

G-116

DIETZGEN
TRADE MARK

ENGINEERS'
LEVEL BOOK
No. 410

3
100

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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386-39 S. 0089

1132-33-3

Coveroff

L.M.

Cass

Davis

Facts

Fanuel

Grisbair

Horns

Ingraham

Scwell

Kendall

Lanmad

Marsell

Hays

Olney

Pendleton

MICROFILMED

APR 7 1965

Indexed
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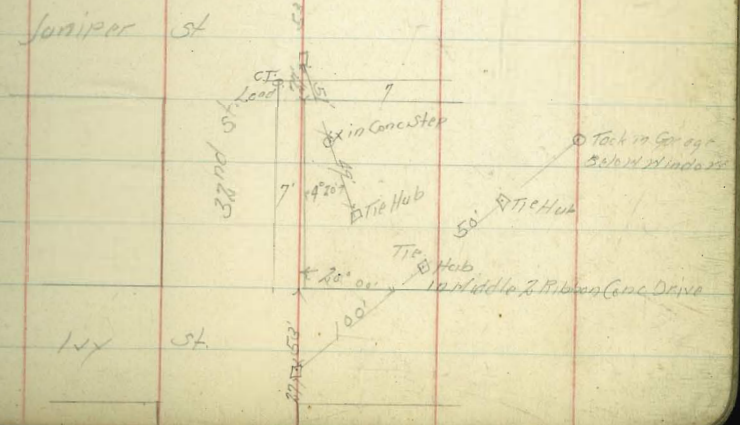
Grades On 32nd St
From S. L. Kalmia to N. L. 1st

	N	E
N. L. Juniper	290.10	290.75
47.5' N	292.30	292.63
95' N Brk	294.25	294.50
127.5' N	295.15	295.28
160' N Brk	296.05	296.05
210' N		297.00
298.75 S. L. Kalmia		298.75

296.08 7.57 297.65 297.84	99.65 290.75	299.65 292.63	299.65 294.50	299.65 295.28	299.65 296.05	299.65 297.00
286.81 3.11 299.92 3.11	8.9 5.5 +3.4	7.0 4.6 +8.4	5.8 3.9 +1.3	4.4 2.7 +0.7	3.4 3.4 +0.8	2.6 2.6 0.0
286.81 10.28 297.59 28.59	299.65 290.35 9.3 6.1 +3.8	99.65 290.30 7.3 5.3 +2.0	299.65 294.25 5.4 4.4 +1.0	299.65 295.15 4.5 4.0 +0.5	299.65 296.05 3.6	

	N	E
S. L. Juniper	289.25	289.25
50' S	287.42	287.92
100' S	285.58	286.09
150' S Brk	283.75	284.25
200' S	282.59	283.25
250' S	281.42	282.25
300' S - N. L. 1st	280.25	281.25

	289.75	289.75	289.75	289.75	289.75	289.75
	11.7 9.2 +2.5	13.6 11.0 +2.6	5.7 4.6 +1.3	6.7 5.8 +0.8	7.2 7.3 +0.4	5.7 5.4 +0.3
	289.25	289.25	289.25	289.25	289.25	289.25
	13.0 8.7 +4.5	14.1 12.6 +1.5	6.8 6.3 +1.5	7.3 6.9 +0.4	8.5 8.0 +0.5	9.2 9.2 0.0



Natmeg Paving

5

Feet

95.37

94.70

94.15

94.75

Maple St

86.50

84.40

84.65

Break 96.02

95.35

94.80

Break

83.18

82.50

82.35

50

Natmeg

Break

94.28

94.30

93.65

94.20

94.20

25

91.00

90.00

88.10

89.35

28 165 ft

Natmeg St

Polk

Al

28.07 27.55

29.20 30.02

500

Break 25.09 24.50

25.30 26.03

19.13 18.50
19.12 18.40
18.40

19.30 20.07
19.25 19.96
19.05

Lincoln

St.

17.50 18.09
18.07 17.50

19.18 19.00
18.65

Arizona

30.07 30.39

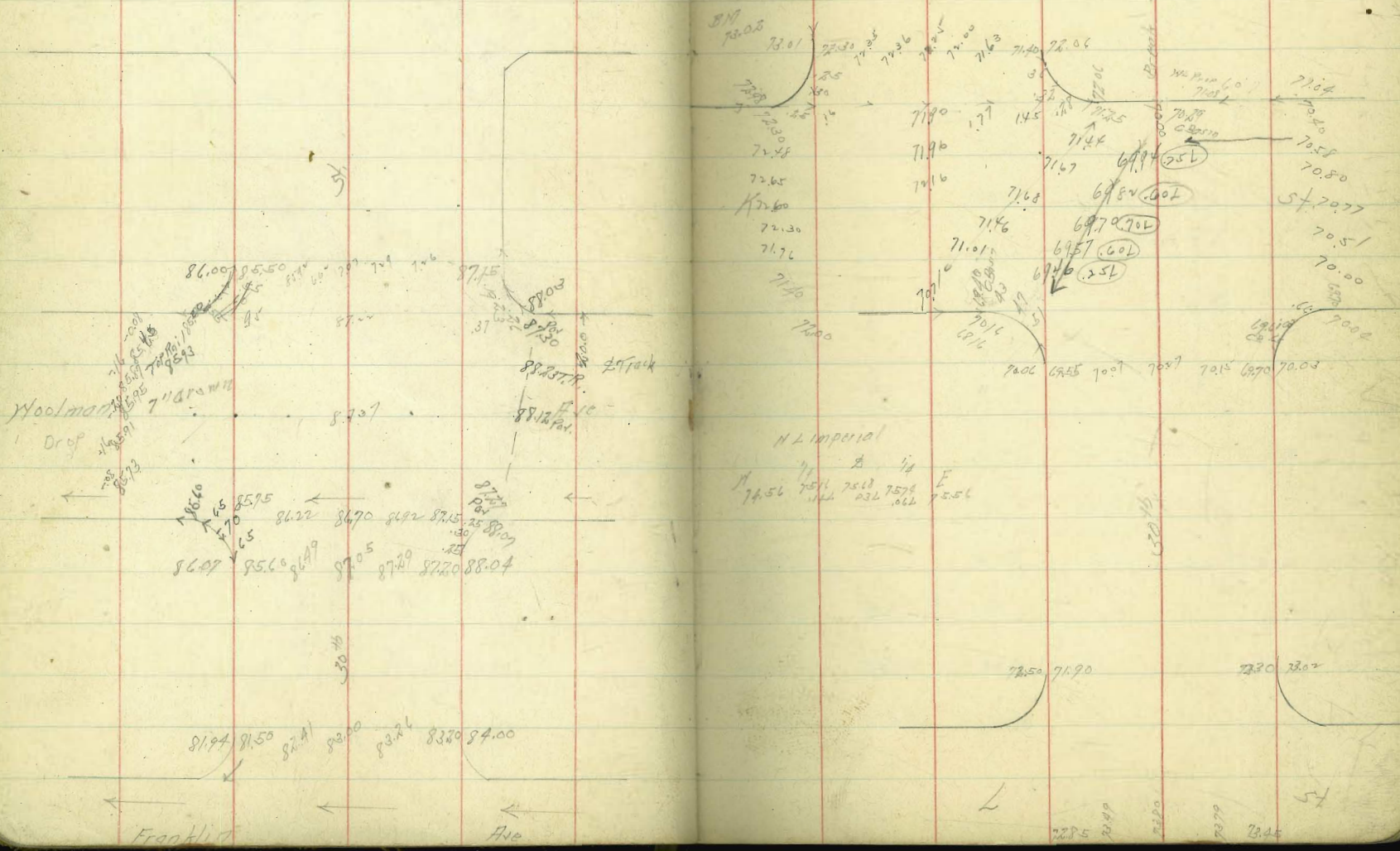
30.22 30.98

University

Paving 30th St

4-30-26

30th St



N. Imperial
 74.56 75.11 75.13 75.74 75.86

72.50 71.90 72.20 72.02

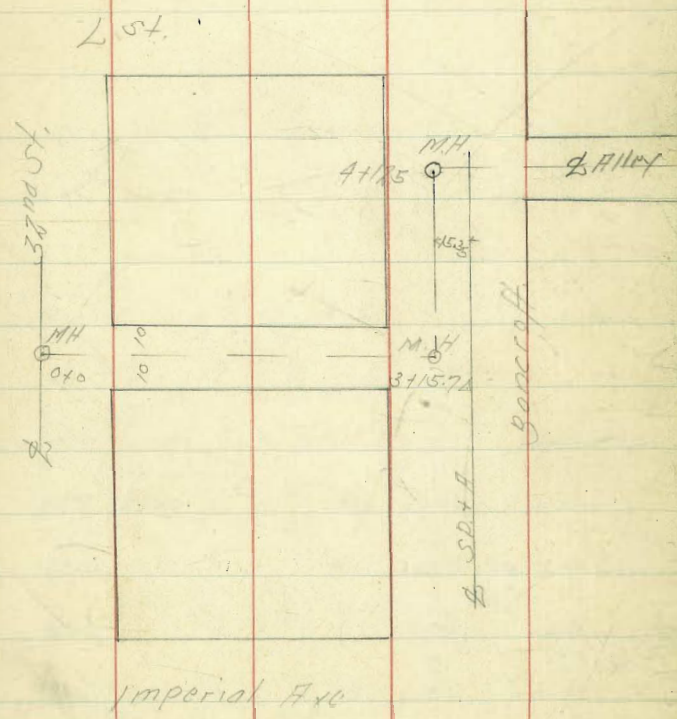
73.25 73.49 73.20 73.79 73.45

Sewer Construction & Alley
Between 1st + Imperial
From 23rd to Bancroft

1-31-26 9

39.571
1432nd

B.M.	1.55	78.60	77.05			
0+0			4.65	73.95	69.00	+4.95
+50			4.05	74.55	68.75	+5.80
1+0			2.79	76.31	68.50	+7.81
+75			1.52	77.08	68.37	+8.71
+50			0.87	77.73	68.35	+9.48
+75			0.63	77.97	68.12	+9.85
TP	2.64	81.66	0.58	78.02		
2+00			3.20	78.46	68.00	+10.46
+75			3.19	78.47	67.87	+10.60
+50			3.73	77.93	67.75	+10.18
+75			3.41	78.25	67.62	+10.63
+95 Break			3.79	77.87	67.50	+10.37
TP	0.88	69.66	12.88	68.78		
3+15.7 Δ M.H. +5.0			7.52	62.14	57.00	+5.14
+50			6.84	62.82	54.74	+8.08
4+00			13.79	55.87	51.44	+4.43
+12.5 Δ M.H. +5.0 = 2. End Alley			14.01	55.65	50.60	+5.05



Construction Storm Drain
West Side 36th St. From Kst to N St.
Cuts Marked on Top Curb

BM	243	76.41	73.98	8 P. SE L 43 ⁶ Grade of Flow Line	9+00	5.89	73.68	61.59 + 12.09		
0+0	= 10' S Face Curb S side Kst.		6.37	70.04	65.50 + 4.54	+50	5.90	73.17	61.37 + 11.80	
+50			6.13	70.28	65.28 + 5.00	10+00	6.31	72.66	61.15 + 11.51	
1+00			5.59	70.82	65.07 + 5.75	+20	6.54	72.43	61.06 + 11.37	
+40			5.28	71.13	64.90 + 6.23					
2+00			4.76	71.65	64.63 + 7.02	B.M.	77.12	4.01	74.96	3 P.N.M. Imperial + 30th 74.97
+50			4.37	72.04	64.41 + 7.63	+55	4.80	72.32	63.88 + 11.44	
3+00	= N.L. Lst		4.00	72.41	64.20 + 8.21	+ MH	4.74	72.31	60.70 + 11.61	
4+00			2.87	73.54	63.76 + 9.78					
+50			2.62	73.79	63.54 + 10.25					
5+00			2.38	74.03	63.33 + 10.70					
TP	4.94	78.97	2.38	74.03						
+50			4.68	74.29	63.11 + 11.18					
6+00			4.42	74.55	62.89 + 11.66					
+50			4.16	74.81	62.67 + 12.14					
+85	= N.L. Imperial		3.91	75.01	62.52 + 12.49					
7+65			4.00	74.97	62.47 + 12.50					
8+00			4.17	74.80	62.32 + 12.48					
+60			4.89	74.02	61.74 + 12.28					

1-39-56
5-5-56
8-55
Hartmann
11

Grades On Satter
East Pringle

SL

Z

E L Pringle	265.25	265.75
50' E	58.58	58.67
100' E	51.90	51.57
140' E Break	46.55 46.30	45.90

Old Grade
150ft = 46.90

265.07 NW Pringle
0.81 Washington
265.88

1.38 12
1.38 12
1.38 12
1.38 12
1.38 12

S	265.25	58.58	51.90	46.55
		6.7	13.4	19.7
		2.0	8.1	12.6
		+4.7	+5.3	+6.1

Z	265.75	58.67	51.57	45.90
		6.6	13.7	19.4
		3.6	7.5	15.2
		+3.0	+5.2	4.2

90° 23

Grades On Whittier

2-23-26
31550
Bliss
Hartman

	NL	SL
EL Whittier	169.25	165.25
55' E	163.28	164.28
110' E Bld	162.31	162.31
150' Bld	161.05	162.05
190' Bld	158.67	159.67
230' Bld	156.17	156.17
265	151.62	152.62
300 - 1st	148.07	149.07

16618 - SW Whittier 325 N Whittier 16993 1261 N 15732 372 16126 1226 15980 827 14859 222 16177 - BM	16993 16925 568 Total 573	16993 16328 66 70 7.1	16993 16231 76 70 7.9 7.6	16993 16105 89 7.9 +1.0	16993 15967 113 10.2 +1.1
S	16993 16428 468 Total 472	16993 16321 66 5.8 -0.8	16993 16205 79 8.3 -1.7	16993 16105 7.9 11.0 -3.1	16106 15967 1.4 5.8 -4.4
N	16106 15517 59 4.1 +1.5	16106 15122 92 76 +1.3	16106 14827 13.0 10.7 +2.3		
S	16106 15617 49 9.0 -4.1	16106 15212 84 10.0 -1.6	16106 14907 12.0 11.8 +0.2		

Grades On Diamond

	NL	SL
EL Boyd	38.25	36.75
50'E	38.90	37.40
100'E	39.55	38.05
150'E	40.20	38.70
200'E	40.85	39.35
250'E	41.50	40.00
300'E	42.15	40.65
350'E	42.80	41.30
400'E	43.45	41.95
450'E	44.10	42.60
500'E - NL Cass	44.75	43.25

	Point 44.70	Z	Point 44.60
EL Cass	44.60	44.75	44.50
50'E	45.27		45.17
100'E	45.95		45.85
150'E	46.62		46.52
200'E	47.30		47.20
250'E	47.97		47.87
300'E	48.65		48.55

42.75 1.67 41.08 1.52 39.56 1.57 38.99 1.44 38.55 53.21	N	42.75 38.25 4.5 3.8 1.7	41.8 38.90 2.9 3.8 +0.6	42.75 39.55 3.2 2.7 +0.5	42.75 40.20 2.6 2.3 +0.3	42.75 40.85 1.9 1.5 +0.4	42.75 41.50 1.3 1.1 +0.2	42.21 42.15 6.1 6.0 +0.1
	S	42.75 36.75 6.0 5.9 +0.3	42.25 37.20 5.0 5.3 0.0	42.75 38.05 4.7 4.6 +0.1	42.25 38.70 3.5 4.1 -0.6	42.75 39.35 3.4 3.8 -0.4	42.75 40.00 2.8 2.8 -0.4	42.21 40.65 1.6 1.6 -0.6
	N	42.21 42.20 5.5 5.5 0.0	41.28 42.25 4.8 4.7 +0.1	42.21 42.10 4.2 4.2 0.0	42.21 42.75 4.5 3.3 +0.8			
	S	42.21 41.30 7.0 7.2 -0.4	41.28 41.25 6.3 6.7 -0.4	42.21 42.60 4.4 6.0 -0.8	42.21 43.25 5.0 5.8 -0.6			

53.21 44.60 8.6 7.8 +0.8	N	53.21 44.60 8.6 7.8 +0.8	53.21 45.27 7.9 7.8 +0.9	53.21 45.95 7.3 6.8 +0.8	53.21 46.62 6.6 6.0 +0.6	53.21 47.30 5.9 5.4 +0.5	53.21 47.97 4.7 4.8 +0.1	53.21 48.65 3.6 3.8 +0.7
53.21 44.50 8.7 8.2 -0.2	S	53.21 44.50 8.7 8.2 -0.2	53.21 45.17 8.0 8.1 -0.1	53.21 45.85 7.3 7.5 -0.2	53.21 46.52 6.7 7.0 -0.3	53.21 47.20 6.0 6.8 -0.4	53.21 47.87 5.0 5.8 -0.8	53.21 48.55 4.7 4.9 -0.2

	N.L.		S.L.								
890'E	105.60		105.50		109.60	109.60	109.60	109.60	109.60	109.60	106.35
940'E	105.80		105.70		105.60	105.80	105.99	106.19	106.35	106.35	106.35
990'E	105.99		105.89		105.50	105.70	105.89	106.09	106.25	106.25	106.25
1040'E	106.19		106.09		106.35	106.50	106.75	106.95	107.25	107.25	107.25
1080'E = W.L. Lament	106.35	106.50	106.75	106.95							
Straight EL Lament	105.35	105.50	105.75	105.95							
50'E	105.10		105.00		110.52	110.52	110.52	110.52	110.52	110.52	110.52
100'E	104.85		104.75		105.35	105.10	104.85	104.65	104.37	103.68	103.68
140'E VC	104.75	104.65	104.80	104.55	104.65						
180'E	104.31	104.40	104.21		105.25	105.00	104.75	104.55	104.21	103.58	103.58
220'E	103.68	103.83	103.58		110.52	110.52	110.52	110.52	110.52	99.80	99.80
260'E EVG	102.85	102.75	102.90	102.65	102.75						
310'E	101.42		101.32		102.75	101.42	100.08	98.75	97.42	96.35	96.35
360'E	100.08		99.98		7.8	9.1	10.4	11.8	13.1	14.5	14.5
410'E	98.75		98.65		10.8	12.1	13.4	14.8	16.1	17.5	17.5
460'E	97.42		97.32		13.3	15.0	16.6	18.2	19.8	21.4	21.4
500'E = W.L. Morrell	96.35	96.50	96.75	96.35	102.65	104.38	99.98	98.65	97.32	96.35	96.35
St.					7.9	9.2	10.5	11.9	13.2	14.6	14.6

Grades on Diamond

	NL		SL								
E.L. Morrell	95.35	95.50	95.25	98.80 5.02 93.78 102.84	N	98.80 95.35	96.80 94.04	98.80 92.73	98.80 91.92	99.80 90.10	99.80 89.68
50'E	94.04		93.94			3.5 2.8 +1.3	4.8 5.8 -0.8	6.6 8.8 -0.7	7.4 7.2 +0.2	8.7 8.2 +0.5	9.1 8.6 +0.5
100'E	92.73		92.63		S	95.25	93.94	92.63	91.38	90.00	89.58
150'E	91.42		91.32			3.6 3.1 +0.5	4.9 5.3 -0.4	6.8 8.8 -0.2	7.5 7.8 -0.3	8.8 8.5 +0.3	9.2 9.0 +0.2
200'E Bick	^{Paving} 90.20	90.25	90.00	^{Paving} 90.10	N	98.60 89.27	98.80 88.85	98.80 88.44	98.80 88.02	98.80 87.60	
250'E	89.68		89.58			9.5 8.9 +0.8	10.0 9.9 +1.1	10.4 9.8 +1.2	10.8 9.8 +1.4	11.2 10.1 +6.7	
300'E	89.27		89.17		S	89.17	88.75	88.34	87.92	87.50	
350'E	88.85		88.75			9.6 10.0 -0.4	10.1 10.5 -0.4	10.5 10.8 -0.3	10.9 11.2 -0.7	11.3 10.6 +0.7	
400'E	88.44		88.34								
450'E	88.02		87.92								
500'E - H.L. Noyes	^{87.70} 87.60	87.75	87.50	^{87.60}							
N+3 on W 287A											
E.L. Noyes	88.60	88.75	88.50		N	102.84 88.60	102.84 91.30	102.84 94.00	102.84 95.37	102.84 95.90	102.84 95.57
60'E	91.30		91.20			12.8 5.6 +8.6	11.3 6.0 +5.5	8.8 2.6 +6.2	7.5 2.1 +5.4	6.9 3.1 +3.9	7.8 2.9 +4.9
120'E V.C.	94.00	94.15	93.90		S	88.50	91.20	93.90	95.27	95.80	95.47
160'E	95.37	95.52	95.27			14.3 7.6 +6.7	11.6 2.1 +2.5	8.9 4.9 +4.2	7.6 5.0 +2.6	7.0 6.1 +1.8	7.4 6.1 +1.0
200'E	96.05 95.90	96.20 96.05	95.95 95.80		N	102.84 92.80	102.84 94.20				
240'E	95.88 95.57	96.03 95.92	95.78 95.47			8.2 7.2 +10.5	10.4 8.8 +0.7				
280'E F.V.C.	94.94 94.40	95.09 94.55	94.84 94.30		S	94.30	94.30				
330'E	93.27 92.40		93.17 92.30			8.5 9.5 +1.0 -1.5	10.5 10.8 -0.3 -1.2				

102.84
88.9
97.95 - BM spt. 3 Cb Diamond
150' E Noyes
97.99

Diamond St. Ties

3-3-26

Morrell

Stock St.

Lament

Street

Gresham Tie

Fordal

Cass

Diamond

Allison Tie

Wain Imp

Tie

Ocean Blvd.

Diamond St

Paving

Jexell

Haines

Gresham

25

20's	104.85	104.33	104.38	104.23	103.88
	104.25	104.80	104.25	104.10	103.75
	104.56	104.01	104.06	103.91	103.56
	104.31	103.76	103.81	103.66	103.31
	104.01	103.46	103.51	103.36	103.01
	103.65	103.10	103.15	103.00	102.65
20'	103.24	102.49	102.74	102.59	102.24
	94.00	92.35	92.30	92.10	92.00

	93.10	93.10	92.80	
	93.25	92.30	93.10	

	91.00	92.45	92.50	92.55	92.00
	97.00	76.25	76.30	76.15	76.00

	76.10	76.00	75.90	
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	76.25	76.30	76.15	
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	77.00	76.25	76.50	76.35	76.00
	70.50	69.85	69.90	69.95	70.00

	69.67	69.60	69.52	
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	69.85	69.70	69.85	
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	70.50	69.95	70.00	69.85	69.5
--	-------	-------	-------	-------	------

89.50 88.75 88.75 88.60 88.00

Pendleton

82.50 82.70 82.75 82.60 82.00

Notes

87.80 87.50

87.50 87.40 87.20

97.05 BM
2.12
10.62

88.50 87.70 87.75 87.50

87.50 86.70 86.70 86.50 86.00

Drain No 1

91.00 90.20 90.45 90.10 89.50 Break

85.60 85.00
11.42 15.02
10.98 11.22
74.00 +3.30

86.50 86.40 86.20
86.50 86.50

Marrell

Olney

97.00 96.45 96.50 96.35 96.00

88.50 87.70 87.75 87.60 87.00

103.40 102.85 102.90 102.75 102.40

95.84 95.04 95.09 94.94 94.32

103.90 103.35 103.40 103.25 102.90

96.40 95.60 95.65 95.50 94.90

104.33 103.78 103.83 103.65 103.33

96.98 95.99 96.03 95.88 95.28

20' Bk 104.68 104.13 104.18 104.00 103.68 20' Bk

96.95 96.15 96.20 96.05 95.45

104.96 104.41 104.46 104.28 103.96

96.93 96.13 96.18 96.03 95.43 20' Bk

105.16 104.61 104.66 104.48 104.16

96.98 95.98 95.97 95.82 95.22

105.30 104.75 104.80 104.65 104.30

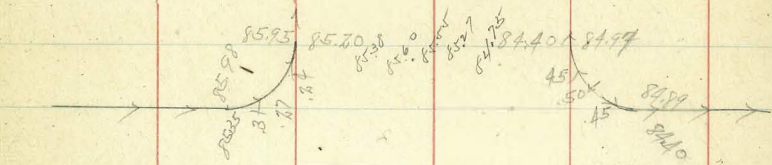
96.31 95.31 95.56 95.41 94.81

106.00 105.00

89.50 88.70 88.75 88.60 88.00

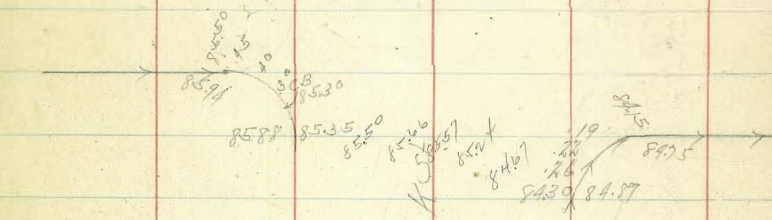
Lomont

Notes



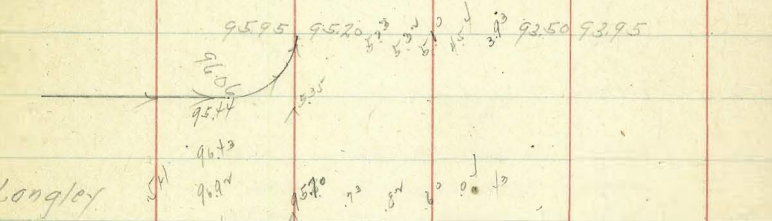
281b

51



Langley

51



Grades On St.
From 32nd to Bancroft.

Station	Grade	Grade	Notes	Grade	Grade	Grade	Grade	Grade	Grade
	HL	52		81.52 NWK+32nd					
E.L. 32nd	81.00	81.50		7.32	88.84	88.84	88.84	88.84	88.84
40	81.90	82.02		88.84	88.84	88.84	88.84	88.84	88.84
80	82.34	82.79		5.01	81.00	81.80	82.34	82.89	82.97
120	82.89	82.57		82.83	7.84	7.04	6.5	5.9	5.4
160	82.97	82.53		2.36	7.93	6.3	5.8	5.1	5.0
200	82.35	81.87		82.12		+2.7	+2.7	+0.8	+1.5
240	80.85	80.59		7.28					
280	78.53	78.69		7.28					
320	75.40	76.17		7.11					
333.2	74.25	75.25		NW. Mo. 52 Bancroft/ 79.10.5	88.84	88.84	88.84	88.84	88.84
					81.50	82.02	82.79	82.57	82.53
					5.3	7.7	7.0	6.3	6.3
					+3.7	+6.4	+6.4	+0.4	+0.5
					86.19	86.19	86.19	86.19	86.19
					80.85	78.53	75.40	74.25	74.25
					5.3	7.7	7.0	6.3	6.3
					+3.7	+6.4	+6.4	+0.4	+0.5
					86.19	86.19	86.19	86.19	86.19
					80.85	78.53	75.40	74.25	74.25
					5.3	7.7	7.0	6.3	6.3
					+3.7	+6.4	+6.4	+0.4	+0.5
					86.19	86.19	86.19	86.19	86.19
					80.85	78.53	75.40	74.25	74.25
					5.3	7.7	7.0	6.3	6.3
					+3.7	+6.4	+6.4	+0.4	+0.5
					86.19	86.19	86.19	86.19	86.19
					80.85	78.53	75.40	74.25	74.25
					5.3	7.7	7.0	6.3	6.3
					+3.7	+6.4	+6.4	+0.4	+0.5

Grades on Van Dyke

From NLEl Cajon to S.L. Meade

3-13-86
D. J. Sisson
Miss
Northham

363.56 511
3.63 El Cajon
67.1 Meade

Station	Van Dyke	Meade	Notes
4.50	NL	E.L.	63.84
NLEl Cajon	364.75	364.10	
50' N	64.42	63.75	67.18 64.75 2.4 2.1 20.3
100' N	64.09	63.40	67.18 64.92 2.8 2.4 20.4
150' N	63.74	63.05	67.18 64.10 3.1 2.8 20.2
200' N	63.43	62.70	67.18 63.75 3.4 3.2 20.8
250' N	63.11	62.35	67.18 63.40 3.8 3.6 21.2
300' N	62.78	62.00	67.18 63.05 4.1 3.9 21.0
350' N	62.45	61.65	67.18 62.70 4.5 4.3 21.4
400' N	62.12	61.30	67.18 62.35 4.8 4.6 21.8
465' N	61.69	60.85	67.18 62.00 5.2 5.0 22.2
500' N	61.44	60.60	67.18 61.75 5.5 5.3 22.6
550' N	61.13	60.25	67.18 61.40 5.8 5.6 23.0
609' N	60.47 359.50cb 6.76	59.85 358.75cb 7.51	67.18 61.15 6.0 5.8 23.4

Curb stakes 4-29-86

Meade

25 25

El Cajon
63.56 on Van Dyke
2.70
66.26

Van Dyke

El Cajon Blvd

Paving 32nd St
Kalmia to Jay

B.M.
297.62

Kalmia

54

95.92 95.80 95.72 95.77 95.62 95.60 95.80 Break

94.06 93.50 93.45 93.40 93.60 94.24 Break

90.17 89.45 89.48 89.40 89.60 89.85 90.55

89.32 89.50 89.90 89.93 89.80 89.56 89.17 89.95

Juniper

89.08 88.40 88.90 88.97 88.90 88.80 89.47

83.50 82.90 82.90 82.90 82.90 82.90 Break

80.00 79.40 79.00 79.00 80.30 81.00

124

Paving Juniper
33rd to Felton

B.M. 255.98

33

346-26
5557
5557
5557

54.53 54.00 54.00 54.00 54.00 54.00 54.00

Felton

69.77 69.70 69.70 69.70 69.70 69.70 69.70

72.0 72.0 72.0 72.0 72.0 72.0 72.0

72.77 72.77 72.77 72.77 72.77 72.77 72.77

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Bancroft

B.M. 278.12 Terminal

B.M. 293.58

441

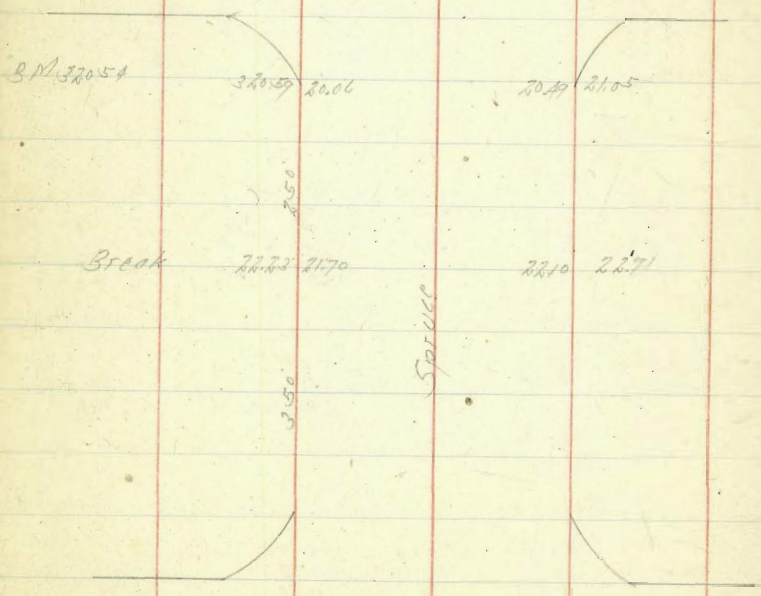
941.6

Juniper

Paving Spruce St
From Dale to Granada

35
4-19-26
5,3507
Dist
Northport

Granada



Dale St

Grades on Kethner Blvd

	EL	HL
0+0 = SL Pierce	65.15	63.25
50's	64.59	62.83
100's	64.02	62.41
150's	63.46	62.00
200's	62.89	61.58
250's	62.32	61.16
300's = HL Winder	61.75	60.75
	61.25	
SL Winder	61.50	60.75
50's	59.62	58.84
100's	57.75	56.93
150's	55.88	55.02
200's	54.01	53.11
217's on HL		52.45
250's	52.13	
300's = M Chalmers	50.25	

65.12 SE Pierce Kethner Blvd		69.54	64.59	64.02	63.46	62.89	62.32	61.75	61.25
E	65.15	4.4	4.9	5.5	5.5	5.9	6.5	6.05	6.05
		0.0	0.0	0.0	7.0	1.20	7.0	7.00	7.00
65.12 HL		69.54	62.83	62.41	62.00	61.58	61.16	60.75	60.25
		6.3	6.7	6.4	6.8	7.0	7.1	7.0	7.0
		6.4	6.0	5.2	5.6	6.0	6.2	6.95	6.95
		0.1	+0.7	+0.5	+1.2	+1.2	+1.2	+1.1	+1.1
BM 3X BR - 0.1 Pierce + Kethner									
50.91 Chalmers + Indio		61.50	59.62	57.75	55.88	54.01	52.13	50.25	50.25
		2.2	6.1	3.5	5.3	7.4	7.1	11.0	11.0
		2.2	2.5	0.2	1.2	4.7	5.2	8.0	8.0
		7.15	7.6	7.3	7.5	7.1	7.3	7.0	7.0
M		60.75	58.84	56.93	55.02	53.11	52.45	50.25	50.25
		5.0	6.9	4.3	6.8	8.1	9.8	9.8	9.8
		5.6	6.7	4.5	6.7	6.2	7.1	7.1	7.1
		-0.6	+0.2	-0.2	+1.1	+1.4	+1.4	+1.4	+1.4

300' E 48.19

330' E ¹ M.H.
P35 L 47.50

50' E 46.37

100' E 45.23

150' E 44.10

200' E 42.96

250' E 41.83

300' E 40.69

330' E ⁰ M.H. Existing
= 2.35 M.S. 40.001172 M1
573
5277
4250
57.

M.H.

51.71	61.77	61.77	57.00	57.00	57.00	57.00
48.19	47.50	46.37	45.23	44.10	42.96	41.83
13.53	14.38	15.35	17.77	18.90	19.64	15.17
530	637	745	867	1006	1207	1594
48.3	9.88	17.50	19.48	17.64	17.97	19.23

EXISTING M.H.

57.00	57.00	57.00
40.69	40.00	39.00 Floor line
16.31	12.00	18.00
8.5	12.40	17.68
47.6	11.60	

Sewer Construction Titus St
 From 10' W L Heart St 240' W

0' 0"	10' W L Heart Existing Sewer	172.15
50' W		172.53
100' W		172.92
150' W		173.30
200' W		173.69
240' W	SE	174.00

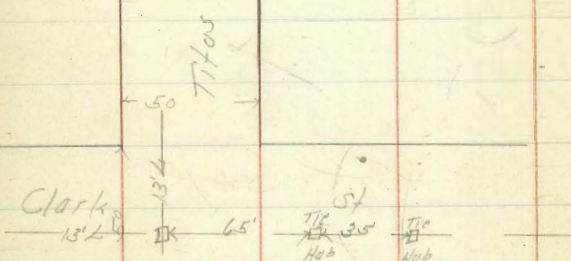
ST Top of
 Heart + Titus
 175.91
 9.57
 185.48

185.48	185.48	185.48	185.48	185.48	185.48
172.15	172.53	172.92	173.30	173.69	174.00
13.33	12.95	12.56	12.18	11.79	11.48
13.63	12.95	12.20	11.45	10.70	10.00
+3.70	+6.99	+8.36	+8.89	+9.42	+9.96

175.91
 0.80
 176.57
 177.84
 167.69
 0.94
 167.61
 16.70
 151.91
 8.83
 160.71

W. Clark Titus
 Nail Pole
 Heart

160.71	160.71	160.71	160.71
151.85	151.85	151.85	150.65
8.86	8.86	8.86	10.06
6.26	8.60	4.25	12.48
+2.00	+0.9	+5.2	-2.0



39
 4.14.26
 315507
 3155
 12/16/11

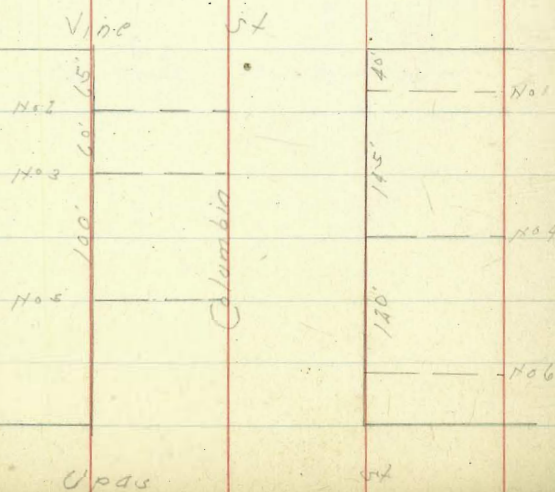
Seven Laterals
Columbia-vine + upas

BM.	1246	93.62		8116
TP	1293	106.53	0.02	93.60
TP	1080	117.08	0.25	106.28

4 20.26
5 55.00
6 31.00
7 10.00
SW.
Vine + India

Lateral	No 2	No 3	No 5
	117.08	117.08	117.08
	109.00	139.00	110.00
	8.08	8.08	7.08
	4.62	3.23	3.22
	+4.26	+4.15	+3.86

Lateral	No 1	No 4	No 6
	117.08	117.08	117.08
	109.00	110.50	112.00
	8.08	6.00	6.08
	4.62	1.28	0.28
	+5.70	+4.60	+5.30



Grades on Upas St.
From H.L. Alabama to 200' N

4-21-26
5.5500
9.1500
10.1500

	S		N	
H.L. Alabama	260.00	260.25	259.95	259.70
50' N		259.58	259.05	
100' N		248.91	248.15	
150' N	Great 2430.	243.25	242.25	242.00
200' N		232.70	232.15	

382' N - F.L. Florida 194.25 195.25

259.50	Clear Alabama				
1.47					
260.97					
12.04					
250.76	S	260.25	254.58	248.91	243.25
2.88			76	133	98
253.04			86	115	122
12.26			-7.0	-7.8	56
240.58				76.1	166
238					
244.90	N	259.95	254.05	248.15	242.25
		8.8	8.1	4.9	10.8
		2.9	10.4	5.7	12.7
		-0.7	-2.3	-0.8	10.2
				-1.2	+2.5
57.50	S	260.00	243.00		128.26
1.58		2.02	8.00		
670.8			7.00		
13.00			+1.0		
49.02					
41.98					
51.00	N	259.70	242.00		
		233	9.00		

Grades on Vine
Indiana to State

	11.2	3.2
Elliodia	82.25	83.25
50'E	89.50	90.37
100'E	96.75	97.50
150'E	104.00	104.12
200'E = W.L. Columbia	112.25	111.75
W.L. Columbia	112.25	112.75
50'E	119.62	120.25
100'E	127.00	127.75
150'E	134.37	135.25
200'E = W.L. State	142.75	142.75

7.25%

7.375%

7.25%

7.50%

81.16	51.1	93.44	93.44	93.44	105.15	105.15
12.28	11.74	82.00	82.00	82.00	104.90	111.75
93.44	11.43	11.43	3.9	-3.3	1.6	-5.60
96.95			5.0	3.2	13.1	10.1
12.70			-5.1	-1.5	-11.5	-15.7
105.15	118.00	35.75	118.00	51.57	-22.2	-28.1
8.02	3.85	81.1	81.1	22.5	33.3	48.9
105.61						
11.36						
118.00		93.44	105.65	105.65	118.00	118.00
12.58		83.60	90.37	97.50	104.67	111.75
117.47		10.44	15.3	8.1	13.2	6.3
12.53		13.38	10.7	2.0	11.0	6.1
12.55			74.6	73.3	2.4	-0.2
12.83						
12.64						
12.45						
12.29						
12.14						
12.05						
11.90						
11.76						
11.61						
11.47						
11.32						
11.18						
11.03						
10.89						
10.74						
10.60						
10.45						
10.31						
10.16						
10.02						
9.87						
9.73						
9.58						
9.44						
9.29						
9.15						
9.00						
8.86						
8.71						
8.57						
8.42						
8.28						
8.13						
8.00						
7.85						
7.71						
7.56						
7.42						
7.27						
7.13						
7.00						
6.85						
6.71						
6.56						
6.42						
6.27						
6.13						
6.00						
5.85						
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5.42						
5.27						
5.13						
5.00						
4.85						
4.71						
4.56						
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4.13						
4.00						
3.85						
3.71						
3.56						
3.42						
3.27						
3.13						
3.00						
2.85						
2.71						
2.56						
2.42						
2.27						
2.13						
2.00						
1.85						
1.71						
1.56						
1.42						
1.27						
1.13						
1.00						
0.85						
0.71						
0.56						
0.42						
0.27						
0.13						
0.00						

42
4.25.1
5.10.2
6.15.3
7.20.4
8.25.5
9.30.6
10.35.7
11.40.8
12.45.9

118.00
117.50
5.5
topch 5.15

144.07
142.50
1.57
1.80

Server Construction Markets
 Bancroft to 34th St.

N.Y. Mkt
 33.21 1+33rd

Angle	Description	Value	Change	Notes	Value	Change	
D.E.	10' E.L.L. Bancroft	50.50	+10.67	39.69 12.33 52.02 2.53 51.49	070 - M.H. 2.33rd	33.15	8.04 +2.54
15'E		49.13	+9.66	13.73 64.62 0.32 64.30	50'S	32.65	8.54 +2.88 +5.66
90'E		49.75	+9.77	75.56 18.24 57.31	100'S	32.15	9.94 +2.88 +7.06
135'E		46.38	+8.77	72.61 11.26 84.67 8.31	150'S	31.65	9.54 +2.88 +6.66
180'E	Non Hole	45.00	+7.82	81.36 5202H 7043rd	165'S - M.H. Construct Existing Server	31.50	9.69 +2.74 +6.95
51.7'E		43.03	+7.22				
103.3'E		41.05	+2.85				
155.0'E		39.08	+2.13				
206.7'E		37.10	+5.46				
258.3'E		35.12	+5.08				
310'E	M.H. 2.33rd	33.15					
50'E		33.64	+6.76	14.89 8.23 16.76			
100'E		34.13	+6.93	14.50 16.53			
150'E		34.63	+7.09	14.09 16.54			
200'E		35.12	+7.17	13.56 16.56			
250'E		35.62	+7.44	13.01 16.57			
300'E		36.11	+7.70	12.52 16.58			
350'E		36.61	+7.80	12.02 16.58			
390'E = D.F.		37.00	+8.04	11.63 3.57			

33.21
7.28
41.59
39.69
8.94
98.13

0.005%

0.005%

0.005%

Paving Alley Block 140 University Hgts
From Tyler to Cleveland

	E	N
0+0	- S.L. Tyler Paving 326.66	Paving 324.61
20's	Break 328.83	328.53
40's	Break 329.86	329.56
60's	Break 330.00	329.70
710's	329.26	328.97
160's	328.51	328.23
210's	327.77	327.50
260's	327.02	326.76
310's	326.26	326.02
360's	325.51	325.29
410's	324.76	324.55
428's	100' Break 324.50	420' - 200' 324.40
481.5's	320.00	319.25
535's	Break 315.50	315.50
585's	313.28	313.20
635's	311.05	310.90
785's	308.82	308.60
710's	Break 307.70	307.45 Paving
745's	306.87	
780's	Paving 306.05	

B.M. 312.02 S.L. Tyler to Cleveland

12.56	35.13	33.57	33.36	31.47
327.58	28.23	29.06	30.08	29.26
6.67	6.30	5.27	3.78	4.61
323.90	1.78	0.58	1.61	2.85
11.23	14.38	1.22	0.58	1.52
335.13	+7.00	+7.00	+3.37	+3.00
47.2				
330.36	28.53	29.56	29.70	28.97
3.51	6.69	5.57	5.43	4.95
333.98	5.34	5.74	6.18	6.13
48.0	+7.06	-0.17	-0.75	-1.18
329.12				
1.84				
327.28	30.42	30.53	29.72	29.50
323.36	26.21	25.51	24.76	24.50
5.82	4.21	5.02	5.77	2.26
327.49	1.41	2.33	3.22	2.62
3.91	+2.80	+2.69	+2.90	+1.58
331.47				
5.30				
326.17	26.02	25.29	24.55	24.40
4.36	4.25	5.24	5.98	4.32
330.47	5.33	5.84	2.98	4.10
47.5	-0.88	-0.60	+1.00	-0.08
325.72				
4.81				
330.53	14.70	14.70	14.70	14.45
5.24	11.05	10.86	7.70	6.87
325.27	7.56	5.78	7.00	4.58
3.43	6.56	6.63	5.92	3.15
328.72	17.00	+12.5	+7.08	+0.23
12.37				
316.35	14.70	10.90	7.60	7.45
2.26	3.80	5.10		
318.61	3.23	5.12		
7.00	+0.37	+0.98		
311.61				
3.09				
314.70				
7.99				
306.81				
4.14				
311.45				
1.00				
310.45				
6.65				
317.10				
5.11				
311.99				

S.M. Tyler to Cleveland

46
511.26
515.25
519.25
523.25

Garage
0.2

Paling Kalkoen Blvd.

38.65 38.00
38.00
80

39.00 39.65
39.00 39.20
Top of rd
41.52
100.0

Maple

33.02 33.40
33.00 33.20
30

37.30 38.03
37.00 37.60
30

Greenwood Exp

33.02 33.40
33.00 33.20
30

33.70 34.15
33.00 33.60
30

Laurel

31.00 31.30
31.00 31.20
30

32.80 32.95
32.00 32.60
30

44881111
BN 32.97

29.74 29.20
29.00 29.10
30

30.70 31.23
30.00 30.60
30

29.60
Columbia
29.67

Kalmia

29.74 29.20
29.00 29.10
30

31.80 31.90
31.00 31.60
30

57.01 57.30

57.00 57.20
57.00 57.10
30

57.40 58.05
57.00 57.60
30

48

Palm

56.30 56.50
56.00 56.40
30

57.20 57.91
57.00 57.50
30

57.70 58.20
57.00 57.60
30

57.30 57.90
57.00 57.50
30

Olive

57.00 57.20
57.00 57.10
30

57.20 57.53
57.00 57.40
30

46.27 45.60
46.00 45.80
30

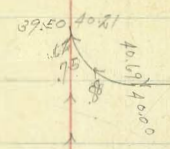
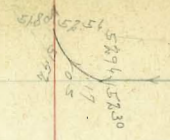
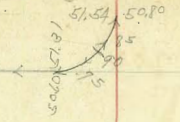
46.80 47.20
46.00 46.60
30

Nutmeg

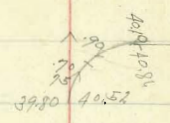
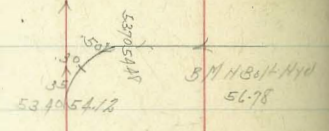
44.11 43.80
44.00 43.90
30

45.20 45.53
45.00 45.40
30

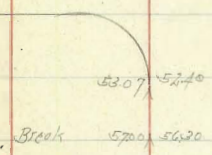
Paving Kettner Blvd



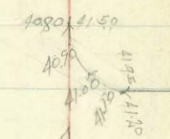
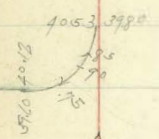
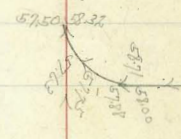
Spice



Opaz

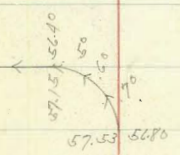


Break

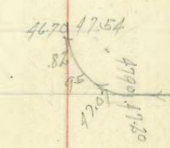
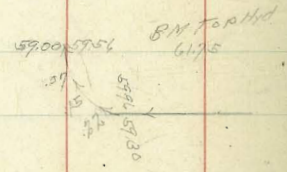
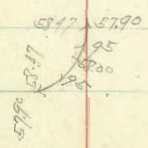


BN NE Tip H/H

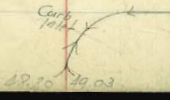
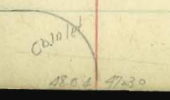
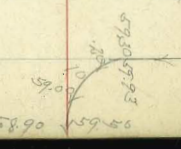
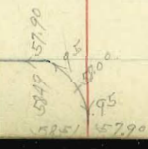
Fred's Road



Thorn



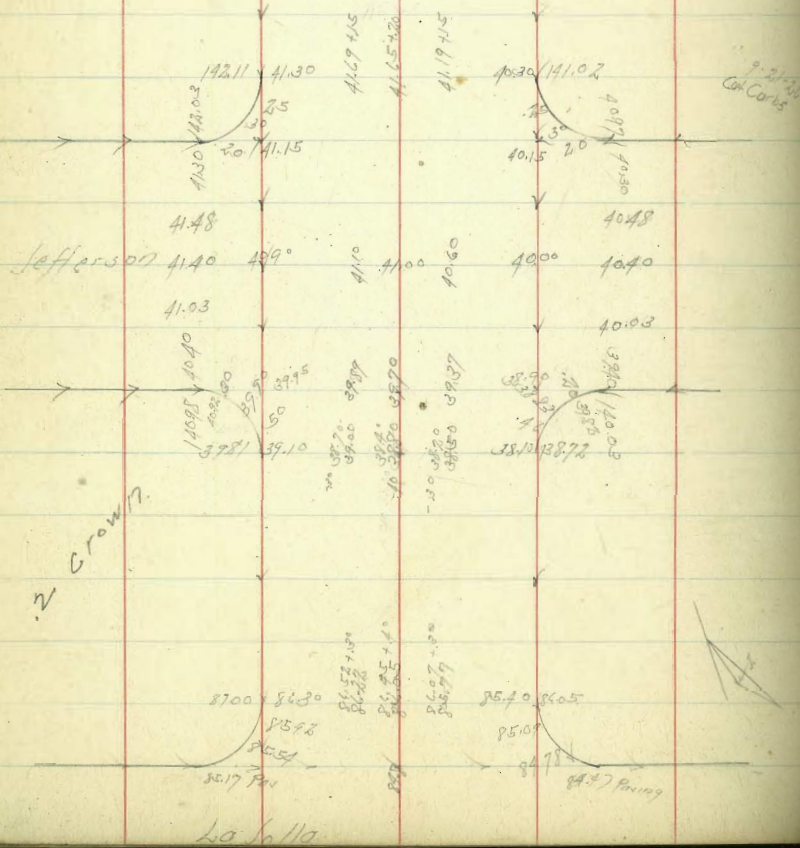
Quince



Sassafras

Grades on Bandini
From LaSalle to Jefferson

	11	
F. L. Bandini	87.25	86.25
50' E	99.72	98.72
100' E	112.70	111.20
150' E	124.67	123.67
200' E	137.15	136.15
212.5 = 1/4 L. Jefferson	140.25	139.25



BNNE
Bandini Station

81.15							
82.37	99.87	111.0	123.2	135.68			145.26
83.97	87.25	99.72	112.20	124.67	137.15		140.25
85.00	12.5	11.3	11.0	11.0	135.68	5.0	5.0
85.00	12.5	11.3	11.0	11.0	-1.5	7.5	7.5
85.00	11.3	4.7	8.8	11.6	0.9	7.6	7.6
116.83	11.3	+6.6	+2.4	-0.6	-2.4		
118.57							
120.00							
123.11							
125.00							
127.22							
135.55							
137.19	S 86.75	99.72	111.20	123.2	135.68		139.25
140.25	12.1	-0.3	-0.2	-0.5	136.15	6.0	6.0
145.76	12.5	8.0	10.2	7.6	9.2	11.5	11.5
147.51	10.6	8.0	-10.2	-8.1	-2.1		
147.75	8.1	-8.3					

311 SW North Pole
111.43

9-21-41
Coh. Coris

Paving Alley Block 3/4 City Heights
Between 45th + Clarno and
From University to Polk
N

54
526.26
55.507
911.55
Northburn

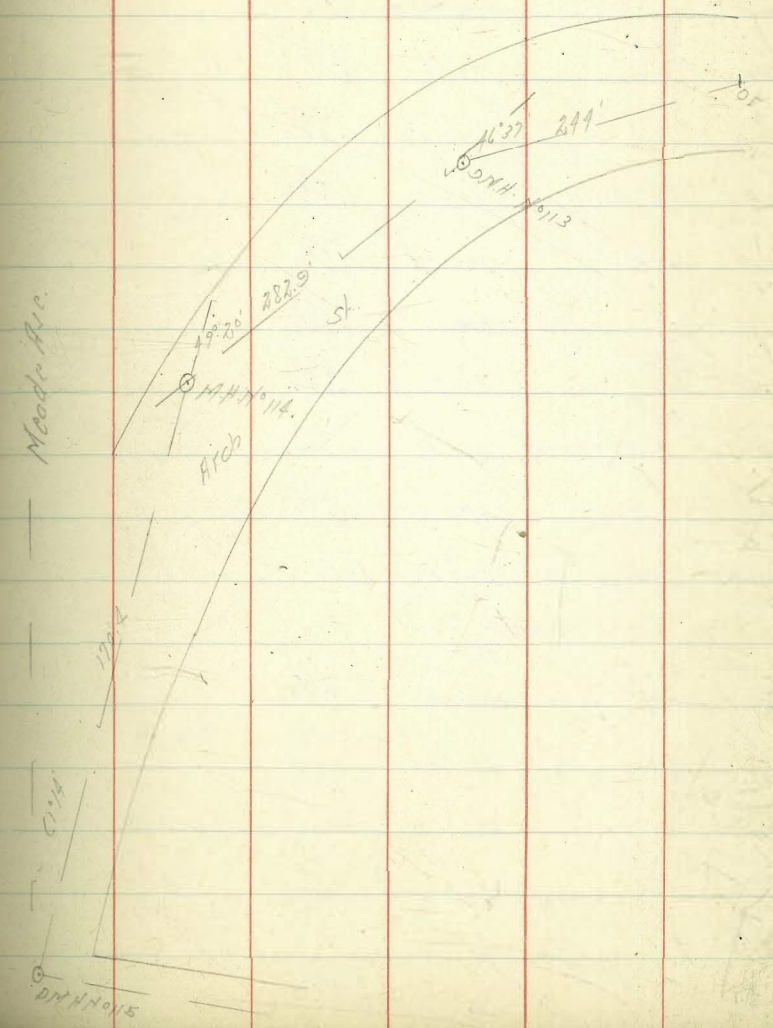
Station	Reading	Correction	Adjusted Reading	Station	Reading	Correction	Adjusted Reading
N.L. Unit.	351.57	Pass	351.57	351.72	Pass		351.72
40' N	354.60	Brk.	354.60	355.00			355.00
90' N	355.30		355.30	355.70			355.70
140' N	356.00	Brk.	356.00	356.40			356.40
180' N	356.20		356.20	356.60			356.60
220' N	356.40		356.40	356.80			356.80
260' N	356.60	Brk.	356.60	357.00			357.00
300' N	356.38		356.38	356.70			356.70
350' N	356.11		356.11	356.33			356.33
400' N	355.83		355.83	355.95			355.95
430' N	355.67		355.67	355.73			355.73
460' N	355.50	Brk.	355.50	355.50			355.50
515' N	354.45		354.45	354.05			354.05
570' N	353.40	Brk.	353.40	353.00			353.00
600' N	352.17	Top Polk	352.17	351.87			351.87

351.72 Paving N.L.

351.72	61.41	61.46	61.26	61.46	61.41	61.39	61.39
351.72	54.60	55.30	56.00	56.20	56.40	56.60	56.30
351.72	6.90	6.10	5.60	5.40	5.00	4.70	5.00
351.72	70.76	+1.60	+0.10	-0.35	-0.70	-0.56	-0.22
351.72	61.46	61.46	61.46	61.46	61.39	61.39	61.39
351.72	55.00	55.20	56.40	56.60	56.60	57.00	56.20
351.72	6.21	5.76	5.86	5.86	5.00	4.30	4.10
351.72	6.34	5.28	4.20	6.26	4.60	4.20	4.20
351.72	+0.15	+0.28	+0.24	+1.00	0.93	-0.48	0.25
	61.39	61.39	61.39	61.39	61.39	58.30	58.30
	56.11	55.73	55.67	55.50	54.45	53.10	55.70
	5.28	5.36	5.70	5.80	6.00	3.90	6.10
	5.25	5.36	5.60	5.51	5.25	3.20	5.20
	+0.03	+0.20	+0.10	+0.08	+1.00	+0.20	✓
	61.20	61.80	61.20	61.20	58.30	58.30	58.30
	51.33	55.25	55.20	55.50	54.25	53.00	51.80
	4.87	5.25	5.47	5.70	4.05	5.00	6.20
	4.32	5.02	5.25	5.20	4.05	5.00	5.00
	+0.55	+0.23	+0.20	-0.20	0.00	-0.02	✓

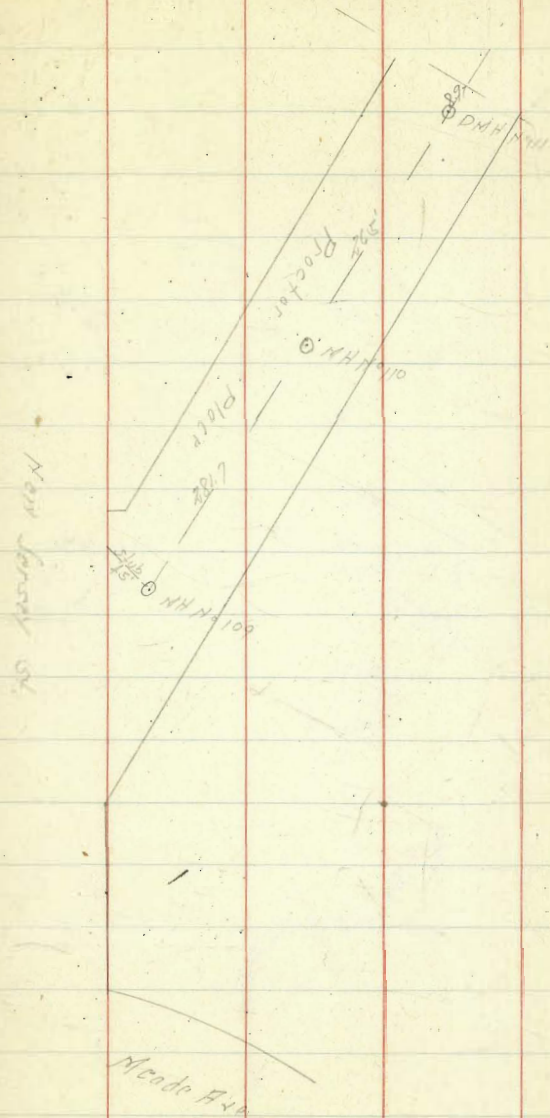
DMH No.	Angle	Value	Correction	Total
DMH No. 115		298.50		298.50
50'		298.79	+0.29	299.08
100'	50° 1/2	299.08	+0.29	299.37
150'		299.38	+0.29	299.67
170.4'	DMH No. 114 AR 49° 30'	299.50	+0.51	300.01
50'		300.56	+0.29	300.85
100'		301.62	+0.29	301.91
150'		302.68	+0.29	302.97
200'		303.74	+0.29	304.03
250'		304.80	+0.29	305.09
282.9'	DMH No. 113 AR 46° 27'	305.50	+0.59	306.09
50'		312.87	+0.29	313.16
100'		315.74	+0.29	316.03
150'	57° 1/2	318.61	+0.29	318.90
200'		321.48	+0.29	321.77
244'	DE	324.00	+0.29	324.29

DMH
Seaman
Arch
30798
283
30801
0.29
30801
31100
31100
1.52
31247
11.79
33026



Sewer Construction Pooler Place

			HT	sewer at floor	90250
89.5	288.66				317.20
D.M.H. No 111	291.22	288.25	92.77	88.25	317.20
			12.17	14.94	316.30
			3.43	6.50	315.87
			17.17	19.24	303.69
50'N	291.52				306.70
					6.00
100'N	291.82				13.12
					14.94
					17.17
150'N	292.12				11.57
					14.94
					17.17
200'N	292.42				11.57
					14.94
					17.17
250'N	292.72				14.94
					17.17
265'N M.H. No 110	292.81				13.60
					17.17
50'N	293.11				13.60
					17.17
100'N	293.41				13.60
					17.17
150'N	293.71				13.60
					17.17
200'N	294.01				13.60
					17.17
250'N	294.31				13.60
					17.17
281.7 M.H. No 109	294.50				13.60
					17.17
45.5E	294.77				13.60
					17.17



Grades on Hancock
Chalmers to Hinder

	E	N
S L Hinder		4575
267.5 - S L Hinder	42.50	
50.5	48.83	46.51
100.5	49.57	47.57
150.5	50.32	48.18
200.5	51.07	48.99
272.6 - Brk - PC	52.00	50.00
300.5		49.34
333.5		48.75

59.54
58.51
57.54

F	59.54	58.51	57.54	56.51	55.54	54.51
	48.50	48.83	49.57	50.32	51.07	52.00
	1.0	.7	1.0	.7	1.0	.7
	7.4	8.7	5.1	8.2	1.2	6.5
	7.6	11.0	13.7	16.1	16.3	8.4

N	59.54	58.51	57.54	56.51	55.54	54.51
	45.75	46.51	47.57	48.18	48.99	50.00
	1.8	1.0	1.2	1.0	1.2	1.0
	1.2	1.3	1.2	1.1	1.1	1.1
	-1.4	-1.2	-1.2	-0.9	-1.9	

N	59.54	58.51
	49.34	48.75
	9.4	9.8
	11.2	10.7
	-2.0	-1.1

Grades Al Hinder And California

141.5 - N. N. L. Hinder	47.30
L. Coast	46.20
PC	45.60

52.57	45.60	46.20	47.30
4.87	9.72	8.60	7.57
50.70	2.88	6.60	4.3
	7.84	12.60	13.2

27.21
51.02
51.02
102.04

Grades on Ampodio
W Congress to 200 ft H.L. Moore

	S	N
0.0 - W Congress		42.25
217 ft - W La Jolla	43.25	
50 ft	42.45	40.92
100 ft	41.01	39.58
150 ft	39.57	38.25
200 ft	38.13	36.92
250 ft	36.69	35.58
300 ft - F.L. Jefferson	35.25	34.25
0.0 - H.L. "	34.75	32.75
50 ft	33.83	32.00
100 ft	32.91	32.25
150 ft	32.00	31.50
200 ft	31.08	30.75
250 ft	30.16	30.00
300 ft - F.L. Moore	29.25	29.25
0.0 - H.L. "	28.25	28.25
50 ft	27.88	27.88
100 ft	27.50	27.50
150 ft	27.12	27.12
200 ft	26.75	26.75

NW 1/4 Congress + Ampodio

BM	SW	Moore	Ampodio	La Jolla	Jefferson	Moore	La Jolla	Jefferson
48.23	48.23	48.23	48.23	48.23	48.23	48.23	48.23	48.23
43.25	42.45	41.01	39.57	38.13	36.69	35.25	34.25	32.75
38.13	36.69	35.25	34.25	32.75	31.08	30.16	30.00	29.25
32.75	31.08	30.16	30.00	29.25	28.25	27.88	27.50	27.12
26.75	26.75	26.75	26.75	26.75	26.75	26.75	26.75	26.75

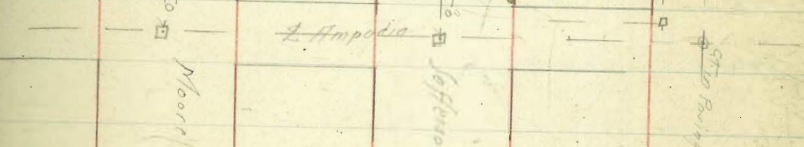
How to use: S.W. Cor. Ampodio + Moore

18.23
19.53
96.3
22.3
+ 2.0

50 End Cement

38.01	38.01	38.01	38.01	38.01	38.01	38.01	38.01
34.75	33.83	32.91	32.00	31.08	30.16	30.00	29.25
3.8	2.9	2.0	1.0	0.0	0.0	0.0	0.0
10.7	7.6	5.1	3.7	2.2	1.5	1.0	0.6

33.75	33.00	32.25	31.50	30.75	30.00	29.25
4.25	3.75	3.00	2.25	1.50	0.75	0.00
7.5	7.0	6.0	5.0	4.0	3.0	2.0
11.0	10.0	8.5	7.0	5.5	4.0	2.5

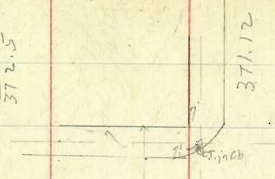


28.25	27.88	27.50	27.12	26.75
27.25	27.25	27.25	27.25	27.25
9.76	5.5	5.9	4.3	6.6
9.42	5.3	5.9	4.3	6.6
10.9	7.0	7.5	5.9	8.2

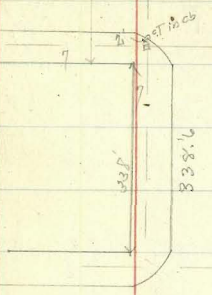
27.88	27.50	27.12	26.75
27.88	27.88	27.88	27.88
9.76	5.5	5.9	4.3
9.42	5.3	5.9	4.3
10.9	7.0	7.5	5.9

Woolman Ave. Ties

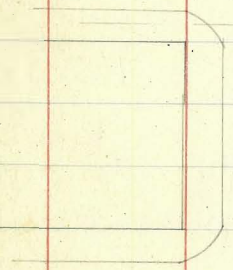
160.
160.
338.5
271.
372.5



Bancroft



338.6

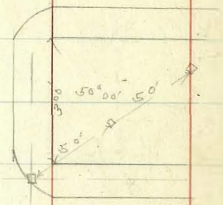


371.12

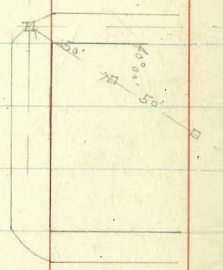


371.12

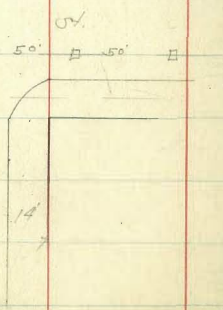
Woolman



St.



St.



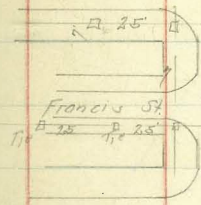
St.

St.

53
22

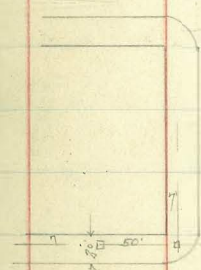


371.12



Francis St.

371.12



371.12

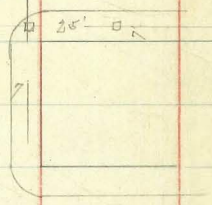


Bancroft

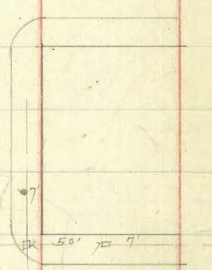
Woolman



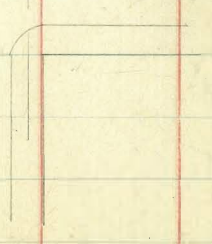
371.12



371.12

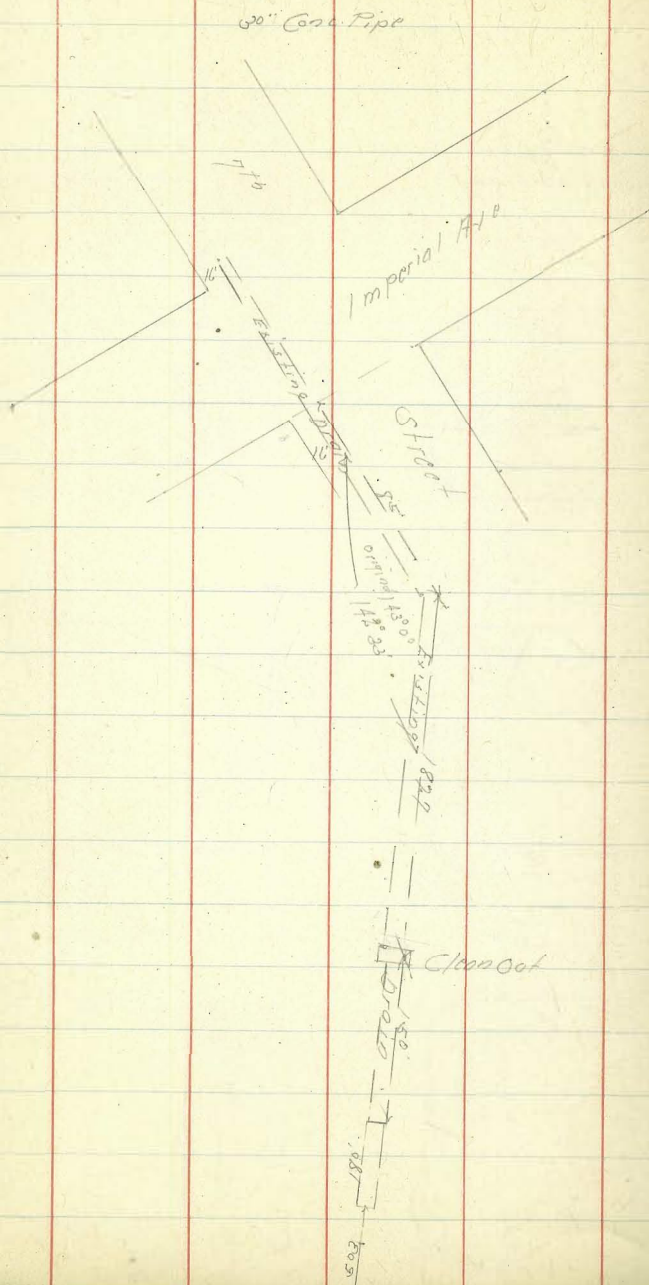


371.12



St.

Tide Land Drainage "L" Line



Tide Land Drainage "D" Line
48" Conc. Pipe

Station	Elevation	Offset	Notes
070	-5.40	13.86 +7.27	Sanction A 15' Line
150	-5.46	13.07 +7.03	
140	-5.53	13.16 +7.55	
150	-5.59	13.20 +8.18	
210	-5.66	13.37 +8.51	
150	-5.72	13.33 +8.25	
310	-5.79	13.40 +9.00	
150	-5.85	13.46 +9.39	
410	-5.92	13.53 +9.55	
150	-5.98	13.59 +9.50	
510	-6.05	5.64 2.05 11.55 +7.84	
150	-6.11	14.85 +6.94	
610	-6.18	11.82 4.04 +7.74	
150	-6.24	14.82 +7.70	
710	-6.31	11.95 4.94 +7.61	
116	-6.33	11.97 9.64 +7.33	Gate Head

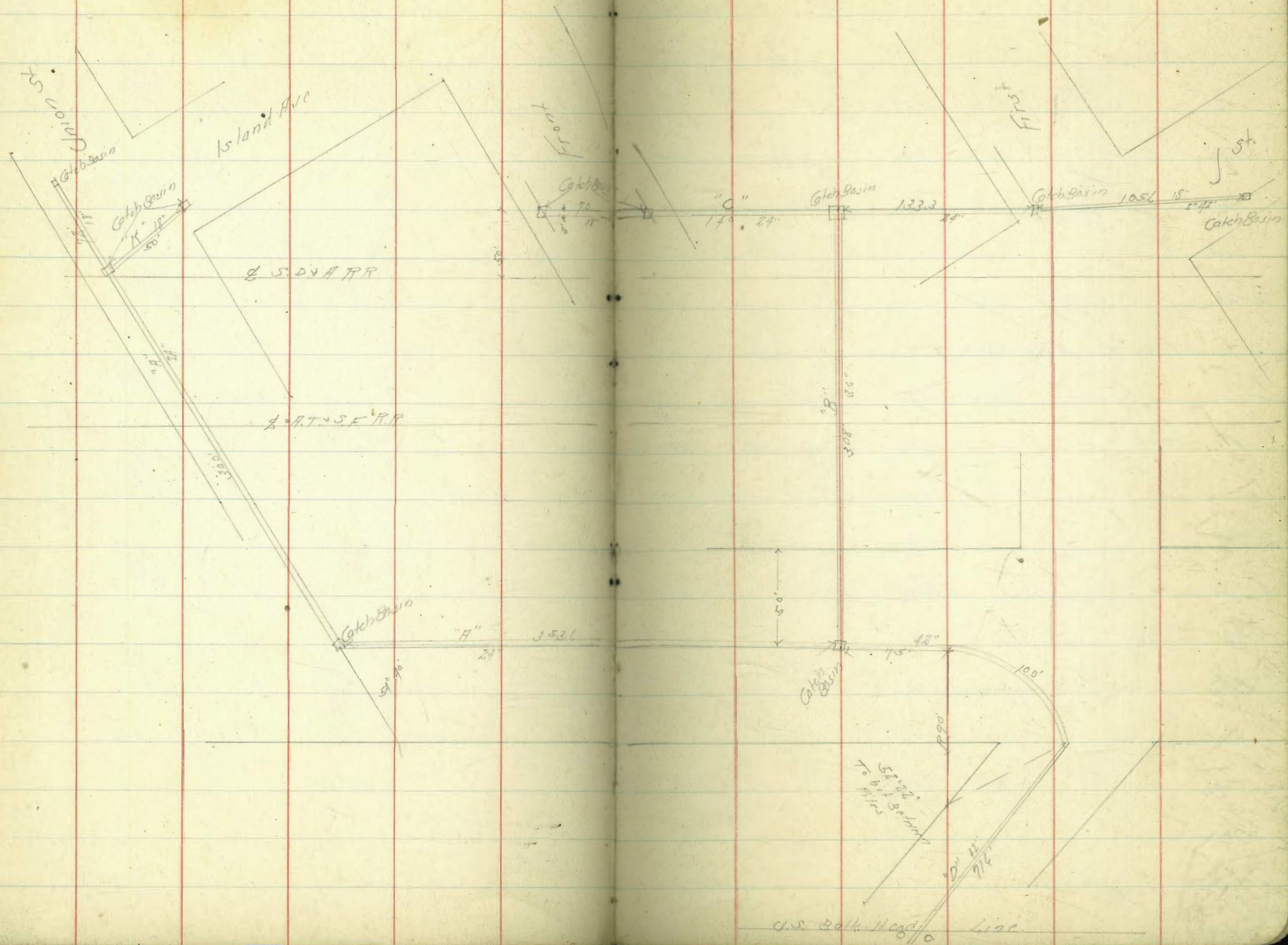
9-10-58
Dredge
63
S. H. H. H.

7.11 H.L.
1.50
4.18
6.14
7.00
Bik H.L.
T. W. H. H.
2 Drain

2.450 %

Tide Lands Drainage

7-1-24
5.50
Bliss
North
64



Tide Lands Drainage "B" Line

6-30-26

"C" Line

65

0+0 = Catch Basin N of Dixon Island	-1.00	286 556 4588	10.93 2.29 13.22	SM. Mud Cans
0+72 = Catch Basin	-3.78	386 462 4802	13.84 4.88 7.82	
1+22	-3.88	386 462 4627	2.88 11.95 16.83	
1+72 Catch Basin K	-3.97	386 462 4548	2.88 11.95 16.83	
2+22	-4.07	386 462 4204	2.88 11.95 14.87	
2+72	-4.17	386 462 4204	2.88 11.95 14.87	
3+22	-4.26	386 462 4204	2.88 11.95 14.87	
3+72 = Catch Basin A 5/4"	-4.36	386 462 4204	2.88 11.95 14.87	
4+22	-4.46	386 462 4204	2.88 11.95 14.87	
4+72	-4.56	386 462 4204	2.88 11.95 14.87	
5+22	-4.65	386 462 4204	2.88 11.95 14.87	
5+72	-4.75	386 462 4204	2.88 11.95 14.87	
6+22	-4.85	386 462 4204	2.88 11.95 14.87	
6+72	-4.94	386 462 4204	2.88 11.95 14.87	
7+25.6 = Catch Basin "B" Line	-5.05	386 462 4204	2.88 11.95 14.87	
7+5.6	-5.15	386 462 4204	2.88 11.95 14.87	
8+0.6 FC.	-5.20	386 462 4204	2.88 11.95 14.87	
8+50.6	-5.30	386 462 4204	2.88 11.95 14.87	
9+00.6 = Catch Basin = 0+0 B Line	-5.40	386 462 4204	2.88 11.95 14.87	

0+0 = Catch Basin N of G's Front	-2.00	702 222 502 4923 777	7.02 2.22 5.02 4.923 7.77
0+70 = Catch Basin	-2.53	702 222 4923 45.86	7.02 2.22 4.923 45.86
1+20	-2.91	702 222 4923 15.26	7.02 2.22 4.923 15.26
1+70	-3.29	702 222 4923 16.03	7.02 2.22 4.923 16.03
2+10 = Catch Basin	-3.60	702 222 4923 16.03	7.02 2.22 4.923 16.03
2+60	-3.90	702 222 4923 16.03	7.02 2.22 4.923 16.03
3+10	-3.00	702 222 4923 15.45	7.02 2.22 4.923 15.45
3+43.3 = Catch Basin A 2 1/2"	-2.80	702 222 4923 15.45	7.02 2.22 4.923 15.45
4+00	-2.46	702 222 4923 15.20	7.02 2.22 4.923 15.20
4+48.9 = Catch Basin	-2.16	702 222 4923 15.00	7.02 2.22 4.923 15.00

"L" Line 30' Box

0+0 = C.B. Section L's East End of p.	-4.83	953 157 4949	9.53 1.57 4.949
450	-4.93	953 157 4949	9.53 1.57 4.949
1+0	-5.01	953 157 4949	9.53 1.57 4.949
450	-5.10	953 157 4949	9.53 1.57 4.949
780	-5.15	953 157 4949	9.53 1.57 4.949

4.88 Cal. 0.00
2.12
7.02 H.
4.28
3.74
2.64
2.22 H.

9.51 30' Box
1.57
4.95 H.

"H" Line = 48" Culvert 15' offset
613 X

-0.67

88

8+46.5 = C.B. on "H" = 0+00	-5.17	613 512 1125 +6.13	
0+03 = P.C.	-5.17	613 520 1133 +6.13	
199	-5.30	613 520 1133 +6.13	
336.8	-5.22	613 520 1133 +6.13	
0+53.7 = E.C.	-5.25	613 525 1138 +6.13	
1 -	-5.33	613 531 1144 +6.13	
+50	-5.41	613 541 1154 +6.13	
2	-5.49	613 549 1162 +6.13	
+50	-5.57	613 557 1170 +6.13	
3	-5.65	613 565 1178 +6.13	
+50	-5.73	613 573 1186 +6.13	
4	-5.81	613 581 1194 +6.13	
+50	-5.89	613 589 1202 +6.13	
5	-5.97	613 597 1210 +6.13	
+50	-6.05	613 605 1218 +6.13	
6	-6.13	613 613 1226 +6.13	
+50	-6.21	613 621 1234 +6.13	
7	-6.29	613 629 1242 +6.13	
+50	-6.37	613 637 1250 +6.13	
8	-6.45	613 645 1258 +6.13	

8+50	-6.53	1374 520 1894 +6.13
9	-6.61	1354 520 1874 +6.13
9+37 = Bulkhead	-6.67	721 607 1328 +6.13

1374
520
1894
+6.13

1354
520
1874
+6.13

721
607
1328
+6.13

13.55
5.90
+4.95
18.40
on Bulkhead

"F" Line 30" Pipe

8+46.8 = C.B. "H" Line = 0+00	-5.17	+6.49
50' NE	-4.78	
100'	-4.39	
150' = C.B. Ex. 30" Pipe 5+45.1	-4.0	

613 X
4.81
1.34
5.77 X
7.09 X

709
4.75
11.57
6.82

709
4.39
11.45
6.85
+4.60

709
4.0
11.09
6.85
+5.54

"G" Line 24" Pipe

0+0 = C.B. - 15' NE Original C.B. H 0+0	-5.05	
50' E	-4.55	
100' E	-4.05	
150' E	-3.75	
200' E	-3.26	
250' E	-2.76	
290' E = C.B. A 619.0	-2.90	
340	-2.90	
390	-3.50	
4+69.5 = C.B.	-3.23	

6.95
6.00
6.99
+6.61

6.95
5.00
6.95
+6.60

6.95
5.00
6.95
+6.60

11.40
6.67
+4.73

4.21
6.50
+5.51

4.81
6.63

10.15
6.25
+5.60

10.65
6.25
+4.40

10.45
6.25
+4.15

6.95
6.25
+0.70

S.P. 24
S. 24
S.P. 24
P. 100
6.85 H.

	N	S											
0+0 - FL26 th ft	151.60	151.80	165.80	N	570.	66.59	78.38	78.31	78.18	78.31	78.38	78.09	
40'E	161.40	161.24	165.38			61.40	65.64	68.78	70.77	71.70	72.27	72.41	
60'E	165.64	165.56	165.78			51.30	66.59	78.38	78.31	78.38	78.38	78.09	
80'E	168.78	168.76	165.64				61.40	65.64	68.78	70.77	71.70	72.27	72.41
100'E	170.77	170.84	165.78				53.5	68.8	70.77	71.70	72.27	72.41	
120'E	171.70	171.80	165.78				48.30	61.30	65.20	68.70	70.70	71.70	72.40
160'E ?	172.27	172.60	165.78				2.82	6.97	11.72	3.09	4.87	5.55	6.59
180'E	172.46	172.57	165.78				+1.36	3.72	11.55	3.09	4.87	5.55	6.59
200'E	172.19	172.56	165.78					3.72	11.55	3.09	4.87	5.55	6.59
220'E	171.51	171.90	165.78					3.72	11.55	3.09	4.87	5.55	6.59
240'E	170.43	170.87	165.78					3.72	11.55	3.09	4.87	5.55	6.59
290'E	167.21	167.62	165.78					3.72	11.55	3.09	4.87	5.55	6.59
315'E	165.70	166.19	165.78					3.72	11.55	3.09	4.87	5.55	6.59
340'E	164.37	164.77	165.78					3.72	11.55	3.09	4.87	5.55	6.59
365'E	163.21	163.61	165.78					3.72	11.55	3.09	4.87	5.55	6.59
390'E	162.25	162.65	165.78					3.72	11.55	3.09	4.87	5.55	6.59
415'E	160.80	161.20	165.78					3.72	11.55	3.09	4.87	5.55	6.59
440'E	158.8	158.58	165.78					3.72	11.55	3.09	4.87	5.55	6.59
465'E	154.40	154.80	165.78					3.72	11.55	3.09	4.87	5.55	6.59

	N	S	
			163.54
			150.20
490' E	149.47	149.87	150.53
			151.33
530' E	140.50	140.90	151.54
			151.95
570' E	131.53	131.93	152.18
			142.15
600' E - 24 L 27 th St.	124.80	125.20	
			121.59

	N	S	
			60.54
			49.47
			51.23
			40.50
			31.53
			24.80
			10.93
			2.33
			2.02
			2.26
			3.31
			4.07
			1.41
			49.87
			40.50
			31.93
			24.80
			10.93
			2.02
			2.26
			3.31
			4.07
			1.41

Seiver Construction Woolman Ave.
Between 32nd And 33rd St.

7-2-21

71

010 = Dead End	49.00	60.53 49.00 11.53 16.53 +5.00	36.23 0.53 36.76 36.32 36.32 12.32 49.56 8.86
0118	47.64	12.20 8.12 15.17	48.70 12.33
0168	13.87	49.56 41.89 5.67 8.22 +4.88	60.83 60.51
1+18	40.10	8.46 +4.46	60.37 3rd 38th Woolman
1+68	36.33	13.23 7.25 +7.18	
2+18	32.56	36.76 7.20 6.37 +3.83	
2+78	28.04	8.26 5.39 +5.13	
3+18 = N.H. No 1 + Woolman	25.00	14.26 4.53 +7.23	
3+68	20.00	16.26 6.51 +10.25	
4+18	15.00	21.26 5.92 +13.34	
4+68	10.00	26.26 10.26 +16.05	
5+216 = Existing N.H.	4.50		
40 N.H. No 1		36.26 26.00 10.26 3.24 +7.24	

Senior Construction Woodman Hill
 Between 36th + 38th St.

Distance	Value	Calculation	Value	Calculation
40' N of M.H. N°2	59.00	59.00 58.10 59.8 +4.91	3299 - M.H. N°4	64.50
0.70 = M.H. N°2 = 91.4 E L 30th St.	51.00	57.09 5.00 +6.71	50' E	61.07
50' E	47.80	59.09 12.29 17.09 +6.90	100' E	62.65
100' E	44.60	59.09 14.60 12.29 +7.68	150' E	67.22
150' E	41.40	59.09 17.60 12.29 +8.91	200' E	70.80
200' E	38.20	59.09 38.20 47.16 +9.74	250' E	72.37
248.5 E = Finishing M.H.	35.00	59.09 35.00 11.22 +12.85	300' E	73.00
50' E	38.35	59.09 38.35 7.66 +10.51		
100' E	41.70	59.09 41.70 17.39 +8.87		
150' E	45.05	59.09 45.05 15.94 +19.34		
200' E	48.40	59.09 48.40 20.20 +18.70		
250' E	51.75	59.09 51.75 15.94 +8.13		
283.5 E - M.H. N°3 = 33rd St	54.00	59.09 54.00 12.15 +6.52		
50' E	55.50	59.09 55.50 12.68 +6.70		
100' E	52.18	59.09 52.18 16.82 +6.00		
150' E	58.77	59.09 58.77 11.22 +6.22		
200' E	60.36	59.09 60.36 8.27 +6.02		
250' E	61.95	59.09 61.95 11.22 +6.00		
300' E	63.54	59.09 63.54 11.15 +5.96		

50.65
12.15
12.15
12.15
+5.98

50.65
26.07
12.28
+5.98

50.65
17.65
12.00
+5.99

50.65
69.22
12.29
+6.02

50.65
20.20
12.15
+6.00

50.65
32.11
12.29
+6.00

50.65
52.65
11.22
+6.05

59.09
13.47
11.77
75.30
72.30
72.02
56.65
12.71
12.94
12.29
48.65
12.29
12.29
12.29
12.29

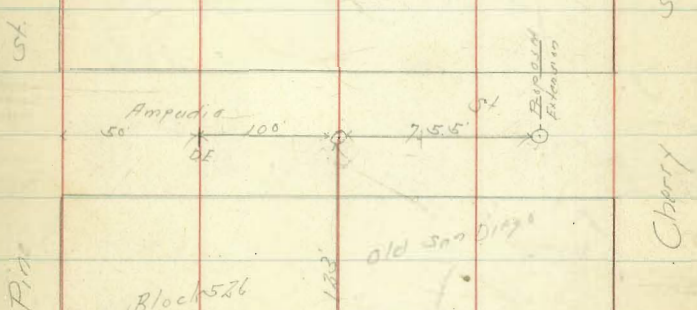
Setter Construction Ampudia St
 Between Pine & Cherry Across Block 526 Old San Diego.

Distance	Direction	Value	Calculation
0+0	= D.F.	255.00	11.89 523 +6.74
50'H		252.43	18.41 523 +5.79
100'H	= M.H.	249.87	17.02 14.62 +5.40
50'H		247.31	19.58 14.51 +5.07
75.5'H	= M.H.	246.00	20.59 13.22 +4.77

Across Block 526

0+0		249.87	
50'E		255.62	14.29 +6.60
100'E		261.37	5.57 0.73 +5.05
123'E	= D.F.	264.00	7.30 2.72 +3.87

7-21-26
 513503
 9135
 713
 73



Paving Alley Block 180 Univ. Hgts.
 Between Lincoln & Pascoe From Vermont to Richmond

723.21 75

	N		S										
0+0 =	X Ford Pass Richmond Lincoln	291.65	291.65	302.80	N	26.14	96.15	95.91	98.98	97.81	97.81	97.81	97.81
		294.00	293.60	297.75		94.10	94.13	94.66	94.30	94.52	94.65	94.78	94.78
50' E	Break	94.13	93.73	301.66		94.15	94.07	94.72	94.59	94.35	94.19	94.06	94.06
				296.77		94.28	94.16	94.26	94.34	94.32	94.19	94.06	94.06
				298.18		91.65	91.65	91.00	90.74	91.00	91.00	91.00	91.00
100' E		94.26	93.86	293.96		91.65	91.65	91.00	91.00	91.00	91.00	91.00	91.00
				298.98		91.65	91.65	91.00	91.00	91.00	91.00	91.00	91.00
150' E		94.39	93.99	397.84	S	93.69	93.73	93.81	93.92	94.12	94.12	94.12	94.12
				4.81		91.65	91.65	91.00	91.00	91.00	91.00	91.00	91.00
				393.98		91.65	91.65	91.00	91.00	91.00	91.00	91.00	91.00
200' E		94.52	94.12	396.56		91.65	91.65	91.00	91.00	91.00	91.00	91.00	91.00
				4.57		91.65	91.65	91.00	91.00	91.00	91.00	91.00	91.00
250' E		94.65	94.25	396.67		91.65	91.65	91.00	91.00	91.00	91.00	91.00	91.00
				4.88		91.65	91.65	91.00	91.00	91.00	91.00	91.00	91.00
300' E		94.78	94.38	4.76	N	94.91	95.00	95.12	96.56	97.31	98.12	98.12	98.12
				Chicago		94.91	95.00	95.12	96.56	97.31	98.12	98.12	98.12
				91.65		94.91	95.00	95.12	96.56	97.31	98.12	98.12	98.12
350' E		94.91	94.51	297.46		94.91	95.00	95.12	96.56	97.31	98.12	98.12	98.12
				5.21		94.91	95.00	95.12	96.56	97.31	98.12	98.12	98.12
400' E	Break	295.00	294.60	302.39		94.91	95.00	95.12	96.56	97.31	98.12	98.12	98.12
				297.83		94.91	95.00	95.12	96.56	97.31	98.12	98.12	98.12
				3.33		94.91	95.00	95.12	96.56	97.31	98.12	98.12	98.12
430' E		95.78	95.38	297.20	S	94.51	94.60	95.38	96.16	96.94	97.73	98.51	98.51
						94.51	94.60	95.38	96.16	96.94	97.73	98.51	98.51
						94.51	94.60	95.38	96.16	96.94	97.73	98.51	98.51
490' E		96.56	96.16			94.51	94.60	95.38	96.16	96.94	97.73	98.51	98.51
						94.51	94.60	95.38	96.16	96.94	97.73	98.51	98.51
530' E		97.34	96.94			94.51	94.60	95.38	96.16	96.94	97.73	98.51	98.51
						94.51	94.60	95.38	96.16	96.94	97.73	98.51	98.51
580' E		98.13	97.73			94.51	94.60	95.38	96.16	96.94	97.73	98.51	98.51
						94.51	94.60	95.38	96.16	96.94	97.73	98.51	98.51
630' E		98.91	98.51			94.51	94.60	95.38	96.16	96.94	97.73	98.51	98.51
						94.51	94.60	95.38	96.16	96.94	97.73	98.51	98.51
660' E	X X L Richmond + Lincoln	299.40	299.00			94.51	94.60	95.38	96.16	96.94	97.73	98.51	98.51

Paving Riley Block 46 Chain. Hpts.
Between Park Blvd. & Georgia From Monroe to Madison

77

N	E	3510.5 M								
N.L. Monroe	346.90	347.10	3511.15	E 347.10	47.37	47.65	47.92	48.20	48.73	49.27
50' N	47.17	47.37	3511.73	347.10	3.45	3.45	5.84	5.84	4.73	3.89
100' N	47.45	47.65	3512.20	347.10	2.28	3.45	5.84	5.84	4.73	3.89
150' N	47.72	47.92	3512.78	347.10	2.28	3.45	5.84	5.84	4.73	3.89
200' N	Break	348.20	3513.36	347.10	2.28	3.45	5.84	5.84	4.73	3.89
250' N	48.53	48.73	3513.94	347.10	2.28	3.45	5.84	5.84	4.73	3.89
300' N	49.07	49.27	3514.52	347.10	2.28	3.45	5.84	5.84	4.73	3.89
350' N	49.61	49.81	3515.10	347.10	2.28	3.45	5.84	5.84	4.73	3.89
400' N	50.15	50.35	3515.68	347.10	2.28	3.45	5.84	5.84	4.73	3.89
450' N	50.69	50.89	3516.26	347.10	2.28	3.45	5.84	5.84	4.73	3.89
460' N	Break	350.80	3516.84	347.10	2.28	3.45	5.84	5.84	4.73	3.89
520' N	51.01	51.21	3517.42	347.10	2.28	3.45	5.84	5.84	4.73	3.89
560' N	51.15	51.35	3518.00	347.10	2.28	3.45	5.84	5.84	4.73	3.89
600' N - S. Madison	351.30	351.50	3518.58	347.10	2.28	3.45	5.84	5.84	4.73	3.89

Posing Alley Block 248 Univ. Hgts
 Between Park Blvd. & Indiana
 From Cypress to Park Blvd
 N

N. Cypress	300.11	300.23	E
20' N	302.60	302.81	
40' N	304.50	304.70	
60' N	Break	305.21	
110' N	304.53	304.74	
160' N	304.05	304.27	
210' N	303.57	303.80	
260' N	303.08	303.34	
310' N	302.60	302.87	
360' N	302.12	302.40	
410' N	301.64	301.94	
459' N = E. Park Blvd	301.22	301.53	
475' N = " " "		301.33	

SE Top of Univ. Hgts
 Cypress to Park Blvd
 N

300.11	2.60	4.50	5.21	4.53	4.05	5.57	3.08
302.60	2.17	5.57	5.26	5.54	4.11	4.89	4.12
304.50	1.83	4.87	4.76	5.21	6.55	4.78	4.59
305.21	+0.24	+0.20	11.70	+0.30	+0.13	+0.92	+0.15
304.53							
304.05							
303.80							
303.34							
302.87							
302.40							
301.94							
301.53							
301.33							

776.00

Survey E 45 Lot 27 Block 46 Normal Hghts. E 1/4 Sec 8
S 1/4 Sec 8
Blk 46
Normal Hghts

80

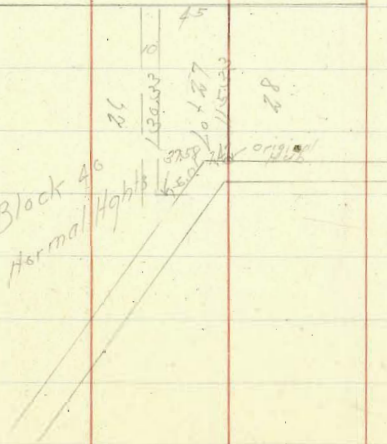


Massfield (0114016)

Hawley Blvd

School St

Block 46
Normal Hghts



355/404 (0114016)

TABLE IX.—CALCULATION OF EARTHWORK.

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

Table gives cu. yds. in 1 ft. of a triangle of given width and height. Corrections for tenths of width are one tenth the values found under each height considering the widths from 1 to 9 as tenths and similarly the corrections for tenths of height are one tenth the figures opposite width considering the heights from 1 to 9 as tenths. Thus if $w=16.2$ and $h=5.3$, cu. yds. $=1.48+.028+.089=1.597$ cu. yds. or practically 160 cu. yds. per 100 ft. If w exceeds 40 ft., use one half and multiply result by 2, if both w and h are large use one half of each and multiply result by 4. Any cross-section may be divided into triangles by the following rule. To the triangle of the sum of the outside cuts (or fills) $=h$, and $\frac{1}{2}$ the roadbed $=w$, add the triangles formed by taking the distance out to each break in turn ($=w'$) by the difference between the cuts (or fills) on each side of it ($=h'$) always subtracting the outer from the inner.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on $1\frac{1}{2}$. For Single Track Embankment.

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

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