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DIETZGEN  
NEW YORK

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ENGINEERS  
FIELD BOOK  
No 404

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# 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 1½ see inside of back cover.

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112

547  
47  
76

515  
465  
650

MICROFILMED

APR 7 1965

27  
262



Driving Alley Block 187 Manassas St. Miller Add.  
 between Kearney & Selion From E.L. Beardsley to W.L. Crosby

South Line:

OPENING  
 Beardsley  
 & Selion  
 Grades  
 45.79

B.M.	545	50.35		44.90		
0+0	= E Line Beardsley					
+40	Break L					
			1.15	49.20	47.20	+2.0 ✓
+86.36	L		1.00	49.35	47.35	+2.0 ✓
TR	511	53.16	2.30	48.05		
+132.72			4.6	48.60	47.54	+1.0 ✓
+179.08			5.3	49.9	47.75	+2.15 ✓
+248.545			5.1	48.1	47.93	+0.17 ✓
TR	536	53.70	4.82	48.34		
+171.81			4.60	49.1	48.11	+1.0 ✓
+318.18			5.7	48.5	48.79	+0.29 ✓
+64.54			5.7	48.0	48.77	-0.77 ✓
TR	510	53.37	5.43	48.27		
+110.90			4.7	48.7	48.66	+0.04 ✓
+57.26			5.2	48.2	48.84	-0.64 ✓
+103.63			4.4	49.0	49.02	-0.02 ✓
+150.0			4.2	49.2	49.20	0.0 ✓
+6+00	W Line Crosby					
					50.65	



Paving Alley Block 187 Wm. Masser & Schiller  
 Between Kearney & Julian From E. Beardsley to M. Crosby

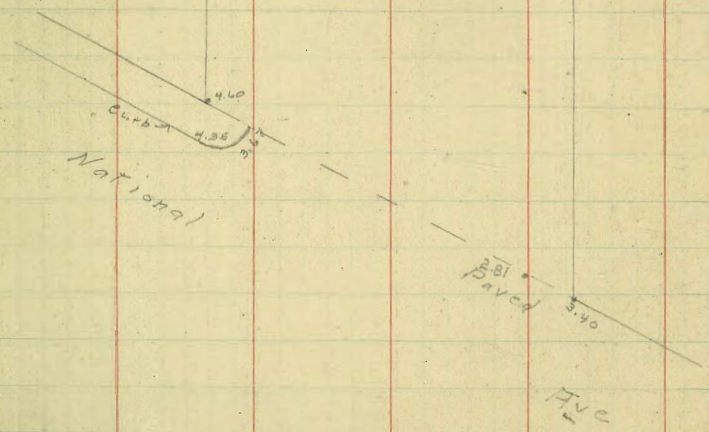
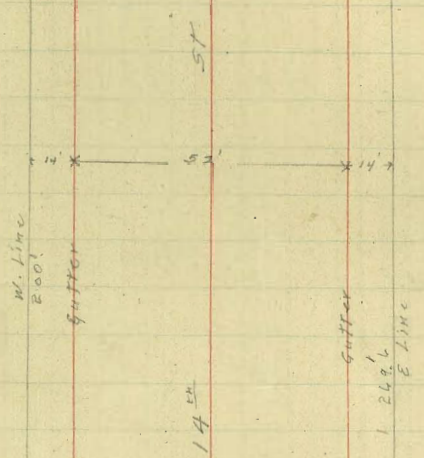
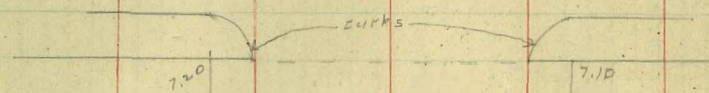
50.35 North 2108

0+0	- E. Line Beardsley			45.72	
+40	Back	53.16	1.75	48.60	47.00 +1.00 ✓
+86.36			5.34	47.82	47.18 +0.6 ✓
+132.72			4.8	48.4	47.86 +1.0 ✓
+179.08	Teddy		4.6	48.6	47.55 +1.0 ✓
+225.45	"		4.5	48.7	47.23 +1.0 ✓
+271.81	"	53.70	4.3	48.9	47.91 +1.0 ✓
+318.17	"		4.6	49.1	47.09 +1.0 ✓
+364.54	"		5.4	48.3	48.00 0.0 ✓
+410.90	"		5.4	48.3	48.45 0.0 ✓
+457.26	"	53.37	4.8	48.6	48.61 0.0 ✓
+503.62	"		3.6	49.8	48.72 +1.0 ✓
+550.0	"		3.4	50.0	49.00 +1.0 ✓
6+00	- M. Line Crosby			50.8	
T.P.	1.90	50.39	4.8	48.49	
B.M.			5.5	48.11	NE of Beardsley & Julian



M

ST

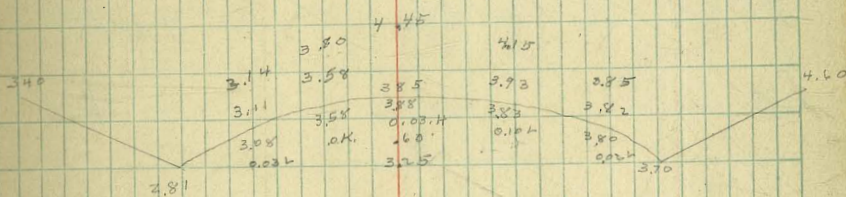
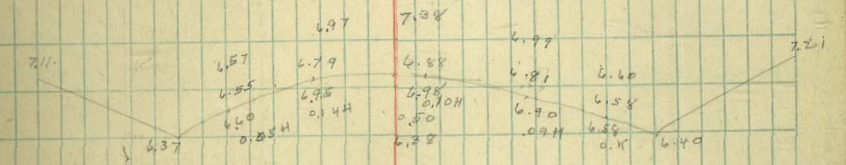


693 BM 1441MP

W. Rake		150	100	150	200	150	100
7.10	7.10	6.40	5.70	5.04	4.35	3.67	3.40
1.57	2.3	2.3	3.0	3.6	4.3	5.0	5.77
	2.2	2.9	2.9	2.6	4.8	3.0	5.77
	FO.1	FO.1	FO.1	FO.1	FO.1	FO.1	FO.1

693 BM  
3.15  
10.08

M. ST.









La Jolla Blvd

	W time	W cl	E cl	E time
S Line Forward	74.85	74.75	75.25	75.35
1	74.5			75.0
2	74.1			74.6
3	73.8			74.3
4	73.4			73.9
5	73.0			73.5
6	72.7			73.2
7	72.3			72.8
8	71.9			72.4
9	71.6			72.1
10	71.2			71.7

N Line Midway	70.85	70.75	71.25	71.35
S Line Midway			71.75	71.8

1				
2				
3				
4				
5				
6				
7				
8				

N Line Colima on W

N Line Colima on E

80.92 15M

+1.3

80.95

6.01

74.74

3.27

78.01

3.73

72.28

74.74

72.28

72.28

72.28

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W	74.8	74.5	74.1	73.8	73.4	73.0	72.7	72.3
	3.2	3.5	3.9	4.2	4.6	5.0	5.3	5.7
	4.3	5.1	5.6	5.9	5.5	5.9	6.4	7.2
	-1.1	-1.6	-1.7	-1.7	-0.9	-0.9	-1.1	-1.5
E	75.3	75.0	74.6	74.3	73.9	73.5	73.2	72.8
	2.7	3.0	3.4	3.7	4.1	4.5	4.8	5.2
	2.1	2.4	1.8	2.2	2.3	2.3	2.8	4.2
	-0.4	-0.6	-1.6	-1.5	-1.8	-2.2	-2.0	-1.0
W	71.9	71.6	71.2	70.8				
	6.1	6.4	6.8	7.4				
	8.2	8.8	9.9	10.7				
	-2.1	-2.4	-3.1	-3.1				
E	71.4	72.1	71.7	71.3	Send			
	5.6	5.9	6.3	6.7				
	4.6	5.5	6.5					
	-1.0	-0.4	-0.2					

72.28

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81.34

S Line Midway	1	2	3	4	5	6	7	8	
E	71.8	72.4	73.0	73.6	74.1	74.7	75.3	75.9	76.4
	9.6	9.0	8.4	7.8	7.3	6.7	6.1	5.5	5.0
	7.8	8.7	8.1	7.2	6.0	5.0	4.3	3.4	2.9
	-0.2	-0.8	-0.3	-0.6	-0.7	-1.7	-1.8	-2.1	-2.1

E	77.0	77.6	78.1					
	4.4	3.8	3.3					
	1.6	0.0	1.9					
	+2.8	+3.8	+1.4					

S Line Midway	1	2	3	4	5	6	7	8	
W	70.8	71.4	72.0	72.6	73.2	73.8	74.4	75.0	75.6
	10.6	10.0	9.4	8.8	8.2	7.6	7.0	6.4	5.8
	13.4	12.4	10.8	9.2	8.8	7.6	6.6	5.9	4.6
	-2.8	-2.4	-1.4	-0.4	-0.6	0.0	+0.4	+0.5	+1.2

E	76.2	74.6	73.8					
	8.2	6.8	8.3					
	4.5	5.6	7.3					
	+0.7	+1.4	+1.0					

W	77.2	76.6	74.8	73.1				
	4.2	4.8	6.6	8.3				
	2.2	5.0	6.9	8.3				
	+2.0	-0.2	-0.3	0.0				

E	76.2	74.6	73.8					
	8.2	6.8	8.3					
	4.5	5.6	7.3					
	+0.7	+1.4	+1.0					

W	77.2	76.6	74.8	73.1				
	4.2	4.8	6.6	8.3				
	2.2	5.0	6.9	8.3				
	+2.0	-0.2	-0.3	0.0				

E	76.2	74.6	73.8					
	8.2	6.8	8.3					
	4.5	5.6	7.3					
	+0.7	+1.4	+1.0					

W	77.2	76.6	74.8	73.1				
	4.2	4.8	6.6	8.3				
	2.2	5.0	6.9	8.3				
	+2.0	-0.2	-0.3	0.0				

E	76.2	74.6	73.8					
	8.2	6.8	8.3					
	4.5	5.6	7.3					
	+0.7	+1.4	+1.0					

W	77.2	76.6	74.8	73.1				
	4.2	4.8	6.6	8.3				
	2.2	5.0	6.9	8.3				
	+2.0	-0.2	-0.3	0.0				



	Midway		N. 26	N. 26
NOTE End Curve on N	5.112	5.26	71.25	71.2
46. End N: E End Curve on S=00	72.0228	71.50		73.1
750	74.0747			75.1
1+00	75.9			77.2
1+50	77.9			79.3
2+00	79.9	79.7	81.3	81.4
2+39 End on N.	81.4	81.3	83.0	83.0
2+71 End on S.	82.6	82.5		

72.28	5 72.8	74.7	74.6	78.5	80.4	81.91	82.1
71.05	10.5	8.8	6.7	4.8	2.9	1.4	0.4
83.83	11.4	9.8	8.0	5.7	3.7	2.3	0.7
	-0.9	-1.7	-1.3	-0.9	-0.9	-0.9	-0.5
	73.1	75.1	77.2	79.3	81.4	83.1	
	10.2	8.2	6.1	4.0	1.9	0.2	
	10.6	8.7	6.7	4.0	2.1	0.6	
	-0.4	-0.5	-0.1		-0.2	-0.4	
	71.8						
	74.5						
	11.7						
	-0.2						







Vermont etc

	Wd		E. cl
N. Line Penn	284.0		
Skim Penn	284.0	Skim Penn	285.00
+50	283.67	+50	284.60
+100	283.33	+100	284.20
N. line Allay	283.17	+34.30	283.91
+24.55			
Skim Allay	282.92	B (+49.50)	283.80
+62.27		+62.30	283.56
		53.15	
+22.91	282.51	+115.45	282.59
		53.15	
+83.55 PC	282.11	+68.60	281.61
N. line Cypress		33.92	
+97.62 E. cl	282.00	+02.56	281.0

284.96 N.E Penn + Vermont

	W	R84.00	R84.00	283.67	283.33	N. line
		4.85	4.85	5.18	5.52	283.17
		6.85	6.85	6.18	5.52	5.68
		-1.5	-2.00	-1.00	0.00	4.68
						+1.00
	E		285.00	284.60	284.20	283.91
			63903.85	4.25	4.45	4.94
			4.40	4.25	4.65	4.94
			-0.50	0.0	0.0	0.0
	Pat					
	W	283.40	283.19	282.92	282.51	282.11
		5.45	5.66	5.93	6.34	6.74
		4.45	4.66	4.43	5.34	6.74
		+1.00	+1.00	+1.50	+1.00	0.00
	E	284.13	283.86	283.56	282.59	281.61
		4.72	4.99	5.29	6.26	7.24
		4.22	4.49	4.29	6.26	8.74
		+0.50	+0.50	+1.00	0.0	-1.50
	E	281.20	281.00			
		7.65	7.85			
		9.15	8.85			
		-1.50	-1.00			



Jackdaw St Water Grades  
Brooks 10 Walnut  
& Grades

00 = S Line Brooks	247.50
B 40's	248.40
90's	246.29
B 140's	244.00
180	240.75
220	237.50
260	234.25
300 = N. Line Walnut	231.00

6-12-24

247.50 AM. N.W. Brooks & Jackdaw

250.88	S. Brooks	B	B	2440	240.7
17.06	247.5	245.4	246.2	2440	240.7
238.82	3.4	2.5	4.7	6.9	10.2
3.05	3.1	1.9	1.8	2.8	14.5
241.87	+0.3	+0.6	+2.9	44.1	+5.7
	237.5	234.2	231.0	N. WALNUT	
	13.4	16.7	10.9		
	7.3	12.1	9.9		
	+6.1	24.4			



Wline 40 <sup>+</sup>	63.00	65.00
6line 40 <sup>+</sup>	61.00	63.00
7+50	58.67	60.67
1+00	56.33	58.33
1+50	54.00	56.00
2+00	51.67	53.67
2+50	49.33	51.33
3+00	47.00	49.00
3+50	44.67	46.67
4+00	42.33	44.33
4+50	40.00	42.00
5+00	37.67	39.67
5+50	35.33	37.33
wline 41 6+00	33.00	35.00

0.99  
6.39  
12.14  
54.25  
0.70  
54.95  
12.58  
42.42  
1.35  
43.77

N	65.00	63.00	60.67	58.33	56.00	53.67	51.33
	1.30	3.39	5.72	8.02	10.39	12.28	3.62
	1.28	3.71	5.74	8.08	10.50	12.52	4.21
	12.22	-0.32	-0.02	-0.02	-0.11	-0.74	-0.59
S	63.00	61.00	58.67	56.33	54.00	51.67	49.33
	3.59	5.39	7.72	10.06	12.39	3.28	5.62
	4.93	7.19	9.95	12.15	3.18	5.36	
	40.46	40.53	40.11	40.24	40.18	40.26	
N	49.00	46.67	44.33	42.00	39.67	37.33	35.00
	5.95	8.28	10.62	12.77	4.10	6.44	8.77
	6.22	7.69	10.35	12.80	3.78	5.47	6.92
	-0.27	40.59	40.27	-0.03	40.32	40.37	41.85
S	47.00	44.67	42.33	40.00	37.67	35.33	33.00
	7.95	10.28	12.62	3.77	6.10	8.44	10.77
	7.65	7.68	12.33	3.91	5.52	7.25	7.84
	40.30	40.60	40.44	-0.14	40.58	41.14	40.93
S.W. end ret	62.00						
	3.79						
	3.67						
	40.12						
N.W. end ret	64.70						
	1.69						
	1.35						
	40.34						
S.E. end ret	31.00						
	5.39						
	4.36						
	-0.97						
N.E. end ret	63.30						
	3.09						
	1.94						
	1.15						



Moore ST Sways

BM	3.99	53.76	49.77	MSide Moore BP in walk to Hospital
oo-DE.W. Hill California ST		2.16	51.60	47.00
447.67		0.64	53.12	46.0
+98.33		0.90	52.86	45.0
1443.00		2.27	51.49	44.0
1490.67		3.71	50.05	43.00
2238.33		4.94	48.82	42.00
MH ♀ 2+81.0 = Clay Tan		5.64	48.12	41.00
(47.5) 3+33.5		5.90	47.86	40.64
3+81.0		6.16	47.60	40.27
4+24.5		6.31	47.45	40.06
4+76.0		6.46	47.30	39.75
5+23.5		6.72	47.04	39.43
5+71.0		6.82	46.94	39.12
6+18.5 MH ♀		6.90	46.86	38.81
6+60 = Southward (47.5)		7.22	46.54	38.50
7+13.50		7.65	46.11	37.93
7+61		8.21	45.55	37.36
8+08.5 T.P. 4.18	48.99	8.95	44.81	36.80
8+56		4.88	44.11	36.24
9+03.5		5.35	43.61	35.68
9+51		5.95	43.04	35.12
9+98.5		6.40	42.59	34.56
MH ♀ 10+46 = North ST		6.78	42.24	34.00
24 W. of above outlet		10.25	38.34	32.83

+4.60
+7.12
+7.86
+7.49
+7.05
+6.82
+7.12
+7.18
+7.23
+7.39
+7.55
+7.61
+7.82
+8.05
+8.04
+8.18
+8.19
+8.07
+7.87
+7.93
+7.92
+8.03
+8.21
+5.51



## MOORE ST Sowers (CON)

48.99 Page 11

M.H. 4 300 = No. 11.5T				34.00
750		6.52	42.47	34.92
1200		6.06	42.93	35.84
1500		5.42	43.57	36.76
2100		4.90	44.09	37.68
2500		4.30	44.69	38.59
DE. No. 504 3400 = Estudillo ST.P. 8.22	53.61	3.60	45.39	39.50
DE. No. 504 300 = Estudillo ST				
450		4.29	47.32	41.80
1100		5.55	48.06	41.50
1750		5.02	48.59	41.20
2400		4.42	49.19	40.90
3100		4.21	49.40	40.60
3800		4.55	49.06	40.30
M.H. 4 3400 = Wright ST (47.5)		5.20	48.41	40.00
3475		6.15	47.46	39.12
3495		7.25	46.36	38.25
4442.5		8.22	45.39	37.37
4490		9.21	44.40	36.50
5437.5		10.37	43.24	35.62
5485		11.21	42.40	34.75
6432.5 T.P. 0.57	42.02	12.16	41.45	33.87
M.H. 4 6480 = Bandera ST (47.5)		1.54	40.48	33.00
7427.5		2.50	39.52	31.93
7475		3.46	38.56	30.87
8422.5		4.46	37.56	29.80

NE SHIKO  
WRIGHT 4203011987.64  
007  
12.69  
12.12  
75.87  
032  
70.94

77.55 ✓
77.09 ✓
76.81 ✓
76.41 ✓
76.10 ✓
75.89 ✓
5.52 ✓
6.56 ✓
7.39 ✓
8.29 ✓
8.80 ✓
8.76 ✓
8.41 ✓
8.34 ✓
8.11 ✓
8.02 ✓
7.90 ✓
7.62 ✓
7.65 ✓
7.58 ✓
7.48 ✓
7.59 ✓
7.69 ✓
7.76 ✓

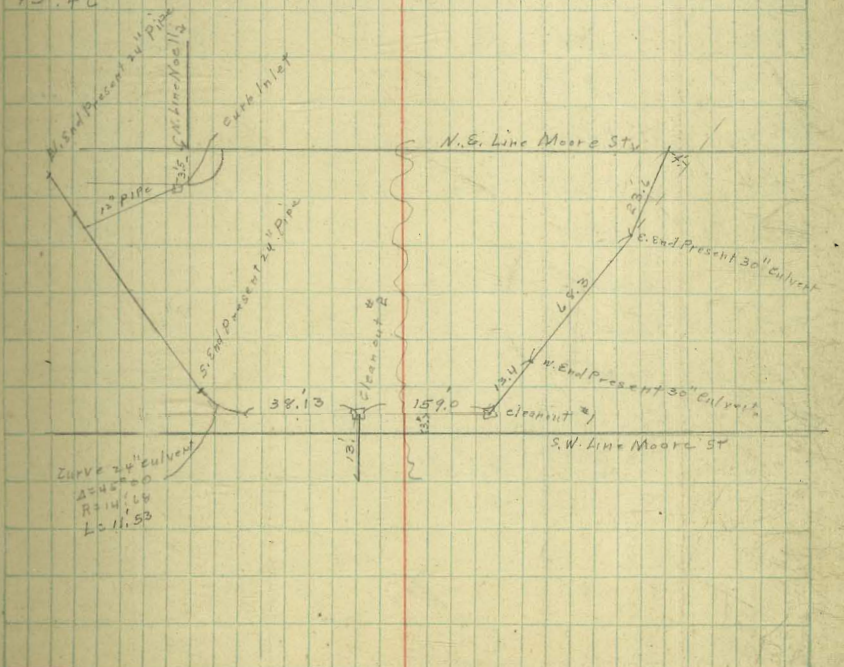


8+70	5.52	31.50	28.74
9+17.5	6.50	35.52	27.64
9+65	7.52	34.50	26.62
10+17.5	8.54	33.48	25.56
M.H. $\frac{E}{C}$ 10+60 = CouTs 54.7	9.68	32.34	24.50
11+14.7	10.70	31.32	23.44
11+69.4	12.10	29.92	22.38
12+24.1	2.36	30.13	21.32
12+78.8	3.35	29.14	20.26
13+33.4	4.35	28.14	19.22
13+88	6.02	26.77	18.16
End Pipe 14+28 S Line with kerby	8.07	24.42	17.39
14+72 M.H. $\frac{E}{W}$ with kerby	9.64	22.85	16.50

Culverts

00 = 8' End 30" Culvert	40.80
+ = connection	40.55
went connection 13.4	39.61
cleanout #1	39.40
1	37.60
2	35.80
cleanout #2	34.00
outlet 30" Pipe	33.50
P.C. 24" Pipe	32.14
P.T. 24" Pipe	31.14
Flowline curb inlet	39.5

+7.76 ✓	42.0	40.55	39.61	39.40	37.60	35.80	34.00
+7.84 ✓	7.4	8.44	9.32	9.59	11.4	13.2	15.0
+7.88 ✓	4.3	8.47	9.40	5.17	9.7	9.3	8.0
+7.72 ✓	+2.7	CHK	CHK	+4.42	+1.4	+3.9	+7.00
+7.84 ✓	outlet P.C.			curb inlet			
+7.88 ✓	33.50	32.6	31.14	39.50			
+7.75 ✓	15.5	12.0	11.46	8.10			
+7.82 ✓	13.5	8.60	11.50	4.85			
+7.80 ✓	+2.0	+3.4	36.10	+3.27			













38.21 33.00  
 33.81 7.00  
 .25 1.00 32.90

Courts

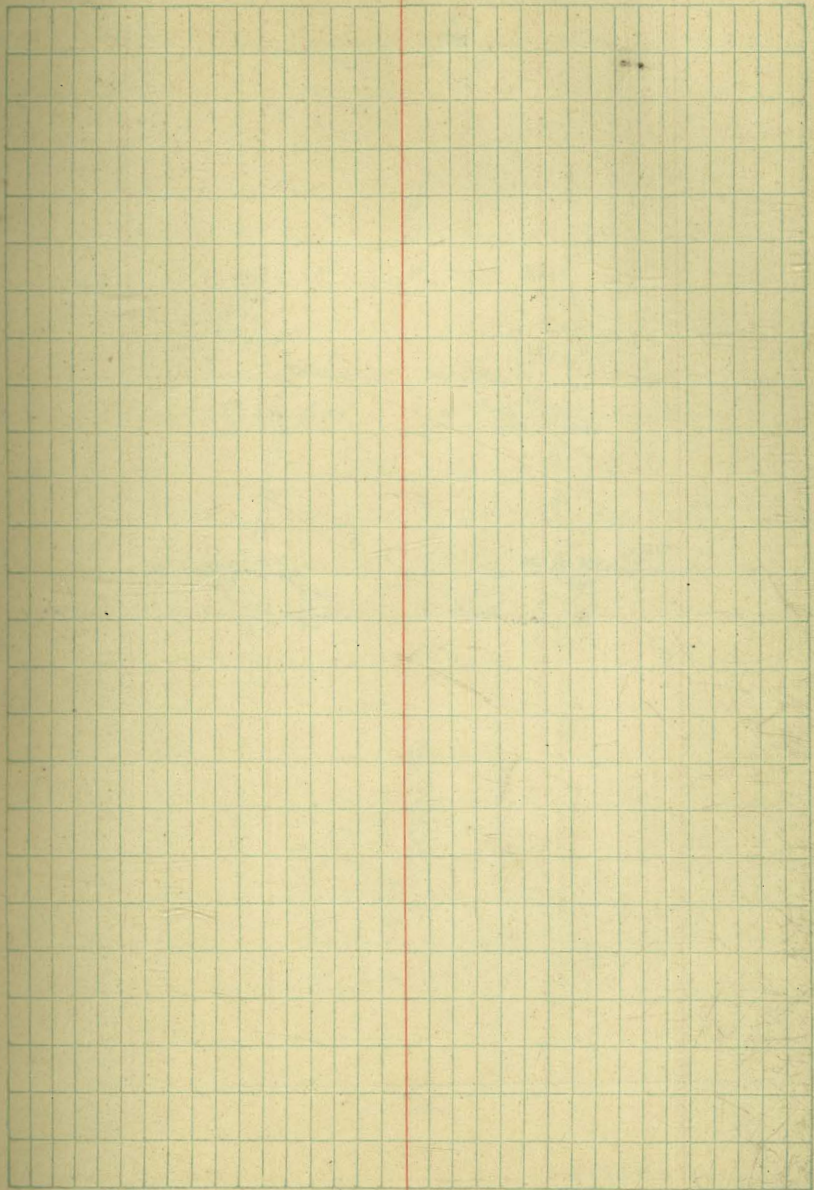
32.06  
 31.87 31.40

B  
 28.50 27.90

25.70 28.00 24.40

32.10 33.60  
 33.41 10.00 9.90

32.11  
 31.90 31.40  
 R.C.  
 29.00 30.00









Mission Ave Grading  
Culverts #1

00 = Connection with Present Culvert	308.90
+ 32	308.27
+ 64 Δ	307.64
+ 71 Outlet	307.50
Culvert #2	
00 = w. end 50' Pipe (Inlet)	294.50
+ 46 = Connection with 15" vertical Corl. Pipe	
+ 92 = connection " " " " " "	
1 + 40 = 8. End Pipe (outlet)	

333.44 P.M.N.W. Unisy Boundary

333.44			
0.12			
333.56			
11.47	308.27	307.64	307.50
322.09	14.44	13.09	15.23
6.44	11.83	13.21	14.55
322.73	+ 2.61 RL.	+ 1.99 FL.	+ 0.68
301.10			
	9.8	94.50	95.00
	91.3	64	6.1
			5.9
	C. cut	w con	+ 0.2
	92.37	93.83	91.00
	8.73	7.27	10.1
	7.83	6.67	9.4
	+ 0.90	+ 0.60	+ 0.7
			13.5
			10.1
			2.5
			271.0
			20.0
			30



Mission Ave Grading (3350 St)

	W. line	W. cl.	o. cl.	E. line
00-S. Line Univ Ave	322.25	322.00	322.00	322.25
+50	21.53			21.41
1+00	20.81			20.58
+50	20.08			19.75
2+00	19.35			18.92
+50	18.62			18.09
3+00	17.89			17.26
+50	17.16			16.43
4+00	16.43			15.60
+50	15.70			14.77
4+81.4-N. Line Kleuber	315.25	315.00	314.00	314.25
00-S. Line Kleuber	313.25	313.00	312.00	312.25
+50	314.08			313.08
1+00	314.92			313.92
+50	315.75			314.75
2+00	316.58			315.58
+50	317.41			316.41
3+00	318.25			317.25
+50	319.08			318.08
4+00	319.92			318.92
+50	320.75			319.75
5+00	321.58			320.58
+50	322.41			321.41
6+00-N. Line Castle (Landis)	323.25	323.00	322.00	322.25

322.73 0.73 322.00	W	21.53	20.81	20.08	19.35	18.62	17.89	17.16	16.43
7.84		8.10	8.7	9.5	10.2	10.9	11.7	12.4	13.1
27.54		1.14	1.1	10.3	0.2	1.1	2.4	3.6	5.0
12.72		6.8	7.8	9.8	10.0	9.8	9.3	8.8	8.1
316.82 16.26 323.08	E	21.41	20.58	19.75	18.92	18.09	17.26	16.43	15.60
12.74				3.0	10.6	11.5	12.3		
210.34				5.0	10.5	11.0	13.4		
0.22				2.0		10.5	-1.1		
310.56	W	15.70	15.25	13.25	14.08	14.92	13.08	13.92	12.8
12.75		13.8	14.3	12.1	13.5	14.2	12.0	12.8	11.9
297.81		5.8	11.0	12.1	6.5	6.2	10.2	9.2	8.2
3.19		5.5	3.3	11.1	10.0	10.2	5.8	6.0	6.0
301.10				14.7	13.0	13.4	17.8	14.2	13.7
				7.6	20.8	20.7	31.2	26.7	26.7
	E	14.77	14.25	12.25	13.08	13.92	12.08	12.8	11.9
		14.8	15.3	11.1	12.0	10.2	17.8	14.2	13.7
		7.2	9.3	7.7	5.8	6.0	17.8	14.2	13.7
		7.6	6.0	20.8	20.7	20.7	31.2	26.7	26.7
				31.2	26.7	26.7	31.2	26.7	26.7
323.44	W.W. Univ Boundary								
0.56	E	22.25	21.41	20.58	19.75	18.92	18.09	17.26	16.43
324.00		0.7	1.5	2.4	3.2	4.0	4.9	5.7	6.5
11.95			2.6	4.0	3.7	3.8	3.7	4.7	5.7
322.15			1.1	1.6	0.5	10.2	11.2	11.0	11.0
5.80									
322.95									
		16.43	15.60	14.77	14.25				
		6.8	7.3	8.2	8.7				
		6.2	7.3	8.0	8.4				
322.15									
0.45									
322.60		10.3		10.2	10.3				
	N	21.5	20.8	20.1	19.3	18.6	17.9	17.2	16.4
		1.1	1.8	2.5	3.3	4.0	4.7	5.4	6.2
		0	0	1.0	1.8	2.5	3.3	4.0	4.7
	W	15.2	13.2	14.1	14.9	15.7			
		7.4	9.4	8.5					
		7.1	8.2	9.2					
		10.3	11.0	10.2					
		14.2	12.2	13.1	13.9	14.7			
		8.4	10.4	9.5	8.7				
		8.1	9.8	9.5	7.3				
		10.3	11.0	10.2	11.4				
322.15									
0.37									
324.00		322.00	315.0	314.0	313.0	312.0	323.0	322.0	321.0
11.95			9.7	10.7	11.7	12.7	13.7	14.7	15.7

324.00  
11.95  
322.15 set B.M. B.P. S.W. Univ-Mission Ave.



Mission Ave Finish stakes  
(Bower v) Dwight South

	Wline	W el	E el	Eline
N line Bower v	317.75	317.5	317.0	317.25
S line Bower v	317.25	317.0	316.5	316.75
+50	17.13			16.63
1700	17.00			16.50
+50	16.88			16.38
2400	16.75			16.25
+50	16.63			16.13
3400	16.50			16.00
+50	16.38			15.88
4400	16.25			15.75
+50	16.13			15.63
5400	16.00			15.50
+50	15.88			15.38
N line Fulton				
6400	315.75	315.5	315.0	315.25

Dwight + Fulton

20

326.45  
2.69  
329.44  
11.41  
318.23  
3.26  
320.89

N. Bower v S. Bower v

	W	17.75	17.25	17.13	17.00	16.88	16.75	16.63	16.50
		3.1	3.6	3.8	3.9	4.0	4.1		
		4.1	3.2	3.3	4.2	4.4	3.6		
		-1.0	10.7	10.5		0.4	10.5		
		17.25	16.75	16.63	16.50	16.38	16.25	16.13	16.00
		4.1	4.1	4.3	4.4	4.5	4.6	4.8	
		4.4	4.2	4.6	4.6	5.6	5.5	5.2	
		-0.7	-0.1	-0.3	-0.2	-1.1	-0.9	-0.7	
	W	16.38	16.25	16.13	16.00	15.88		16.75	
	E	15.88	15.75	15.63	15.50	15.33		15.25	



PARK Row Paving

132.0 Prospect & Park Row

Ct. Grades on Circle  
See Page 23

34.5  
24.5  
59.0

	X Prop	N. d.	S. d.	S. Prop
Wind Torrey			153.12	53.37
00 = Road on S				
Wind Torrey				
01 34.5 Road on N	134.55	154.30		53.66
02 84.5	54.65			54.07
1 + 34.5	54.75			54.49
1 + 84.5	54.84			54.91
2 + 34.5	54.94			55.32
8 line Union Place				
2 + 52.5 on N	154.98	154.73		
8 line Union Place				
2 + 59. on S			155.27	55.52

155.22	54.75	54.87	55.00	55.12	55.25	55.37	55.50
5.77	5.24	5.12	4.99	4.87	4.74	4.62	4.49
159.99							
55.25	55.62	55.75	55.62	55.50	55.37	55.25	55.32
4.74	4.37	4.24	4.37	4.49	4.62	4.74	4.67
	55.39	55.46	55.53	55.60	55.67	55.75	55.82
	4.60	4.53	4.46	4.37	4.32	4.24	4.51
	55.20	54.93	54.65	54.67	54.70	54.74	
	4.77	5.06	5.34	5.22	5.29	5.25	
	54.77	54.81	54.85	54.88	54.80	54.78	
	5.22	5.18	5.14	5.16	5.19	5.21	

	N	54.5	54.6	54.7	54.8	54.9
157.72		3.2	3.1	3.0	2.9	2.8
			3.9	3.8	3.6	3.2
			-0.8	-0.8	-0.7	-0.4
	S	53.6	54.7	54.5	54.9	55.3
		4.1	3.6	3.2	2.8	2.4
		5.2	5.7	6.5	5.5	2.5
		-1.1	-2.1	-3.3	-2.7	-1.1

B.M. N.E. Park Row  
& Union Place

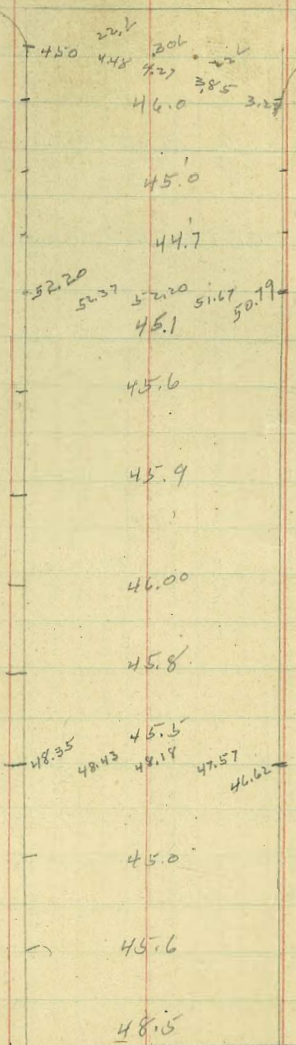
Circle

155.22	55.1	54.0	54.25	54.15	55.15	54.75
5.63	5.7	6.8	6.6	6.7	5.7	6.1
160.85	4.9	5.7	5.9	6.4	5.6	5.3
	40.8	+1.1	+0.7	+0.3	+0.1	+0.8
	5.9	7.1	6.8	6.9	5.9	6.5



Union

Place

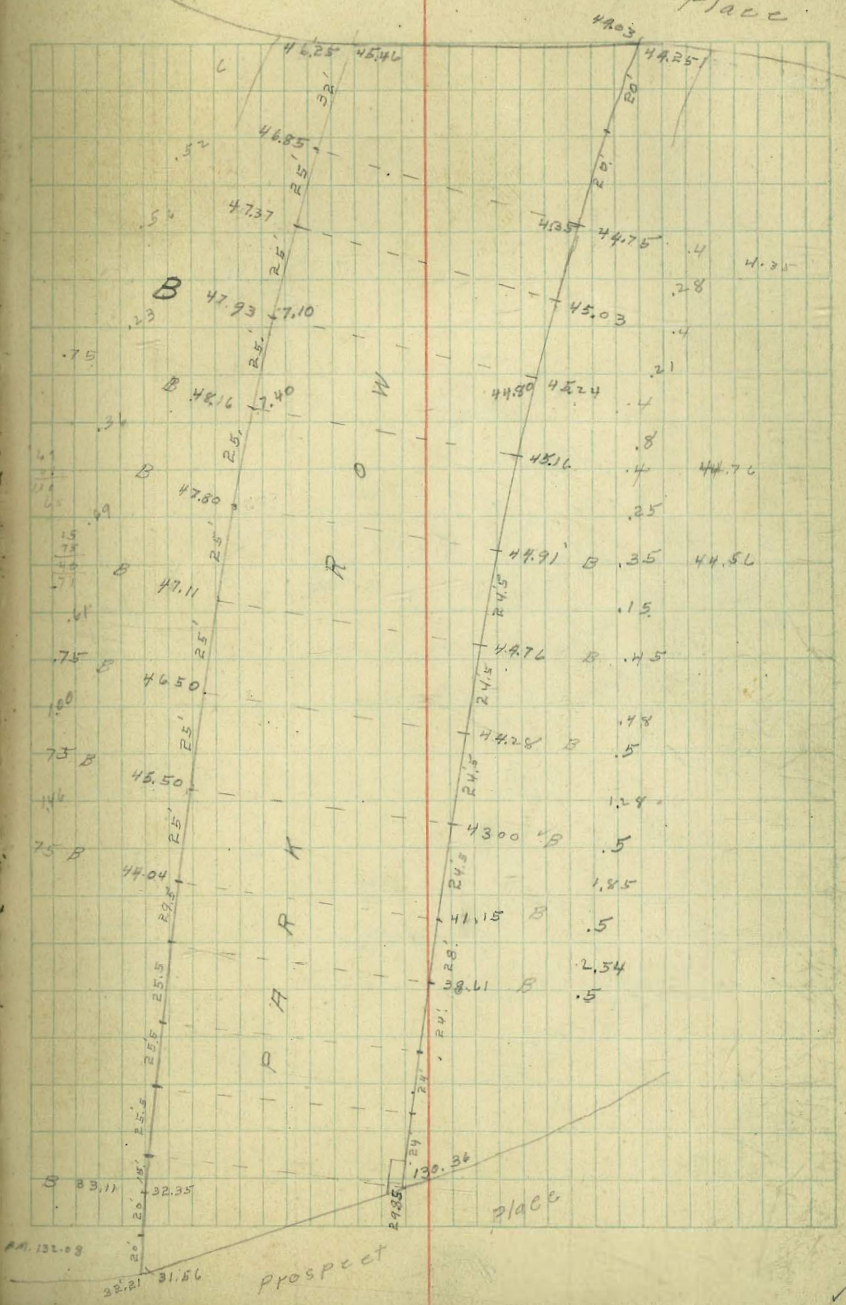


Exchange

Place

Exchange

Place



AM. 132.03

Prospect



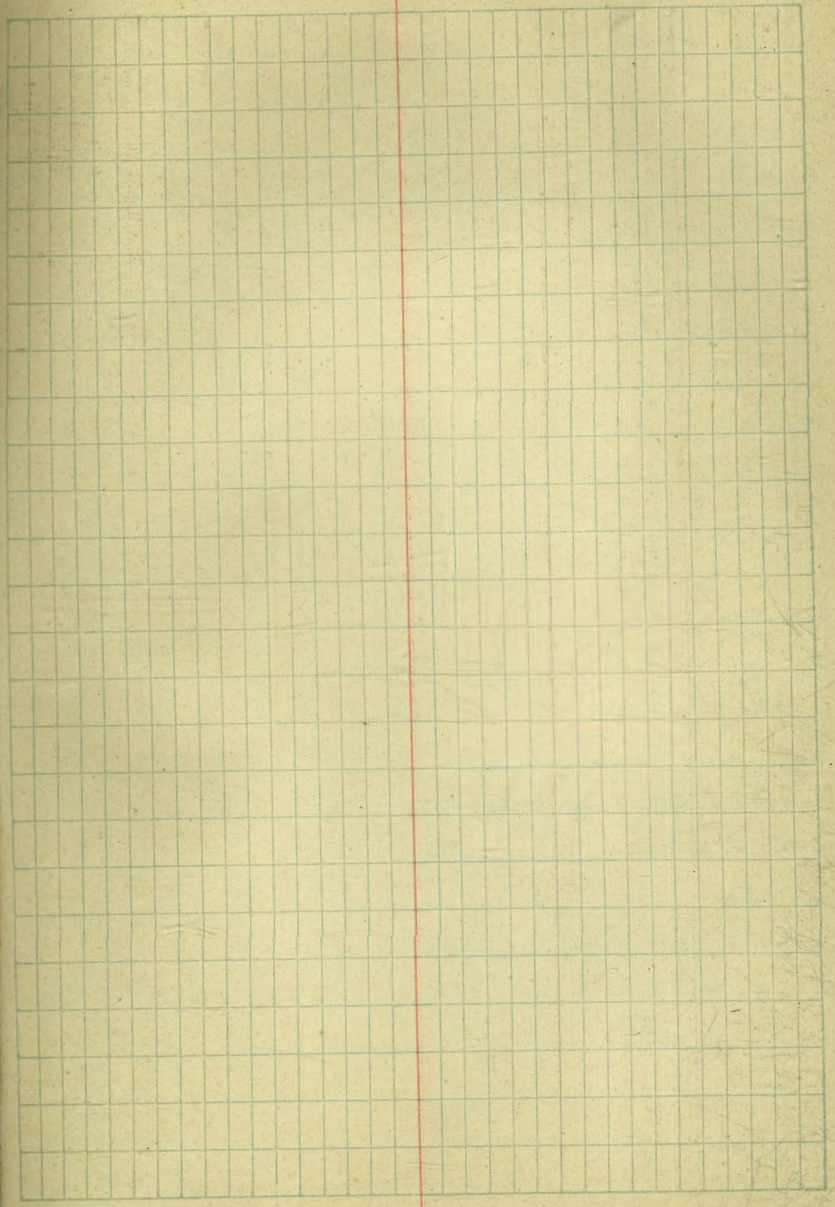




Grades on L st

24  
 0.15.25  
 5.13.25  
 Halbert  
 B. J. J.  
 16

	N.L.	S.L.
EL 91651	11.5	10.5
50'E	+0.4	
100'E	0.0	
150'E	+0.1	
200'E - N.L. 10751	14.0	12.5
E.L. 10751	14.0	12.5
50'E	+1.0	+1.0
100'E	+1.0	+1.0
150'E	+1.0	+1.0
200'E - N.L. 117251	15.0	13.5
E.L. 117251	15.0	13.5
50'E	+1.3	+1.0
100'E	+1.3	+1.0
150'E	+1.9	+1.0
200'E - N.L. 1216	9.5	8.5
E.L. 1216	8.5	7.5
50'E	+1.0	+1.0
100'E	+1.0	+2.0
150'E	+1.0	+1.0
200'E - N.L. 1316	6.0	5.5

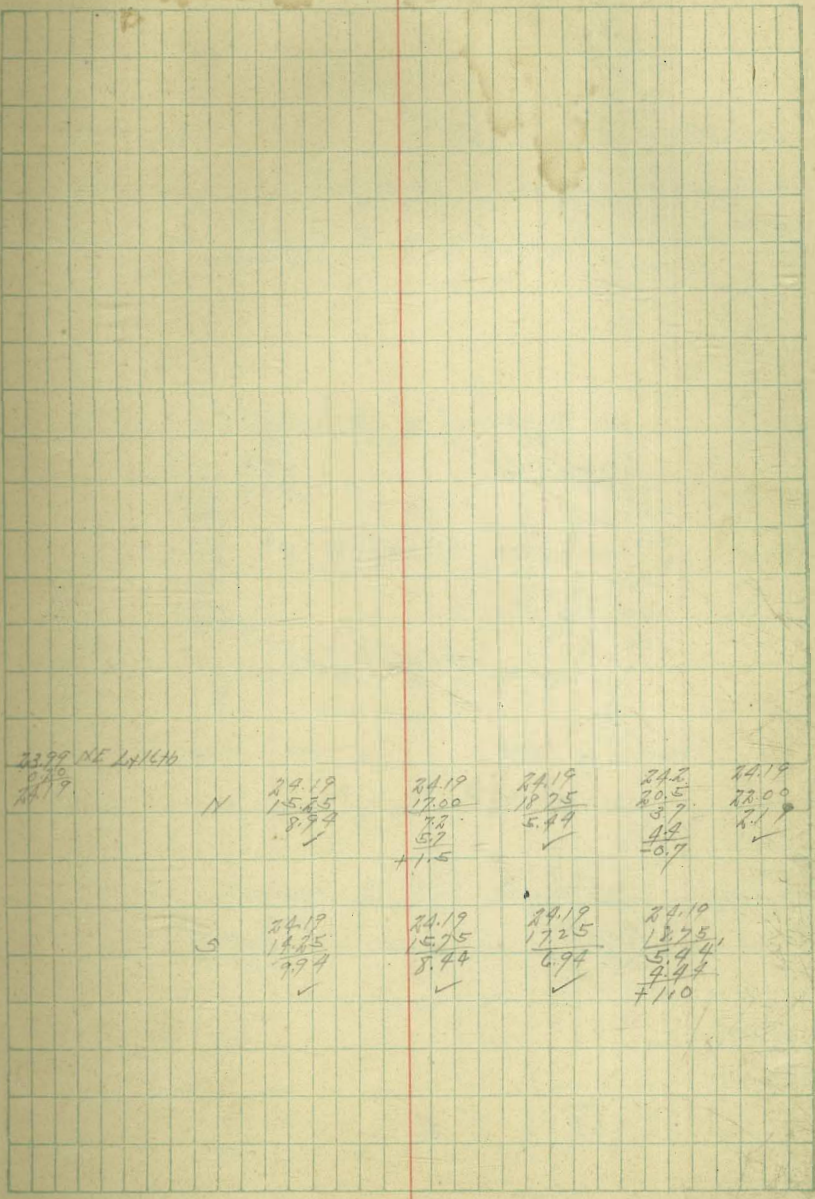




	NL	SL
E.L. 13 <sup>1/2</sup> ast	6.0	5.5
50° E	+1.0	0.0
100° E	+2.0	+1.0
150° E	+2.0	+1.0
200° E N.L. 14 <sup>1/2</sup> ast	9.5	9.0

E.L. 14<sup>1/2</sup>ast

E.L. 15 <sup>1/2</sup> ast	15.0 15.25	14.0 14.25
50° E	17.00	15.75
100° E	18.75	17.25
150° E	20.50	18.75
200° E N.L. 16 <sup>1/2</sup>	22.0 22.25	20.0 20.25



23.99 NE LxLx						
	N	24.19 15.25 8.94	24.19 17.00 7.8 5.7 +1.5	24.19 18.25 5.94	24.2 20.5 3.7 4.4 -0.7	24.19 22.00 2.19
	S	24.19 14.25 9.94	24.19 15.75 8.44	24.19 17.25 6.94	24.19 18.75 5.44 4.44 +1.10	

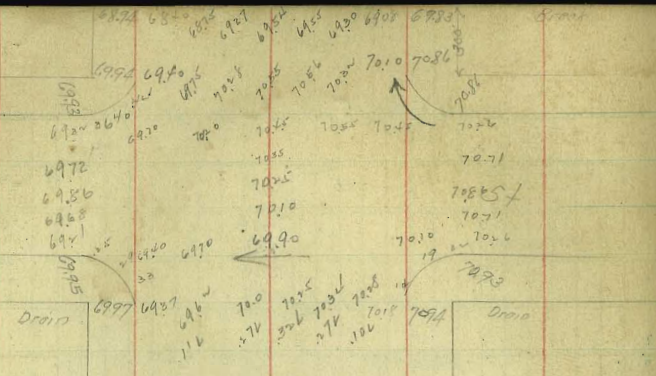






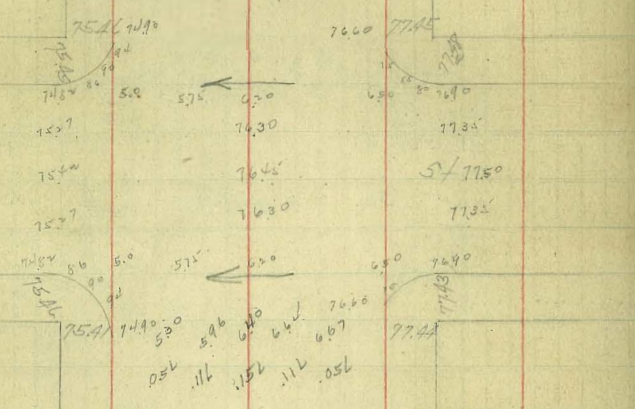
26<sup>th</sup>

6997 SE  
5.87  
75.74

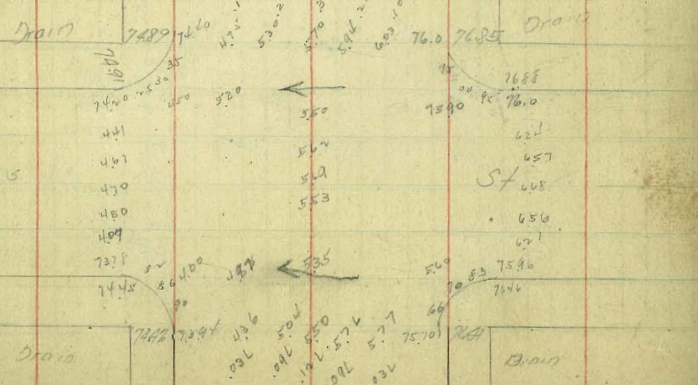


7744 NE  
3.52  
80.72

47<sup>th</sup>



Evans



3795 NE  
5.23  
81.31</











MOORE ST GRADES

	W.C.B.	E.C.B.
SL Clayton	48.50	48.50
50 S	50.00	49.97
100 S B.W.	51.50	51.44
148 S Break over	50.98	150 53.85
178 S Bk on W	53.37	185'S
208 S Bk on W	53.10	
228 S V W	52.20	
	52.0	
	E.C.B.	W.C.B.
NL Clayton	48.00	48.00
50 N	47.84	47.84
100 ✓	47.67	47.67
150 ✓	47.50	47.50
200 ✓	47.33	47.33
250 ✓	47.17	47.17
300 = Sk Sutherland	47.00	47.00
NL ✓	46.40	46.40
50 N	45.75	45.75
100 N	45.10	45.10
150 N	44.45	44.45
200	43.80	43.80
250	43.15	43.15
300 SL Noell ST	42.50	42.50
NL ✓ ✓	42.50	42.50
50 N	43.10	43.10

49.77								
53.32	W	52.50	53.40	53.60	53.2	51.75	50.25	48.25
52.0		0.8	40.1	40.5	0.1	1.6	3.1	4.6
49.77		0.0	0.0	0.0	0.0	6.4	4.6	6.6
55.42	E			54.2	53.2	51.75	50.25	48.75
12.51					0.1	1.6	3.1	4.6
42.42						4.0	0.2	0.3
49.85						4.7	2.9	4.9
5.46	W	48.25	48.1	47.9	47.75	47.6	47.4	47.25
49.38		5.1	5.2	5.4	5.6	5.7	5.9	6.1
0.9		8.3	9.5	9.6	9.2	8.1	5.9	6.1
47.29		3.2	4.3	4.2	3.4	2.4	0.0	0.0
2.44	E	5.1	5.2	5.4	5.6	5.7	5.9	6.1
49.73		0.7	1.1	2.2	2.3	2.3	1.7	0.8
		+4.4	+4.1	+3.7	+2.3	+3.4	+4.7	+5.3
	W	46.65	46.0	45.35	44.7	44.05	43.4	42.75
		3.2	3.8	4.5	5.1	5.8	6.4	7.1
		3.1	2.8	4.5	5.1	5.9	6.6	7.3
		+0.1	+1.0	0.0	0.0	-4.1	-5.2	-5.9
	E	46.65	46.0	45.35	44.7	44.05	43.4	42.75
		8.4	9.4	10.1	10.7	11.4	12.0	12.7
		4.2	7.0	6.1	2.9	1.4	4.4	8.5
		+4.6	+2.4	+4.0	+7.8	+10.0	7.6	4.2



Moore ST Grades

	8.06	W 43
100' N of Noell	43.70	43.70
150	44.31	44.31
200	44.91	44.91
250	45.51	45.51
300 SL Estuillo	46.12	46.12
NL ✓	47.08	47.08
50' N'	47.72	
100	48.36	
160 N = Break	49.12	49.12
185 B	49.39	49.39
210 B	49.55	49.55
235 B	49.60	49.60
260 B	49.55	49.55
285 B	49.39	49.39
300 = Shine Wright	49.25	49.25
310 B	49.13	49.13
3135 B	48.76	48.76
3160 B	48.28	48.28
3180 B = N Line Wright	47.85 ✓	47.86
+50	46.80 ✓	
1400	45.74 ✓	
+50	44.68 ✓	
2100	43.62 ✓	
+50	42.56 ✓	
3100 Shine Bandini	41.50 ✓	41.50

49.73	W	42.75	43.35	43.95	44.55	45.15	45.75	46.4
3.31		7.80	6.4	5.8	5.2	4.6	4.0	3.3
46.42		14.2	13.4	12.4	10.1	9.7	6.8	3.3
10.81		7.2	7.0	6.6	4.9	5.1	2.8	0.0
31.23								
11.25	E	7.00	6.4	5.8	5.2	4.6	4.5.75	46.4
45.88		4.5	7.1	4.4	3.2	2.1	1.5	10.8
47.5		12.5	0.7	11.4	12.0	13.5	15.1	5.5
50.43								1.3
	W	47.35	48.00	48.6	49.1	49.8	49.8	49.5
		9.9	9.2	8.6	7.8	7.4	7.4	7.1
		11.2	9.4	10.5	11.0	11.7	11.2	5.0
		-1.3	-0.3	-1.9	-3.2	-4.3	-3.8	-3.7
	E	7.9	9.2	8.6	7.8	7.4	7.4	7.7
		3.7	3.0	2.4	2.9	2.2	1.1	1.4
		16.2	16.2	16.2	14.9	15.2	16.3	16.3
	W	48.1	47.1	46.0	44.9	43.9	42.8	41.7
		2.5	3.5	4.6	5.7	6.7	7.8	8.9
		6.4	4.7	3.3	10.3	12.0	11.5	11.8
		-3.9	-3.2	-3.7	-4.6	-5.3	-3.7	-2.9
	E	48.1	47.1	46.0	44.9	43.9	42.8	41.7
		9.1	10.1	11.2	5.7	6.7	7.8	8.9
		3.0	3.2	5.0	0.6	3.0	2.4	2.1
		+6.1	+6.9	16.2	+5.1	+3.7	+5.4	6.8
4000								
498								
5001	W 47.85	46.80	45.74	44.68	43.62	42.56	41.50	5.5 W L
	7.16	3.21	2.27	5.28	6.39	7.45	8.51	7.80
	2.16	3.11	2.23	5.24	6.29	7.25	8.45	10.50
	0.00	10.10	0.00	+0.09	+0.19	+0.20	+0.06	
	W 49.25	49.29	49.55	49.60	49.85	49.89	49.12	48.61
	W 48.10	47.89	47.88					















	S line	S cl	N. cl	N. line	
00 = 3090 E of Draper	132.60	132.35	132.25	132.60	
4+20	135.96			135.96	
4+80	139.33			139.33	
5+20	142.70			142.70	
B					
360' E of Draper	146.05	145.80	145.80	146.05	
6+00	147.3	147.07	147.07	147.3	147.67
6+20	148.3	148.00	148.00	148.3	148.87
6+40	149.0	148.73	148.73	149.0	149.13
6+60	149.7	149.20	149.20	149.7	149.4
6+13.52 <sup>S</sup> = 7+13.13 <sup>N</sup>	149.5	149.3	150.80	151.0	
8 line Draper			106.70		
180' E of Draper			118.85		
230			122.22		
280			125.60		
330			128.97		
380' E of Draper			132.35		

10/30/75  
miller

79.01	PM. SE West Bourne Rd Jolla River	141.27				35
77.70		6.46				
91.71		124.76				
0.87						
91.84						
2.84						
104.22						
0.25						
103.97						
12.40						
116.57						
0.12						
116.74						
2.25						
122.09						
00.61						
128.48						
3.19						
141.67						
0.85						
140.82						
12.73						
153.55						
15.4						
3+00						
N	132.6	136.0	139.3	142.7	146.0	
	9.1	5.7	2.14	10.8	7.5	
	9.8	4.9	2.0	10.3	10.1	
	-0.7	+0.8	+0.4	+0.5	-2.6	
S			2.4	10.8	7.5	
			1.9	9.7	6.1	
			+1.4	+1.1	+1.4	
6+00	6+20	6+40	6+60	7+13.13 end		
N	147.3	148.3	149.0	149.4	151.0	
	6.2	5.2	4.5	7.1	2.5	
	9.5	6.7	5.4	4.5	0.7	
	-3.3	1.5	-0.9	-0.4	+1.8	
S	6.3	5.2	4.5	6+60	6+63.32 end	
	5.1	5.6	4.7	7.0	7.0	
	+1.1	-0.4	-0.2	4.4	-0.4	
118.71						
13.15						
128.86						
0.20						
128.66						
12.56						
141.22						
0.52						
140.70						
12.34						
153.04						
N	118.85	122.03	125.43	128.82	132.22	135.61
	10.01	6.83	3.48	12.40	9.00	5.61
	10.22	6.56	3.58	12.25	8.82	5.66
	0.21 low	+0.27	-0.15	+0.15	+0.18	-0.05
141.22						
0.52						
140.70						
12.34						
153.04						
N	139.01	142.40	145.80	147.07	148.00	
	2.21	10.64	7.24	5.97	5.04	
	2.08	10.40	7.02	5.93	4.63	
	+0.21	+0.24	+0.22	+0.04	+0.41	
S	138.87	142.34	145.80			
	2.38	10.70	7.24	5.97	5.04	
	2.33	10.51	7.24	5.85	5.04	
	+0.02	+0.19	+0.05	+0.12	00	
N	148.73	149.20	150.70			
	4.31	3.84	2.34			
	3.96	3.54	3.24			
	+0.35	+0.30	-1.02			
S	4.31	3.84	149.40			
	4.19	3.75	3.64			
	+0.12	+0.09	3.30			
			+0.34			

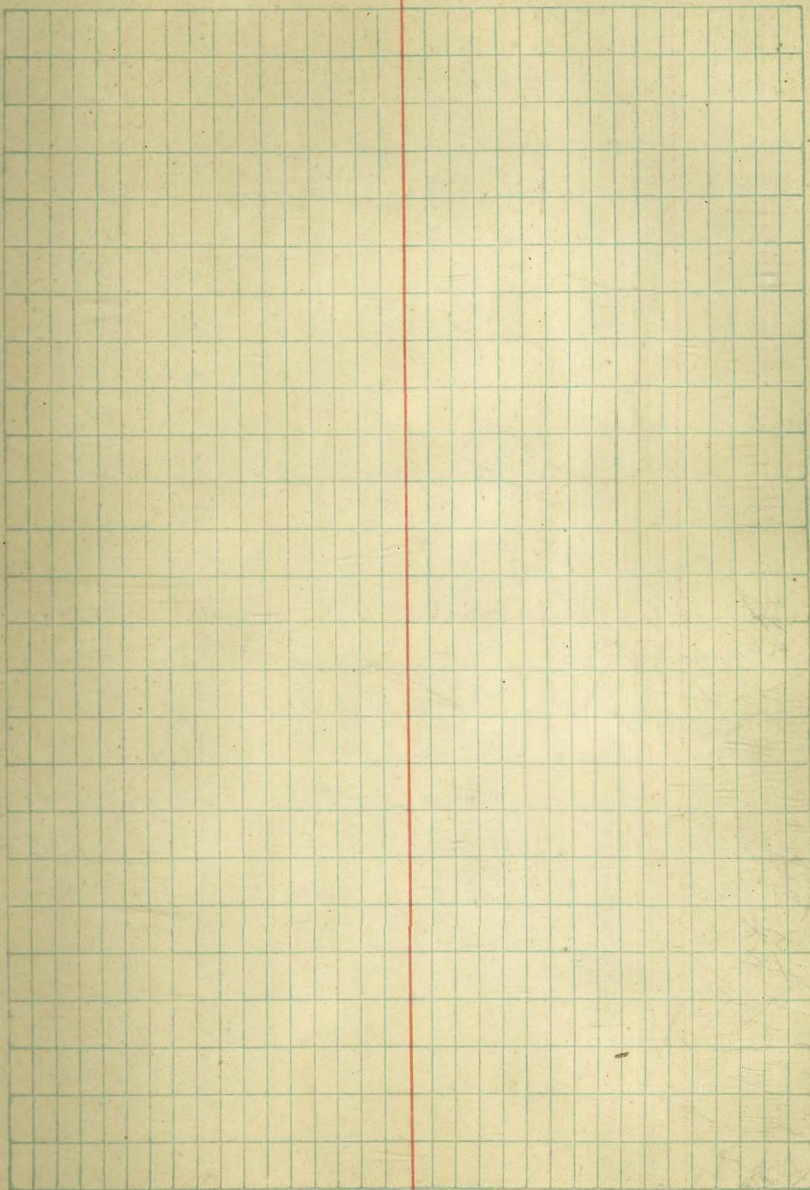






Nautilus

37







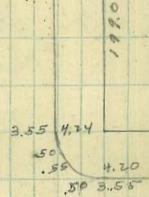
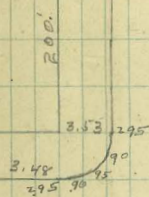


All-By-Bat Westbourne + Nautilus

	W Line	E Line
00:5 Line Westbourne	83.25	83.55
+44.67	83.63	83.93
+93.83	84.01	84.31
1+40 B	84.40	84.70
51.75	83.81	84.17
1+91.75	83.87	84.17
2+43.50	83.33	83.63
2+95.25	82.79	83.09
3+47.75 Nautilus	82.25	82.55

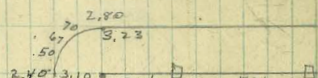
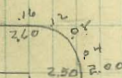
Westbourne Pavina

	W	E	W	E	W	E
83.25	83.63	84.01	84.40	83.87	83.53	82.79
6.18	5.80	3.82	5.03	5.56	6.10	6.64
4.84	4.73	3.04	5.51	5.84	5.21	4.62
+11.34	+7.07	+0.38	-0.48	+0.22	+0.99	2.02
83.55	83.93	84.31	84.70	84.17	83.63	83.09
5.88	5.50	5.12	4.72	5.26	5.80	6.34
3.68	3.07	4.75	3.72	3.92	3.18	3.10
+2.20	+2.43	+0.37	+1.01	+1.34	2.62	3.24



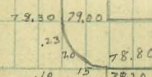
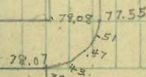
Draper

Ave



16.7

Westbourne



La Jolla

Pavement

78.44 Blvd



ZOLA ST GRADES  
AT ROSECRANS

70' wide  
18' slw  
45' Radius

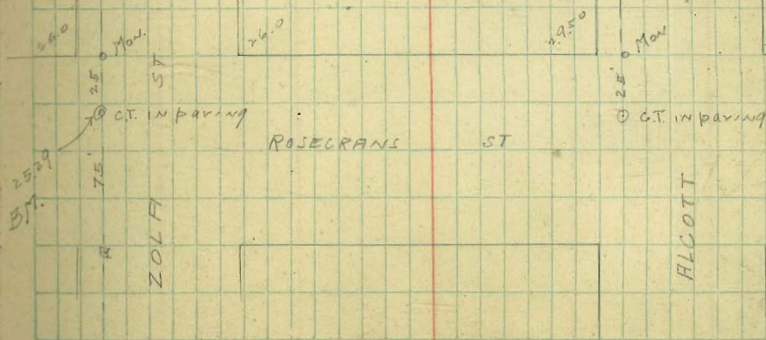
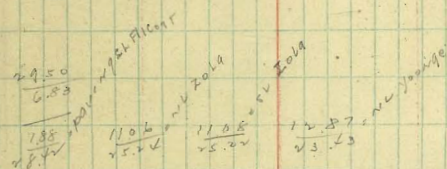
	5 ct	N CB
47' w of rail Rosecrans = 0 + 0 = PC	30.05	30.05
84.26 W	38.70	
114.23	47.35	
700' W = BREAK	56.00	56.00
> 375' W	62.75	62.37
275' W = P.C.	69.50	68.75
300' = ELLOTUS	74.0	73.0

Young  
26.0

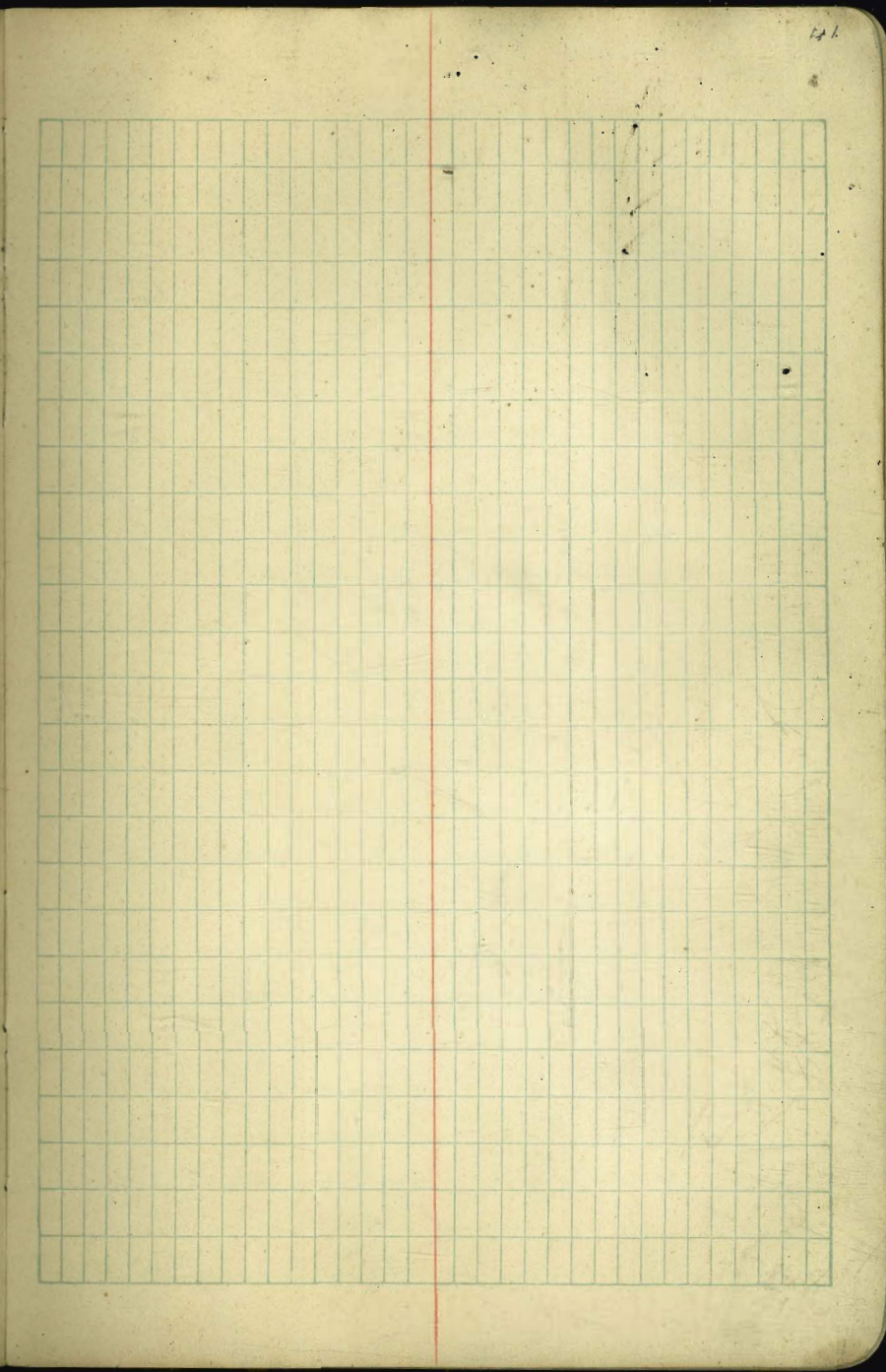
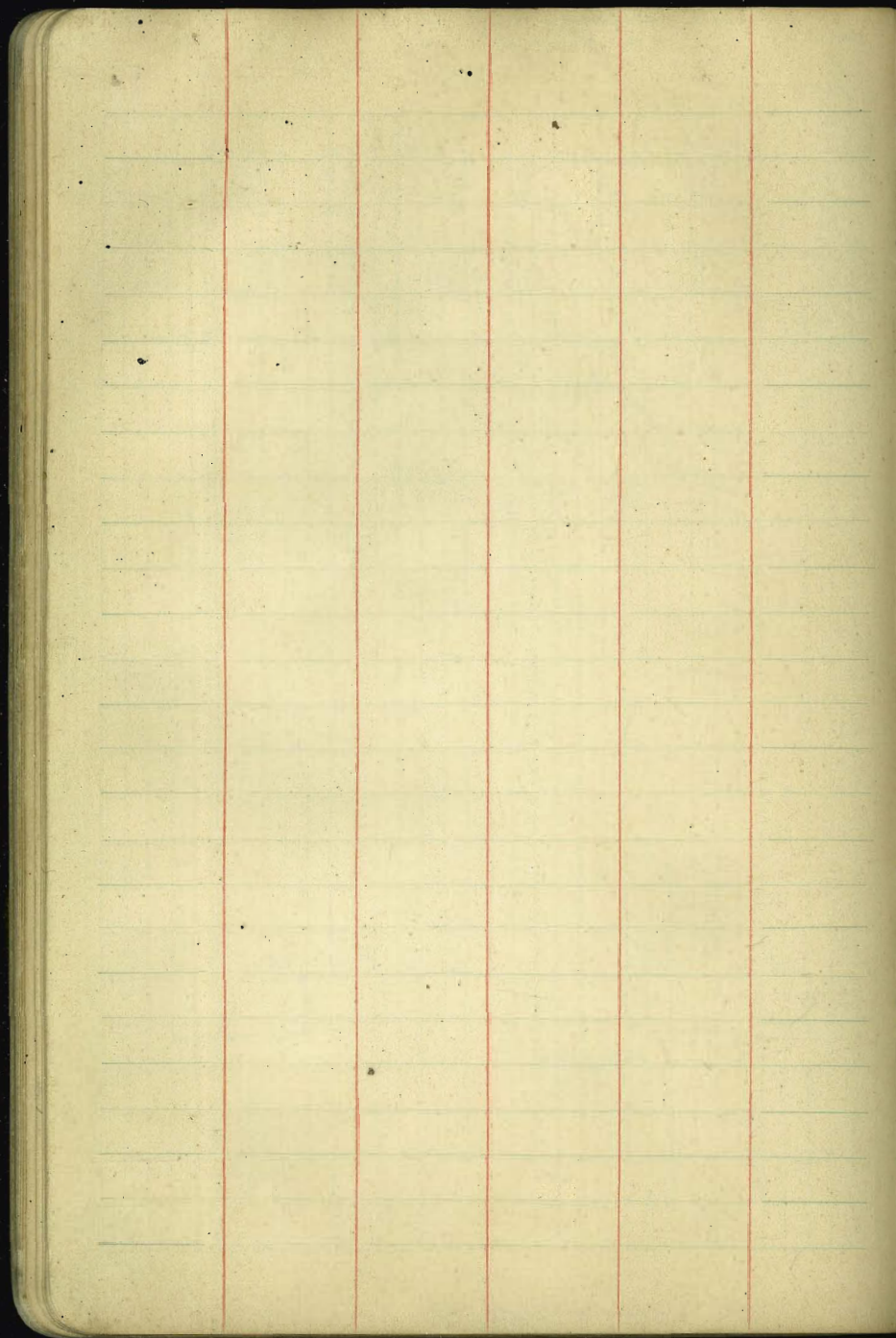
Sw Curtis + Rosecrans

40

46.3							
0.92							
47.22							
12.75							
37.47							
56.22							
1.3							
47.92							
2.6							
0.70							
47.22	SL	30.30	38.95	47.60	56.25	62.00	69.75
2.9		6.0	8.47	11.59	13.7	16.7	19.9
12.7		2	6.37	11.2	8.7	6.7	2.9
59.19		+4.0	+2.1	+0.29	+5.0	+0.2	+1.0
0.75							
58.44	NL	20.0	8.27	11.6	13.7	62.6	69.0
11.17		5.0	5.0	7.4	13.7	7.3	4.6
69.93		+4.2	+3.7	4.0	40.5	+2.7	3.6
1.3							+1.5
61.23							
73.61		24.3	26.7	27.75	25.75	25.0	25.0













Grades of Pacific Ave  
From China Cass to Daws

12/3/25  
miller

4.3

00 = E. line Cass	0.00
+50	0.30
1+00	0.60
1+50	0.90
2+00	1.20
BK 2+50	1.50
3+00	1.20
+50	0.90
4+00	0.60
+50	0.30
5+00 = W. line Daws	0.00
5+46 = E. Daws	0.00

Grades of Daws

from N. line Pacific to S. line Oliver

00 = N. Line Pacific	0.00
+45	0.41
+90	0.83
1+35	1.25
1+80	1.66
2+25	2.08
2+70 = S. line Oliver	2.50

4.62 Top Hyatt S.E. Bayards Pacific

0.44						5.74
5.26	0.00	0.30	0.60	0.90	1.20	1.50
5.40	4.09	3.79	3.5	3.2	2.9	2.6
0.34	3.2	2.0	1.8	1.6	1.0	5.9
4.43	-1.1	-2.2	-2.3	-2.8	-3.1	-3.3
4.09						
	1.20	0.90	0.60	0.30	0.00	0.00
	2.9	3.2	3.5	3.8	4.1	4.1
	5.8	5.8	5.9	5.6	5.6	5.4
	-2.9	-2.6	-2.4	-1.8	-1.5	-1.3

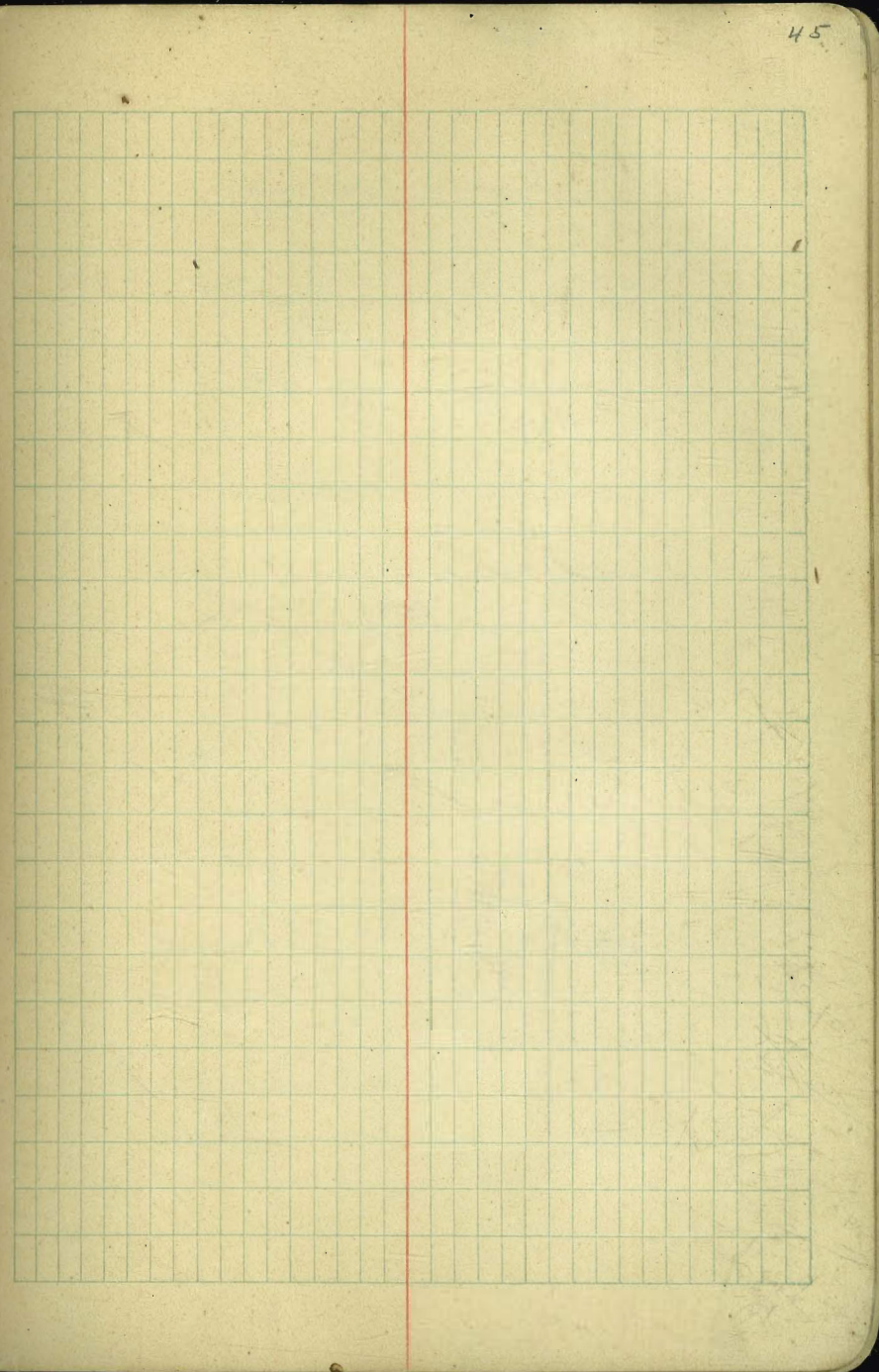
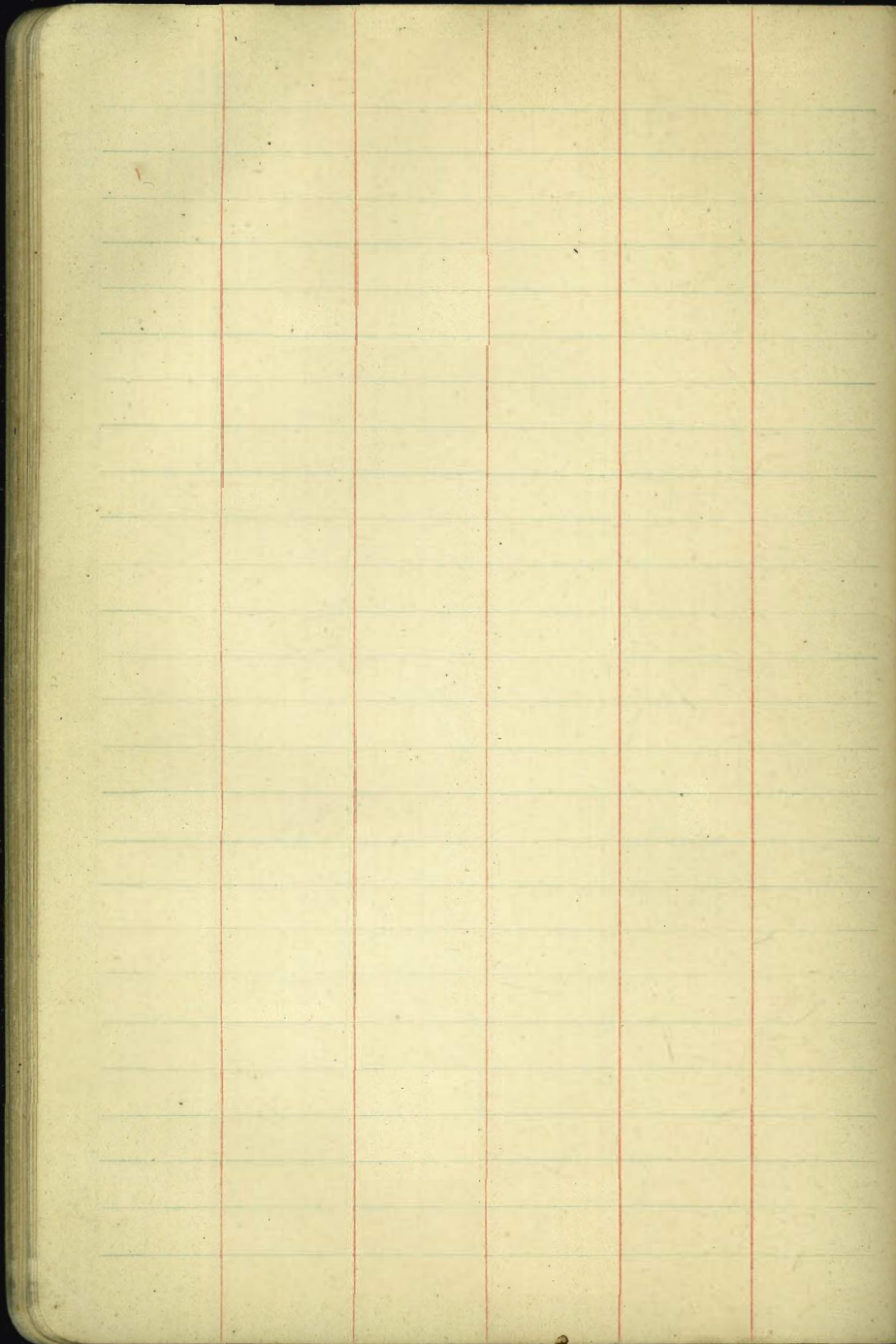
Daws

N. P. Daws	0.41	0.83	1.25	1.66	2.08	2.50
0.00	3.7	3.3	2.9	2.5	2.0	1.6
4.1	4.3	3.2	2.4	1.6	1.4	0.6
4.2						
-0.6	-0.6	0.1	0.5	0.9	0.6	1.0



















## Vesta St Grading

12/23/25

	E. line	E. cl.	W. cl.	W. line
00=N. line Main St	16.25	16.00	15.50	15.75
+40	17.08			16.75
B +80	17.92	17.67	17.50	17.75
B1+00	18.25	18.00	17.91	18.14
B1+20	18.40	18.15	18.14	18.49
B1+40	18.38	18.13	18.19	18.44
B1+60	17.17	17.94	18.06	18.31
2+00	17.63			17.87
2+50	16.94			17.31
3+00=S. line				
Dalbergia	16.25	16.00	16.50	16.75
00=N. line				
Dalbergia	16.25	16.00	16.50	16.75
+50	16.83			17.17
1+00	17.41			17.59
+50	18.00			18.00
2+00	18.58			18.42
+50	19.16			18.84
3+00=S. line				
Cottonwood	19.75	19.50	19.00	19.25
00=N. line				
Cotton wood	20.25	20.00	19.50	19.75
+50	20.67			20.08
1+00	21.09			20.41
+50	21.50			20.75
2+00	21.92			21.08
+50	22.34			21.47
3+00=S. line				
Birch.	22.75	22.50	21.50	21.75

changed

See page 47

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13.07	13.31	13.54	14.18	14.42	14.66	14.90	15.14	15.38	15.62	15.86	16.10	16.34	16.58	16.82	17.06	17.30	17.54	17.78	18.02	18.26	18.50	18.74	18.98	19.22	19.46	19.70	19.94	20.18	20.42	20.66	20.90	21.14	21.38	21.62	21.86	22.10	22.34	22.58	22.82	23.06	23.30	23.54	23.78	24.02	24.26	24.50	24.74	24.98	25.22	25.46	25.70	25.94	26.18	26.42	26.66	26.90	27.14	27.38	27.62	27.86	28.10	28.34	28.58	28.82	29.06	29.30	29.54	29.78	30.02	30.26	30.50	30.74	30.98	31.22	31.46	31.70	31.94	32.18	32.42	32.66	32.90	33.14	33.38	33.62	33.86	34.10	34.34	34.58	34.82	35.06	35.30	35.54	35.78	36.02	36.26	36.50	36.74	36.98	37.22	37.46	37.70	37.94	38.18	38.42	38.66	38.90	39.14	39.38	39.62	39.86	40.10	40.34	40.58	40.82	41.06	41.30	41.54	41.78	42.02	42.26	42.50	42.74	42.98	43.22	43.46	43.70	43.94	44.18	44.42	44.66	44.90	45.14	45.38	45.62	45.86	46.10	46.34	46.58	46.82	47.06	47.30	47.54	47.78	48.02	48.26	48.50	48.74	48.98	49.22	49.46	49.70	49.94	50.18	50.42	50.66	50.90	51.14	51.38	51.62	51.86	52.10	52.34	52.58	52.82	53.06	53.30	53.54	53.78	54.02	54.26	54.50	54.74	54.98	55.22	55.46	55.70	55.94	56.18	56.42	56.66	56.90	57.14	57.38	57.62	57.86	58.10	58.34	58.58	58.82	59.06	59.30	59.54	59.78	60.02	60.26	60.50	60.74	60.98	61.22	61.46	61.70	61.94	62.18	62.42	62.66	62.90	63.14	63.38	63.62	63.86	64.10	64.34	64.58	64.82	65.06	65.30	65.54	65.78	66.02	66.26	66.50	66.74	66.98	67.22	67.46	67.70	67.94	68.18	68.42	68.66	68.90	69.14	69.38	69.62	69.86	70.10	70.34	70.58	70.82	71.06	71.30	71.54	71.78	72.02	72.26	72.50	72.74	72.98	73.22	73.46	73.70	73.94	74.18	74.42	74.66	74.90	75.14	75.38	75.62	75.86	76.10	76.34	76.58	76.82	77.06	77.30	77.54	77.78	78.02	78.26	78.50	78.74	78.98	79.22	79.46	79.70	79.94	80.18	80.42	80.66	80.90	81.14	81.38	81.62	81.86	82.10	82.34	82.58	82.82	83.06	83.30	83.54	83.78	84.02	84.26	84.50	84.74	84.98	85.22	85.46	85.70	85.94	86.18	86.42	86.66	86.90	87.14	87.38	87.62	87.86	88.10	88.34	88.58	88.82	89.06	89.30	89.54	89.78	90.02	90.26	90.50	90.74	90.98	91.22	91.46	91.70	91.94	92.18	92.42	92.66	92.90	93.14	93.38	93.62	93.86	94.10	94.34	94.58	94.82	95.06	95.30	95.54	95.78	96.02	96.26	96.50	96.74	96.98	97.22	97.46	97.70	97.94	98.18	98.42	98.66	98.90	99.14	99.38	99.62	99.86	100.10	100.34	100.58	100.82	101.06	101.30	101.54	101.78	102.02	102.26	102.50	102.74	102.98	103.22	103.46	103.70	103.94	104.18	104.42	104.66	104.90	105.14	105.38	105.62	105.86	106.10	106.34	106.58	106.82	107.06	107.30	107.54	107.78	108.02	108.26	108.50	108.74	108.98	109.22	109.46	109.70	109.94	110.18	110.42	110.66	110.90	111.14	111.38	111.62	111.86	112.10	112.34	112.58	112.82	113.06	113.30	113.54	113.78	114.02	114.26	114.50	114.74	114.98	115.22	115.46	115.70	115.94	116.18	116.42	116.66	116.90	117.14	117.38	117.62	117.86	118.10	118.34	118.58	118.82	119.06	119.30	119.54	119.78	120.02	120.26	120.50	120.74	120.98	121.22	121.46	121.70	121.94	122.18	122.42	122.66	122.90	123.14	123.38	123.62	123.86	124.10	124.34	124.58	124.82	125.06	125.30	125.54	125.78	126.02	126.26	126.50	126.74	126.98	127.22	127.46	127.70	127.94	128.18	128.42	128.66	128.90	129.14	129.38	129.62	129.86	130.10	130.34	130.58	130.82	131.06	131.30	131.54	131.78	132.02	132.26	132.50	132.74	132.98	133.22	133.46	133.70	133.94	134.18	134.42	134.66	134.90	135.14	135.38	135.62	135.86	136.10	136.34	136.58	136.82	137.06	137.30	137.54	137.78	138.02	138.26	138.50	138.74	138.98	139.22	139.46	139.70	139.94	140.18	140.42	140.66	140.90	141.14	141.38	141.62	141.86	142.10	142.34	142.58	142.82	143.06	143.30	143.54	143.78	144.02	144.26	144.50	144.74	144.98	145.22	145.46	145.70	145.94	146.18	146.42	146.66	146.90	147.14	147.38	147.62	147.86	148.10	148.34	148.58	148.82	149.06	149.30	149.54	149.78	150.02	150.26	150.50	150.74	150.98	151.22	151.46	151.70	151.94	152.18	152.42	152.66	152.90	153.14	153.38	153.62	153.86	154.10	154.34	154.58	154.82	155.06	155.30	155.54	155.78	156.02	156.26	156.50	156.74	156.98	157.22	157.46	157.70	157.94	158.18	158.42	158.66	158.90	159.14	159.38	159.62	159.86	160.10	160.34	160.58	160.82	161.06	161.30	161.54	161.78	162.02	162.26	162.50	162.74	162.98	163.22	163.46	163.70	163.94	164.18	164.42	164.66	164.90	165.14	165.38	165.62	165.86	166.10	166.34	166.58	166.82	167.06	167.30	167.54	167.78	168.02	168.26	168.50	168.74	168.98	169.22	169.46	169.70	169.94	170.18	170.42	170.66	170.90	171.14	171.38	171.62	171.86	172.10	172.34	172.58	172.82	173.06	173.30	173.54	173.78	174.02	174.26	174.50	174.74	174.98	175.22	175.46	175.70	175.94	176.18	176.42	176.66	176.90	177.14	177.38	177.62	177.86	178.10	178.34	178.58	178.82	179.06	179.30	179.54	179.78	180.02	180.26	180.50	180.74	180.98	181.22	181.46	181.70	181.94	182.18	182.42	182.66	182.90	183.14	183.38	183.62	183.86	184.10	184.34	184.58	184.82	185.06	185.30	185.54	185.78	186.02	186.26	186.50	186.74	186.98	187.22	187.46	187.70	187.94	188.18	188.42	188.66	188.90	189.14	189.38	189.62	189.86	190.10	190.34	190.58	190.82	191.06	191.30	191.54	191.78	192.02	192.26	192.50	192.74	192.98	193.22	193.46	193.70	193.94	194.18	194.42	194.66	194.90	195.14	195.38	195.62	195.86	196.10	196.34	196.58	196.82	197.06	197.30	197.54	197.78	198.02	198.26	198.50	198.74	198.98	199.22	199.46	199.70	199.94	200.18	200.42	200.66	200.90	201.14	201.38	201.62	201.86	202.10	202.34	202.58	202.82	203.06	203.30	203.54	203.78	204.02	204.26	204.50	204.74	204.98	205.22	205.46	205.70	205.94	206.18	206.42	206.66	206.90	207.14	207.38	207.62	207.86	208.10	208.34	208.58	208.82	209.06	209.30	209.54	209.78	210.02	210.26	210.50	210.74	210.98	211.22	211.46	211.70	211.94	212.18	212.42	212.66	212.90	213.14	213.38	213.62	213.86	214.10	214.34	214.58	214.82	215.06	215.30	215.54	215.78	216.02	216.26	216.50	216.74	216.98	217.22	217.46	217.70	217.94	218.18	218.42	218.66	218.90	219.14	219.38	219.62	219.86	220.10	220.34	220.58	220.82	221.06	221.30	221.54	221.78	222.02	222.26	222.50	222.74	222.98	223.22	223.46	223.70	223.94	224.18	224.42	224.66	224.90	225.14	225.38	225.62	225.86	226.10	226.34	226.58	226.82	227.06	227.30	227.54	227.78	228.02	228.26	228.50	228.74	228.98	229.22	229.46	229.70	229.94	230.18	230.42	230.66	230.90	231.14	231.38	231.62	231.86	232.10	232
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	E. line	E. cl	W. cl	W. line
00 = N. Line				
Birch	23.75	23.50	22.50	22.75
+50	24.83			23.83
1+00	25.91			24.91
+50	27.00			26.00
2+00	28.08			27.08
+50	29.16			28.16
3+00 = S. Line				
Heacia	30.25	30.00	29.00	29.25

$\frac{33.24}{3.26} = 30.17$  BM SPK SW. Westa & Heacia  
 $\frac{30.06}{3.06} = 30.17$

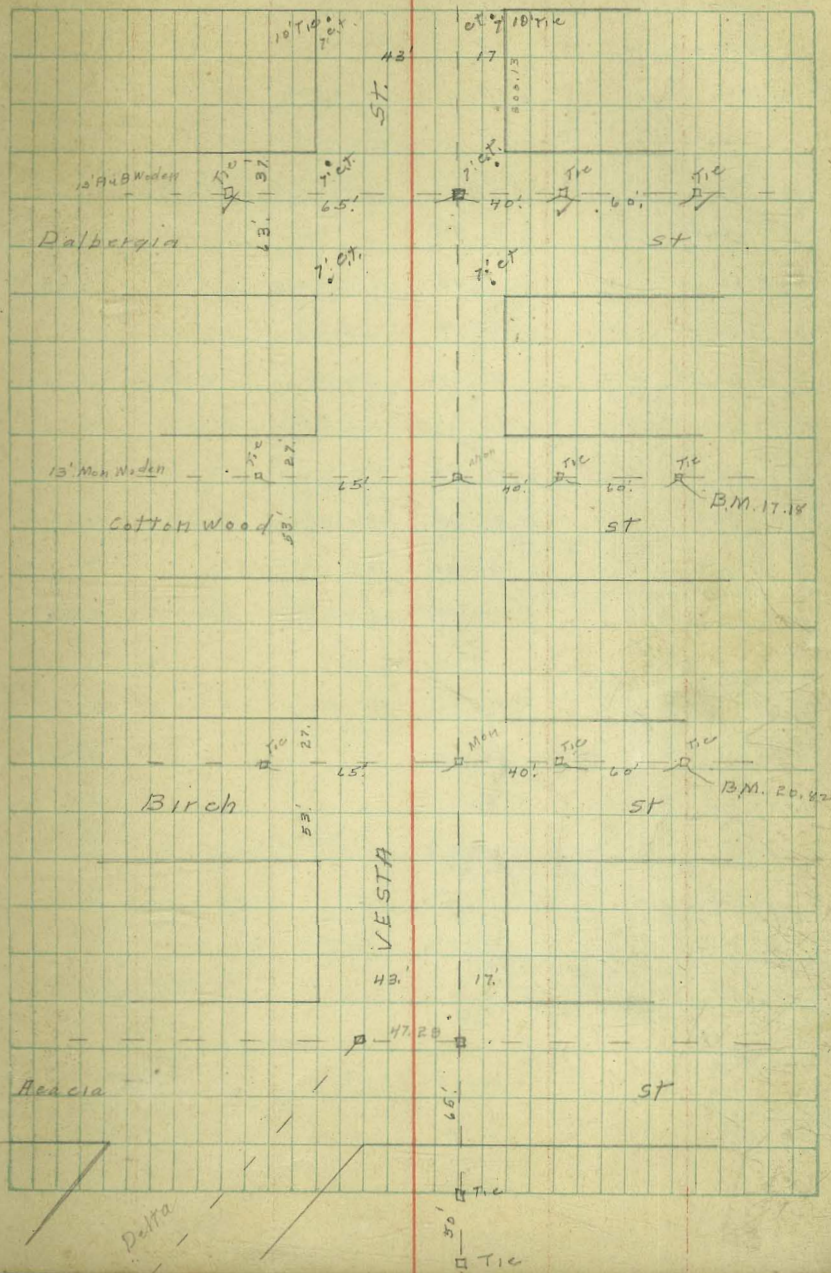
26.18	E	23.75	24.83	25.91	27.00	28.08	29.16	30.25
0.49		2.4	1.3	0.2	4.3	5.2	4.2	3.1
25.69		2.8	1.2	0.5	5.9	4.2	3.2	2.6
7.63		-0.4	+0.1	-0.2	+0.4	+1.0	+1.0	+0.5
33.32								
	W	22.75	23.83	24.91	26.00	27.08	28.16	29.25
		3.4	2.3	1.2	7.3	6.2	5.2	4.1
		3.4	2.8	2.0	7.8	5.8	5.0	4.1
		-0.2	-0.5	-0.8	-0.5	+0.4	+0.2	0.0

N. Line Main  
 $\frac{30.06}{13.00} = 43.4$   
 $\frac{42.75}{0.4} = 42.75$   
 $\frac{42.25}{0.7} = 42.25$

Main

127.07

49









Woolman

Ave

ST.

Teak St

x in db

73' 27.57' 190.57'

322.77'

70' 45' 10.0'

327.10'

65'

65'

327.40'

141.50'

37

CT. 7'

CT. 7'

CT. 7'

F. Foxwell

Woolman  
159.51

Ave

55  
100  
43  
77

51

Teak St

659.43

659.40

659.43

659.52

CT.

CT.

CT.

139.817547 line began

38

10' 13'

20.5'

19.50'

27.49'

139.817547 line began

CT.

CT.

CT.

CT.

10'

10'

189.74'

122.58'

201.67'

327.28'

548.14'

295.87'

295.87'

327.28'

548.14'

295.87'

295.87'

327.28'

548.14'

295.87'

295.87'

327.28'

548.14'

295.87'

295.87'

327.28'

548.14'

295.87'

295.87'

327.28'

548.14'

295.87'

295.87'

327.28'

Teak St

S. St

T. St.

PL.

ST

ST

ST

ST

ST

ST











37<sup>th</sup> ST Grading

	W. Line	W. cl	E. cl	E. Line
00-5 Line National	47.25	47.00	48.00	48.25
+50	46.41			47.50
1+00	45.58			46.75
+50	44.75			46.00
2+00	43.91			45.25
+50	43.08			44.50
3+00-4 Line Newton	42.25	42.00	43.50	43.75
00-5 Line Newton	41.75	41.50	43.00	43.25
+50	40.64			42.10
1+00	39.58			40.93
+50	38.50			39.76
2+00	37.41			38.59
+50	36.33			37.42
3+00-4 Line Boston	35.25	35.00	36.00	36.25
00-5 Line Boston	33.75	33.50	34.50	34.75
+50	32.50			33.50
1+00	31.25			32.25
+50	30.00			31.00
2+00	28.75			29.75
+50	27.50			28.50
3+00-4 Line Z. St	26.25	26.00	27.00	27.25

46.89 B.M. Stat + 37<sup>th</sup>

	W	E	W	E	W	E	W	E
2.26								
49.75								
12.90								
36.85	W	47.00	46.41	45.58	44.75	43.91	43.08	42.25
3.04		2.75	3.1	4.2	5.0	5.8	6.7	7.5
39.89		2.85	3.5	9.5	7.7	4.9	8.0	10.8
10.15		10.2	0.2	-5.3	-2.7	+0.9	1.9	3.3
29.74	E	48.00	47.50	46.75	46.00	45.25	44.50	43.75
1.79		1.75	2.2	3.0	3.7	4.5	5.2	6.0
31.53		1.70	6.7	3.3	1.4	5.6	7.5	6.1
1.79		10.54	-4.5	-0.3	+2.3	-1.1	-2.3	-0.1
29.74	W	47.75	40.66	39.58	38.50	37.41	36.33	35.25
1.48		8.0	9.1	10.2	11.2	12.3	3.4	4.6
41.22		10.4	10.0	9.5	11.3	12.9	4.3	5.0
1.91		2.4	+0.9	+0.7	-0.1	-0.6	-0.7	-0.4
39.31	E	43.25	42.10	40.93	39.76	38.59	37.42	36.25
10.70		6.5	7.6	8.8	10.0	11.2	2.5	3.6
50.01		5.2	6.7	7.7	8.1	9.9	1.3	1.7
3.14		+1.3	+0.9	+1.1	+9.9	+1.3	+1.2	+1.9
46.87	W	33.75	32.50	31.25	30.00	28.75	27.50	26.25
6.1		7.4	8.6	1.5	2.9	4.0	5.3	
6.1		7.4	9.1	6.5	9.0	4.0	2.9	
0.0		0.0	-0.5	-5.0	-6.2	0.0	+2.4	
34.75	E	33.50	32.25	31.00	29.75	28.50	27.25	
5.1		6.4	7.6	0.5	1.8	3.0	4.3	
4.9		6.3	10.2	6.5	4.3	0.7	2.8	
40.2		+0.1	-2.6	-6.0	-2.5	+2.3	+1.5	

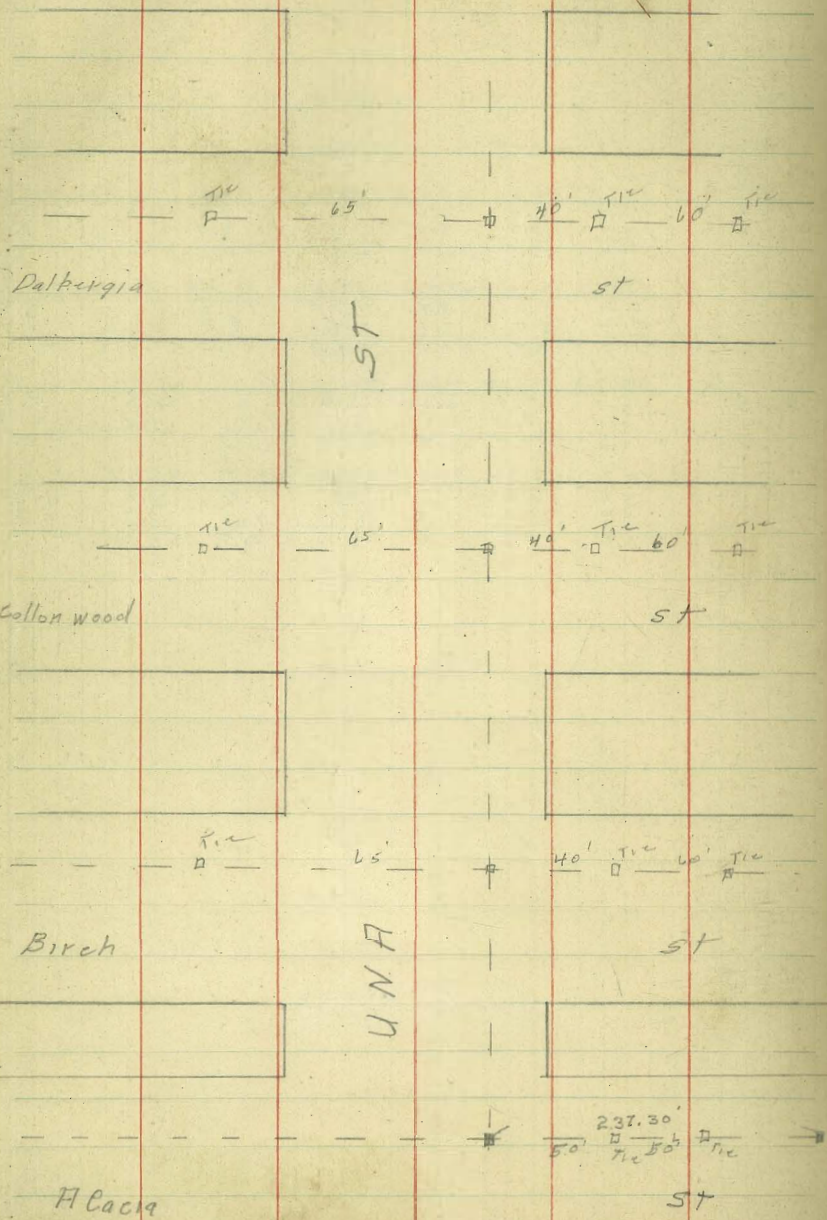
CHK. BY B.M.

46.89  
11.0



Main

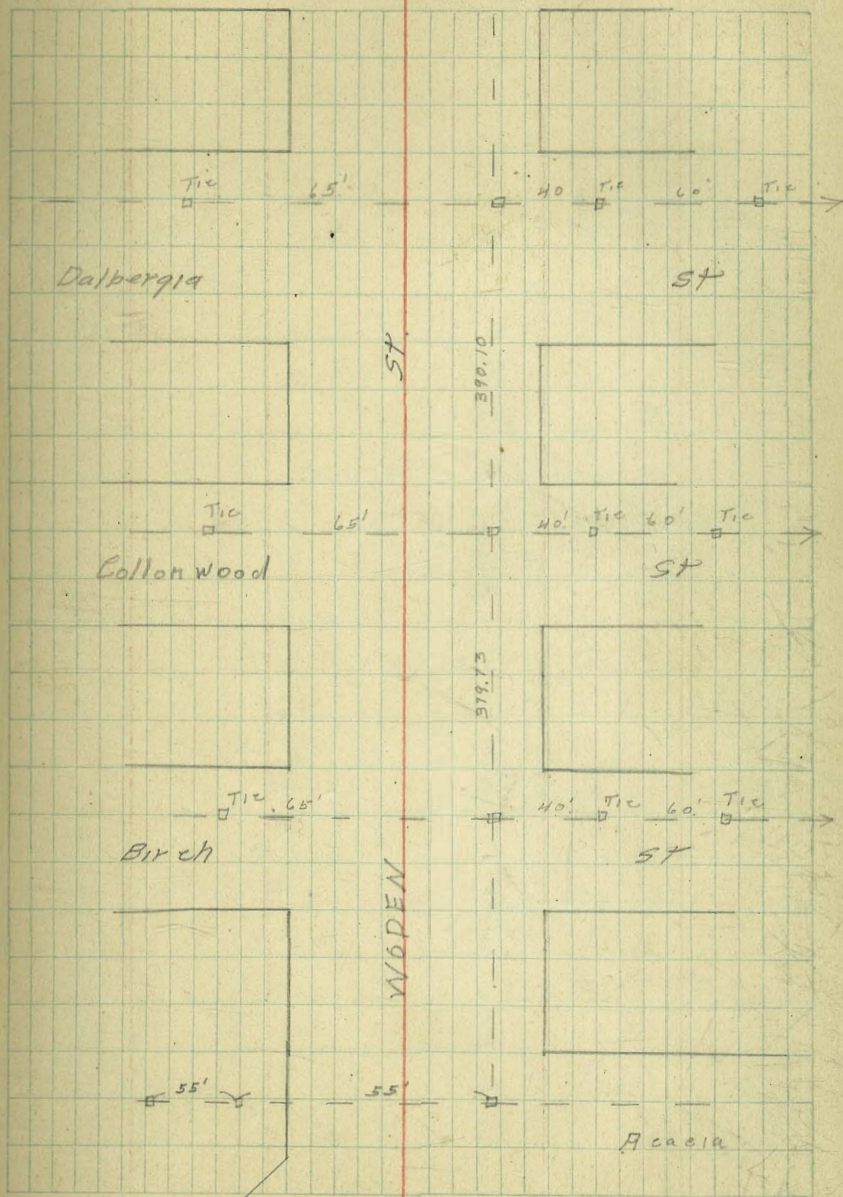
ST



55

Main

ST













Acacia ST

	N. line	N. cl	S. cl	S. line
W. Line Woden				
0HS			39.50	39.75
PI. Acacia Epanon				
= 00 + 20.74	40.58	40.33		39.43
+ 50	39.84			38.65
+ 100	39.12			37.89
+ 150	38.39			37.12
+ 200	37.66			36.36
+ 50	36.94			35.60
3+30	36.21			34.83
+ 50	35.49			34.07
4+00	34.76			33.31
+ 50	34.04			32.55
E. Line Delta				
= 00 + 11.9.8	33.75	33.50	32.00	32.25
+ 55.14			31.00	31.25
E. Line Vesta				
+ 10.27			30.00	30.25
W. Line Delta				
+ 14.90	31.65	31.40		
W. Line Vesta				
=	30.75	30.50	29.00	29.25
+ 50	29.00			27.81
+ 100	27.25			26.50
+ 50	25.50			25.12
E. Line 38 <sup>th</sup>				
= 3+00	23.75	23.50	23.50	23.75
W. Line 38 <sup>th</sup>				
= 00	22.75	22.50	22.50	22.75
+ 50	22.18			22.18
+ 100	21.61			21.61
+ 140	20.93	20.68	20.68	20.93
+ 50		20.22	20.22	
+ 200	19.96	19.71	19.71	19.96
+ 50		18.82	18.82	
+ 340	17.93	17.68	17.68	17.93
+ 50		16.27	16.27	
+ 289	14.85	14.60	14.60	14.85
E. Line Una 3+20	11.25	11.00	11.00	11.25
W. " 60 <sup>th</sup>	10.25	10.00	10.00	10.25

30.06 B.N. SW Vesta & Acacia

	N	40.6	39.4	39.1	38.4	37.7	36.9	36.2	35.5
		0.9	1.7	2.4	3.1	3.8	4.6	5.3	6.0
		0.5	1.2	2.1	3.6	4.1	4.1	3.9	4.6
		+0.4	+0.5	+0.3	-0.5	-0.3	+0.5	+1.4	+1.4
	S	39.75	39.4	38.6	37.9	37.1	36.4	35.6	34.8
		1.7	2.9	3.6	4.2	5.0	5.7	5.9	6.7
		3.2	4.1	4.2	5.0	5.7	6.5	6.8	7.9
		-1.5	1.2	-0.6	-0.6	-0.7	-0.6	-0.1	-0.7
	N	34.8	34.0	33.6	33.75				
		6.7	7.5	7.7					
		5.0	5.0	5.0					
		+1.7	+2.5	+2.7					
	S	33.3	32.5	32.25	31.25	30.25			
		8.2	9.0	9.2	10.2	11.2			
		7.3	7.8	8.2	10.2				
		+0.9	+1.2	+1.0	0.0				
	N	30.75	29.00	27.2	25.5	23.75	22.75	22.2	21.6
		2.5	4.3	6.1	7.8	9.5	10.3	8.8	9.4
		2.4	3.4	3.7	4.7	6.7	10.4	10.4	7.6
		+0.1	+0.9	+2.4	+2.1	+2.8	-2.1	-1.6	+1.8
	S	29.25	27.9	26.5	25.1	23.75	22.75	22.2	21.6
		4.0	5.4	6.8	8.2	9.5	10.5	8.8	9.4
		4.9	6.1	5.9	5.9	6.5	9.4	7.0	7.5
		-0.9	+0.7	+0.9	+2.3	+3.0	1.1	+1.8	+1.9
	N	20.9	20.0	17.9	14.8	11.25	10.25		
		10.1	11.0	13.2	4.4	8.0	9.0		
		17.1	8.5	9.9	2.9	11.7	12.2		
		+7.0	+2.5	+3.2	+1.5	-3.7	-3.2		
	S	20.9	20.0	17.9	14.8	11.25	10.25		
		10.1	11.0	13.1	16.2	8.0	9.0		
		17.9	8.0	8.3	9.8	2.4	12.7		
		+2.2	+8.0	+4.8	+6.4	+3.6	-3.7		
		29.00	30.00	32.00					
			2.55	0.55					
		22.91							
	38 <sup>th</sup>	23.50	22.50	22.04	21.59	21.13	20.68	20.32	19.71
			4.68	5.74	5.59	6.05	6.50	6.86	7.97
	38 <sup>th</sup>	18.82	17.68	16.27	14.60	11.00			
		4.07	5.23	6.64	8.31				
		8.36							
		22.50							
		4.48							
		27.18							
		12.55							
		14.63							



Alley BIK 12 U.H.

	E	W
00 = N. Line Mad. set.	381.30	381.20
B 760	382.80	382.80
1+10	83.34	
1+60	83.88	
2+10	84.42	
2+60	84.96	
3+10	85.50	
3+60	86.04	
4+10	86.58	
4+60	87.12	
5+10	87.66	
B 5+60	388.20	388.20
600 = S Line Adams	387.72	387.63

389.04 SE 30th & Adams

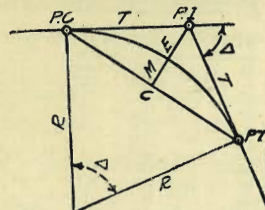
3/13/22  
mch 63

392.39	W	81.20	82.8	83.34	83.88	84.42	84.96
5.59		6.71	5.11	4.57	4.03	3.49	2.95
386.80		✓	4.11	5.25	5.24	4.89	4.64
4.39			+1.00	-0.75	-1.21	-1.40	+0.81
391.20	E	81.30	5.11	4.57	4.03	3.49	84.96
5.82		6.61	5.07	✓	✓	2.92	6.32
385.40		✓	-0.16	0.0	0.0	+0.57	5.32
2.45							+1.00
387.85	W	85.50	86.04	86.58	87.12	87.66	88.20
1.29		5.78	5.24	4.70	4.16	4.73	4.19
386.62		4.78	4.24	3.20	4.31	4.83	4.27
6.13		+1.00	+1.00	+4.40	-0.15	-0.10	-0.08
392.75	E	5.76	5.24	4.70	87.12	4.73	4.19
3.73		5.08	4.57	4.87	5.27	5.33	4.13
389.02		+0.70	+0.67	-0.17	-0.23	-0.60	+0.06
389.04							



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

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

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

## 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 =  $7.27 (54.50 \div 100)^2 = 2.16$  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  $\div 42 = 5.5$  or  $D = 5^\circ 30'$ .



DISTANCES FROM CENTER OF ROADWAY FOR  
CROSS-SECTIONING.

4.09  
5.43  
-1.44. Roadway 16 feet wide. Side Slopes 1 on 1 1/2.  
For Single Track Embankment.

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

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 41.9. For same slopes but other widths of roadbed correct above figures by one-half difference in width of roadbed; thus in example above for 20 ft. roadbed distance will be  $41.9 + (20 - 10) \div 2$  or 2 ft. added to 41.9 = 43.9. For slopes of 1 on 1 see inside of front cover.

Made in Germany.

Handwritten calculations and notes on the left page, including a circled number 'P49.24' and various arithmetic problems.

4.00  
33  
72  
64  
30  
33  
370

3.5  
7.7  
11.7  
5.6  
12.8

130  
3.5  
2.5  
6.5  
10.0

4 144.0  
28  
170  
128  
80

29.6  
14.6  
9.2  
38.9

266  
41  
244  
144  
137.2

37.5  
5.0  
26.7  
20.7  
10.4  
81.1

11.1  
9.7  
7.0  
10.4  
30.2

3.5  
2.7  
1.3

12.1  
4.0  
16.9  
8.4  
25.2

347.  
140  
4 207  
51.75

91  
137  
92.37  
1.46  
93.83  
1.17  
95.00

3 140  
46.47  
46.06  
93.38  
10.67  
140.00  
81.95  
191.75  
243.50  
79.25

4.5  
1.3  
3.2

125.17  
110.27  
14.90

33.09

46.47  
46.06  
93.38  
10.67  
140.00  
81.95  
191.75  
243.50  
79.25

15.74 15.65 15.56 5.40  
17.35 17.44 17.13 17.69

14.81 4.81 15.20 15.22 5.24 5.54  
17.28 17.89 17.85 17.82

25  
17  
8

347.00

6.70  
77.60

1.34

0.67

1.3

5.5  
3.3  
2.2

20.25  
23.75  
26.50  
1.05  
23.25  
24.85  
1.04  
25.91  
1.07  
27.00  
1.08  
28.08  
1.05  
29.14  
1.09  
30.25

1.34

4.5  
4.3  
0.2

27  
33  
60

250  
298