70-75



Wolker.  
Bias  
Feb. 11  
12-10-20

CROSS SECTION - KURTZ ST. 75' wide  
from Hursthy St. 75' cbs.  
to Wright St. 15' 1/4".  
N.W. 8 P.  
Pacific  
& Hursthy

J.P.	7.46	28.88	1.24	21.42
9.5 SE of N.W. 8 P. Hursthy = 6' wide				
Note: Lts. = South Pks = North.				
-50' on Gut. pav.	9.37	19.51		
-50' " cb.	8.67	20.21		
-17.3' on cb.	7.37	21.51		
-17.3' " Gut.	7.39	21.49		
-15.3' on S Rail	7.33	21.55		
-10.6' " " "	7.33	21.55		
5' on grating.	7.52	21.38	✓	
5' cb. on Pav. ing.	7.42	21.46		
5 1/4' " " "	7.28	21.60		
5' " " "	7.13	21.75		
11 1/4' " " "	7.03	21.85		
+11.4' S Rail	6.85	22.03		
N cb. on Pav.	6.89	21.99		
+1.1' " N Rail	6.85	22.03		
+5.7' = S. end grating.	7.49	21.39	✓	
+5.7' on cb.	6.97	22.41		
N on cb.	6.40	22.48		
" " Gut.	7.42	21.46		

28.88

INDEVED  
E.F.B.

2

N + 20' on cb.	5.10	23.78
N " " Gut.	5.96	22.92
0+00 - Westerly from Hursthy St.		
N on Walk.	6.10	22.78
+18' on cb.	6.18	22.70
" " " Gutter.	7.16	21.72
N + 6.3' = N Rail Spur Track.	6.86	22.02
N cb. on Pav.	6.90	21.98
+3.5' = S Rail	6.85	22.03
N 1/4' on Pav.	6.96	21.92
5' " " "	6.87	22.01
5 1/4' " " "	6.97	21.91
5' cb. " " "	7.09	21.79
5' " " "	7.23	21.65
+10' on N Rail Main Line	7.37	21.51
+17.3' on cb. & Paving	7.31	21.57
	6.64	22.24% 2' South
0+1.5' = Conc. Signal Base	2.5' x 3'	
	7.04	21.84% 2' South
0+6.3' = Conc. Signal Base	3.5' x 4'	
0+08		
-10'	8.0	20.9
5'	7.4	21.5

Reduced - Plotted on  
Profiles # 2205 - 543  
12-12-1940



KURTZ ST. CROSS SECTION

28.88

S+5'	4.9	24.0
cb.	4.8	24.1
1/4"	5.7	23.2
L.	6.5	22.4
1/4 on 4.5' Conc Box	6.20	22.60

$\Delta = 26^{\circ}20'$   
 $L R = 3025.6'$

1/4 + 11.3 on S Run 7 6.9 22.0

NCB 7.1 21.8

N 6.5 22.4

+0.5 at Blvd. 6.3 22.6

+0.25.3 = 4.5' Conc Slab 6.24 22.64 <sup>15.6'</sup> Not L

0 + 11.5 = Gully Dead End 25.3' N of St.

0 + 30 = Tel Pole 26.3 " "

0 + 37 = Gully Dead End 33.6 " "

Not in Use 6.15 22.73

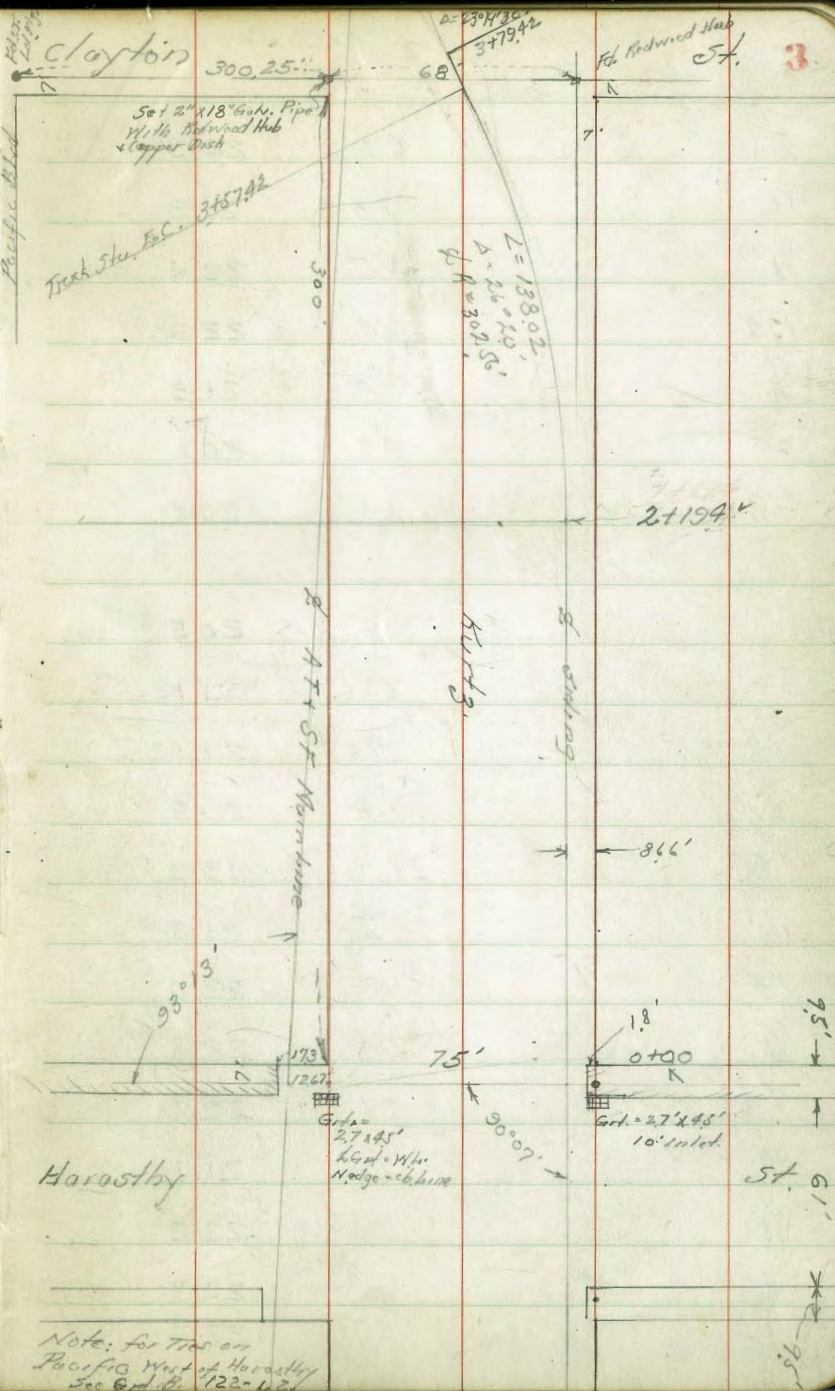
0 + 49.5 = 4.5' Conc Slab Plugged Pipe

0 + 50

N 7.0 21.9

cb. 7.3 21.6

1/4 on slab. 6.15 22.73

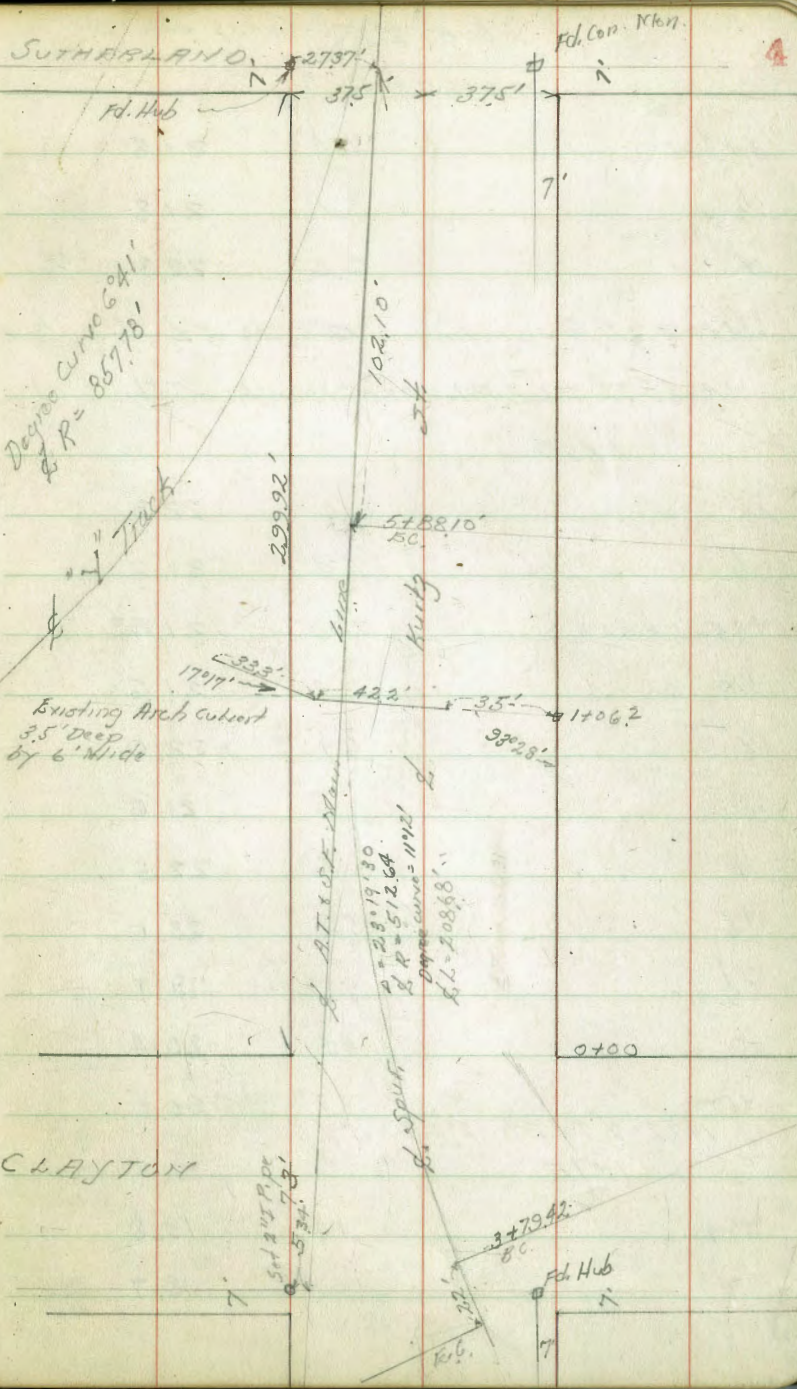




KURTZ ST. CROSS SECTION

2888

1/2	6.6	22.3	
+6	7.0	21.9	
1/4	6.5	22.4	
+12	6.4	22.5	
cb	7.0	21.9	
5	8.8	20.1	
+10 = in Track	8.1	20.8	
1+00			
-10	8.9	20.5	
-9' = S. Rail	7.76	21.12	
-43' = N "	7.76	21.12	
N	8.4	20.5	5/
+3	8.0	19.9	
cb	7.4	21.5	
+3	6.9	22.0	
1/4	6.1	22.8	
1/2	6.1	22.8	
+9	7.2	21.7	
1/4	6.7	22.2	
1/2	6.5	22.3	
1/4	6.5	22.4	





KURTZ ST. CROSS SECTION

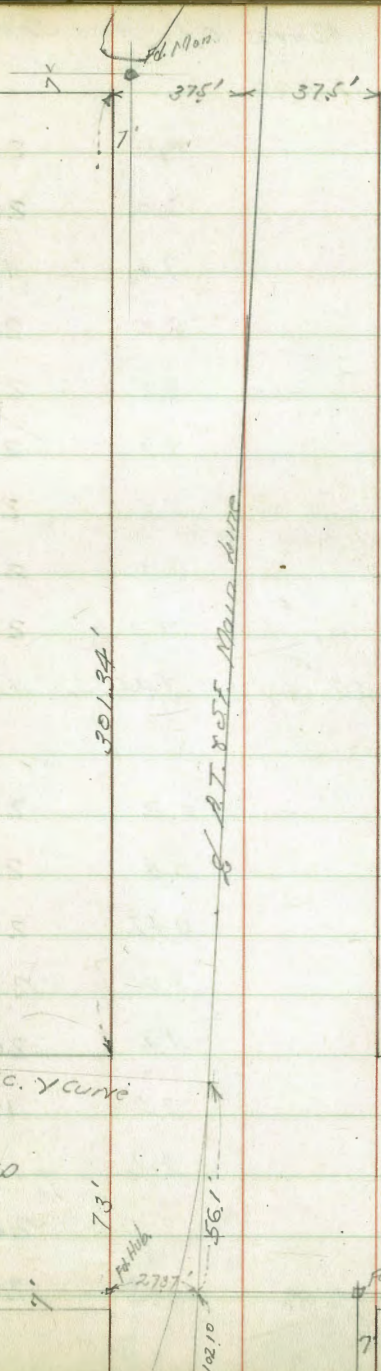
28.88

NORLL

St.

5

1/4+8	7.1	21.8	
cb.	7.1	21.8	
N	6.6	22.3	✓
1+02 = $\frac{1}{2}$ Gif Deadman 12' South of $\frac{1}{2}$ ✓			
1+61.5 = $\frac{1}{2}$ Pole Pole = 10' North of St. ✓			
1+50			
N	6.6	22.3	
cb	7.3	21.6	
+35 = S Rail	7.05	21.83	
+10	7.3	21.6	
1/4	6.9	22.0	
$\frac{1}{2}$	7.3	21.6	
1/4	6.4	22.5	
+8	5.8	23.1	
cb.	9.2	19.7	
S	8.5	20.4	
+10	8.7	20.2	
1+72 = $\frac{1}{2}$ Tel Pole 2' South of $\frac{1}{2}$ ↓			
1+75			
S-20	9.1	19.8	
-13'	10.7	18.7	



68  
27.37  
1063

0+00

SUTHERLAND







KURTZ - St. CRISTO SECTION Plotted  
1-22-48

2209

5	20	20.1
+6	2.2	19.9
+11	3.6	18.5
+15	2.6	19.5

Tel Co.  
2103 - Guy Doodman on L St. J

2150

-13'	31	19.0
-9'	39	18.2
-3'	24	19.7
5	24	19.7
6b	24	19.7
+4	3.2	18.9
+10	2.5	19.6
1/4	2.8	19.3
6	1.8	20.3
1/4	1.4	20.7
6b	1.3	20.8
+4	1.0	21.1
N	+0.4	22.5

TPS 497-492

WRIGHT

Fd. Hub

61'

Fd. Hub

2521'

7

7'

7'

307.08

St. Main line A.T. & S.F. RR

ESTUOILLO

80'



KURTZ ST. CROSS SECTION

2209

8

2209

3+00 = E. line Clayton 80' wide  
14' cbs.

N	0.1	22.0
+6	0.1	22.0
cb.	0.6	21.5
+1	1.7	20.4
1/4 Rail Spur	1.47	20.62
1/4	2.9	20.1
1/2	2.3	19.8
1/4	3.2	18.9
+7	3.8	18.3
+13	2.6	19.5
cb.	2.6	19.5
+0.3 = N Rail	2.00	20.09
V	2.7	19.4
+20	6.5	15.6
3+14 = 1/4 cb Clayton		
-16	7.6	14.5
-5	3.9	18.2
5	3.1	19.0
+3	2.7	19.4

cb.	2.6	19.5
+3	2.7	19.4
+9	3.9	18.2
1/4	3.2	18.9
1/2	3.4	18.7
1/4	2.2	19.9
+10	2.0	20.1
cb.	0.7	21.4
N	0.9	21.2
3+12.5 = 1/2 pole 6' N of L		✓
3+16 = 1/2 " 6' N " "		✓
3+00 = 1/2 Clayton		
N	1.1	21.0
cb.	1.0	21.1
+3	1.2	20.9
+8	2.7	19.4
110 = 1/2 N.H. Run	2.11	19.98 ✓
1/4	2.5	19.6
1/2	2.7	19.4
1/4	3.5	18.6
+6	3.9	18.2



QUARTZ ST. CROSS SECTION  
2209

1/4+11	2.9	19.2
cb.	2.7	19.4
+5	2.9	19.2
S	3.8	18.3
+3	4.2	17.9
+12	8.4	13.7
+25	8.9	13.2
3+66 = W. cb. Clayton		
-25	11.2	10.9
-13	9.8	12.3
S-3	4.2	17.9
S	4.0	18.1
+5	2.9	19.2
cb.	2.8	19.3
+5	2.8	19.3
+11	3.7	18.4
1/4	3.4	18.7
2	2.6	19.5
1/4	2.0	20.1
+5	2.9	19.2

2209

1/4+10	2.0	20.1
cb.	1.7	20.4
N	1.7	20.4
0+00 = W.L. Clayton St.		
-12	6.0	16.1
N	2.7	19.4
cb.	2.8	19.3
+6	3.1	19.0
+9	3.6	18.5
1/4	2.6	19.5
2	2.7	19.4
1/4	3.3	18.8
+9	3.0	19.1
cb. in Track	3.0	19.1
cb. on <sup>South</sup> Rail	2.37	19.72
S	4.4	17.7
+15	11.2	10.9
+25	11.4	10.7
0+30		
-25	12.1	10.0
-12	11.2	10.9



## KURTZ - 57. Cross Sections

2209

S	5.0	16.1
cb.	3.3	18.8
1/4	3.2	18.9
L	3.1	19.0
1/4	4.2	17.9
4/2	4.2	17.9
cb.	4.8	17.3
N	7.1	15.0
+10	7.1	15.0
+15	7.0	15.1
	0+56	
-15	6.9	15.2
N	7.3	14.8
cb.	7.4	14.7
+3	5.7	16.4
1/4	4.8	17.3
+10	3.3	18.8
L	3.2	18.9
1/4	3.0	19.1
cb.	3.3	18.8
+4	4.5	17.6

2209

10

S	6.1	16.0
+10	10.8	11.3
+25	11.6	10.5
	0+85	
-15	10.3	11.8
-8	9.8	12.3
S	7.4	14.7
cb.	3.6	18.5
1/4	3.2	18.9
+10	3.8	18.3
L	5.4	16.7
+12	8.7	13.4
1/4	8.8	13.3
cb.	8.8	13.3
N	8.4	13.7
+20	8.4	13.7
	0+82 = L To 1 P. 16 13.5 N of L	
	1+00	
-20	8.5	13.6
N	8.8	13.3
cb.	9.5	12.6



## Kurtz St. Cross Sections

22.09

+13	9.9	12.2
1/4	10.5	11.6
+8	10.5	11.6
2	6.6	15.5
+6	3.6	18.5
1/4	3.3	18.8
+4.7 = N Rail Mainline	2.75	19.34
+13	3.6	18.5
cb.	4.5	17.6
S	7.8	14.3
+5	9.2	12.9
+10	8.8	13.3
+18 = Top Bank "Y" Track	5.4	16.7
+24 = N Top Rail " "	4.64	17.45
Levels on Existing Culvert. 1466.7 on N		
-20	8.5	13.6
N on stub.	8.95	13.14
+22	10.1	12.0
+30	12.4	9.7
+35 = on Flange side	12.90	9.19

22.09

11

South end, Flange side	14.30	7.79
1+50		
-21	4.9	17.2
-7.6 = N Rail " / Track	4.00	18.09
S	5.4	16.7
+4 = Elec. Pole	5.4	16.7
cb.	5.4	16.7
+5	3.8	18.3
1/4	3.4	18.7
+6	3.9	18.2
2	7.6	14.5
+4	9.4	12.7
1/4	9.6	12.5
cb.	9.7	12.4
N	9.6	12.5
+20	8.7	13.4
2+00		
-20	7.9	14.2
N	8.8	13.5
cb.	9.3	12.8
1/4	9.0	13.1



	22.09	Kurtz St
+7	9.2	12.9
L	5.8	16.3
+3	4.0	18.1
+14 = N Rail	3.20	18.89
1/4	3.7	18.4
cb.	4.1	18.0
S	4.6	17.5
+7	4.8	17.3
+20	11.2	10.9
+35	12.4	9.7
TP 195	20.42	36.2 18.47
2+104 = L Switch 7' South of L		✓
2+09 = L Signal Box = 3' South of L		✓ Conc. Base Square
2+345 = L Tel Pole 22.5' N of L		✓
+39 = L Guy Deadman 27.5' N of L		✓
2+30		
-35	10.5	9.9
-71	9.6	10.8
S	2.8	17.6
cb.	2.5	17.9
1/4	2.1	18.3

	20.42	12
L	2.9	17.5
+12	7.5	13.1
1/4	7.0	13.4
cb.	7.0	13.4
N	6.5	13.9
+20	6.3	14.1
2+82		
-11.5 at Blk on ground	5.0	15.4
N	5.0	15.4
cb.	5.4	15.0
1/4	6.3	14.1
+11	7.1	13.3
L	3.6	16.8
+7	2.6	17.8
1/4	2.3	18.1
+13	2.6	17.8
cb.	3.5	16.9
S	8.1	12.3
+35	9.7	10.7
2+985 = L Elev Pole = 8' N of S Line		✓



	2042	Kurtz St.	80' wide 14' cbs.
	2+9992 = E. line	Sutherland	
-21		8.9	11.5
S		8.4	12.0
+3		8.3	12.1
cb.		6.1	14.3
+5		2.9	17.5
+13 = S Rail "Y"		1.82	18.60
1/4		2.4	18.0
+6.55 = N Rail 19' wide		1.89	18.53
+8		2.6	17.8
S		4.1	16.3
+6		6.5	13.9
1/4		6.4	14.0
cb.		5.3	15.1
N		5.1	15.3
+20		4.4	16.0
	E. cb.		
N-20		4.4	16.0
N		5.0	15.4
cb.		4.9	15.5
1/4		6.3	14.1

	2042		13
+9		6.3	14.1
S		3.9	16.5
+7		2.9	17.5
1/4		2.5	17.9
+12		3.1	17.3
cb.		6.3	14.1
+3		8.4	12.0
S		8.9	11.5
+21		8.5	11.9
	Sutherland		
-21		8.4	12.0
-10		9.5	10.9
S		9.3	11.1
+4		9.2	11.2
cb.		7.7	12.7
+8		3.8	16.6
1/4		2.7	17.7
+11		2.7	17.7
S		3.6	16.8
+7		5.6	14.8
+9		6.9	13.5



2042

Kurtz St.

+17	5.4	15.0
1/4	5.2	15.2
cb.	4.8	15.6
N	4.9	15.5
+20	4.6	15.8
N cb		
-20	4.1	16.3
N	4.4	16.0
cb.	5.1	15.3
+11	5.1	15.3
+13	6.5	13.9
1/4	5.4	15.0
+6	3.6	16.8
+10 = Signal Box 1.3' x 1.3'		
2	3.0	17.4
1/4	2.7	17.7
1.5 South of 1/4 3' E = Signal Box		
1/4 + 8	3.3	17.1
cb.	8.1	12.3
S	9.0	11.4
+12	7.3	13.1

2042

14

S + 21	6.9	13.5
0 + 00 = W.L. Sutherland		
-21	6.9	13.5
-9	7.1	13.3
S	8.7	11.7
cb.	8.2	12.2
+9	3.4	17.0
1/4	3.1	17.3
2	3.1	17.3
+10	3.4	17.0
1/4	5.0	15.4
+3	5.0	15.4
+6	5.9	14.5
+10	5.0	15.4
cb.	5.1	15.3
N	4.4	16.0
+20	3.2	17.2
1.5 E of W.L. 32' N of 2 = Tol Pole		
0 + 50		
-20	2.6	17.8
N	3.8	16.6
cb.	4.1	16.3



2042

Kurtz St.

cb+7	2.9	17.5
+10	2.4	18.0
1/4	3.0	17.4
+4	5.8	14.6
+9	4.1	16.3
L	3.1	17.3
+9	3.1	17.3
1/4	4.6	15.8
+5	6.2	14.2
cb.	6.2	14.2
S	5.9	14.5
+20	6.9	14.0
0+75		
-20	6.0	14.4
S	4.2	16.2
cb.	5.8	15.1
1/4	4.7	15.7
+7	3.4	17.0
L	3.2	17.2
+2	3.4	17.0
+9	4.7	15.7

2042

15

+9		5.7	14.7
1/4		2.7	17.7
+3		0.9	19.5
+6		0.9	19.5
+13		3.7	16.7
cb.		3.7	16.7
N		3.7	16.7
+20		2.2	18.2
TP	5.47	22.13	3.76 16.66
	1+00		
-20		5.2	18.9
N		4.8	17.3
cb.		4.9	17.2
+2		4.9	17.2
+10		4.3	17.8
1/4		5.7	16.4
+3		7.3	14.8
+11		5.2	16.9
L		5.0	17.1
+26	S Rail Main line	4.45	17.68
+8		6.0	16.1

2 Hails  
in 5/100 P. 1/2  
4/1867



2213

Kurtz St.

S 1/4	6.6	15.5
S cb.	6.4	15.7
S	6.7	15.4
+25	8.0	14.1
1+00 = E. Blue Pole 27' South of 1/4		
1+43 = Tel. Pole 2' N. N. Line		
1+50		
-25	8.8	13.3
S	7.3	14.8
cb.	7.0	15.1
1/4	6.9	15.2
+10	6.3	15.8
+13	5.5	16.6
1/2	5.3	16.8
+6	5.4	16.7
+11	7.2	14.9
1/4	7.2	14.9
+7	1.8	20.3
cb.	4.6	17.5
N	3.9	18.2
+20	2.5	19.6

2213.

16

2+00

-20	2.8	19.3
N	4.2	17.9
cb.	3.8	18.3
+5	2.0	20.1
+13	7.1	15.0
1/4	6.6	15.5
+4	5.7	16.4
+12 = S. Rail Main Line	4.91	17.22
1/2	5.8	16.3
+2	6.5	15.6
1/4	7.2	14.9
cb.	7.2	14.9
S	7.5	14.6
+25	8.9	13.2
2+50		
-25	9.3	12.8
S	7.4	14.7
cb.	7.4	14.7
1/4	7.0	15.1
1/2	6.7	15.4



2213

Kortz St

L+3'	5.7	16.4
1/4	5.7	16.4
+5	6.7	15.4
+13	2.0	20.1
cb.	3.0	19.1
N	3.8	18.3
+10	4.5	17.6
3+01 34 <sup>EL</sup> - St. Noell St 80' W of 14' db		
-10	4.9	17.2
N	4.1	18.0
+4	6.3	15.8
cb.	6.3	15.8
+5	5.1	17.0
1/4	5.8	16.3
+6.2 = S. Rail Main Line	5.37	16.76
+8	6.1	16.0
+11	6.9	15.2
L	7.1	15.0
1/4	7.7	14.4
cb.	8.0	14.1
S	8.8	13.3
+10	9.1	13.0

2213

17

3+1534 = E. cb Noell St

S	8.5	13.6
cb.	7.9	14.2
1/4	7.6	14.5
L	6.8	15.3
+5	6.6	15.5
+8	6.0	16.1
1/4	5.9	16.2
cb.	5.0	17.1
N	4.9	17.2

3+4134 = E. Noell St

N	5.1	17.0
cb.	5.3	16.8
1/4	5.5	16.6
L on Burn M.H.	6.90	15.23
1/4	8.2	13.9
cb.	9.2	12.9
S	9.6	12.5

3+6634 = W. cb Noell St

S	9.8	12.3
cb.	9.3	12.8



2213

Kurtz St.

cb+10	9.4	12.7
1/4	8.8	13.3
2	7.4	14.7
+8	7.0	15.1
+11	6.3	15.8
1/4	6.2	15.9
+10	5.6	16.5
cb	6.1	16.0
N	5.0	17.1
0+00 = N WLY line Noelle St		
N-15	4.6	17.5
-10 = Drainage Ditch	7.0	15.1
N-7	4.3	17.8
N	3.5	18.6
+3	3.3	18.8
cb	6.6	15.5
+3	6.8	15.3
+6	5.5	16.6
1/4	6.3	15.8
+14 = S Rail Main line	5.73	16.40
+3	6.3	15.8

2213

18

+7	7.5	14.6
2	8.5	13.6
1/4	9.1	13.0
+7	9.7	12.4
cb	9.6	12.5
S	9.6	12.5
0+50		
-10	10.4	11.7
S	10.0	12.1
cb	10.2	11.9
+9	10.4	11.7
1/4	9.3	12.8
2	8.3	13.8
+11	7.6	14.5
1/4	6.6	15.5
+12	6.8	15.3
cb	7.7	14.4
N	4.9	17.2
+5	7.6	14.5
-10	5.2	16.9



1+00

-10	5.7	16.4
-4	8.4	13.7
N	5.7	16.4
+5	8.1	14.0
cb.	7.3	14.8
+5	6.8	15.3
+10.7 = S. Rail Main line	6.21	15.92
+13	6.8	15.3
1/4	7.5	14.6
+7	8.5	13.6
2	7.7	14.4
+6	7.9	14.2
+11	10.3	11.8
1/4	10.3	11.8
cb.	10.3	11.8
S	10.2	11.9
+10	10.7	11.4

0+99 = S. Elec. Pole 28' S. of 2

1+40 = S. Guy Derris 27.5' S. of 2

1+45 = S. " " 27.5' S. of 2

1+50

-10	10.9	11.2
S	10.6	11.5
cb.	10.7	11.4
+13	10.9	11.2
1/4	10.0	12.1
+2	9.4	12.7
2	8.5	13.6
1/4	7.9	14.2
+5	7.0	15.1
cb.	6.9	15.2
N	9.5	12.6
+4	7.4	14.7
+9	9.6	12.5
+15	6.5	15.6
T.P. 3.72	18.67	7.18 14.95
Stall + 65 = 11 stu	= S. Wooden Box	Culvert. sections ✓ diag. over culvert.
-15	3.0	15.7
-8	6.3	12.4
N	6.7	12.0
+13 on Flow line	6.81	11.80
cb.	3.6	15.1



	1867	Kurtz St.
cb+9	3.7	15.0
1/2	5.0	13.7
+4 - End East Street	7.80	10.87 Flint Lime
+10	8.0	10.67
L	4.8	13.9
+5	3.7	15.0
1/4	6.3	12.4
+3	7.5	11.2
cb	7.5	11.2
S	7.7	11.0
+10	7.9	10.8
	1+70	
-10	8.0	10.7
S	7.7	11.0
cb	7.4	11.3
+14	7.4	11.3
1/4	6.2	12.5
+8	3.7	15.0
+13	8.2	10.5
L	8.2	10.5
+1	8.2	10.5
+2	5.7	13.0

	1867	20
+11	3.7	15.0
1/2	4.5	14.2
+7	3.6	15.1
cb	3.6	15.1
N	5.1	13.6
+6	2.4	16.3
+15	5.4	13.3
	2+00	
-15	4.1	14.6
+8	3.0	15.7
N	5.1	13.6
cb	3.7	15.0
+18 - S. Rail Main Line	3.22	15.45
+7	3.8	14.9
1/2	5.2	13.5
+8	3.6	15.1
+13	6.7	12.6
+14	8.4	10.3
L	8.4	10.3
+1	8.3	10.4
+2	6.0	12.7



	1867	Kurtz St.
L+7	3.4	15.3
1/4	7.4	11.3
cb.	7.7	11.0
5	7.2	11.5
+10'	7.7	11.0
Z +50		
-10	8.6	10.1
5	8.1	10.6
cb.	7.5	11.2
1/4	7.5	11.2
+10	5.2	13.5
+12	6.3	12.4
+13	8.6	12.1
L	8.6	12.1
+1	8.6	12.1
+2	6.7	12.0
+5	4.4	14.3
+11	5.7	13.0
1/4	4.8	13.9
+8	4.6	14.1
+12	4.0	14.7

	1867	21
Ncb.	4.0	14.7
+4	4.0	14.7
N	4.8	13.9
+3	5.4	13.3
+10	3.6	15.1
+20	4.0	14.7
3+00 59° E. line Estadillo 80' wide 1/4 cbs.		
-15	3.8	14.9
N-7	5.5	13.2
N	4.3	14.4
+6.6° S. Rail Main Line	3.65	15.02
cb.	4.2	14.5
+4	5.1	13.6
1/4	5.2	13.5
+10	5.1	13.6
+13	6.8	11.9
+14	8.5	10.2
L	8.5	10.2
+1	8.5	10.2
+2	6.8	11.9
+5	5.2	13.5



	18.67	Kurtz St.
L+12	75	112
1/4	75	112
cb.	78	109
S	82	105
+10	84	109
3+14.59 = E. cb. Estudillo		
-10	80	107
S	78	109
cb.	82	105
1/4	75	112
+3	72	115
+12	58	129
2	70	117
+1	86	101
+3	86	101
+4	68	119
+7	51	136
1/4	53	134
+12	51	136
cb.	44	143
N	43	144

	18.67	22
N+7	56	131
+15	40	147
3+40.59 = L. Estudillo St.		
-15	41	146
-9	59	128
N	44	143
cb.	47	140
+2	53	134
1/4	61	126
+5	46	141
+10	68	119
+13	86	101
+14	70	117
2	57	130
+6	73	114
1/4	77	110
cb.	82	105
S	82	105
+10	89	98
3+66.59 = W. cb. Estudillo		
-10	93	94
S	88	99



	1867	Kurtz St.
cb.	8.4	10.3
1/4	8.4	10.3
+8	7.8	10.9
+12	6.6	12.1
2	6.6	12.1
+3	7.1	11.6
+4	8.7	10.0
+6	8.7	10.0
+7	6.9	11.8
+10	5.6	13.1
1/4	6.9	11.8
cb.	5.5	13.2
+2	4.8	13.9
N	4.5	14.2
+10	6.0	12.7
+15	4.4	14.3
0+00 = N.W. Estudillo		
-15	4.5	14.2
-11	6.1	12.6
-5	4.6	14.1
N	4.6	14.1

	1867	23
N+2' = S Rail Main Line	4.03	14.64
+4	4.7	14.0
cb.	5.7	13.0
+13	6.8	11.9
1/4	6.2	12.5
+3	5.6	13.1
+8	7.4	11.3
+9	8.7	10.0
+11	8.7	10.0
+12	7.3	11.4
2	5.6	13.1
+7	8.1	10.6
1/4	8.3	10.4
cb.	8.6	10.1
S	8.8	9.9
+10	9.3	9.4
0+50		
-10	9.9	8.8
S	9.4	9.3
cb.	9.0	9.7
+8	8.3	10.4
1/4	7.7	11.0



	1867	Kurtz	St.
1/0+2	77	110	
+3	95	92	
+10	101	86	
L	93	94	
+7	68	119	
+9	91	96	
+12	71	116	
1/4	73	114	
+11	75	112	
cb.	63	124	
N	48	139	
+15	64	123	
+20	49	138	
	0+60		
-20	52	135	
-13	64	123	
N	50	137	
cb.	72	115	
+12	77	110	
1/4	70	117	
+4	92	95	

	1867		24
+7	73	11.4	
L	61	12.6	
+10	81	10.6	
1/4	78	10.9	
cb.	94	9.3	
S	94	9.3	
+10	101	8.6	
	1+00		
-10	97	9.0	
S	90	9.7	
cb.	88	9.9	
1/4	89	9.8	
L	85	10.2	
+10	95	9.2	
1/4	80	10.7	
cb.	77	13.0	
N	60	12.7	
+3.8	S. Rail Main Line	4.47	14.20
	1+50		
N-68	S. Rail Main	470	13.97
N	64	12.3	



	1867		Kurtz St.
cb.		77	110
1/4		83	104
L		88	99
1/4		94	93
+25		104	83
cb.		98	89
S		105	82
+10		106	81
T.P.	5.63	16.05	8.25 10.42
	2+00		
-15		81	80
S		83	78
cb.		76	85
1/4		70	91
L		57	104
1/4		48	113
cb.		44	117
N		37	124
+9.6 = S. Rail MLine		2.27	13.78
	2+50		
N-S		3.5	12.6
N		3.7	12.4

	16.05		25
cb.		4.2	11.9
1/4		5.2	10.9
L		5.5	10.6
1/4		6.2	9.9
+13		7.5	8.6
cb.		8.3	7.8
S		8.2	7.9
+15		8.6	7.5
	2+92		
-10		7.5	8.6
S		7.4	8.7
cb.		7.2	8.9
+7		7.5	8.6
1/4		6.4	9.7
L		6.1	10.0
1/4		5.1	11.0
cb.		4.5	11.6
N		3.3	12.8
+5		3.1	13.0
	3+03.08 = E. L. Wright St.		
N-15 = S. Rail MLine		2.60	13.45



16.05

H			36	125	
cb.			44	11.7	
1/4			49	11.2	
1/2			56	10.5	
3/4			60	10.1	
+3			62	9.9	
+6			71	9.0	
+13			68	9.3	
5 cb.			60	10.1	
5			64	9.7	
+10			77	8.4	
SW 1/4 7' Hub Wright + Kurtz			6.31	9.74	
T.P.	3.88	7.98	11.95	4.10	SE 1/4 Wright & Pacific
chk. State Highway B.M.			5.22	2.76	
chiseled square in cb				2.78	
				0.02 diff.	
T.P.	5.19	8.71	4.46	3.52	NE 1/4 Hoall & Pacific
chiseled square in cb.			5.37	3.34	State Purty.
				3.36	
T.P.	6.22	10.90	4.73	3.98	Sutherland + Pacific
chk. SW 1/4 B.P.			6.30	4.60	Horasthy + Pacific
chk. starting B.M.			0.91	9.99	
				10.00 - B.P.	
				0.01 - B.P.	



CROSS SECTION CLAYTON ST

from Pacific Blvd to Hancock

80' wide  
14' cbs.  
13' 1/4".

INDEXED  
E/FB

27

Christad Square  
in cb Return 8.00 14.07 6.07  
NLY Lot Pacific Clayton

0 - 07.5' = NLY cb. Pacific Blvd.

5 - 45' on cb.	7.03	7.04
" " Gut. Pav.	7.72	6.35
5 - 6' = PC. cb Radius. on cb.	7.92	6.15
" " " " Pav.	8.49	5.58
5' on Pav.	8.60	5.47
cb. " "	8.68	5.39
1/4 " "	8.76	5.31
2 " "	8.83	5.25
1 1/2 " "	8.90	5.17
" cb. " "	8.94	5.13
1/4 on Catch Basin	9.10	4.97
+ 6' = PC. 20' cb R on Pavng.	9.06	5.01
" " " " " cb.	8.17	5.90
14 + 45' on Pav.	9.13	4.94
" " cb.	8.45	5.62

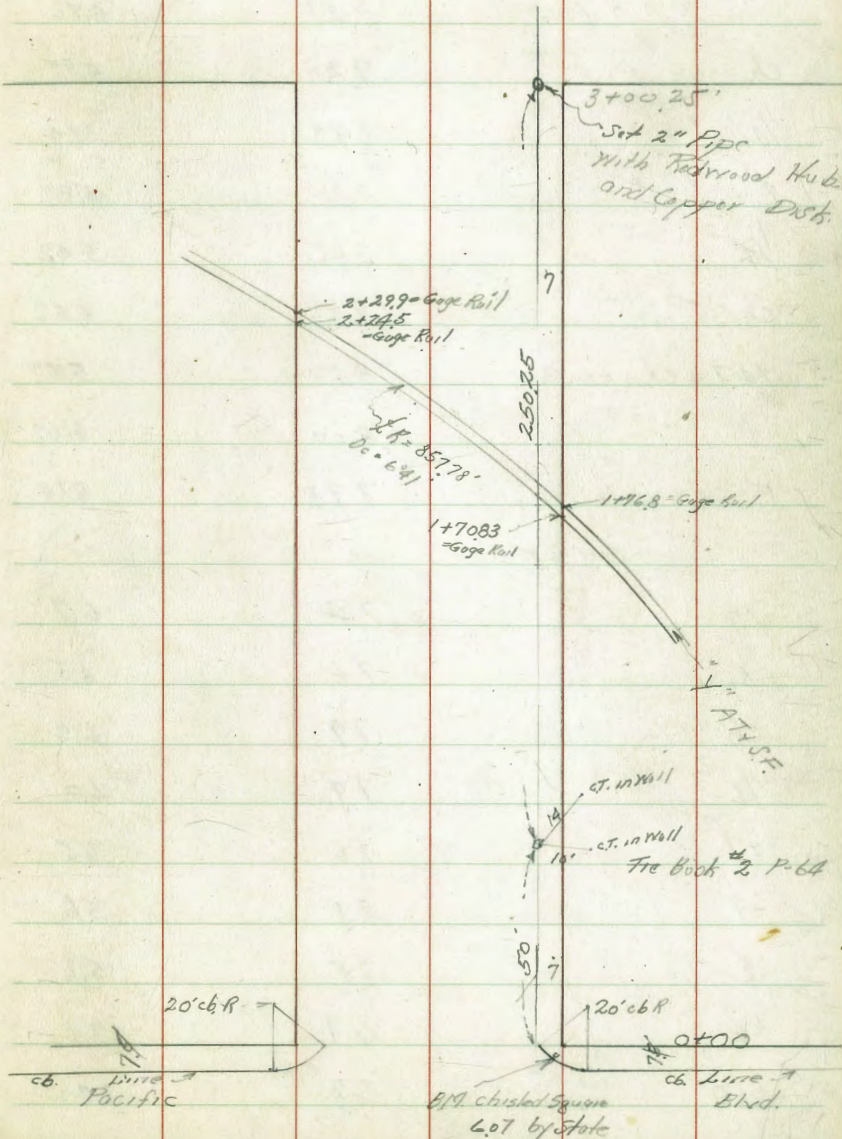
0+00 = NLY Line Pacific.

W on NLY edge Walk. 8.16 5.91

Notes Reduced & Plotted Dec 17-90  
G.M.

Kurtz.

St.





Clayton St. X-Section

14.07

N+9.3 = cb. on cb.	8.31	5.76
" " " Pav.	9.21	4.86
cb. on Pav.	9.20	4.87
1/4 " "	8.93	5.14
1/2 " "	8.80	5.27
1/4	8.65	5.42
cb.	8.55	5.52
+4.7 = cb on Pav.	8.50	5.57
" " " cb.	8.00	6.07
E on walk	7.93	6.14
0+25		
-10	7.4	6.7
E	7.6	6.5
cb.	7.9	6.2
1/4	7.9	6.2
+7	7.6	6.5
+9	8.5	5.6
1/2	8.5	5.6
+4	6.7	7.4
+10	6.8	7.3

HARTCOCK

Clayton

Kurtz

Fl. Ct.

23

61'

2+0042

200.43'

7'

Fl. Hub.

ST.

ST.



## Clayton St. X-section.

14.07

L+12	7.5	6.6
1/4	7.5	6.6
cb.	7.5	6.6
W	7.5	6.6
+10	7.5	6.6
	0+50	
-10	6.9	7.2
W	6.9	7.2
cb	6.7	7.4
1/4	6.7	7.4
+3	6.7	7.4
+5	5.7	8.4
+9	5.3	8.8
L	8.2	5.9
+4	8.2	5.9
+5	5.6	8.5
1/4	5.6	8.5
+3	5.6	8.5
+4	6.6	7.5
cb.	6.8	7.3

14.07

29

E	7.1	7.0
+0.3' on wall	1.5	12.6
	0+75	
E	4.9	9.2
cb.	4.5	9.6
1/4	4.4	9.7
+8	4.7	9.4
+9	8.2	5.9
L	7.6	6.5
+3	4.6	9.5
+8	4.8	9.3
1/4	5.7	8.4
cb.	5.8	8.3
W	5.8	8.3
+10	5.8	8.3
	1+00	
-10	5.6	8.5
W	5.2	8.9
cb.	5.0	9.1
1/4	5.0	9.1
+6	3.7	10.4



	1407	Clayton
1/4+12	3.7	10.4
L	6.9	7.2
+7	6.9	7.2
+8	4.0	10.1
1/4	3.8	10.3
cb	3.9	10.2
E	3.4	10.7
+10	1.37	12.70
} 0+48 = Beginning Conc Wall	1.5	12.6
		on E
{ 1+00 = end Conc	1.37	12.70
	1+50	
-10	2.3	11.8
E	2.0	12.1
cb	2.1	12.0
1/4	2.5	11.6
L	2.7	11.4
+4	2.8	11.3
+5	6.3	7.8
1/4	6.7	7.4
+4	2.7	11.4
+10	2.8	11.3

	1407	30
cb	3.6	10.5
W	4.4	9.7
+10	4.5	9.6
1+54 = 1/2 Pole on E 10' W of E.L.		
	1+75	
-10	4.1	10.0
W	3.3	10.8
+5	3.3	10.8
+9	2.5	11.6
cb	5.8	8.3
+9	6.1	8.0
+10	2.7	11.4
1/4	2.7	11.4
L	2.6	11.5
1/4	2.0	12.1
cb	1.4	12.7
E	0.8	13.3
+10	1.6	12.5
TR	8.08	21.23
	0.92	13.15
1+70.83 = S. Rail on E	7.63	13.60 ✓
1+76.8 = N " " "	7.42	13.81 ✓



21.23

Clayton

1+91

-10	8.6	12.6
E	8.6	12.6
cb.	7.6	13.6
1/4	8.0	13.2
L	8.4	12.8
1/4	9.3	11.9
+12	9.5	11.7
cb.	12.4	8.8
+6	13.6	7.6
+10	12.9	8.3
W	9.5	11.7
+15	11.0	10.2
2+00		
-20	10.8	10.4
-15	9.3	11.9
-5	12.5	8.7
W	13.3	7.9
+7	12.3	8.9
+8	9.5	11.7
cb.	9.3	11.9

21.23

31

1/4	7.6	13.6
L	7.5	13.7
1/4	7.4	13.8
cb.	8.6	12.6
E	8.2	13.0
+10	8.0	13.2
2+07		
-10	8.0	13.2
E	8.1	13.1
cb.	8.5	12.7
+10	8.6	12.6
1/4	7.9	13.3
L	7.1	14.1
1/2	7.4	13.8
cb.	7.4	13.8
W	9.0	12.2
+13	13.1	8.1
+25	10.0	11.2
2+24.5 = S. Rail on W	6.01	15.22
+29.9 = N. " " "	5.80	15.43







21.23

Clayton

cb.		9.9	11.3
W		10.1	11.1
+20		11.0	10.2
	3+00.25 = SL Kurtz St		
W		3.6	17.6
cb.		3.2	18.0
1/4		3.0	18.2
1/2		2.9	18.3
1/4		2.6	18.6
cb.		2.3	18.9
E		1.9	19.3
	2" Iron Pipe SL Kurtz, E 7' Line	2.19	19.04
TP	6.88	26.11	2.00 19.23
	0+00 = NLY Line Kurtz.		
W		6.8	19.3
cb.		6.0	20.1
1/2		5.4	20.7
1/2		5.1	21.0
1/4		4.9	21.2
cb.		4.8	21.3
E		4.6	21.5

26.11

Chk Rim NLY P. 8

6.05

19.98  
20.06

33

		0+11	
-10		1.4	24.7
E		2.0	24.1
+12		2.8	23.3
cb.		4.0	22.1
+5		5.0	21.1
1/4		5.0	21.1
1/2		5.2	20.9
1/4		5.4	20.7
cb.		6.9	19.2
W		9.8	16.3
+20		10.5	15.6
		0+18	
-20		10.5	15.6
W		9.9	16.2
cb.		9.2	16.9
1/4		8.5	17.6
1/2		7.5	18.6
1/4		6.1	20.0
cb.		3.6	22.5
+5		1.9	24.2



	26.11		Clayton	
E		1.4	24.7	
+10		1.4	24.7	
	0+34			
-10		0.8	25.3	
E		1.6	24.5	
cb.		2.3	23.8	
1/4		4.2	21.9	
L		6.5	19.6	
1/4		8.8	17.3	
cb.		9.0	17.1	
W		9.8	16.3	
+7		8.0	18.1	
+20		10.1	16.0	
TP	11.81	33.00	4.92	21.19
	0+50			
-20		15.7	17.3	
W		12.3	20.7	
cb.		12.2	20.8	
+11		12.2	20.8	
1/4		15.0	18.0	
L		15.0	18.0	

				34
		33.00		
L+8		9.4	23.6	
1/4		8.7	24.3	
cb.		8.5	24.5	
E		7.6	25.4	
+10		7.0	26.0	
	0+75			
-10		5.8	27.2	
E		5.8	27.2	
cb.		6.0	27.0	
1/4		6.1	26.9	
+7		6.7	26.3	
L		8.4	24.6	
1/4		12.8	20.2	
+5		15.1	17.9	
cb.		14.8	21.2	
+5		9.7	23.3	
W		10.6	22.4	
+20		10.2	22.8	
	1+00			
-20		9.4	23.6	



3300

Cloyton

W	8.7	24.3
+6	8.0	25.0
cb.	10.8	22.2
1/4	8.1	24.9
+8	5.7	27.3
L	5.5	27.5
1/4	6.3	26.7
b.	6.0	27.0
E.	6.2	26.8
+10	5.7	27.3
	1+25	
-10	5.2	27.8
E.	5.4	27.6
cb.	5.6	27.4
1/4	5.6	27.4
L	5.3	27.7
1/4	5.3	27.7
+7	8.1	24.9
cb.	8.5	24.5
+8	8.2	24.8
W	7.2	25.8
+20	8.3	24.7

3300

35

	1+50		
-20		7.4	25.6
W		6.3	26.7
+5		6.1	26.9
+8		7.9	25.1
b.		7.9	25.1
+6		6.4	26.6
1/4		7.8	25.2
L		6.0	27.0
+8		5.5	27.5
1/4		5.4	27.6
b.		4.8	28.2
E.		5.0	28.0
+10		4.8	28.2
	1+75		
-10		4.5	28.5
E.		4.4	28.6
cb.		5.0	28.0
1/4		4.9	28.1
+7		4.9	28.1
L		6.7	26.3



33.00

Clayton

L+3'	5.2	27.8
1/4	5.0	28.0
+5	5.4	27.6
+8	6.9	26.1
cb.	5.3	27.7
W	5.8	27.2
+15	6.6	26.4

2+100.42 = South Lime Hancock.

-15	4.8	28.2
W	4.3	28.7
cb.	4.9	28.1
1/4	4.7	28.3
L	4.7	28.3
1/4	4.4	28.6
cb	4.2	28.8
E	4.1	28.9
+15	3.9	29.1

2+28.82 = South Rail Car Truck.

E on Rail 3.99 29.01

W = 2+29.4 = South Rail 4.34 28.66

2+42.2 = South Rail of N Track.

W on Rail 4.06 28.94

33.00

36

2+41.52	3.62	29.38
E on Rail		
T.P.	3.61	23.55
	13.06	19.94
chk. South Rail Main Line	3.81	19.74
0+100 W.L. Clayton R9		19.72 = P-9-rail
		0.02 error



Walker notes Cross Section EMERSON St. 70' wide.  
 Blas = 7 18' obs.  
 Isbell - rd From Evergreen to Willow. 85' / 45.  
 12-17-40

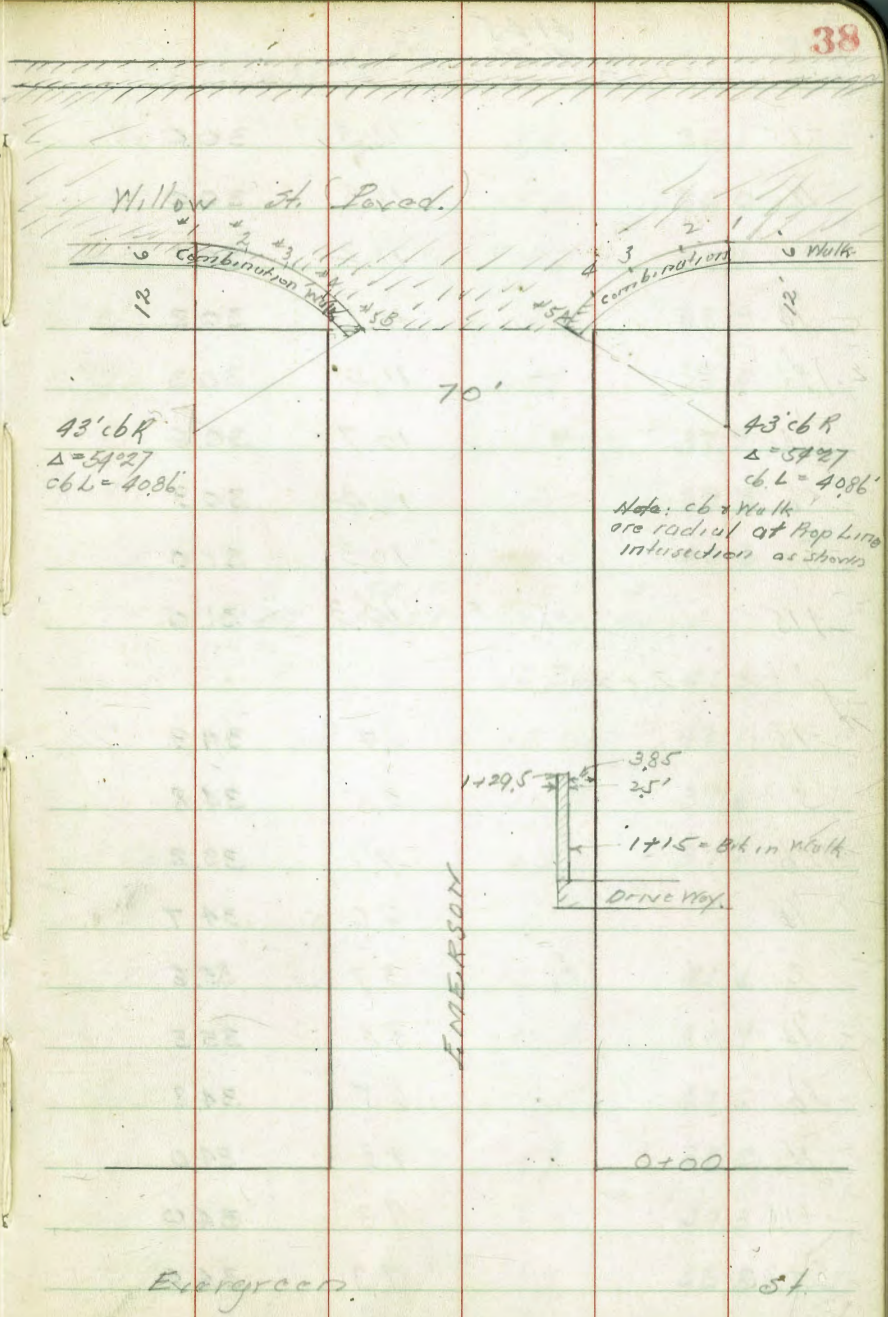
	289	32.99		SW. B.P. Evergreen + Garnson
	<del>300</del>	<del>33.10</del>	30.10	
		29.37	24.07	
T.P.	5.30	29.48	8.92	24.18 on Rock
			19.04	
Chk. S.E. 7' Man		10.33	19.15	
	0+00 = W.L. Evergreen			
-10		7.7	21.7	
S		7.5	21.9	
cb.		6.9	22.5	
1/4		7.3	22.1	
L		6.8	22.6	
1/4		6.8	22.6	
cb.		6.9	22.5	
N		6.4	23.0	
+10		6.4	23.0	
	0+25			
-10		4.6	24.8	
N		5.4	24.0	
cb.		6.1	23.3	
1/4		5.9	23.5	
1/2		6.1	23.3	

Red-Plated 12-20-40  
 Profile # 1128 C.D.H.

	INDEXED EPB	29.48 29.37		
1/4			6.2	23.2
cb.			6.2	23.2
S			6.2	23.2
+10			6.1	23.3
		0+50		
-10			5.1	24.3
S			4.9	24.5
cb.			4.9	24.5
1/4			5.2	24.2
L			5.0	24.4
1/4			4.8	24.6
cb.			4.9	24.5
N			4.7	24.7
+10			4.4	25.0
			2.84	26.53
		0+79 = E. edge Conc. Drive on N on 1176		
			2.90	26.47
		0+95 = W . . . . .		
		0+97		
-10			2.5	26.9
N			2.6	26.8
cb.			2.5	26.9
1/4			2.5	26.9



	29.48 29.37		
2	2.5	26.9	
1/4	2.6	26.8	
cb.	2.2	27.2	
S	2.1	27.3	
+10	1.6	27.8	
0+98 = Pole 11' N of St.			
1+03 = E edge Conc. Drive Way			
-10	1.5	27.9	
S	1.8	27.6	
cb.	1.8	27.6	
1/4	2.3	27.1	
2	2.2	27.2	
1/4	2.0	27.4	
cb	2.0	27.4	
+11.9 on Conc Drive	1.39	27.98	
E " " "	1.16	28.21	
+10 " " "	0.78	28.59	
Above Drive			
1+16 on W edge Drive 1.19 28.18			
41.34 29.14			
T.P. 12.20 41.45 0.23 29.25			
1+15 = Bk. in walk on N 12.20 29.14			
1+29.5 on end of walk 11.88 29.46			





1750  
41.45  
41.34

-15	11.3	300
N	11.3	300
cb.	11.2	301
1/4	11.1	302
1/2	11.0	303
1/4	10.7	306
cb.	10.4	309
S	10.3	310
+15	10.3	310

2+00

-15	6.4	349
S	6.5	348
cb.	7.1	332
1/4	6.6	347
1/2	5.7	356
1/4	5.8	355
cb.	6.5	348
N	7.3	340
+15	7.3	340
+20	7.3	340

2+25  
41.45  
41.34

-20	5.2	361
N	5.3	360
+16	4.2	371
cb.	2.4	389
1/4	1.9	39.4
1/2	3.4	37.9
+1	2.0	39.3
1/4	1.0	40.3
T.P.	13.67	54.10 54.21

41.03  
41.14

cb.	12.3	41.8
+9	12.0	42.1
S	16.3	37.8
+20	17.0	37.1

2+50

-20	12.7	41.4
S	12.4	41.7
+14	6.5	47.6
cb.	5.9	48.2
1/4	6.8	47.3
+7	8.3	45.8



	5421 54.10		
L	11.6	42.4	
1/4	11.2	42.9	
+3	8.4	45.7	
cb.	8.6	45.5	
N	15.2	38.9	
+25	16.0	38.1	
	2+63		
-25	14.1	40.0	
N-5	13.1	41.0	
N	11.7	42.4	
+12	5.5	48.6	
cb.	5.1	49.0	
+1	9.3	44.8	
+4	9.9	44.2	
1/4	7.6	46.5	
+2	5.0	49.1	
L	4.5	49.6	
1/4	4.0	50.1	
cb.	4.0	50.1	
+13	10.4	43.7	
S	11.2	42.9	
+18 (at house) 2' West	9.9	44.2	

	2+80	5421 54.10	
S-18 at house		3.7	50.4
S		0.8	53.3
cb.		0.8	53.3
1/4		1.3	52.8
L		2.2	51.9
1/4		2.0	52.1
cb.		2.0	52.1
+10		2.4	51.7
N		7.4	46.7
+20		12.4	41.7
+30		12.4	41.7
TP	7.40	61.38 61.44	53.98 54.09
		0.12	54.09
			for section at 2+98 see p. 42
			3+00 = E.L. Willow
-30		7.6	53.8
N		7.2	54.2
+ on edge walk.		7.98	53.40
+ on cb + SA		8.13	53.25
+ on pol.		8.77	52.61
cb		8.39	52.99
1/4		8.22	53.16
L		8.00	53.38



	61.49 61.38		
1/4 on Paving	7.88	53.50	
cb " "	7.36	54.02	
+ on Paving at cb	7.50	53.88	
+ " cb	6.86	54.52	
on Sedge Walk	6.78	54.60	
S	5.4	56.0	
+20	4.4	57.0	
NE Return	-40.86		
#1 on cb.	7.12	54.26	
#1 " Gut.	7.88	53.50	
#2 " "	7.54	53.84	
"2 " cb	6.83	54.55	
#3 " "	6.84	54.54	
#3 " Gut.	7.43	53.95	
#4 " "	7.85	53.53	
#4 " cb.	7.28	54.10	
S. E. Return	40.86		
#1 on cb PC	3.92	57.46	
#1 " Gut.	3.14	58.24	
#2 " "	4.67	56.76	
#2 " cb.	3.84	57.54	

	61.49 61.38		41
#3 on Gut.	5.38	56.00	
#3 " cb.	4.73	56.65	
#4 " "	5.65	55.73	
#4 " Gut.	6.40	54.98	
E. cb. line Willow			
-40 on Gut.	2.70	58.68	
-40 " cb.	1.94	59.44	
-25 on cb PC	3.14	58.24	
-25 " Gut "	3.92	57.46	
S on Pav.	5.28	56.10	
cb " "	5.92	55.46	
1/4 " "	6.16	55.22	
1/2 " "	6.36	55.02	
1/4 " "	6.49	54.89	
cb " "	6.72	54.66	
N " "	7.06	54.32	
+40 on Gut.	8.31	53.07	
+40 " cb.	7.52	53.86	
chk. 7 Jack Garrison	11.39	49.99	
+ E. orgreen		50.10	
check barrels P-42		49.98	
		51.25	
		50.14	



Emerson St. Cross Sections

Cont. from p. 41

Check levels

2.89 32.99

30.10

SW of P.  
Every 100 feet  
& Curriers

chk 1st turn on Rock

8.92

24.07

24.18

0.11 = High.

Notes corrected on p. 37 as there was  
a mistake in Rod reading orig. Rod on B.M.

Additional sections at Willow

5.21 39.47

54.26

chk on cb # 5 A

6.21

53.26

53.25 p. 40

2 + 98

N

5.4

54.1

cb.

5.5

54.0

1/4

5.0

54.5

2

5.1

54.4

1/4

4.8

54.7

cb.

4.7

54.8

S

4.3

55.2

+20

3.8

55.7

3 + 05 = section on Paving.

5947

42

S on Walk.

3.60

55.87

+6. on cb.

4.06

55.41

" " Gut. Pat.

4.80

54.67

cb. on Pat.

5.13

54.34

1/4 " "

5.38

54.09

2 " "

5.60

53.87

1/4 " "

5.75

53.72

cb. " "

5.99

53.48

+12 " " at cb Ret.

6.26

53.21

" " cb. " "

5.68

53.79

N on Walk.

5.32

54.15



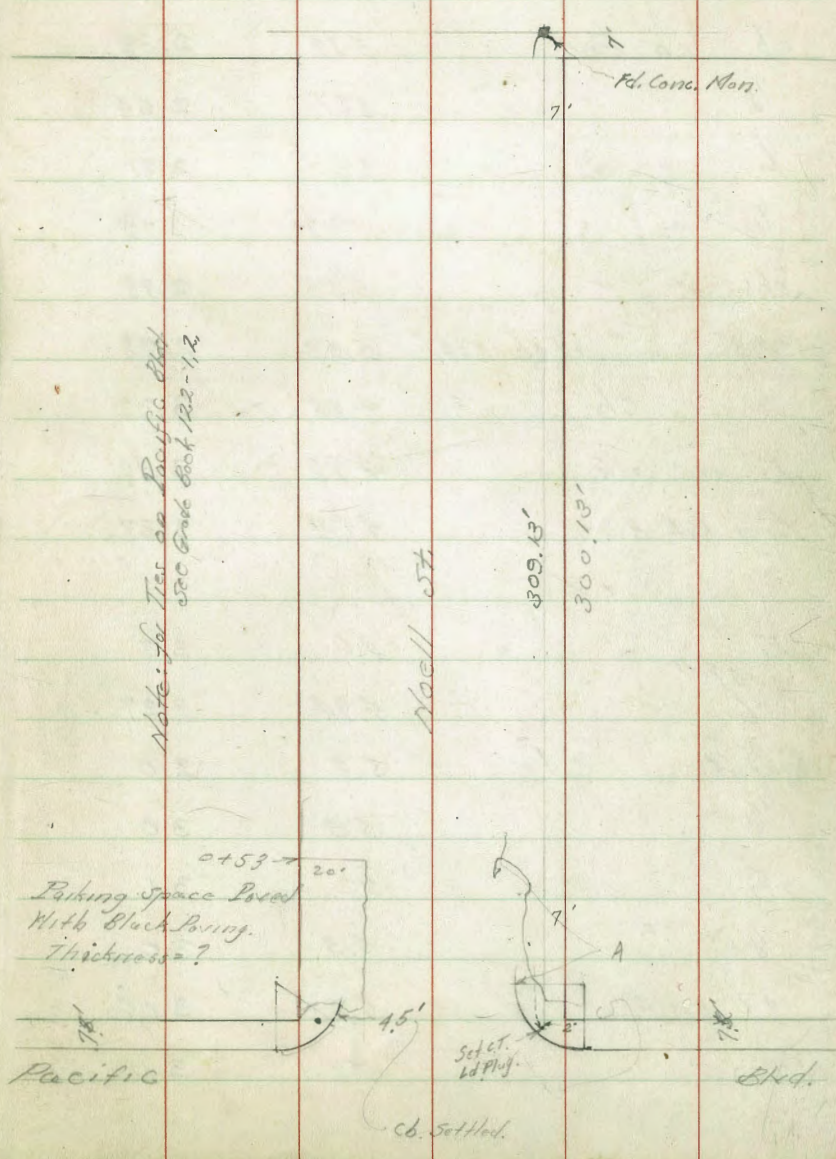
Walker			
Cross Section Noell St. 80' Wide			
from Pacific Blvd. 14' cbs.			
15' curb 13' 1/4 s.			
12-18-40 to Moore St.			
	4.95	8.31	3.36
	B.M. chisled square in cb NE Noell & Pacific		
N cb line Pacific = 0-07.8			
-31' on cb.	4.85		3.46
" " Gal	5.51		2.80
-06' - cb P.C. on cb.	4.96		3.35
" " " " Pav	5.55		2.76
E 017 Paving	5.56		2.75
cb " "	5.57		2.74
1/4 " "	5.56		2.75
1/4 " "	5.59		2.72
1/4 " "	5.69		2.62
cb " "	5.83		2.48
" " "	5.88		2.43
+6 " "	5.83		2.48
" " cb.	4.88		3.43
+31 " "	4.99		3.32
" " Pav.	5.57		2.74
0+00 = N.L. Pacific Blvd.			
N on Walk.	4.98		3.33

Made new Reduced 7 Plots on Profile # 685 Dec 19-40 C.B.H.

INDEXED  
EPB

43

Kurtz





W+9.2 on cb.	4.90	3 41
" " settled cb	5.10	3 21
" " Gut Pav. at cb.	5.94	2 37
cb. on Pav	5.79	2.52
1/4 " "	5.67	2.64
1/2 " "	5.60	2 71
1/4 " "	5.52	2 79
cb " "	5.53	2 78
+4.8' " " at cb. Ret.	5.53	2 78
" " cb.	4.94	3 37
E <sub>o</sub> on Walk	4.92	3 39.
End Ret A	4.94	3 37

0 + 20

E <sub>o</sub>	4.6	3 7
+14.15'		
= cb	4.94	3 37.
cb Gut.	5.3	3 0
1/4	5.3	3 0
1/2	5.2	3 1
1/4	5.3	3 0
+7 on Pav	5.25	3 06
+10 " "	5.20	3 11

Hancock AT+5.5' Main line

Noell 1874

To 7th

275.58'

200.66'

93° 12'

49.52'

7

7

375.33'

200.38'

\* To Main 7' line Kurty.

Kurty.



cb on Par.	5.02	3.29
+7 " "	4.65	3.66
14 " "	4.63	3.68

0+53 = end of Existing Pav. on W

14 on Div	3.79	4.52
+12 " "	3.91	4.40
cb " "	4.02	4.29
+4 " "	4.32	3.99
+6 " "	4.14	4.17
1/4	4.0	4.31
1/2	3.9	4.4
1/4	4.0	4.3
+7	4.3	4.0
cb.	4.0	4.3
S of fence	4.0	4.3

0+61 = Pole on E 12.5' W of EL

0+69 = Guy Deadman on E 12.7' W of EL

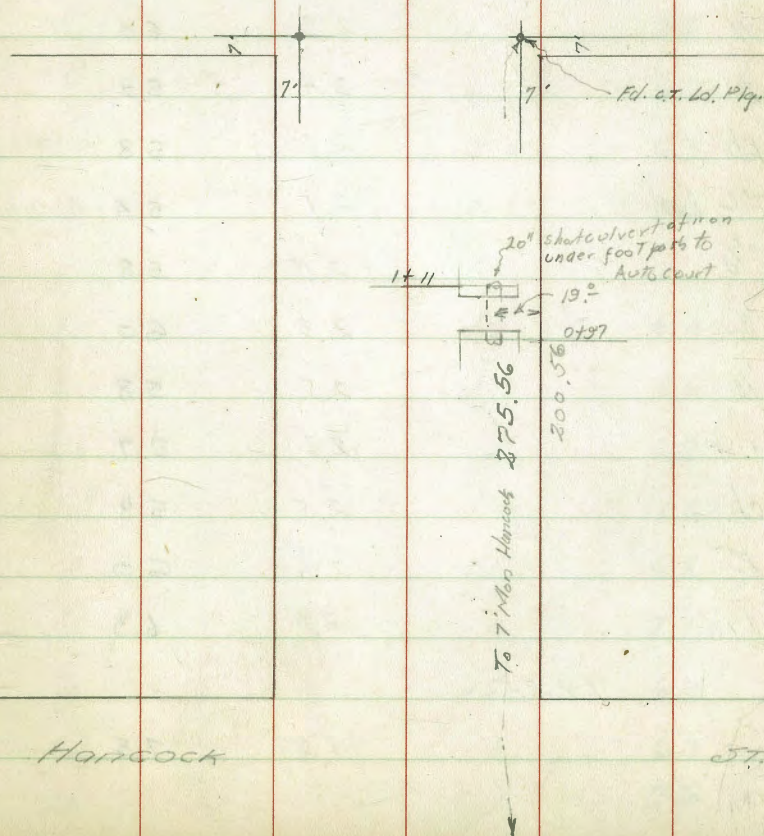
1400

F.	2.0	6.3
+12.5 = Pole	2.3	6.0
cb.	2.4	5.9
+8	3.1	5.2

Noell St.

Moore

See page 76 for sketch  
of this intersection



Hancock



8.31

1/4	2.8	55
L	2.5	58
1/4	2.8	55
+6	3.1	52
cb.	2.7	56
W	2.6	57
+12		
-3 at old	2.3	60
W	2.3	60
+10	2.4	59
cb.	2.5	58
+6	2.9	54
1/4	2.5	58
L	2.3	60
1/4	2.5	58
+2	2.6	57
cb.	2.5	58
E	2.3	60
+10	2.0	63
+35		
-5	0.8	75

8.31

46

E	0.8	75
+12	1.1	72
cb.	1.3	70
+10	2.2	61
1/4	1.8	65
L	1.6	67
1/4	2.0	63
+5	2.2	61
cb.	1.8	65
+5	1.7	67
W	2.0	63
+10	2.3	60
+50		
-15	1.9	64
W	1.7	66
cb.	1.5	68
+3	1.8	65
1/4	1.5	68
L	1.2	71
1/4	1.4	69
+2	1.6	67
cb.	0.7	76



		8.31	
cb +4		0.2	8.1
E		0.0	8.3
+10		0.0	8.3
TP	11.67 19.71	0.27	8.04
	1+75		
-10		11.1	8.6
E		10.9	8.8
cb.		11.5	8.2
1/4		12.0	7.7
L		11.8	7.9
1/4		12.2	7.5
+6		12.6	7.1
cb.		12.2	7.5
+4		12.0	7.7
N		12.3	7.4
+10		12.4	7.3
1+97-8 Pole on W, 12.5' E of W.			
	2+05		
W of Bld.		10.2	9.5
cb.		10.8	8.9
+7		11.5	8.2
1/4		11.2	8.5

		19.71		47
cb		10.9	8.8	
1/4		11.0	8.7	
+2		11.1	8.6	
cb		10.8	8.9	
E		10.4	9.3	
+10		10.1	9.6	
	2+50			
-10		8.3	11.4	
E		8.5	11.2	
cb.		9.0	10.7	
1/4		9.2	10.5	
L		9.2	10.5	
1/4		9.6	10.1	
+4		9.9	9.8	
cb.		8.9	10.8	
+5		8.5	11.2	
W of Bld		8.6	11.1	
	3+00.13 = Shine Kurtz.			
W		7.2	12.5	
+4		7.0	12.7	
+10		7.5	12.2	



		1971	
cb		7.4	12.3
+9		7.0	12.7
1/11		7.2	12.5
+6		7.3	12.4
2/6		7.2	12.5
1/4		6.6	13.1
+6		6.1	13.6
cb		6.1	13.6
F. Noell + Kurtz		6.1	18.6
S.E. T. Non		6.36	13.35
0+00 = H.L. Kurtz			
E		2.2	17.5
+9		3.8	15.9
cb		2.6	17.1
1/11		2.1	17.6
2/6		2.7	17.0
+11		2.8	16.9
1/11		3.4	16.3
+4		4.1	15.6
cb		+0.2	19.9
W		0.7	19.0

		1971	
0+05			
-10		1.1	18.6
W		1.7	18.0
cb		1.8	17.9
+7		0.6	19.1
+12		3.9	15.8
1/4		3.9	15.8
+4		2.7	17.0
2/6		2.6	17.1
1/4		1.9	17.8
+9		1.9	17.8
+12		3.2	16.5
cb		3.4	16.3
+2		4.0	15.7
+11		0.4	19.3
E		2.7	17.0
+10		3.0	16.7
0+11			
-10		3.4	16.3
E		3.5	16.2
+7		1.7	18.0



1971

+11	3.6	161
cb.	3.5	162
+5	3.4	163
1/4	2.5	172
2	2.5	172
+10	2.7	170
1/4	3.3	164
+4	1.5	182
cb.	3.0	167
+6	4.2	155
W	4.4	153
+10	3.2	165
0+17		
-10	2.1	17.6
W	2.0	17.7
cb.	2.1	17.6
+7	4.0	15.7
1/4	2.9	16.8
+3	2.7	17.0
2	2.4	17.3
+8	2.1	17.6

1971

49

1/4	1.4	18.3
+4	3.0	16.7
+7	3.0	16.7
+8	1.6	18.1
cb.	3.9	15.8
+2	2.1	17.6
E	2.1	17.6
+10	2.3	17.4
0+30		
-10	1.6	18.1
E	1.6	18.1
cb.	1.7	18.0
+4	2.6	17.1
+7	0.6	19.1
+10	2.4	17.3
1/4	2.4	17.3
+3	2.0	17.7
2	2.1	17.6
1/4	3.0	16.7
+4	1.2	18.5
cb.	1.7	18.0



1971

W		1.9	17.8
+10		2.1	17.6
T.P.	12.38	31.24	0.85 18.86
	0+50		
-10		13.0	18.2
W		12.7	18.5
cb.		12.6	18.6
+9		11.9	19.3
+11		13.5	17.7
1/4		13.5	17.7
L		13.1	18.1
+9		13.1	18.1
1/4		12.0	19.2
+4		12.7	18.5
+6		13.5	17.7
+9		12.7	18.5
cb.		12.7	18.5
E		12.6	18.6
+10		12.3	18.9

0+71-8 Pole 11.5' W of E Line

1+09-8 Gey Deadman 11.5' W of E Line

1+00 31.24

50

-10		10.4	20.8
E		10.1	21.1
cb.		11.0	21.2
+7		10.6	20.6
+9		11.8	19.4
+11		10.5	20.7
1/4		10.4	20.8
+3		11.2	20.0
1/4		11.6	19.6
+6		12.3	18.9
1/4		11.3	19.9
+3		10.1	21.1
cb.		10.3	20.9
W		11.0	20.2
+10		11.1	20.1
	1+50		
-10		9.7	21.5
W		9.3	21.9
cb.		9.1	22.1
+11		8.5	22.7
1/4		9.5	21.7



31.24

1/4 +8	9.9	21.3
L	9.6	21.6
+8	9.6	21.6
1/4	9.1	22.1
+5	8.3	22.9
+9	10.0	21.2
+11	8.6	22.6
cb.	7.9	23.3
E.	7.6	23.6
+10	7.7	23.5
1+70		
-10	6.7	24.5
E	6.9	24.3
+7	7.7	23.5
cb.	7.5	23.7
+3	9.3	21.9
+6	7.6	23.6
1/4	8.0	23.2
+3	8.9	22.3
L	8.7	22.5
+8	8.9	22.3

31.24

51

1/4	7.7	23.5
+9	9.0	22.2
cb.	8.4	22.8
+8	8.5	22.7
W	7.5	23.7
+10	8.5	22.7
1+98		
-10	6.4	24.8
W	6.4	24.8
cb.	6.4	24.8
1/4	6.0	25.2
+6	7.4	23.8
L	7.7	23.5
+10	7.5	23.7
1/4	6.8	24.4
+8	5.7	25.5
+12 = Iron cabinet floor built	8.3	22.7 No Good
cb.	5.9	25.3
E.	3.6	25.6
+10	3.5	25.7



3124

2+100 33 = South Line Hancock 15.25' 1/4 S.

75' wide

7' cbs.

15.25' 1/4 S.

-10 5.5 25.7

E 5.6 25.6

cb. 5.1 26.1

+7 5.4 25.8

1/4 7.0 24.2

E 7.5 23.7

+10 7.0 24.2

1/4 5.9 25.3

cb. 6.2 25.0

W 6.0 25.2

+10 5.9 25.3

South cb

-10 5.5 25.7

W 5.3 25.9

cb. 5.7 25.5

1/4 5.3 25.9

+3 6.3 24.9

L 7.0 24.2

1/4 6.5 24.7

+7 6.5 24.7

3124

37.5

37.0

33.5

52

cb. 5.3 25.9

Facb + 7' on Conc Mon. 5.72 25.52

E 5.0 26.2

+ 5.5 25.7

South 1/4

-10 5.5 25.7

E 5.5 25.7

cb. 6.0 25.2

1/4 5.8 25.4

E 5.9 25.3

1/4 5.6 25.6

cb. 5.6 25.6

W 5.8 25.4

+10 5.9 25.3

S 1/4 + 6.3 = South Rail Dble Track, South Track

W on Rail 5.55 25.69 ✓

E " " 5.41 25.83 ✓

L + 3.94 = South Rail of Dble Track, N Track

W on Rail 5.32 25.92 ✓

E " " 5.11 26.13 ✓



31.24

S Hancock

W-10	5.3	25.9
W	5.4	25.8
cb	5.3	25.9
1/4	5.4	25.8
L on Rim MH	5.37	25.87
1/4	5.4	25.8
cb	5.4	25.8
E	5.0	26.2
+10	5.0	26.2

N 1/4 Hancock

-10	5.1	26.1
E	5.0	26.2
cb	5.0	26.2
1/4	5.2	26.0
d	5.1	26.1
1/4	5.0	26.2
cb	5.1	26.1
W	5.1	26.1
+10	5.1	26.1

27' N of L on V/cb = 8' x 8" Signal Post St. Cur. Co.

31.24

N cb

53

-10	3.5	27.7
W	3.5	27.7
cb	4.0	27.2
1/4	4.2	27.0
L	4.3	26.9
1/4	5.0	26.2
cb	3.8	27.4
E	3.3	27.9
+10	3.3	27.9

0 + 00 = N Line Hancock

-10	2.8	28.4
E	3.0	28.2
cb	3.4	27.8
+10	5.0	26.2
1/4	4.5	26.7
d	4.0	27.0
1/4	4.0	27.0
cb	3.6	27.6
W	3.1	28.1
+10	3.1	28.1



0+03

-10		3.0	28.2
W = 1/2	24" Euc Tree	2.8	28.4
cb.		3.4	27.8
1/4		3.7	27.5
1/2		3.9	27.3
1/4		4.2	27.0
+9		4.4	26.8
+11		6.8	24.4
cb.	on Floor Iron Culvert	7.1	24.1
+4		3.5	27.7
E		2.6	28.6
+10		2.2	29.0

0+13 = 1/2 Guy Pole 12' W of EL

0+19 = 1/2 Guy Doodman 12' W of EL

0+50

-2		0.6	30.6
E		0.6	30.6
+11		1.6	29.6
cb.		3.5	27.7
+3		3.6	27.7

+5		2.7	28.5
1/4		2.4	28.8
1/2		2.2	29.0
1/4		1.9	29.3
cb.		1.6	29.6
+8		1.7	29.5
W		2.0	29.2

0+61 = 1/2 Euc Tree on W on line 2.5 dia  
 3/155 Note  
 Sommerwerk  
 899-Reg  
 11.6/92  
 12.77 43.32 0.69 30.55

0+60

36" Eucalyptus on W Line

0+75

W-5		13.2	30.1
W		13.1	30.2
+7		12.6	30.7
cb		12.6	30.7
+2		12.6	30.7
+4		13.1	30.2
1/4		13.0	30.3
1/2		13.2	30.1
1/4		13.1	30.2
+9		13.8	29.5

Continued page 76







Cross Section Dalbergia  
Thor to Cno

4.11

2.

Pl. 5

56

0+60 = F1 Thor - 0+0

Red. T Plot on 228 - 2-19-41 C.B.H.

8.0	8.1	8.6	9.7	10.1	9.7	9.9	10.1	9.8
5.7	5.6	5.1	4.0	3.6	4.0	3.8	3.6	3.9
60	50	34	15		15	34	50	60

0+50 = FC6 Thor

7.8	8.1	8.5	9.4	9.7	9.6	9.2	9.3	9.0
5.9	5.6	5.2	4.3	4.0	4.1	4.5	4.4	4.7
60	50	34	15		15	34	50	60

0+30 = 1/2 Thor

7.2	7.5	8.1	8.7	8.9	9.0	9.1	9.2	9.0
6.5	6.2	5.6	5.6	4.8	4.7	4.6	4.5	4.7
60	50	34	15		15	34	50	60

0+20

7.0	7.0	7.3	8.3	8.5	8.4	8.7	8.6
6.7	6.7	6.4	5.4	5.2	5.3	5.0	5.1
60	50	34		15	34	50	60

0+10 = 1/2 CB Thor

6.7	7.0	7.8	8.5	10.4	10.1	8.7	8.8	8.7	8.8
7.0	6.7	5.9	5.2	3.3	3.6	5.0	4.9	5.0	4.9
60	50	34	15		10	10	34	50	60

1/2 Thor = 0+0

6.6	6.2	6.6	7.1	10.0	10.1	8.3	8.0	8.7	8.9
7.1	7.5	7.1	6.6	3.7	3.6	5.4	5.7	5.0	4.8
60	50	34	15		10	15	34	50	60

B.M. 665 13.70

7.05

S.F. BP  
Major  
Thor

13.70



2+06 = 2.3 Conc Walk

2+0

1+59 = 2.25 Conc Walk

1+50

1+0

TP 10.09 21.66 2.13 11.57

0+50

13.70

4

2

PT

57

17.43

4.23

48:51/3  
Conc. Walk

17.2	16.9	16.0	16.1	16.0	15.2	14.3	15.1	14.6
4.5	4.8	5.7	5.6	5.7	6.5	7.4	6.6	7.1
50	34	30	15		15	34	37	50

13.59

8.07

50.2 = 114.25  
Conc. Walk

15.0	15.2	14.1	14.8	14.8	13.9	13.2	13.7	13.5
6.7	6.5	7.6	6.9	6.9	7.8	8.5	8.0	8.2
50	34	30	15		15	34	38	50

13.7	13.7	13.8	11.3	12.8	13.1	12.7	12.1	12.8	12.9	12.7
8.0	8.0	7.9	9.4	8.9	8.6	9.0	9.6	8.9	8.8	8.9
60	50	42	34	15		15	34	40	50	60

21.66

11.2	11.3	10.7	11.3	11.5	11.1	10.5	11.7	11.3	11.0
7.5	7.4	3.0	7.4	7.7	7.6	7.7	8.0	7.4	7.7
80	60	34	15		15	50	34	50	60

12.70



Dalbergia

4+0

2+66 - 2 3' Conc Walk

3+50

TP 4.57 24.17 2.06 19.60

3+0

2+81 - 2 2.5 Conc Walk

2+50

4.40 22.00 12.60  
 2+39 to 2+45 CONC DRIVE  
 2+66 6.6 15.40 DRIVE

4+

5+

R+

58

22.0	21.1	20.9	19.9	19.9	20.0	20.7	20.3
3.2	3.1	3.3	4.3	4.3	4.2	3.5	3.9
50	34	15		15	37	37	50

2242

1.75  
50' N 1/2 Sec  
1917

22.3	21.3	20.5	19.6	19.7	19.3	19.7	19.5
3.1	2.9	3.7	4.6	4.5	4.9	4.5	4.7
50	34	15		15	36	34	50

24.17

20.6	20.6	19.9	19.4	18.7	18.6	17.6	18.3	18.0
1.1	1.1	1.8	3.3	3.0	3.1	4.1	3.4	3.7
50	37	34	15		15	34	37	50

17.61

4.05  
50' N 1/2 Sec  
Conc Walk

18.6	18.5	17.8	17.6	17.3	16.7	15.8	14.3	14.1
3.1	3.2	3.9	4.1	4.4	5.0	5.9	5.4	5.6
50	37	34	15		15	34	37	50

21.66



670 = 11.2 Conc

5791 = 11.5 Conc Walk

5750

570

4750

4716 = 3' Conc Walk

24.17

61

8

81

59

198	1933	188	186	187	184	178	1852	188
4.4	4.74	5.4	5.6	5.5	5.8	6.4	5.55	5.4
50	34	34	15		15	34	34	50
	cbTop						cbTop	

18.62	18.62
5.55	5.55
42.8-11/15	418-11/15
Conc Walk	Walk

204	198	192	193	191	186	188	188
3.8	4.4	5.0	4.9	5.1	5.6	5.4	5.4
50	34	15		15	30	34	50

206	203	199	197	192	189	192
3.6	3.9	4.2	4.5	5.0	5.3	5.0
50	34	15		15	34	50

215	207	204	199	196	196	198
4.7	3.5	3.8	4.2	4.6	4.6	4.4
50	34	15		15	34	50

2023

3.94
50-11/13
Conc Walk

24.17



Dalbergia

BM

6.25 13.43

SEBP  
Mainy Uno  
12.46

TP 2.53 19.68 7.02 17.15

6+60 = EL Uno

6+50 = Ecb Uno

6+30 = X Uno

6+10 = WCB Uno

24.17

4+

5+

R+

00

19.4	18.91	18.4	18.2	18.2	18.0	17.6	17.98	18.3
4.8	5.74	5.8	6.0	6.0	6.2	6.6	6.19	5.9
50	34	34	15	15	15	34	34	50
50-cbTop								

18.97	18.4	18.3	18.2	18.2	17.9	17.5	17.3	18.06
5.20	5.8	5.9	6.0	6.0	6.3	6.7	6.9	6.11
50	50	34	15	15	15	34	50	50
50-cbTop								

19.1	18.8	18.4	18.2	18.1	18.0	17.8		
5.1	5.4	5.8	6.0	6.1	6.2	6.4		
50	34	15	15	15	34	50		

19.50	18.8	18.7	18.5	18.5	18.2	17.7	17.6	18.51
16.7	5.4	5.5	5.9	5.9	6.0	6.5	6.6	5.66
50	50	34	15	15	15	34	50	50
50-cbTop								

24.17



Gross Section Collier Ave  
 Hawley Blvd to Mansfield Ave

Indexed  
 L.M.

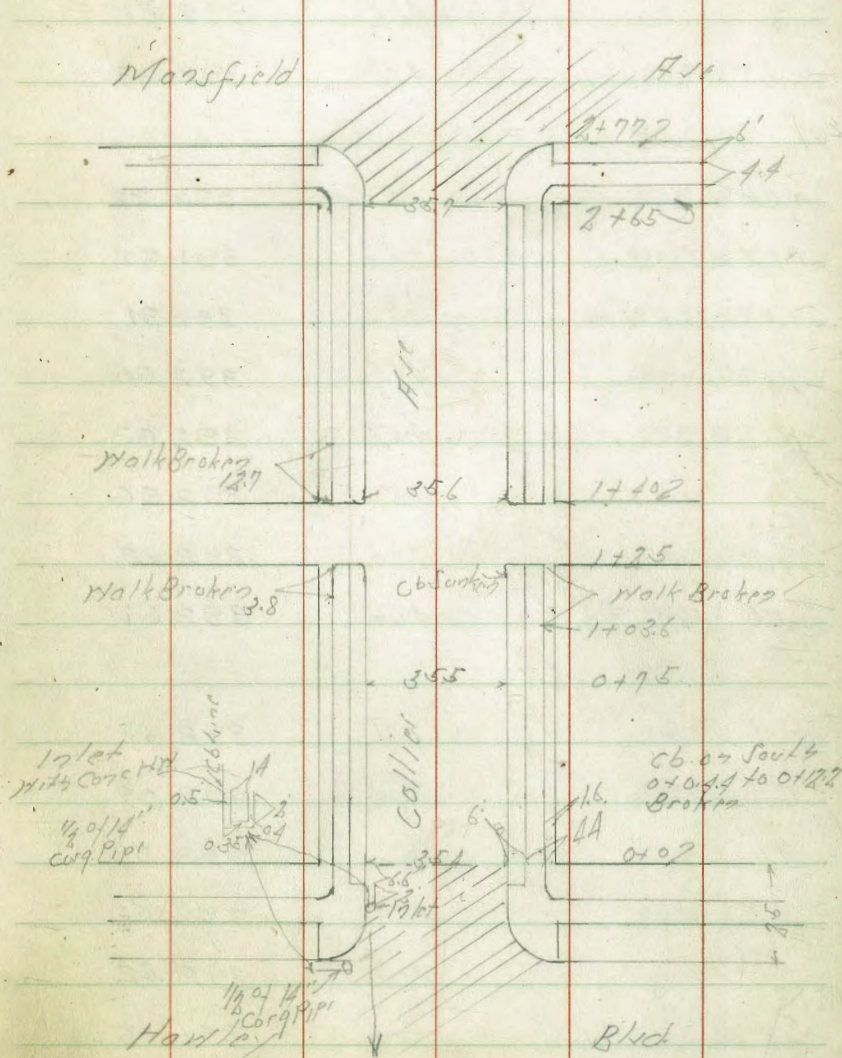
B.M.	5.32	398.10	392.78	SEB.P. Adm. v Mansfield
TP	4.18	397.15	5.13	392.97

0-25 = Ecb of Hawley

-25 = Cb Top	4.70	392.45
-25 Gutter on Pav	5.17	391.68
H.L. = Cb Top	4.96	392.19
Gutter F.L. Inlet	5.57	391.58
+2 = Top Core H/Wall	4.90	392.25
Cb on Pav	4.87	392.28
1/4 " " "	4.65	392.50
1/2 " " "	4.57	392.58
1/4 " " "	4.55	392.60
Cb " " "	4.79	392.36
S.L. " " "	5.14	392.01
S.L. Cb Top	4.69	392.46
+25 Gutter on Pav	5.17	391.98
+25 Cb Top	4.67	392.48
0-15		
S.Cb Top	4.57	392.58
Gutter on Pav	5.04	392.11

Red. T. Plot. of 190 2-18-41  
 CDH

Feb 5-4/61  
 Sisson  
 Northern  
 W Moore





397.15		
1/4 on Pav	4.60	392.55
1/2 " "	4.52	392.63
1/4 " "	4.64	392.51
N.Cb " " + Cb Top	4.92	392.23
0-8.5		
N.Cb + Pav	4.93	392.22
+1.4- Fl. Culi	5.63	391.52
+3 - Top H.H.	4.84	392.31
1/4 on Pav	4.65	392.50
1/2 " "	4.52	392.63
1/4 " "	4.59	392.56
Gutter " "	5.03	392.12
S.Cb Top	4.54	392.61
0-6.5		
S.Cb Top	4.56	392.59
Gutter on Pav	5.06	392.09
1/4 " "	4.62	392.53
1/2 " "	4.55	392.60
1/4 " "	4.72	392.42
+8 on Conc. Apron	5.59	391.56

397.15		
Gutter	5.59	391.56
N.Cb Top	4.93	392.22
0+0 - F.L. H.H.		
N.Cb Top	4.98	392.17
Gut on Pav	5.41	391.74
1/4 " "	4.85	392.30
1/2 " "	4.58	392.57
1/4 " "	4.70	392.45
Gutter " "	5.20	391.95
S.Cb Top	4.58	392.57
0+2.5		
S.Cb Top	4.60	392.55
Gutter	5.1	392.1
1/4	4.8	392.4
1/2	4.8	392.4
1/4	5.0	392.2
Gutter	5.3	391.9
N.Cb Top	4.87	392.28
0+5.0		
N.Cb Top	4.80	392.35



397.15

Gutter	5.3	392 0
1/4	4.9	392 3
1/2	4.7	392 5
1/4	4.8	392 4
Gutter	5.0	392 2
SCb Top	4.59	392 56
	0.75	
SCb in Drive	4.90	392 25
1/4	4.7	392 4
1/2	4.6	392 6
1/4	4.8	392 4
Gutter	5.1	392 1
Hcb Top	4.62	392 53
	1.0	
Hcb Top	4.51	392 64
Gutter	5.0	392 2
1/4	4.7	392 5
1/2	4.8	392 4
1/4	4.8	392 4
Gutter	4.8	392 4

397.15

SCb Top	4.52	392 63
	1.25 = HL Alley	
SL	3.7	393 5
+1.6 = Dry Cb	4.05	393 10
Cb Top & Gut	4.68	392 47
1/4	4.6	392 6
1/2	4.8	392 4
1/4	4.7	392 5
Gutter	4.7	392 5
Hcb Top	4.40	392 75
+1.04 = H/4 Cb	3.96	393 19
HL	3.7	393 5
	1.40 = FL Alley	
HL	3.9	393 3
+1.6 = H/4 Cb	3.93	393 22
Cb Top	4.27	392 88
Gutter	4.8	392 4
1/4	4.6	392 6
1/2	4.7	392 5
1/4	4.5	392 7



397.15

Gutter	4.8	392.4
Cb Top	4.36	392.79
710.4 - Sly Cb	4.10	393.05
S	3.9	393.3

1+70

S Cb Top	4.35	392.80
Gutter	4.7	392.5
1/4	4.5	392.7
1/2	4.4	392.8
1/4	4.5	392.7
Gutter	4.7	392.5
H Cb Top	4.17	392.98

2+0

H Cb in Drive	4.61	392.54
1/4	4.3	392.9
1/2	4.3	392.9
1/4	4.5	392.7
S Cb in Drive	4.86	392.29

2+25

S Cb Top	4.19	392.96
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397.15

64

Gutter	4.7	392.5
1/4	4.5	392.7
1/2	4.2	393.0
1/4	4.3	392.9
Gutter	4.4	392.8
H Cb Top	3.95	392.20

2+50

H Cb Top	3.71	393.44
Gutter	4.3	392.9
1/4	4.0	393.2
1/2	4.1	393.1
1/4	4.3	392.9
Gutter	4.7	392.5
S Cb Top	4.23	392.92

2+65 - H.L. Mansfield

S Cb Top	4.14	393.01
Gutter on Pav	4.59	392.56
1/4 " "	3.90	393.25
1/2 " "	3.65	393.50
1/4 " "	3.65	393.50
Gutter " "	4.10	393.05



Collier

39715

HCB Top 3.54 393.61

2177 = HCB Mansfield

-15 Cb Top 3.56 393.59

-15 5/8 Hor 3.84 393.31

H L on Pav 3.85 393.30

H L Cb Top 3.50 393.65

Cb on Pav 3.67 393.48

1/4 " " 3.30 393.85

1/2 " " 3.26 393.79

1/4 " " 3.57 393.58

Cb " " 4.08 393.07

S " " 4.52 392.63

S Cb Top 4.10 393.05

+15 " " 4.06 393.09

+15 on Pav 4.42 392.73

TP 5.06 398.03 4.18 392.97

BM 5.26 392.77

SFBP  
Adams  
Mansfield  
39278

Curb stakes

N side Noell

65

bet Kuntz & Hancock

BM chisel  
sq. on cb 917 12.53 336 P. 23

T.P. 12.96 2.51 0.38 12.15

check  
Top 14.6 on  
Curb/water Kuntz & 7.77 17.34 17.23  
Noell 17.20

Set on pt. 13' N of 0.31 24.80 ✓  
w/ Hancock

Then raked grade w/ly to  
Curb at inlet EL 17.24

Front of Kress Dept. Store  
Warehouse

40 Lin ft. set

Moore  
Boggs  
Shepherd  
Bunch  
7-1-48

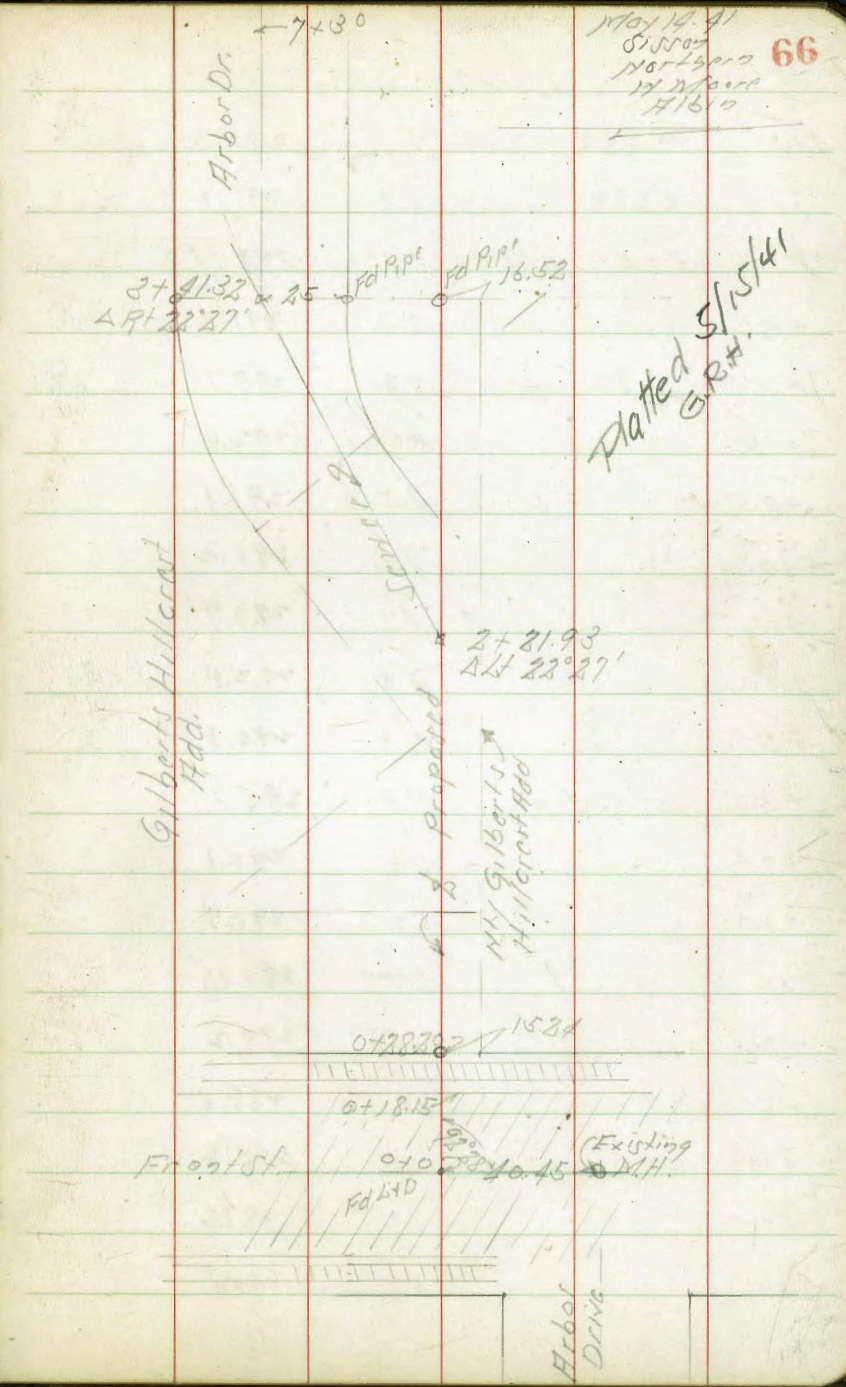
W021018



Proposed Sewer Arbor Drive  
West of Front St.

Indexed  
LM.

BM	695	291.91	284.96	SEBP Level of Front
TP	7.32	296.39	2.84	289.07
0-40.45	- Existing MH & Arbor Dr From E	5.42		290.97 on Rim
	Flow Line	12.92		282.47
0+0	= 1/2 Front St	5.66		290.73
+18.15	= 1/2 Cb Front Gutter	6.03		290.36
+18.15	Top Cb	5.55		290.84
+28.20	M.L. Front	4.86		291.53 0.72" Pipe
+50		4.2		292.2
1+0		5.0		291.4
+50		5.7		290.7
2+0		5.5		290.9
+21.93	Δ Rt 22°27'	5.6		290.8
+50		5.6		290.8
3+0		6.2		290.2
+41.32	Δ Rt 22°27'	6.1		290.3
+55		5.0		291.4
+70		5.9		290.5
4+0		5.3		291.1
+15		4.2		292.2





		296.39		
4+30			5.1	291.3
+45			5.2	291.2
TP	3.15	295.64	3.90	292.49
+50			3.8	291.8
+50	90' 50/2		7.9	287.7
+65			3.0	292.6
+85			4.5	291.1
5+0			4.4	291.2
+15			4.7	290.9
+30			3.2	292.4
+50			5.3	290.3
+50	100' 50/2		9.9	285.7
+75			5.5	290.1
+90			5.2	290.4
6+0			6.0	289.6
+25			6.4	289.2
+50			7.1	288.5
+50	100' 50/2		10.0	285.6
+75			8.0	287.6
7+0			8.9	286.7

		295.64		
7+30	Fly Rim Canyon		10.2	285.4
7+30	90' 50/2		12.3	283.3



Maple St. + 33rd St  
Levels on Curb Returns

BM 593 28625

SW Return

BC Cb Top	5.70	280.58
Gutter	6.47	279.78
#1 Cb Top	6.29	279.96
Gutter	6.87	279.38
#2 Cb Top	6.26	279.99
Gutter	6.60	279.65
#3 Cb Top	6.04	280.21
Gutter	6.36	279.89
#4 Cb Top	5.78	280.47
Gutter	6.11	280.14

NW Return

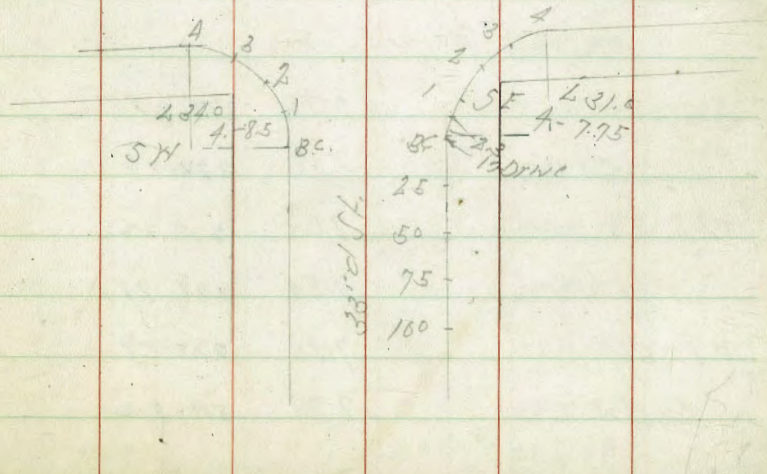
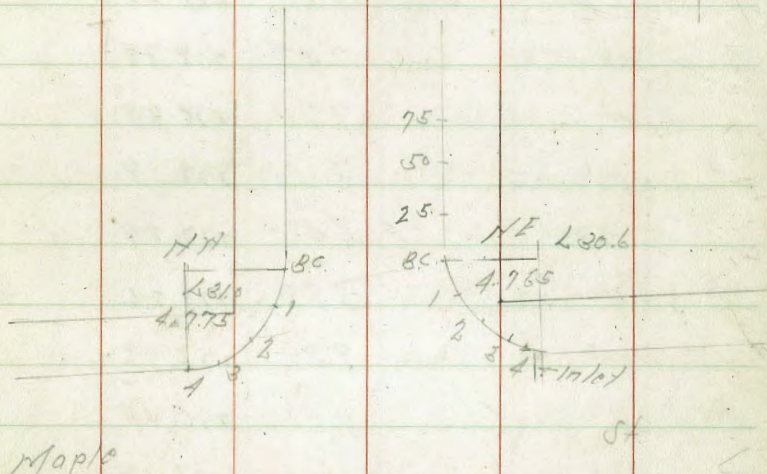
BC Cb Top	5.82	280.43
Gutter	6.13	280.12
#1 Cb	6.04	280.21
Gutter	6.36	279.89
#2 Cb	6.30	279.95
Gutter	6.62	278.63
#3 Cb	6.43	279.82
Gutter	6.74	279.51

Indexed  
- FM

JWB.P  
Maple St  
33rd  
280.32

May 14-41  
S.W. on  
Hartman  
Moore  
71617

68





#4 Cb	6.30	279.98
-------	------	--------

Gutter	6.61	279.64
--------	------	--------

## N.E. Return

BC Cb	6.87	279.38
-------	------	--------

Gut	7.18	279.07
-----	------	--------

#1 Cb	7.47	278.78
-------	------	--------

Gutter	7.76	278.49
--------	------	--------

#2 Cb	8.11	278.14
-------	------	--------

Gutter	8.41	277.84
--------	------	--------

#3 Cb	8.99	277.26
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Gutter	9.29	276.96
--------	------	--------

#4 Cb	9.80	276.48
-------	------	--------

Gutter	10.11	276.14
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## S.E. Return

BC Cb in Drive	7.38	278.87
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Gutter	7.38	278.87
--------	------	--------

#2.3 Cb	7.03	279.22
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Gutter	7.54	278.71
--------	------	--------

#1 Cb	7.36	278.89
-------	------	--------

Gutter	7.73	278.52
--------	------	--------

#2 Cb	7.86	278.39
-------	------	--------

Gutter	8.16	278.09
--------	------	--------

#3 Cb	8.28	277.97
-------	------	--------

Gutter	8.59	277.66
--------	------	--------

#4 Cb	8.68	277.57
-------	------	--------

Gutter	9.01	277.24
--------	------	--------

Curb on E 100 Souths of S.E. Cb BC

25 Souths of S.E. BC	5.61	280.94
----------------------	------	--------

Gutter	5.80	280.45
--------	------	--------

50 Souths	3.84	282.41
-----------	------	--------

Gutter	4.35	281.90
--------	------	--------

75 Souths	2.41	283.84
-----------	------	--------

Gutter	2.89	283.36
--------	------	--------

100 Souths in Drive	1.38	284.89
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Curb on E 75 N of N.E. Cb BC

25 Norths of N.E. BC	4.78	281.47
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Gutter	5.09	280.16
--------	------	--------

50 Norths	2.73	283.52
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Gutter	3.06	283.19
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75 Norths	0.74	285.51
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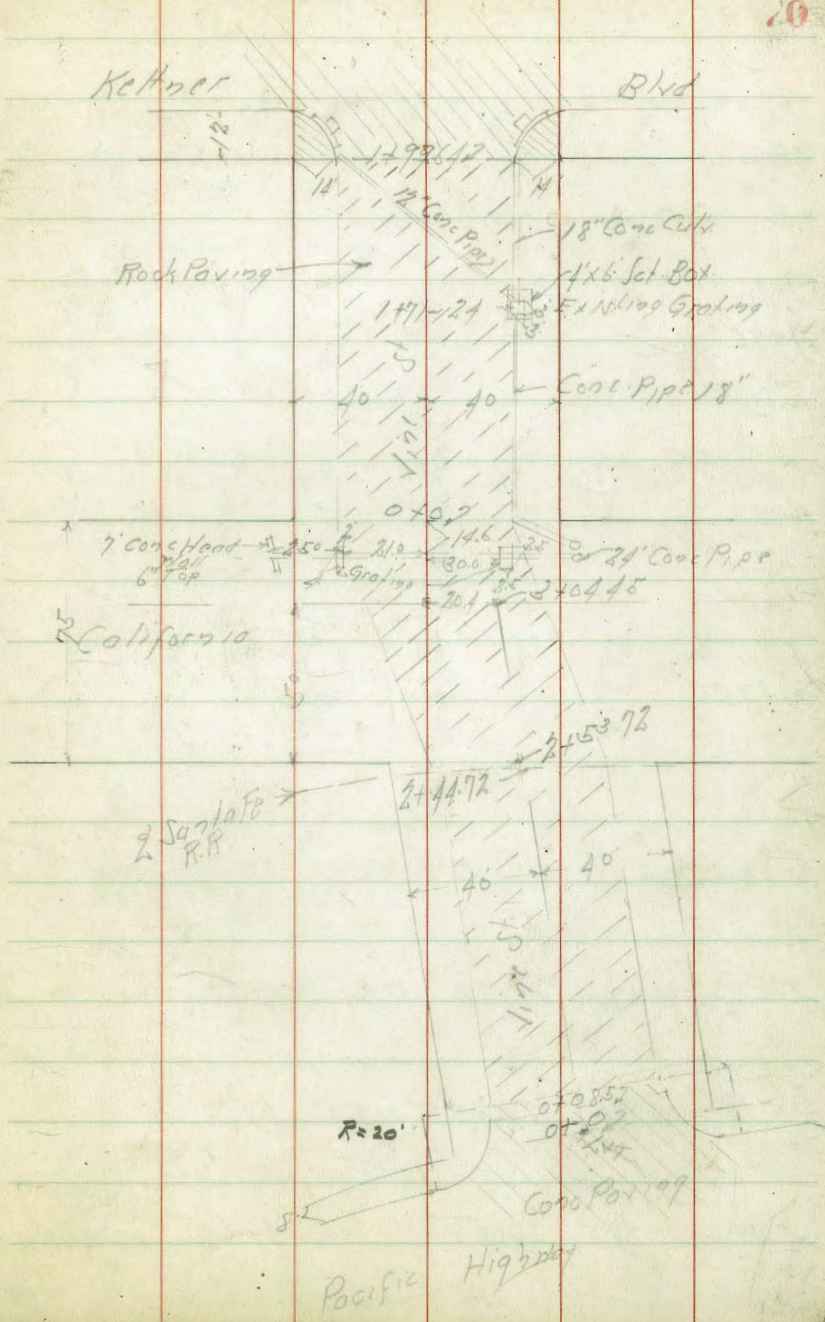
Gutter	1.06	285.19
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Cross Section West  
Pacific Highway to Kettner Blvd.

indexed  
LM

Sept. 26-41  
Sisson  
North 30° 7'  
W 170° 00'  
11617





Cross Section Vine St.  
Pacific Highway to Kettner

1+0

0+75

0+50

0+25

0+0.855 = Fly Curb Ends Rt + Lt

TP 1.58 19.32 11.23 17.74

TP 0.54 28.97 11.94 28.43

BM 0.79 40.37 39.58

S.F.P.P.  
V. 1914  
K. H. 211

Reduced 8-29-41 G.H.

Lt. 11

R

Rt. 5

1

Station	Lt. 11	R	Rt. 5
138	138	140	139
6.0	5.5	5.4	5.7
10	8.8	13	23
		24	21.50
		25	24.50
		26	27.50
		27	30
		28	33
		29	36
		30	39
		31	42
		32	45
		33	48
		34	51
		35	54
		36	57
		37	60
		38	63
		39	66
		40	69
		41	72
		42	75
		43	78
		44	81
		45	84
		46	87
		47	90
		48	93
		49	96
		50	99
		51	102
		52	105
		53	108
		54	111
		55	114
		56	117
		57	120
		58	123
		59	126
		60	129
		61	132
		62	135
		63	138
		64	141
		65	144
		66	147
		67	150
		68	153
		69	156
		70	159
		71	162
		72	165
		73	168
		74	171
		75	174
		76	177
		77	180
		78	183
		79	186
		80	189
		81	192
		82	195
		83	198
		84	201
		85	204
		86	207
		87	210
		88	213
		89	216
		90	219
		91	222
		92	225
		93	228
		94	231
		95	234
		96	237
		97	240
		98	243
		99	246
		100	249
		101	252
		102	255
		103	258
		104	261
		105	264
		106	267
		107	270
		108	273
		109	276
		110	279
		111	282
		112	285
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		142	375
		143	378
		144	381
		145	384
		146	387
		147	390
		148	393
		149	396
		150	399
		151	402
		152	405
		153	408
		154	411
		155	414
		156	417
		157	420
		158	423
		159	426
		160	429
		161	432
		162	435
		163	438
		164	441
		165	444
		166	447
		167	450
		168	453
		169	456
		170	459
		171	462
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		175	474
		176	477
		177	480
		178	483
		179	486
		180	489
		181	492
		182	495
		183	498
		184	501
		185	504
		186	507
		187	510
		188	513
		189	516
		190	519
		191	522
		192	525
		193	528
		194	531
		195	534
		196	537
		197	540
		198	543
		199	546
		200	549

19.32



TP 10.45 34.33 1.67 2388

2+29 29.3 Pt of L = 2 Elec W/9 W/9

2+0

1+75

1+50

1+25

TP 7.81 25.55 1.58 1774  
19.32

L

L

R+

72

19.9 21.9 22.3 22.0 21.9 22.3 22.2 22.5 22.8 22.1  
5.7 5.7 5.3 5.6 5.7 5.6 5.4 5.7 5.8 5.5  
40 35 24-Edg 22 13 6 13 12 25-Edg 34 40

17.7 20.1 20.4 19.8 20.0 20.3 20.1 19.9 20.4 20.7 17.2  
7.9 5.5 5.7 5.8 5.6 5.9 5.5 5.7 5.2 4.9 8.1  
40 36 26-Edg 23 13 13 23 26-Edg 35 40

18.1 18.1 18.4 18.6 18.5 18.2 18.4 18.3 18.9  
7.0 7.1 7.5 7.0 7.2 7.4 7.2 7.5 7.5  
40 26-Edg 24 13 12 24 26-Edg 34 40

17.1 16.9 16.9 15.9 17.0 16.9 16.2 17.1 16.9 16.9  
8.5 8.8 9.1 8.7 8.6 8.7 9.4 9.0 9.0 9.0  
40 25-Edg 24 13 8 23 25-Edg 34 40

15.4 15.4 15.1 15.4 15.5 15.3 15.0 15.0 15.1 15.5  
10.2 10.2 10.5 10.2 10.1 10.3 10.6 10.1 10.5 10.5  
40 25-Edg 25 13 23 25-Edg 34 40  
Edg 14.1  
Rack

25.55



Vigo St.

0-25

0-70 = F.L. Calif 345 Rt of 2 = Sky Harbor Pale

0-146 = Ex N 1/2 24" Conc Pipe Culv

2+84 07 Diag

2+60 290 Lt of 2 = F.L. Calif 07

2+5377 = W.L. California 07 Diag 2701

2+44.72 = 2 Santa Fe 07

3433

LT

R

PI

73

258 85 10	252 88 25-Edg	252 91 27	258 85 13	258 85 13	252 87 13	252 91 13	255 88 25-Edg	255 78 29	260 77 40
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252 97 10	249 94 31	246 97 25-Edg	242 101 25	242 97 13	242 96	242 96 13	242 104 25	242 97 27-Edg	254 89 32	251 90 40
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2117 1316 46°-Flay 1491	242 101 40	249 100 25-Edg 181	242 108 210°-S. Street	241 107 13	240 100	240 100 13	239 107 30	244 109 30°-Edg 107	247 96 35	245 98 40	204 98 40
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244 99 106	242 99 35	237 106 32-Edg	238 105 13	238 105	234 109 13	235 108 18	232 104 20-Edg	237 106 35	230 113 40
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240 102 106	240 102 25-Edg 106	232 110 23	232 111 13	232 110	232 110	232 110 13	232 110 20-Edg 106	232 110 106
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2312  
1121  
40 Top F  
Rail

2315  
1118  
700  
R

2312  
1121  
40

3433







Vine St.

47

2

PL

75

BNT

160

39.60

J.F.B.P.  
Vine St.  
Kettner  
39.58

149964 W.L. Kettner

4/20

387

3835

3780

3800

3809

3784

3710

3807

3853

2.5  
40

2.85  
25-cb

3.10  
26-601

3.20  
13

3.11

3.36  
13

4.10  
26-601

3.12  
26-cb

2.9  
40

4/20



Continued from page 59

0+75  
43.32

1/4+10	15.4	27.9
+12	15.4	27.9
Cb	13.7	29.6
+5	12.3	31.0
E	12.0	31.3
+5	12.0	31.3

0+79-

14' Eucalypts on E Line

0+81.5 36" Eucalypts on W Line

0+81.5 S End Bldg on East 0.25' St

0+96 N " " " " " "

0+97

E-5	11.0	32.3
E	11.3	32.0
+7	11.7	31.6
Cb	12.6	30.7
+1	14.8	28.5
+4 & 22" culvert	14.8	28.5
+7	11.8	31.5
114	12.0	31.3

Redy Plot, profile 685  
3-30-42 C.B.H.

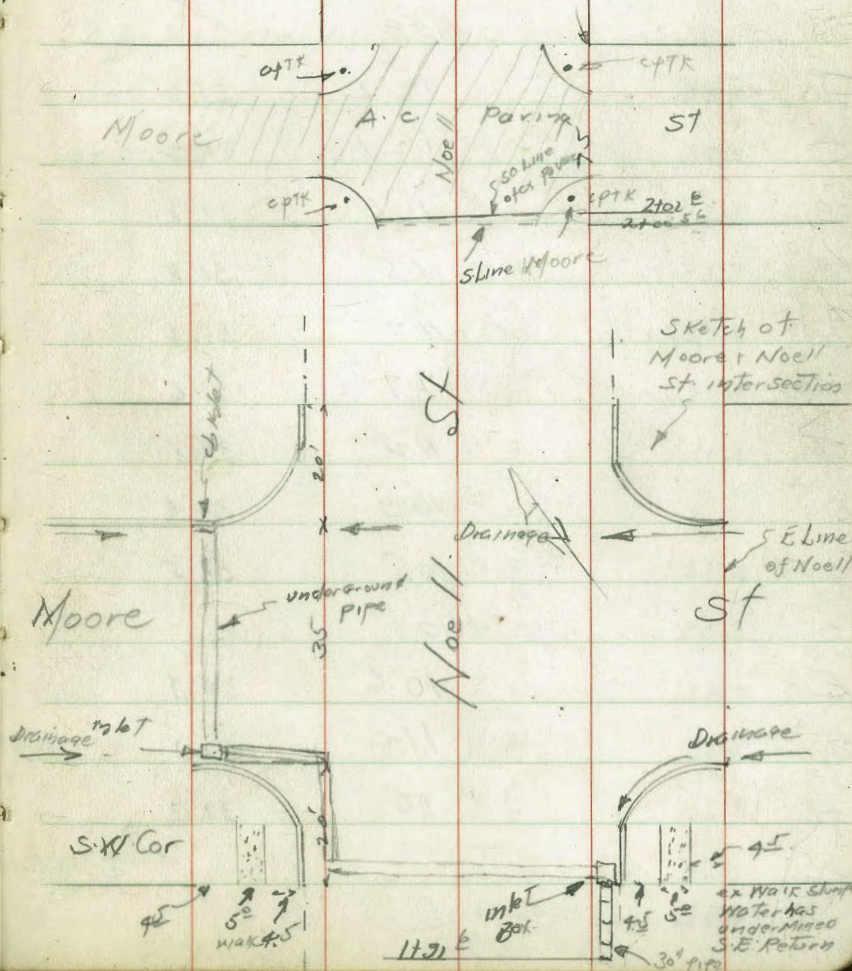
See sketch 1  
pages 45

La Jolla Blvd  
90° 05' 00"

ATK incb Blvd  
No 6

76

S line of  
La Jolla Blvd



Sketch of  
Moore & Noel  
St intersection

E line  
of Noel  
St

30" pipe  
Water has  
undermined  
S.E. corner



T  
93.32

♀	12.0	31.3
1/4	11.9	31.4
cb	11.6	31.7
W	12.2	31.1
+5	12.5	30.8

0198

-5	12.2	31.1
W	12.1	31.2
cb	12.1	31.2
1/4	11.5	31.8
♀	11.7	31.6
1/4	11.7	31.6
cb	11.2	32.1
E	10.9	32.4
+5	10.8	32.5

1710

E	10.6	32.7
cb	11.2	32.1
+8	11.0	32.3

T  
93.32  
1711

77

E-5	10.5	32.8
E	10.6	32.7
+13	11.3	32.0
cb	13.2	30.1
+2	13.2	30.1

+3 @ 22" iron od vent pipe <sup>see sketch</sup> 13.20 30.12  
45

+20	11.1	32.2
1/4	11.1	32.2
♀	10.9	32.4
1/4	10.8	32.5
cb	10.9	32.4
W	11.6	31.7
+5	11.9	31.4

1745

-15	9.9	33.4
W	9.0	34.3
cb	7.6	35.7
1/4	7.8	35.5
♀	8.0	35.3
1/4	8.2	35.1
+5	7.9	35.4



π  
93.32

1/4+10	10.3	33.0
+11	11.0	31.4
+12	11.9	31.4
cb	9.7	33.6
E	9.5	33.8
+15	8.6	34.7
	17.55	
-15	4.9	38.4
-10	5.6	37.7
E	8.0	35.3
+7	8.6	34.7
cb	9.6	33.7
+11	11.3	32.0
+3	11.3	32.0
+7	7.7	35.6
1/4	7.9	35.4
+3	6.2	37.1
+6	7.1	36.2
⊕	7.0	36.3
1/4	6.6	36.7
cb	6.5	36.8

π  
93.32

78

+7	7.4	35.9
W	8.5	34.8
+15	9.5	33.8
TP	2.07	44.48
	0.31	42.41
	17.75	
-15	10.1	34.4
-3	9.3	35.2
N	7.0	37.5
+10	4.6	39.9
cb	4.5	40.0
+9	4.0	40.5
+8	5.1	39.4
1/4	5.2	38.3
⊕	5.5	39.0
+7	5.8	38.7
1/4	4.7	39.8
+3	6.8	37.7
+11	10.3	34.2
cb	11.8	32.7
+1	12.9	32.1
+2	8.7	35.8
+13	4.1	40.4



T  
44.48

E	1.7	42.8
+10	1.5	43.0
	+84	
-10	1.6	42.9
E	1.4	43.1
+1	1.4	43.1
+2	2.9	41.6
+10	6.8	37.7
cb	10.0	34.5
+2	12.0	32.5
+6	8.7	35.8
+12	5.8	38.7
+14	4.1	40.4
+6	4.4	40.1
E	4.2	40.3
1/4	3.9	40.6
+6	4.2	40.3
cb	2.9	41.6
H <sub>6</sub>	2.7	41.8
W	5.1	39.4
+1	5.1	39.4
+3	3.3	35.2
+15	3.5	35.0

T  
44.48  
Seastote 11.31 E outlet of cb inlet 79

E cb +1.6 30" pipe floor	10.79	33.69 ✓
	2+00 <sup>56</sup> S. Line Moore	
E	1.8	42.7
+4 <sup>5</sup> E Side mark	2.64	41.84
+8.5 W " "	2.79	41.69
" Ground	6.0	38.5
cb	6.6	37.9
+3	6.1	38.4
+10	1.9	42.6
1/4	2.3	42.2
4	2.3	42.2
1/4	2.4	42.1
Cutter on Gid	2.2	42.3
" " piling	6.2	41.66
Top cb	2.23	42.25
+4.5 Edge mark	2.18	42.30
+9.5 W " "	2.20	42.28
+10	3.0	41.5
W	3.9	40.6
+15	5.6	



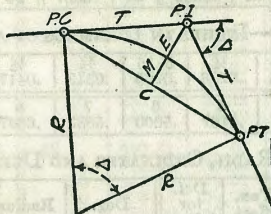
7  
44.48

2700 56 W = 2702 eb E Sec  
Sketch  
page 76

W-15	56	38.9
W	39	40.6
+4	30	41.5
+5	22	42.3
Topcb	2.23	42.25
Gutter	2.62	41.86
44	2.23	42.25
ϕ	2.15	42.33
1/4	2.32	42.16
Gutter	2.92	41.56
Topcb	2.23	42.25
E	1.8	42.7
Sec in So. Gutter of Moore St		
E	2.61	41.87 ✓
cb	2.38	42.10 ✓
ϕ	2.15	42.35 ✓
Wcb	2.43	42.05
W. 1/2 Gutter	2.64	41.84 ✓
W. Topcb	2.08	42.40 ✓
Set BM	2.07	42.41
3x 7° TR Moore to Nobell		
X: Section of Noell Moore to La Jolla Bl'd. See FB 1579-P 70		

# DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES

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### CURVE FORMULAS

Radius= $R = \frac{50}{\sin \frac{D}{2}}$  (1) Degree of Curve= $D$  and  $\sin \frac{D}{2} = \frac{50}{R}$  (2)

Tangent= $T = R \tan \frac{\Delta}{2}$  (3) Length of Curve= $L = 100 \frac{\Delta}{D}$  (4)

Middle ordinate= $M = R(1 - \cos \frac{\Delta}{2})$  (5)  $= R \text{vers} \frac{\Delta}{2}$  (6)

External= $E = T \tan \frac{\Delta}{4}$  (7)  $= R \div \cos \frac{\Delta}{2} - R$  (8)  $= R \text{exsec} \frac{\Delta}{2}$  (9)

Long Chord= $C = 2 R \sin \frac{\Delta}{2}$  (10)  $\Delta$ =Central Angle

### EXPLANATION AND USE OF TABLES

**Stations.**—Given P. I.—Sta. 161+60.35 to find Sta. of P. C. and P. T.  $\Delta=62^\circ 10'$   $D=8^\circ 20'$ . From Table IV for  $1^\circ$  curve  $T=3454.1$  and  $+8\frac{1}{2}=414.49$  ft. From Table V correction=.36 or  $T=414.85$  ft. P. C.—Sta. P. I.— $T=157+45.50$ . Also from (4)  $L=746.00$  and P. T.—Sta. P. C. + $L=164+91.50$ .

**Offsets.**—Tangent offsets vary (approximately) directly with  $D$  and with square of the distance. Thus tangent offset for Sta. 158 on above curve is 2.16 ft. found as follows. From Table III tangent offset for 100 ft.=7.27 ft. Distance=158—Sta. P. C.=54.50, hence offset= $7.27 \frac{54.50}{100}=2.16$  ft. Also square of any distance divided by twice the radius equals (approximately) the distance from tangent to curve. Thus  $(54.50)^2 \div (2 \times 688.26)=2.16$  ft.

**Deflections.**—Deflection angle= $\frac{1}{2} D$  for 100 ft.,  $\frac{1}{4} D$  for 50 ft., etc. For  $c$  ft.=(in minutes)  $.3 \times C \times D^\circ$  or=defl. for 1 ft. from Table III  $\times C$ . For Sta. 158 of above curve= $.3 \times 54.5 \times 8\frac{1}{2}=136.2'$  or  $2^\circ 16.2'$ , or= $2.50 \times 54.5=136.2'$  from Table III. For Sta. 159 deflection angle= $2^\circ 16.2' + 8^\circ 20' \div 2=6^\circ 26.2'$ , etc.

**Externals.**—May be found in similar manner to tangents. Thus  $E$  for curve above is 91.37. For from Table IV for  $1^\circ$  curve  $E=960.6$  for  $8^\circ 20'=960.6 \div 8\frac{1}{2}=91.27$  and from Table V correction=.10 or  $E=91.37$  ft. Or suppose  $\Delta=32^\circ$  and  $E$  is measured and found to be 42 ft. What is  $D$ ? From Table IV  $E=230.9$  and  $+42=5.5$  or  $D=5^\circ 30'$ .



301.34

TABLE I.—MINUTES IN DECIMALS OF A DEGREE.

Table with 10 columns (1-10) and 60 rows (1-60) showing minutes in decimals of a degree.

TABLE II.—INCHES IN DECIMALS OF A FOOT.

Table with 11 columns (1-11) and 2 rows showing inches in decimals of a foot.

TABLE III.—RADI, ORDINATES AND DEFLECTIONS.

Table with 10 columns (Deg., Radius, Mid. Ord., Tan. Offset, Def. for 1 Foot) and 60 rows showing radi, ordinates and deflections.

Note. Chord Deflection=2 times tangent deflection.

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

Table with 9 columns (Central Angle, Tangent, External) and 60 rows showing tangents and externals to a 1 degree curve.



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	.01	.01	.05	2	199.97	299.88	399.70	499.39
8	.01	.02	.02	.03	.03	.03	.03	.02	.01	.08	3	199.93	299.73	399.32	498.63
10	.01	.02	.03	.04	.05	.05	.05	.04	.02	.13	4	199.88	299.51	398.78	497.57
12	.02	.04	.05	.06	.07	.07	.07	.05	.03	.18	5	199.81	299.24	398.10	496.20
14	.02	.05	.07	.08	.09	.10	.09	.07	.04	.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	1.83	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	269.54
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	.086	.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	.215
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

1768 = E Rail  
1083 = S Rail  
225  
13  
272

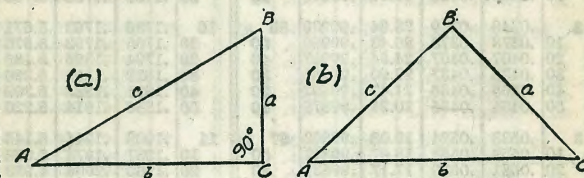
SLOPE REDUCTIONS.

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 =  $15^2 \div 2 \times 250.3 = .45$  (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  $.286 \times 2\frac{1}{2}$  (near enough) = .57 and horizontal distance =  $248.7 - .57 = 248.13$  ft.

TRIGONOMETRICAL FORMULAS.

See fig. (a).

- 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.

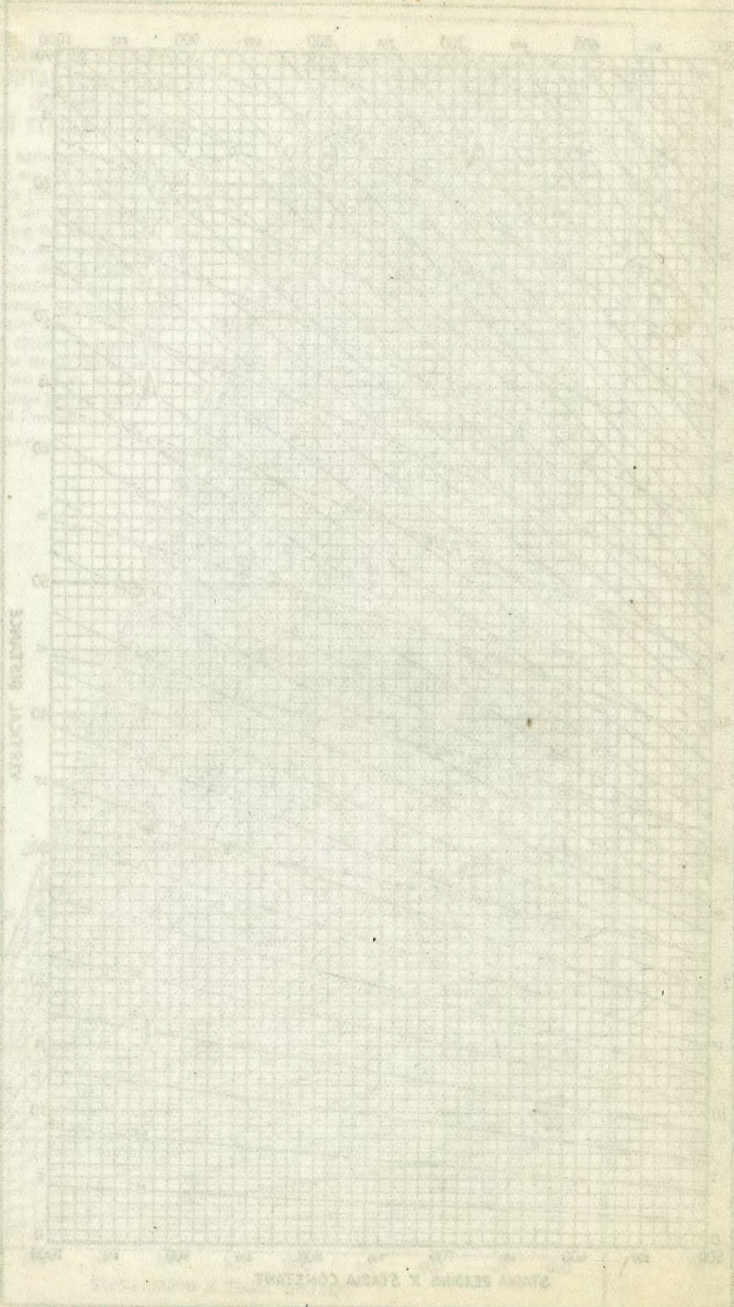
Given	Sought.	Right triangles. See fig. (a).
a, c	A, B, b	sin. $A = \frac{a}{c}$ , cos. $B = \frac{a}{c}$ , $b = \sqrt{(c+a)(c-a)}$
a, b	A, B, c	tan. $A = \frac{a}{b}$ , cot. $B = \frac{a}{b}$ , $c = \sqrt{a^2 + b^2}$
A, a	B, b, c	$B = 90^\circ - A$ , $b = a \cot. A$ , $c = \frac{a}{\sin. A}$
A, b	B,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



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266.64  
2  
199



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5  
1



Tracks = 593°13' W to N at Hayes Hill

75	21.2	21.2	21.2
53.8	7.0	28.5	78.5
21.2	13.7	22.5	29.5
37.5	7.8	17.655	23.6
16.3	21.55		26.7
7.5			

+ 8.8  
79.5  
16.63  
7

1/4 + 655 = N Rail Mainline  
66 + 137 = 5 1/4"

283 = 170 30' chd.  
2 + 53.72

79.5  
52.2  
7.26

2 + 24.5 = W Rail  
129.9 = E Rail

75  
27  
68  
27.37  
40.63

913  
845

2056.2  
51.77  
260.45  
245  
505.45  
252.72

1454 10' to Pole

362 = 2 + 15.2

750.0  
27.37  
47.63  
2.36  
45.27

1080  
34  
1763  
100  
342  
100  
342  
688

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

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

760

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.

MADE IN U.S.A.