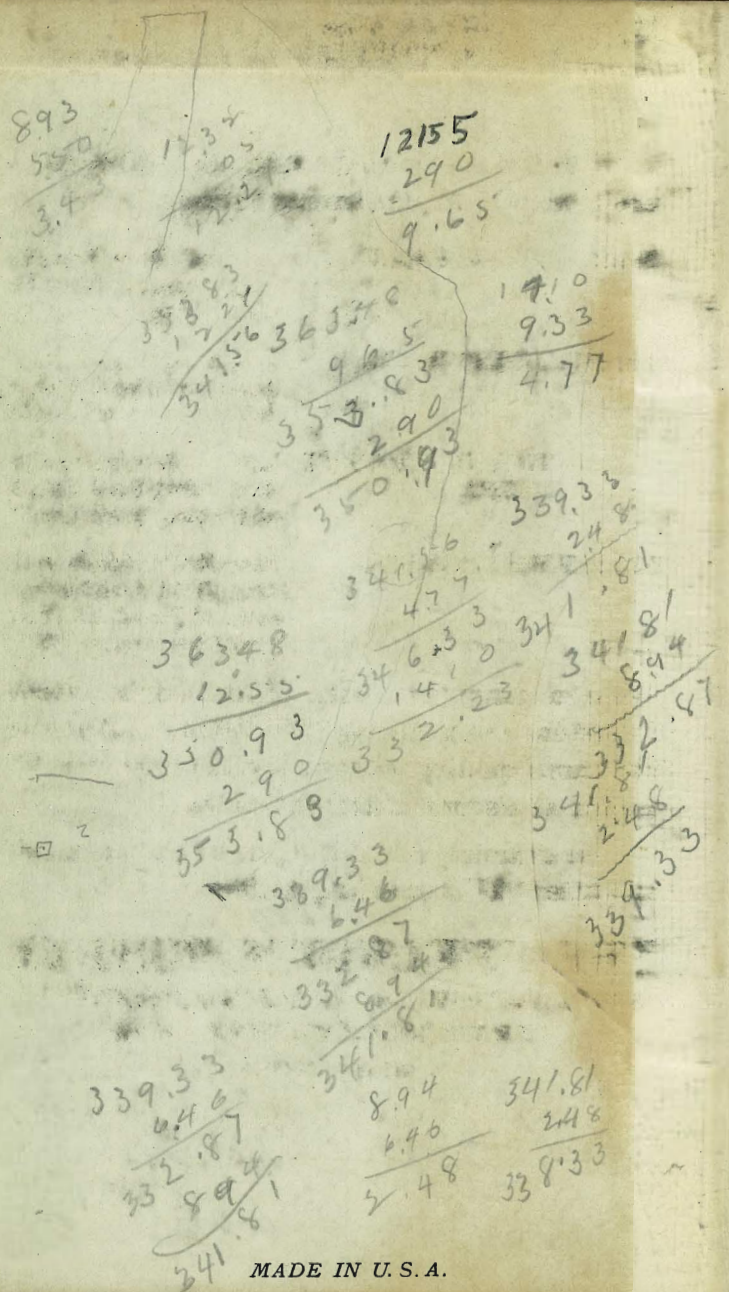

MADE IN U. S. A.

Our Leather Bound Engineers Note Books are carried in the following rulings:

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No. 382 FIELD BOOK.	Left Hand Page as in this Book, Right Hand Page 4x4 to the inch, Center Line Red.
No. 384 MINING TRANSIT BOOK.	Left Hand Page as in this Book, Right Hand Page 8x8 to the inch, Center Line Red.
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THE FREDERICK POST CO.

ENGINEERING and DRAFTING SUPPLIES

IRVING PARK STATION

CHICAGO, ILL.

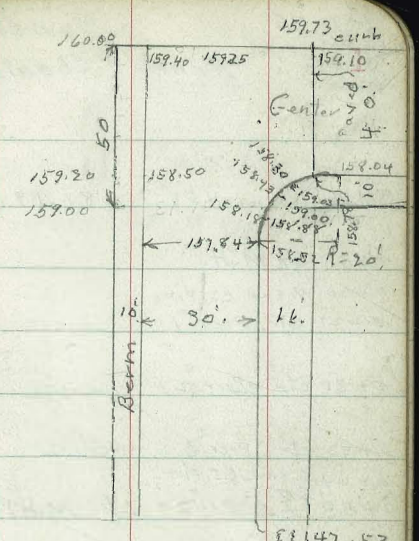
Girard Ave Grades 8-24-36

indexed C.S.K.

BM. BP	4.77	163.52	158.75	Girard & Center
New BM. (the old)				
Set BM BP Taken out. New 20' Rad.	4.97		158.55	Girard & Center W. Cl
3+65.4 BC. 20° R Curve			158.57	
			4.9	
			5.1	
			+0.2	
3+32.7			157.14	
			6.4	
			4.3	
			+0.1	
3+00			155.71	
			7.8	
			8.3	
			−0.5	
2+50			153.51	
			10.0	
			9.6	
			+0.4	
2+00			151.32	
			12.2	
			12.0	
			+0.2	
1+50			149.13	
			3.9	
			3.9	
			0.0	
1+00			146.93	
			6.1	
			6.0	
			+0.1	
0+50			144.73	
			8.3	
			8.0	
			+0.3	
0+00			142.53	
			10.43	
			10.43	

E. Berm

S.L. Center	160.00	
	3.5	
	1.8	
	+1.7	
N.L Center	159.00	
	4.5	
	3.8	
	+0.7	
163.52		
12.83		
150.69		
2.27		
152.96		
	157.14	
	6.4	
	8.0	
	−1.6	
	155.71	
	7.8	
	9.1	
	−1.3	
	153.51	
	10.0	
	11.1	
	−1.1	
	151.32	
	12.2	
	13.5	
	−1.3	
	149.13	
	3.9	
	5.1	
	−1.2	
	146.93	
	6.1	
	7.5	
	−1.4	
	144.73	
	8.3	
	9.2	
	−0.9	
	142.53	
	10.43	
	11.2	
	−0.8	



BM. 158.55
5.03
163.58

159.40	159.25	158.50
4.18	4.33 ✓	5.08
		5.74
		157.84
	el Sta. Cor. G	
	3.85	4.48
	159.73	159.10
	G	el
W. Line	5.54 ✓	4.80
	158.04 30	158.78
	5.28 ✓	4.55
	158.30	159.03
	5.15 ✓	4.58
	158.43	159.00
	5.40 ✓	4.70
	158.18	158.88
	5.74 ✓	5.05
	157.84	158.53

1-7-35
Mills
Walker
Bliss

Sewer Grades

Arnold & Choate's P.L.B. Add.

Indexed
C.S.K.

					Station	5' offset Rt.			Grade	5' offset Lt.
B.M. & Stob	4.68	181.19		176.51	0+53 88					
9+00 Ex M.H.					172.00					
0+20 N. End C.I. Pipe										
0+21 ctr. Pier #1			8.48	172.71	172.21	+0.50	10.02	171.17	172.21	−1.04
0+31 ctr Pier #2			9.92	171.27	172.31	−1.04	11.06	170.11	172.31	−2.20
0+43 ctr Pier #3			8.03	173.16	172.43	+0.73	9.22	171.97	172.43	−0.46
0+44 S. End C.I. Pipe,										
0+53 88 △ 71-25 Lt. M.H. #1			4.25	174.94	172.54	+4.40				
37.6 T.P.	4.93	184.48	1.64	179.55						
0+91.5			2.94	181.54	172.91	+8.63				
37.6										
1+29			1.50	182.98	173.29	+9.69				
37.6										
1+66 2 △ 63-24 Rt. M.H. #2			4.58	179.90	173.47	+6.23				
36.1 T.P.	11.57	188.31	7.74	176.74	1+66 2 ℄ Hub.					
2+02 3			2.81	185.50	174.02	+11.48				
36.6										
2+38 0			2.23	186.08	174.38	+11.70				
35.6										
2+73 6 ∠ 2-35 Rt. No. M.H.			1.45	186.86	174.74	+12.12				

		188.31				
3+15.6			5.68	182.63	175.16	+7.47
3+57.6			5.03	183.28	175.58	+7.70
3+99.5			4.68	183.63	176.00 ℄ Stub	+7.63
T.P.	9.59	189.06	8.84	179.47	4+41.63	
4+41.63	△38°-34'-30"	Rt. M.H. #3	7.53	181.53	176.42	+5.11
4+90.3			5.00	184.06	176.90	+7.16
5+38.9			4.34	184.72	177.39	+7.33
5+87.59	∠ 26°-18' Rt. M.H. 4		3.89	185.17	177.88	+7.29
BM. ℄ Hub	9.74	205.58		195.84	Sta 6+70.44	
6+35			11.68	193.90	184.54	+9.36
6+70.42	∠ 30°-21' Rt. M.H. 5		7.50	198.08	189.52	+8.56
7+13.3			0.27	205.31	198.10	+7.21
T.P.	12.54	217.85	0.27	205.31		

		217.85				
7+56 1/2			4.74	213.11	206.66	+6.45 ✓
+12.9 T.P.	11.49	228.89	0.45	217.40		
7+98.97	∠90°-00'	M.H 6	7.27	221.62	215.21	+6.41 ✓
8+19	Brk.		3.40	225.49	220.21	+5.28 ✓
T.P.	11.93	240.52	0.30	228.59		
T.P.	12.80	252.98	0.34	240.18		
8+58.97	∠25°28'	No M.H.	13.22	239.76	236.21	+3.55 ✓
℄ Stub	8+58.97		14.07	238.91 =	238.91	
9+05 5/8	D.E.		1.95	251.03	246.00	+5.03 ✓
		Line to S. of M.H. 6				
0+00 =	M.H. 6			221.62	215.21	+6.41 ✓
		240.52				
0+28.88			8.70	231.82	229.65	+2.17 ✓
T.P.	12.80	252.98	0.34	240.18		
0+57.75			5.53	247.43	244.09	+3.36 ✓

2-27-35
Walker
Bliss.

Sewer Grades
In Block 18 University Hts.
Bet. Arizona & Texas
" Madison And Adams Aves.

Indexed
C.S.K.

Station			El. Strikes.	El. Grade	cuts	offsets.
0+00 =	℄ Exist. Sewer ℄ Madison	362.35		345.23		
2+14 =	end exist. Sewer		15.29	347.06	347.05	
+67			8.32	354.03	347.50	+ 6.53 2.0 Rt.
3+20 =	MH #1		6.87	355.48	347.95	+ 7.53 3.4 Rt.
7.06						
3+66			5.78	356.57	348.67	+ 7.90 4.4 Rt.
4+12			3.67	358.68	349.39	+ 9.29 4' Rt.
+58			2.49	359.86	350.11	+ 9.75 4' Rt.
5+04			2.58	359.77	350.83	+ 8.94 1.8 Rt.
+50	T.P.	368.74	6.95	361.79	351.55	+ 10.24 4.4 Rt.
+96			5.53	363.21	352.27	+ 10.94 4.4 Rt.
6+42 =	M.H. = 2' North St. Adams		10.75	357.99	353.00	+ 4.99 4' Rt.
+81			10.86	357.88	353.50	+ 4.38 4' Rt.
7+20 =	C.L. N. line Adams		10.60	358.14	354.00	+ 4.14 4' Rt.

S.S.B.P. Madison & Texas = 346.03
12.96+
358.99 ×
6.19 -
352.80 T.P.
9.55 +
362.35 ×
2.18 -
360.17 = T.P.
8.57 +
368.74 ×

4-26-35

Indexed
C.S.K.

6

Catch Basin Grades Park Blvd. Russ Blvd. North.

Lt.						Rt.
W. Edge C.B	Pav. edge		℄		Edge Pav	
+22.	+15	+8		+8	+15	+22. W. Edge C.B
5.05	4.72	4.50	4.41	5.86	5.97	6.14
						6.72 Low.

Sta 19+03

E. edge C.B.						Ex C.B.
+22	+15.5	+8.5	℄	+7.5	+14.5	+22
4.80	4.48	4.20	4.12	5.28	5.47	5.54
						5.89

					C.B.
		℄	+8.3	+15.3	+22
		5.14	5.31	5.54	5.85

W. Edge C.B.					
+22.	+15.	+8.	℄		
4.22	3.92	3.72	3.58		

Station at an E.C.

℄	+7.8	+14.8	+22
2.72	2.79	2.95	3.25

Cut stakes 22' from ℄ on edge of Berm.

4' S. ℄ C.B	4' N. ℄ C.B.
5.05	5.05
4.05	4.05
+1.00	+1.00

4' S. ℄ C.B.	4' N. ℄ C.B.
4.80	4.80
4.30	3.80
+0.50	+1.00

4' S. of ℄ C.B.	4' N. of ℄ C.B.
5.85	5.85
4.85	4.85
+1.00	+1.00

4' S. of ℄ C.B	4' N. of ℄ C.B
4.22	4.22
3.72	3.22
+0.50	+1.00

4' S. of ℄	4' N. of ℄
3.25	3.25
2.25	2.25
+1.00	+1.00

24 + 17 ℄

E. Edge C. B +22	Edge Pav +15	+ 8. ℄	
5.50	5.20	5.13	5.05

+22	+15.5	+8.5	℄	+7.5	+14.5	+22
4.90	4.63	4.51	4.42	4.53	4.70	5.00

W. of Naval Hospital Entrance.

			Ex C. B. +22.7
+8	+15		
5.09	5.19	5.46	6.17
			Low.

W. of Naval Hospital Entrance

Excavation +23.5	+15	+8.	℄
4.85	4.54	4.41	4.36

4' S. of ℄	4' N. of ℄
5.50	5.50
4.50	4.50
+1.00	+1.00

4' S. of ℄	4' N. of ℄	℄ Pav
4.90	4.90	
4.40	4.40	
+0.50	+0.50	

4' S. of ℄	4' N. of ℄
5.00	5.00
4.00	4.00
	+1.00

4' S. of ℄	4' N. of ℄
4.85	4.85
3.85	3.35
+1.00	+1.50

4-27-35 Grades Alley Blk. 54 City Hts

indexed C.S.K.

8' Edge C. B +22	BM. B.P.	2.83	345.92		343.09	N.W. Cor Wightman + Hoyt	
				4.41	341.51		12' E. of ℄
5.5	Wihing Wightman 0+00					℄ 341.20	341.20
						4.72	4.72
						4.72	2.20
						0.0	+2.52
	0+20 Brk.					342.35	342.35
						3.57	3.57
+22						3.57	0.77
						0.0	+2.80
4.96	T.P.	2.86	348.01	0.77	345.15		
	0+40 Brk					343.19	343.19
						4.82	4.82
						4.82	2.55
						00	+2.27
	0+60 Brk					343.73	343.73
						4.28	4.28
Ex Cav.						4.28	2.44
+23						00	+1.84
4.8	0+80 Brk					343.97	343.97
						4.04	4.04
						4.04	2.73
						00	+1.31
	1+00					344.05	344.05
						3.96 ✓	3.96
	2+80 Brk.					.00	2.51
						344.80	+1.45

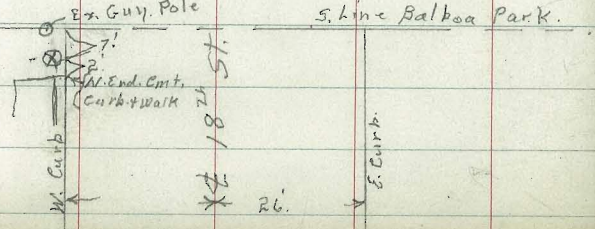
5-4-35 Grades North side Florida Court E. of Georgia St.

Indexed C.S.K.

BM. BP.	H.44	288.64		284.00	N.W. Cypress & Georgia		
					Ex. Curb. Grade	Prop. Grade	Prop. Grade + or −
0+00 = E. Line Georgia St.			2.20		286.44		
0+00 " " " "			2.07			Con. Cmt. Ret. 286.57	
0+05 E.B Stub			2.8	285.8		286.1	− 0.3
0+60 E.			17.1	271.5		273.4	− 1.9
1+00 E B						264.4	

5-4-35 Location Proposed Light Standards
Pershing Drive indexed Cr. St.

	15+62	L.S. #9	9' N. of Pav.	
225'	13+42	Culvert		
215'	13+37	L.S. #8	9' N. of Pav.	
220'	11+22	L.S. #7	9' N. of Pav.	
220'	9+02	L.S. #6	9' N. of Pav.	
160'	6+82	L.S. #5	9' N. of Pav.	E.C.
160' Chd. dist.	5+22	L.S. #4	6' N. of Pav	Toe Bank. ctr. Curve
220' Chd. dist.	3+62	L.S. #3	9' N. of Pav.	B.C. Lt.
142' Chd. dist.	1+42	L.S. #2	9' N. of Pav	11' E. of E. Line 18th St
	0+00	L.S. #1		



	31+63	L.S. #17	9' E. of Pav
220'	29+43	L.S. #16	9' E. of Pav. B.C. Lt.
220'	27+23	L.S. #15	9' E. of Pav. ch. Curve.
220'	25+03	L.S. #14	9' E. of Pav B.C. Rt.
220'	23+74 = Culvert		
148'	22+83	L.S. #13	9' E. of Pav. E.C. Lt.
213'	21+35	L.S. #12	9' N. of Pav. E. of P.H.C. Rd.
160'	19+22	L.S. #11	13' N. of Pav. W. of P.H.C. Rd
	18+15 E. End. Bridge 5' N. of Pav.		
	17+70 = W. End. Bridge 2.5' N. of Pav.		
200'	17+62	L.S. #10	9' N. of Pav.
	15+62		

		2'. E. of Cb.	
50+83	L.S. 26	10' E. of Pav	B.C. Lt.
210'			
48+73	L.S. 25	2'. E. of Curb. 10'. E. of Pav	
210'			
46+63	L.S. 24	2' E. of emt. cb. 10' E. of Pav	
200'	45+86 = S. End. emt. cb. 8' E. of E. Edge Pav.		
44+63	L.S. 23	7' E. of Pav. Foot of Bank.	
200'	43+40 B.C. Rt.		
42+63	L.S. 22	9' E. of Pav.	
220'			
40+43	L.S. 21	9' E. of Pav	
220'			
38+23	L.S. 20	9' E. of Pav.	
220'			
36+03	L.S. 19	9' E. of Pav.	
220'	34+40 E.C. 33+91 Culvert		
33+83	L.S. 18	9' E. of Pav.	on Curve
220			
31+63			

69+95	L.S. 35	2'. E. of cb. 10'. E. of Pav	B.C. Rt.
220'			
67+75	L.S. 34	2'. E. of cb. 10'. E. of Pav	E.C.
220'			
65+55	L.S. 33	2'. E. of cb. 10'. E. of Pav	
220'	63+90 Drive to Tool House		
63+35	L.S. 32	2'. E. of cb. 10'. E. of Pav.	
225'			
61+10	L.S. 31	2' E. of cb. 10' E. of Pav	
230'	6+60 B.C. Lt		
58+80	L.S 30	{2'. E. of cb. 10' E. of Pav}	{E. End. of Laurel St. Extension}
197'			
56+83	L.S. 29	2'. E. of cb. 10'. E. of Pav.	E. C
200'			
54+83	L.S. 28	2'. E. of cb. 10'. E. of Pav	
200'			
52+83	L.S. 27	2'. E. of cb. 10'. E. of Pav	
200'			
50+83			

88+68	Culvert			
88+50	L.S. #44	10' E. of Pav.	opposite Road to Municiple Pool	
220'				
86+30	L.S. #43	10' E. of Pav.	W. End Branches of Pepper Tree	
170'				
84+60	L.S. #42	9' E. of Pav.	∇ Island North of Redwood.	
160'				
83+00	L.S. #41	2' E. of cb.	S. side Redwood St.	
205'				
80+95	L.S. #40	2' E. of cb. 10' E. of Pav.		
200'				
78+95	L.S. #39	2' E. of cb 10' E. of Pav.	at. Road to Municiple Pool.	
230'				
76+65	L.S. #38	2' E. of cb. 10' E. of Pav.		
230'				
74+35	L.S. #37	2' E. of cb. 10' E. of Pav	E.C.	
220'				
72+15	L.S. #36	2' E of cb. 10' E. of Pav		
220'				
69+95	L.S. #35			

98+73	Ex. Elec Pole	2' S. of S. cb. of Upas St. 1' E. of E. Line 28th St.		
143'				
97+30	L.S. #48	2' S. E. of cb. 10' S E. of Pav		
220'				
95+10	L.S. #47	2' E. of cb. 10' E. of Pav		
220'	94+21 S. End Ex. Curb.			
92+90	L.S. #46	10' E. of Pav.	opp. Intersection Pershing Ave.	
220'				
90+70	L.S. #45	10' E. of Pav.		
220'				
88+50				

7-9-35 Sewer Grades. P.L. 174. F.B. 1519 - P. 35. Indexed C.S.K.

M.H. BM	12.19	131.27		119.08	Rim. M.H. Grade F.L.					
0+00 = Ex. M.H.			12.19	119.08	114.83	+ 4.25	from Rim			
0+25			8.29	122.98	115.08	+ 7.90	5' offset to Rt.			
0+50.			6.06	125.21	115.33	+ 9.88	" "	" "		
0+88.2°	M.H. Δ. 58°-23' Rt.		9.26	122.01	115.71	+ 6.30	" "	" " split of ∠		
1+00			8.24	123.03	115.83	+ 7.20	" "	" "		
1+50			6.71	124.56	116.33	+ 8.23	" "	" "		
2+00			8.95	122.32	116.83	+ 5.49	" "	" "		
2+50			9.20	122.07	117.33	+ 4.74	" "	" "		
2+75			4.41	126.86	117.58	+ 9.28	" "	" "		
T.P.	9.51	137.23	3.55	127.72						
3+00			7.50	129.73	117.83	+ 11.90	" "	" "		
3+25			4.57	132.66	118.08	+ 14.58	" "	" "		
3+50			4.66	132.57	118.33	+ 14.24	" "	" "		
3+75			5.82	131.41	118.58	+ 12.83	" "	" "		
4+00			7.67	129.56	118.83	+ 10.73	" "	" "	℄ Profile from 4+23.1° to D.E 5+ H.I. 137.23	
4+23.1°	M.H. ∠62°-50' Rt.		11.55	125.68	119.06	+ 6.62	" "	" " split ∠	14.0	123.2
4+50			7.36	129.87	119.33	+ 10.54	" "	" "	9.2	128.0
4+75			3.91	133.32	119.58	+ 13.74	" "	" "	6.0	131.2
5+00	D.E. bottom gulley.		11.12	126.11	119.83	+ 6.28	" "	" "	14.2	123.0

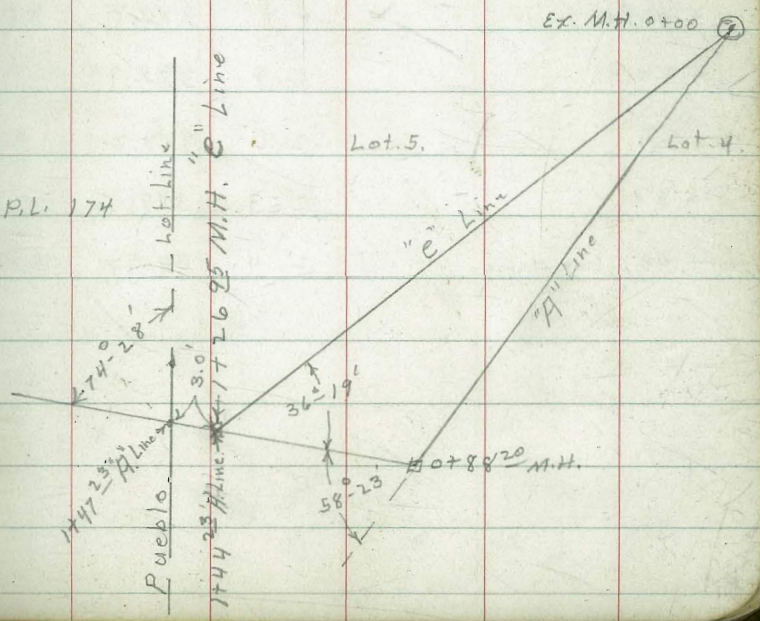
7-17-35 Sewer in P.L. 174 change. — "C" Line
Miller Walkin Bliss
See F.B. 1519 - P. 35

B.M.	16.17	135.25		119.08	M.H. Rim Sta 0+00			
0+00 = Ex M.H.			16.17	119.08	114.83 F.L. Grade	+4.25 from Rim		
0+03							18.2	117.0 Wash.
0+25			8.10	127.15	115.11	+12.04 Stub 5' offset to Rt	10.4	124.8
0+50			3.76	131.49	115.40	+16.09 " " " "	5.5	129.7
0+75			4.94	130.31	115.69	+14.62 " " " "	6.0	129.2
1+00			7.72	127.53	115.97	+11.56 " " " "	9.0	126.2
1+25								
1+26.95 ("C" Line) M.H. = {Sta 1+44.23 "A" Line}			11.05	124.20	116.27	+7.93 " " " "	12.30	122.95 stub.

1.143 %

℄ Profile

℄ Rod	Elev. Ground ℄	
↑ 135.25		
16.4	118.8	
18.2	117.0	Wash.
10.4	124.8	
5.5	129.7	
6.0	129.2	
9.0	126.2	
12.30	122.95	stub.



7-27-35
Miller
Walker
Blair

Water Grades Alley Blk. 60
Univ. Hts. Monroe to Madison
bet. Ohio & Illinois. 10" Main.

Indexed
C.S.K.

					Alley Grade	Grade Bottom Pipe	℄ Alley = 5' offset to W. Curbs.
BM.	6.98	391.82		384.84			
0+00 = N. Line Monroe			5.7	386.1	385.8	382.20	+ 3.9
0+50			5.2	386.6		382.40	+ 4.2
1+00			5.4	386.4		382.60	+ 3.8
1+50			4.7	387.1		382.90	+ 4.2
2+00. Brk.			4.8	387.0	386.7	383.10	+ 3.9
2+50			4.3	387.5		383.30	+ 4.2
3+00			4.4	387.4		383.50	+ 3.9
3+50			4.1	387.7		383.70	+ 4.0
4+00			3.8	388.0		383.90	+ 4.1
4+40 Brk			3.4	388.4	387.7	384.10	+ 4.3
4+80			2.9	388.9		384.50	+ 4.5
5+20			2.6	389.2		384.90	+ 4.3
5+60			2.3	389.5		385.30	+ 4.2
6+00 S. Line Monroe			2.4	389.4	389.2	385.60	+ 3.8

8-17-35
Miller
Walker
Bliss.

Sewer Grades Talbot St

						indexed C.S.K.
BM. ℄ M.H. connection	12.89	82.37		69.48	at Sta 6+41.00	
6+41.00			12.01	70.36	65.50	+4.86
6+00			10.42	71.95	67.43	+4.52
5+50			7.42	74.95	69.78	+5.17
5+00			5.40	76.97	72.13	+4.84
4+50 T.P.	12.21	93.85	0.73	81.64	74.48	+7.16
4+00			12.93	80.92	76.83	+4.09
3+50			10.05	83.80	79.18	+4.62
3+00			Not. In.		81.53	
2+88.30	M.H ∠ 8° 25 Rt.		7.87	85.98	82.08	+3.90
T.P.	12.23	105.44	0.64	93.21		
2+50			13.08	92.36	83.87	+8.49
2+00			10.14	95.30	86.22	+9.08
1+50			10.97	94.47	88.57	+5.90
0+90			3.57	101.87	91.39	+10.48
0+50 T.P.	7.25	111.98	0.71	104.73	93.27	+11.46
0+14 } D.M.H.			5.44	106.34	94.97	+11.37
0+14 }			5.64	106.34	94.06	+7.28
0+00 Connection			4.67	107.31	100.00	+7.31
chk			5.22	106.76 =	106.70	

Top. of 6" Pipe at △ Sta 6+49 Neul Location M.H. → 7.19 / 5.56 / 0.56 / 5.00 → 70.36 BM / 2.39 / 72.75 △

← Grade Change

Grade of Pipe at	F.L. Grade	N.L. S. of N. Prop. Line.
6+49 { Existing 6" Pipe at △ }	65.00	
6+41		
6+00	71.95	67.38 / 4.57
5+50	74.95	69.75 +5.20
5+00 No. change		72.13 +4.84
℄ stub	7.95	85.90 = 85.88

8-19-35
Miller
Walker
Bliss

Sprinkler Head Grades.
Municiple Golf Course

Indexed
C.S.K.

16.7
4.5

No 1 Battery at Green.

Grade Rod	0.16	0.16	0.16	0.16	0.16
Rod	1.43		2.88	9.79	13.28
	F1.27		-2.72	-9.63	-13.12

No 2 Battery

G. R.	0.50	0.50	0.50	0.50
R.	3.96	10.50	7.46	14.10
	F3.46	-10.00	-7.16	-13.60

No 3. Battery.

G. R.	0.12	0.12	0.12	0.12
R.	5.42	8.89	12.06	15.12
	-5.30	-8.77	-11.94	-15.00

No 4. Battery

G. R.	0.51	0.51	0.51	0.51
R	3.33	6.99	12.98	9.70
	-2.82	-6.48	-12.47	-9.19

No 5. Battery

G. R.	0.92	0.92	0.92	0.92
R.	4.35	12.03	8.03	15.60
	-3.43	-11.11	-7.11	-14.68

No 6. Battery

G. R.	0.80	0.80
R.	11.24	14.64
	-10.44	-13.84

No 7. Battery

G. R	1.23	1.23	1.23
R	5.53	10.93	8.53
	-4.30	-9.70	-7.30

Laurel St Grades Kellner to Atlantic

Grades.

W. line Kellner	S. Edge Ex Pav.	S. Gutter	S. el.
0+00	31.25	31.04	31.62
0+20	30.12	29.90	30.50
0+40	28.56	28.45	29.05
0+60	26.70	26.56	27.16
0+80	24.51	24.40	25.00
1+00	22.41	22.32	22.92
1+20	20.65	20.59	21.19
1+40	19.37	19.38	19.98
1+60	18.53	18.41	19.01
1+75	17.92	17.73	18.33
end cl. 2+00		16.55	17.15

BM 15.78

2.43

18.21

1.89

16.32

12.41

28.73

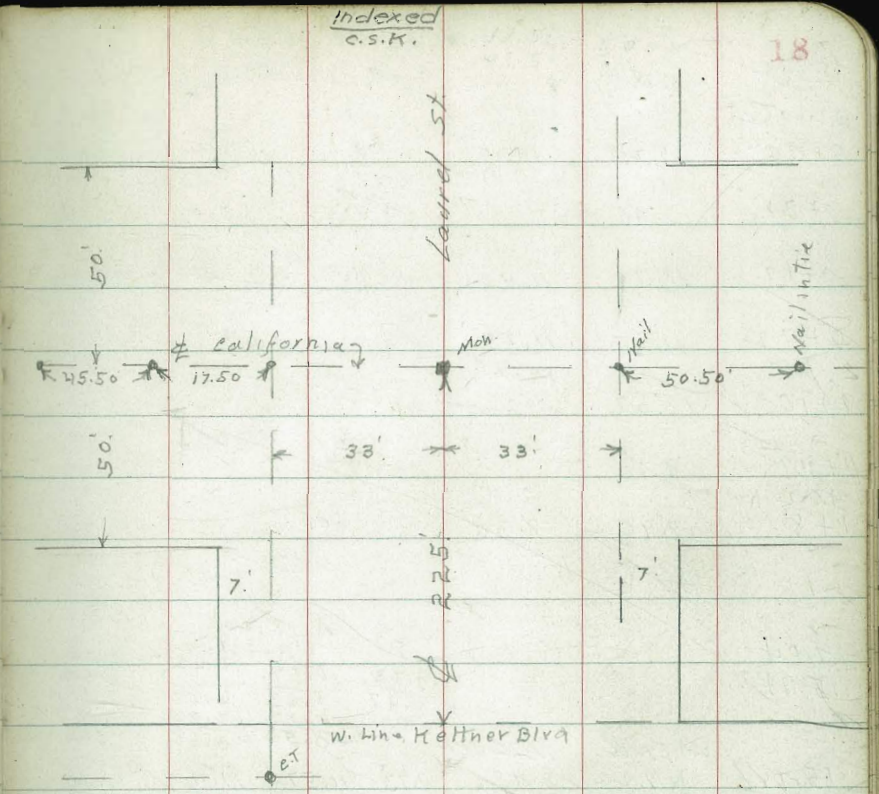
1.10

27.63

7.03

34.66

17.15	18.33	19.01	19.98	21.19	22.92	25.00
1.06	10.40	9.72	8.75	7.54	5.81	3.73
1.89	11.50	10.21	9.19	7.62	6.02	4.19
-0.83	-1.10	-0.49	-0.44 ✓	-0.08 ✓	-0.21 ✓	-0.46 ✓
27.16		29.05	30.50		31.62	
1.57		5.61	4.16		3.04	
2.07		5.99	3.93		3.03	
-0.50 ✓		-0.38 ✓	+0.23 ✓		✓	



Gutter Grades

15.78

12.16

27.94

1.01

26.93

7.60

34.53

16.55	17.73	18.41	19.38	20.59	22.32	24.40
11.39 ✓	10.21 ✓	7.55 ✓	8.56 ✓	7.35 ✓	5.62 ✓	3.54 ✓
26.56		28.45	29.90		31.04	
1.38		6.08 ✓	4.63		3.49	

Water Line Grades

W. Line Cal	N. d					
0+00	15.20	14.60				
0+31	13.45					
0+62	11.70	11.40				
0+72	11.40	11.20				
1+10.67 (38.67)	10.57	10.85				
1+49.33	9.73					
P.C. 20° Rad. 1+88 P.C.	8.90	8.30				

4.04
15.74

End Ex. el. Rd 11.22 Gr 8.78

15.78
4.20
19.98 = T.

13.45 / 6.53 ✓

15.20 / 4.78 ✓

A 18.20

9.73	10.57	11.40	11.70
8.47	7.63	6.80	6.50
CHK	8.13	7.34	7.10
	−0.50	−0.58	−0.40 ✓
			CHK

N. Curb

8.90 / 11.08 ✓	9.73 / 10.25 ✓	10.57 / 9.41	11.40 / 8.58 ✓

11.70
8.28
8.84
−0.60

continued Page 22.

W. Line Cal	S. Gutter	S. ch.
0+00	14.40	15.00
0+30		13.50
0+60	11.40	12.00
1+06	9.90	10.50
1+17	9.80	10.00
1+30 (1+22)	9.00	
1+52.5		9.02
P.C. 20° Rad. 1+88	7.40	8.05
2+00	7.20	
2+08		

15.00
3.21

Ex el.
8.05
11.93 ✓

S. ch.
9.02
10.96 ✓

10.00	10.50	12.00	13	50	15.00	
9.98	9.48	7.98 ✓	6.48 ✓		4.98	
10.38	10.48				6.04	
−0.40	−1.00				−1.10	

1998 = T

15.78
2.42
T 18.20

Water Grades.

15' E. of W. Line Cal. Cornice
N. ch. Line Play
12.6
5.6
3.0
+2.6

10' S. of E+
12.5
5.7
4.0
+1.7
S. ch. Line Play
12.4
5.8
3.7
+2.1

0+50	0+85	1+35	1+65
10.2	8.5	7.3	6.5
8.0	9.7	10.9	11.7
6.1	7.4	8.7	9.2
+1.9	+2.3	+2.2	+2.5

2+15 = G.V. E. Line Pacific

Grades for 5' Sidewalk N. Side of Sassafras St. bet. Pacific & Kettner Blvds

8-24-33
Mills
Bliss

Indexed
C.S.K.

20

BM Top Hyd	9.41	21.31		11.90	S.E. Pacific + Sassafras curb Grade	Grade of S. Edge Walk.		
0+12 = ℄ End Curb			11.93	9.38	9.27	9.33	+0.05	9.27 / .04
0+46			11.85	9.46	9.61	9.67	-0.21	
0+80 B.			11.30	10.01	9.95	10.01	0.0	
0+90 B				Not set.	10.17			
1+00 B			10.69	10.62	10.65	10.71	-0.09	
1+10 B				Not set.	11.36			
1+20 B			9.52	11.79	12.33	12.39	-0.60	
1+30 B				Not set.	13.55			
1+40 B			7.36	13.95	15.01	15.07	-1.12	
T.P.	12.93	32.96	1.28	20.03				
1+92 B.	B.C. 20' Rad.		12.06	20.90	23.25	23.31	-2.41	
2+00			11.06	21.90	24.45	24.45	-2.55	
2+07			10.03	22.93	25.28	25.28	-2.35	
W. Rail								
2+50 = ℄ A.T.S.F. R.R.			4.93	26.03	25.89			
2+75 B			5.21	27.75	26.30	26.36	+1.39	
3+05 40			3.32	29.64	28.00	28.06	+1.58	
3+35 B			2.25	30.71	29.70	29.76	+0.95	
3+55 B			1.31	31.45	31.10	31.16	+0.49	

30 / 17

		32.96							
3+75 B.T.P.	13.67	46.38	0.25	32.71	32.80	32.86	−0.15		
3+95 B			11.65	34.73	35.00	35.01	−0.33		
4+15 B			8.56	37.82	37.60	37.66	+0.16		
4+45			4.78	41.60		42.00	−0.40		
4+75 = M. Line Kettner Ex. Curb	0.25		46.16	= 46.16		46.35			

Grade of S Edge Walk.

0.25
13

13.64
1.03
13.67

0.03
46.35
37.65
2 | 8.70
4.35
42.00
46.35

Laurel St. Grades. (indexed C.S.K.)

		N.G.	℄	S.G	
BM. 15.78	E Line Cal.	17.60	18.16	17.73	15.78
3.61		1.79	1.23		3.87
19.39		Pav.	Pav.		19.65
	0+25	16.55	16.70	16.55	
		3.10	2.95		
0+40		16.10	16.15	15.95	
		3.55	3.50	3.70	
0+45		15.96	15.88	15.80	
Track		3.69	3.77	3.85	
0+55		15.93	15.86	15.76	
		3.72	3.79	3.89	
0+75		15.50	15.40	15.30	
		4.15	4.25	4.35	
0+88		15.10	15.00	14.90	
		4.55	4.65	4.75	
W. Line Cal		14.60	14.50	14.40	
1+00		5.05	5.15	5.25	

N. Gutter		℄		S. Gutter	
W. Line Cal	14.60	0+00 ℄	14.50	0+00 S	14.40
0+25 N	13.22	0+35 ℄	12.80	0+30	12.90
			6.85		
0+50 N	11.85	0+70 ℄	11.10	0+60	11.40
			8.55		
0+61½ N	11.40	0+81½ ℄	10.75	1+03½	10.10
	8.25		8.90		
Track		Track		Track	
0+74½ N	11.00	0+94½ ℄	10.36	1+16½	9.70
	8.65		9.29		
0+89. N.B	10.40	1+00 ℄	10.40	1+30	9.00
	9.25				
1+10 47	9.96	1+10 ℄	10.20	1+59	8.20
	9.69				
		1+20 ℄	9.95		
1+49 33	9.20		9.70		
	10.45	1+50 ℄	9.17		
			10.48		
1+88 P.C.	8.30	1+80 ℄	8.40		
	11.35		11.25		
	8.10	1+88 ℄	8.20	1+88	7.90
			11.45		
2+00 P.T.	8.10	2+00 ℄	7.90	2+00	7.05
			11.75		Ex. catch Basin
2+08	8.00	2+08 ℄	7.80	2+08	7.55

10-17-35
Miller
Walker
Bless.

Gutter Grades W. side 21st St.
E. St. to Broadway

B.M. B.P.	7.49	121.94	114.45	N.W. Cor. 21st & E.
	Return at N.W. Cor 21st & E.			
	W. End			
Gutter	Pav	8.31		
"	Grade	8.31	113.63	
	1/4			
Gutter	Pav	8.10		
"	Grade	8.10	113.84	
	etr.			
Gutter	Pav	8.00		
"	Grade	8.00 ✓	113.94	
	1/4			
Gutter	Pav	8.00		
"	Grade	7.97 ✓	113.97	
	0+00 = N. line E. St.			
eb.		7.50	114.44	
G. Pav.		8.04		
G. Grade		7.94 ✓	114.00	

Indexed
C.S.K.

23

	121.94		
	0+20		
G. Pav		8.00	
G. Grade		7.88 ✓	114.06
	0+34		
G. P.		7.92	
G. G.			
	0+40		
G.P.		7.96	
G G		7.81 ✓	114.13
	0+60		
G. P		7.90	
G_G.		7.74 ✓	114.20
	0+73		
G.P.		7.95	
G.G.			
	0+80		
G. P.		7.92	
G G		7.67 ✓	114.27

121.94

1+00

ch 7.22

G.P. 7.86

G.G 7.60 114.34

1+20

G.P. 7.72

G.G 7.54 ✓ 114.40

1+40

G.P. 7.56

G.G 7.49 ✓ 114.45

1+46

G.P 7.47

G.G. 7.47 114.47

1+60

G.P. 7.47

G.G. 7.44 ✓ 114.50

1+80

G.P. 7.47

G.G 7.39 ✓ 114.55

Gutter Grades 21st St. 24

121.94

2+00

d 7.25

G.P. 7.52

G.G 7.34 ✓ 114.60 High Pt.

2+20

G.P 7.50

G.G 7.39 ✓ 114.55

2+40

G.P. 7.49

G.G 7.44 114.50

2+60

G.P. 7.45

G.G. 7.49 ✓ 114.45

2+80

G.P. 7.43

G.G. 7.54 114.40

3+00 = S. line Rdw.

Ch. 7.14

G.P. 7.32

G.G 7.39 114.35

121.94.

Return S.W. Cor. 21st St + Bdw

1/4

G.P.		7.25		
G.G.		7.62	114.32	
	center			
G.P.		7.26		
G.G		7.65	114.29	
	1/4			
G.P.		7.42		
G.G.		7.68	114.24	
	W. End.			
el		7.09		
G.P.		7.67		
G.G		7.71	114.23	
BM.B.P.		7.04	114.86	S.W. Cor. 21st St + Bdw

Grades for Fence
Golf Course Balboa Park.

Indexed C.S.K.

26

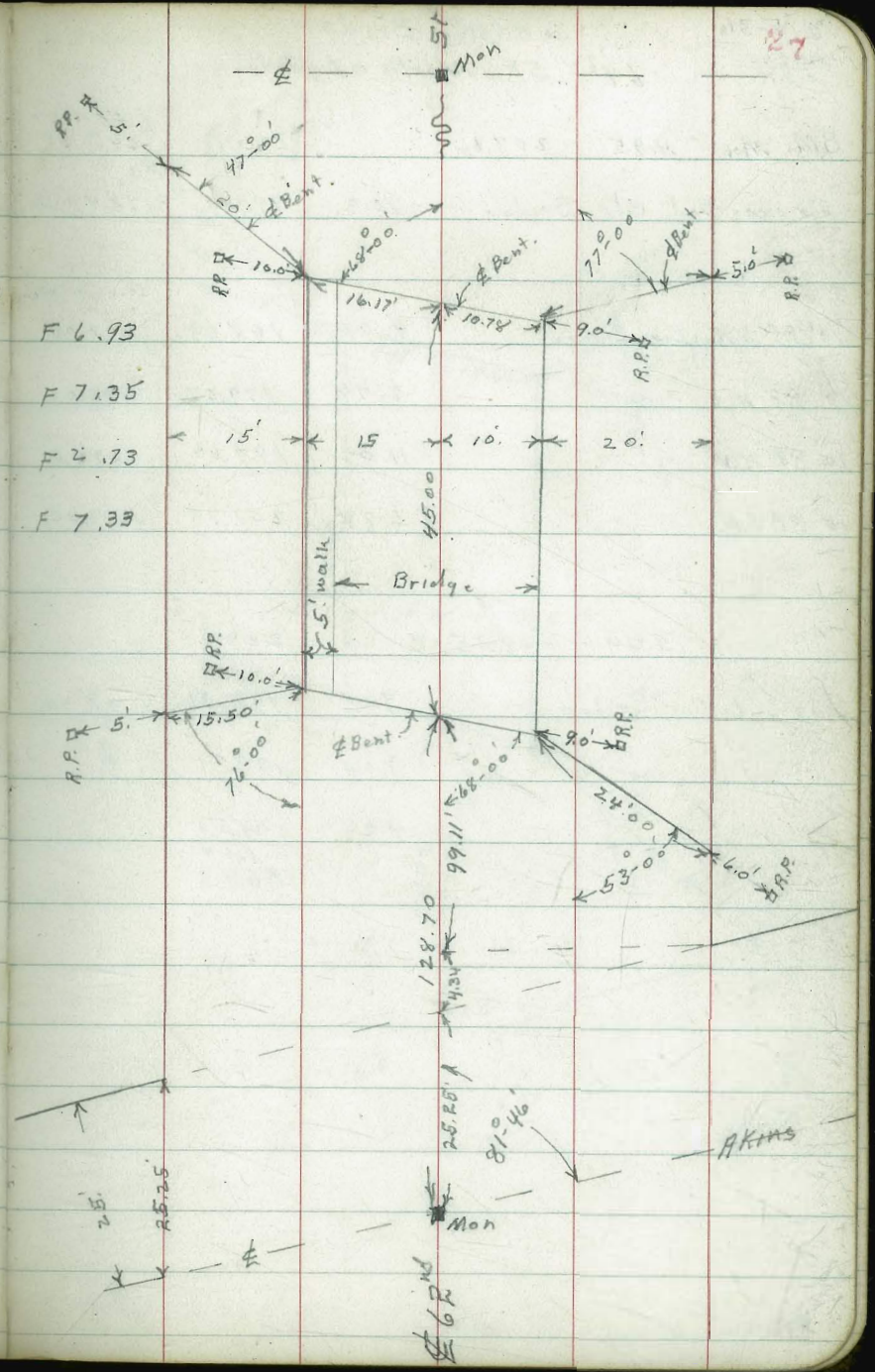
	Ground Rod.	Grade Rod
+40		5.1 ✓
+20	6.3 x	4.8 ✓
3		4.5 ✓
+80	5.8	4.2 ✓
+60		3.9 ✓
+40	5.3	3.6 ✓
+20		3.3 ✓
2	4.6	3.0 ✓
+80		2.7 ✓
+60	4.0 x	2.4 ✓
+40		2.1 ✓
+20	3.5	1.8 ✓
1		1.5 ✓
+80	2.4	1.2 ✓
+60		0.9 ✓
+40	1.5	0.6 ✓
+20		0.3 ✓
00 = N. End. Fence	0.9	0.00 ✓
	Π 99.9 Assumed	

	Ground Rod.	Grade Rod
7	11.2	10.5 11.2 F 0.7
+80	11.1	10.2 11.05 F 0.85
+60		out 9.9 9.6 10.3 F 0.7 9.3
+40	10.3 x	out
+20		9.0 9.7 F 0.7 8.7
6	9.8 x	out
+80		8.4 8.9 F 0.5 8.25 ✓
+60	8.9	8.1 out
+50	8.9	
+40		7.8 ✓
+20	8.8	7.5 ✓
5		7.2 ✓
+80	8.9 x	6.9 ✓
+60		6.6 ✓
+40	7.5 x	6.3 ✓
+20		6.0 ✓
4	7.1	5.7 ✓
+80		5.4 ✓
+40	6.4	

1-27-36 Encanto Bridge — Indexed C.S.K.

Miller Walker Bliss — 62nd St. N. of Akins St.

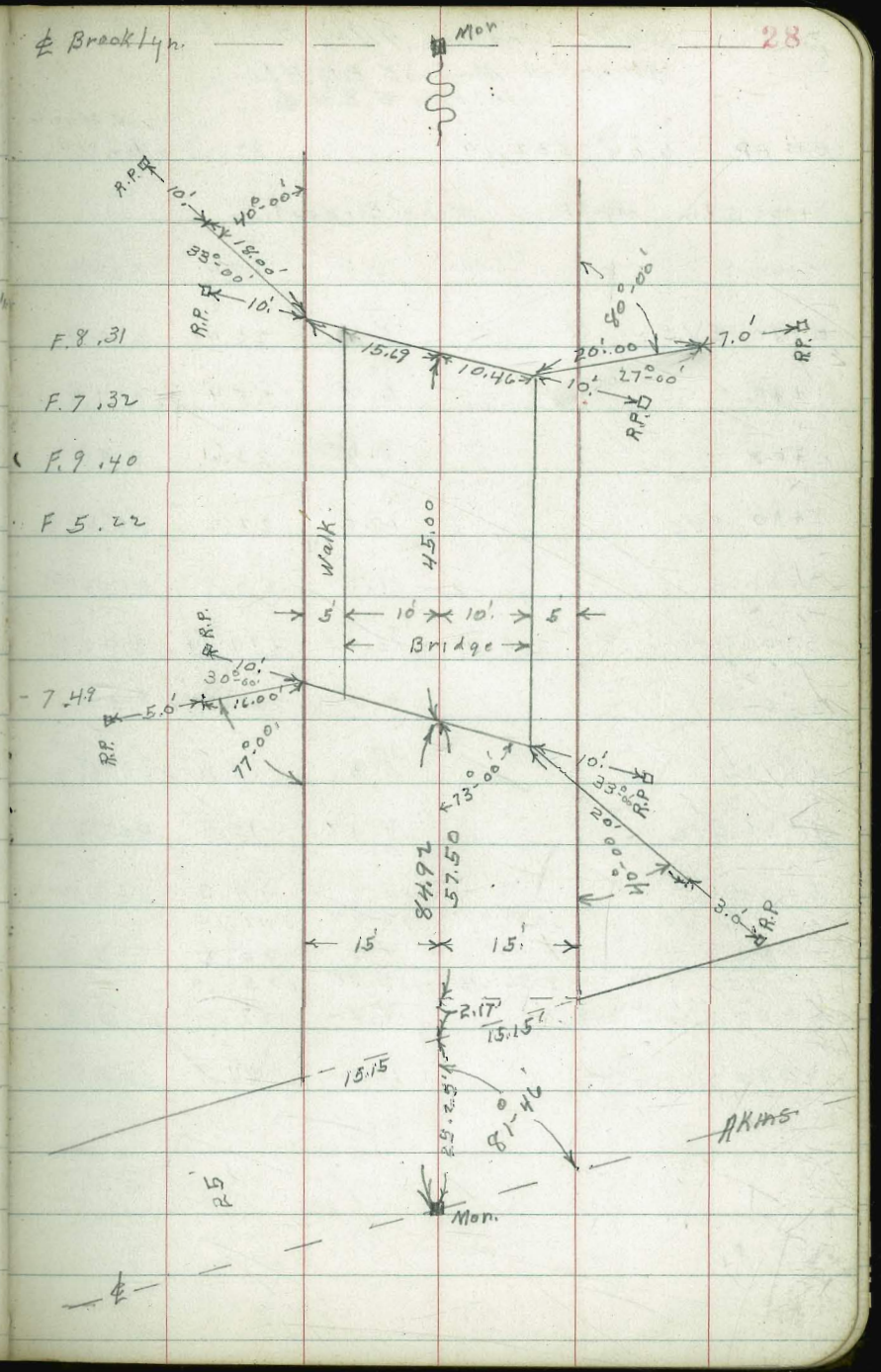
B.M. Mon	5.06	190.74		185.68	℄ Akins & 62nd St.
Ex Stream Bed	ctr Bridge	9.0		181.7 ±	Profile
				Grade Bridge Deck	
9' R.P. S.E. Cor.		7.67	183.07	190.00	F 6.93
9' R.P. N.E. "		8.09	182.65	190.00	F 7.35
10' R.P. N.W. "		3.47	187.27	190.00	F 2.73
10' R.P. S.W. "		8.07	182.67	190.00	F 7.33



2-5-36
Indexed
C.S.K.

Encanto Bridge
64th St. North of Akins

B.M. Mon.	4.95	208.66		203.71	℄ Akins & 64th St.
Stream Bed. ctr Bridge			10.3	198.4	= 198.4 Profile
					Elev floor of Bridge
10' R.P. S.E. Cor. Bridge			9.97	198.69	207.00
10' R.P. N.E. " "			8.98	199.68	207.00
10' R.P. N.W. " "			11.06	197.60	207.00
10' R.P. S.W. " "			6.88	201.78	207.00
B.M.	5.04	208.75		203.71	
Stub S.E. Cor Bridge			9.24	199.51	207.00
			9.24	199.51	
			4.24	204.51	
				1.64	
				206.15	



Indexed
C.S.K.

Water Grades Alley Blk 104. 4-15-36

Amended Map of City Hts.
10" Pipe 5' E. of ℄

BM. BP	6.08	332.19		326.11	N.W. Myrtle + Van Dyke.	
0+00 ÷ S. line Myrtle			Make Connection			
0+40 B			4.8	27.4	322.8	+4.6
0+80 E.V.C.			5.8	26.4	322.8	+3.6
1+40			6.8	25.4	321.3	+4.1
2+00			8.6	23.6	319.9	+3.7
2+60 P.V.C.			10.0	22.2	318.5	+3.7
3+00 B			11.3	20.9	317.3	+3.6
3+40 B	T.P. 0.68	319.87	13.00	319.19	315.4	+3.8
3+80 B			2.8	17.1	313.0	+4.1
4+20 B			5.3	14.6	309.8	+4.8
4+60 E.V.C.			8.4	11.5	305.8	+5.7
5+00			15.9	04.0	301.5	+2.5
T.P.	0.81	307.91	12.77	307.10		
5+50			12.7	95.2	296.0	-0.8
T.P.	1.96	296.96	12.91	295.00		
6+00 N. line Thorn.			8.8	88.2	290.5	-2.3
4+50	10"x10" T.		10.0	86.9	289.4	-2.3

Indexed C.S.I.K.

Water Grades Thorn St

296.96

0+00 = 5' E. of E. Alley W. of 43rd St I.B.T.					289.4	
0+45 4 B			16.2	280.8	285.9	-5.1
0+85 40 B			17.3	279.7	283.8	-4.1
1+25			19.7	277.3	285.3	-8.0
1+45 connection 2"						
1+65 45.5 B			18.8	278.2	286.8	-8.6
2+10 45.5 T.P.	12.96	309.48	+0.3	297.3	290.2	+7.1
T.P.	10.54	319.80	0.44	296.57		
			0.22	309.26		
2+56 B			6.7	313.1	293.6	+19.5
3+16			7.1	312.7	298.5	+14.2
3+76			9.8	310.0	303.4	+6.6
4+36			7.3	312.5	308.3	+4.2
4+96 W Line Fairmont			3.0	316.8	313.1	+3.7
5+36 T.					314.3	
T.P. B.M. B.P.	1.81	319.83	1.78	318.02	S.E. Thorn & Fairmont.	
B.M. Mon			14.38	305.45	N.W. Glenfield & Fairmont & Poplar.	
B.M.	2.54	320.56		318.02	S.E. Thorn & Fairmont.	
0+00 = E. Line Fairmont			2.5	318.1	314.6	+3.5
0+50			3.3	317.3	312.3	+5.0
1+00			7.6	313.0	309.9	+3.1
1+40 Valve.			10.0	310.6	308.0	+2.6

Water Grades Alley Blk. 5 City Hts Annex #2

Indexed C.S.K.

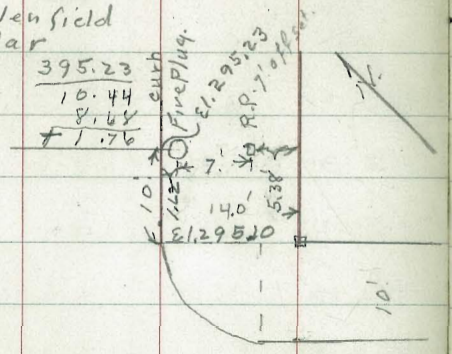
BM. B.P	5.52	346.41		340.89	N.W. Dwight & Fairmont	
0+20 S. Line Dwight	Lowered to Meet pipe		3.9	342.5	337.3	+ 5.2
0+60 B			4.5	341.9	38.6	+ 3.3
1+00			4.8	341.6	38.4	+ 3.2
1+40			5.1	341.3	38.1	+ 3.2
1+80 B			5.3	341.1	337.9	+ 3.2
2+20 B			5.7	340.7	337.5	+ 3.2
2+60			6.0	340.4	37.0	+ 3.4
3+00			6.6	339.8	36.5	+ 3.3
3+40	2.40	341.71	7.10	339.31	36.0	+ 3.3
3+80			2.6	339.1	35.5	+ 3.6
4+20			3.1	338.6	35.0	+ 3.6
4+60			3.9	337.8	34.5	+ 3.3
5+00 B			4.6	337.1	334.0	+ 3.1
5+50 B			5.8	335.9	332.7	+ 3.2
6+00 B N. Line Myrtle			8.2	333.5	330.1	+ 3 4
E. el.			8.3	333.4		

Poplar St. Water Grades

Fire Hydt Ely. Cor Columbine
NW. Glenfield + Poplar

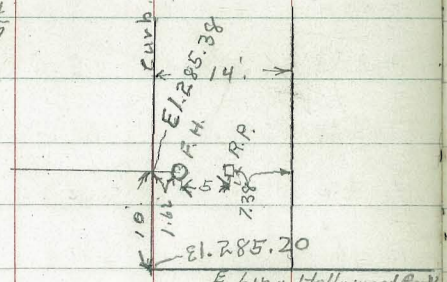
BM. Mon 305.45
0.12
305.67
12.09
293.58
1.58
295.16
8.15
287.01
6.74
293.75

395.23
10.44
8.67
+1.76



Columbine

297.01
4.08
291.09
285.38
5.71
5.34
+0.37

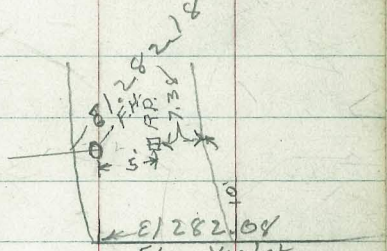


Indexed
C.S.K.

293.75
7.01
286.74
6.10
292.84
8.01
284.83
5.38
290.21
5.97
284.24 = 284.08 BM. Pipe N.E Violet.

293.75
287.05
6.70
7.01
-0.31

292.84
282.18
10.66
8.01
+2.65



Culvert. Grades. Webster Ave.

Indexed C.S.K.

B.M. B.P.	1.14	63.07		61.93	N.W. Webster & Bancroft	
E. curb Bancroft						
S. cl Webster		Top curb	4.87			
S. Line "			5.07	58.00		
				− 6.00	Depth of C.B	
14' South "			4.86			
					F.L. Grade	
S. cl. Line Webster = N. End C.B.			4.87	58.20	52.00	+6.20
0+50 = clean out △ 90°-00 Rt.						
42' N. = E. curb Line = ℄ R. of W to E.			3.83	59.24	51.50	+7.74
Profile						
1+00			7.87	55.20	49.50	+5.70
1+50 Brk			11.07	52.00	47.50	+4.50
T.P.	0.33	50.50	12.90	50.17		
1+95 Brk			2.6	45.5	42.00	+3.5
T.P.	1.88	39.35	13.03	37.47		
2+22.5			6.95	32.40	32.4	0.0
T.P.	0.41	26.89	12.87	26.48		
2+60.			3.89	23.00	19.0	4.0
2+75 W. end Pipe		24" Diam	4.55	20.34 Top		
" " "				− 2		
				18.34 F.L.		
E End above Pipe			9.23	17.66		
+46.5			9.09	17.80	17.40	+0.40
+93. W. End Pipe under 33rd St			9.85	17.14		

		26.89								
T.P. Hyd.	1.40	23.00	5.29	21.60						
0+00 E. End 33rd st. Pipe			6.85	16.15	Grade 16.15					
0+40			4.89	18.11	15.95	+2.14				
0+80			5.30	17.70	15.75	+1.95				
1+26			5.66	17.34	15.55	+1.79				
1+60 W. end Pipe			Fl. Pipe 7.06	15.94	to Be lowered	5.05	17.95	Grade 15.35	+2.60 ✓	
E " "			Fl. Pipe 7.41	15.59	" " "	5.40	17.60	15.10	+2.50 ✓	
30' E. W " "			7.72	15.28	" " "	5.63	17.37	14.90	+2.47 ✓	
E " "			7.72	15.28 ✓	" " "	5.78	17.22	14.70	+2.52 ✓	
0+50			6.54	16.46	14.40	+2.06 ✓✓				
1+00			6.25	16.75	14.10	+2.65 ✓				
1+50 W. End. Pipe			Fl. Pipe 7.25		To Be Lowered	5.70	17.30	13.80	+3.5 ✓	
E " "			Fl. Pipe 7.60	15.40	" " "	5.20	17.80	13.50	+4.30 ✓	

Fire House 8th & J. Sts

Indexed
c.s.k.

	BM. BP.	L. 26	25. 26		19.00	N.W. cor 8th & J. Sts						
		5.05	24.05		19.00							
						π 24.05						
0+00 = E End = W. line 9th St.					18.00	19.50		17.75	19.50		17.5	19.50
					+1.50	4.55 ✓		+1.75	5.74 ✓		+2.0	5.76 ✓
0+14					17.75	19.42		17.50	19.42		17.25	19.42
					+1.67	4.63 ✓		+1.92	5.84 ✓		+2.17	5.84 ✓
0+28	4				17.50	19.38		17.25	19.38		17.00	19.38
					+1.83	4.72 ✓		+2.08	5.93 ✓		+2.33	5.93 ✓
0+42	6				17.25	19.24		17.00	19.24		16.75	19.24
					+1.99	4.81 ✓		+2.24	6.02 ✓		+2.49	6.02 ✓
0+56	8				17.00	19.16		16.75	19.16		16.50	19.16
					+2.16	4.89 ✓		+2.41	6.10 ✓		+2.66	6.10 ✓
0+71					16.75	19.08	+74	16.50	19.06		16.25	19.08
					+2.33	4.97 ✓		+2.56	6.20 ✓		+2.83	6.18 ✓
0+85		W. End.			16.50	19.0		16.25	19.00		16.0	19.0
					+2.50	5.05		+2.75	6.24 ✓		+3.00	6.26 ✓

19.00
5.03
24.03

Floor G 19.50 − 0.50 = 19.00 — 5.745 G.R.

chk 4.55
19.48

See Page 54

π 25.26

	Floor
17.75	19.50
+1.75	5.74 ✓
17.50	19.42
+1.92	5.84 ✓
17.25	19.38
+2.08	5.93 ✓
17.00	19.24
+2.24	6.02 ✓
16.75	19.16
+2.41	6.10 ✓
16.50	19.06
+2.56	6.20 ✓
16.25	19.00
+2.75	6.24 ✓

π 25.26

	Bottom Footing S.	Floor S.
	17.5	19.50
	+2.0	5.76 ✓
	17.25	19.42
	+2.17	5.84 ✓
	17.00	19.38
	+2.33	5.93 ✓
	16.75	19.24
	+2.49	6.02 ✓
	16.50	19.16
	+2.66	6.10 ✓
	16.25	19.08
	+2.83	6.18 ✓
	16.0	19.0
	+3.00	6.26 ✓

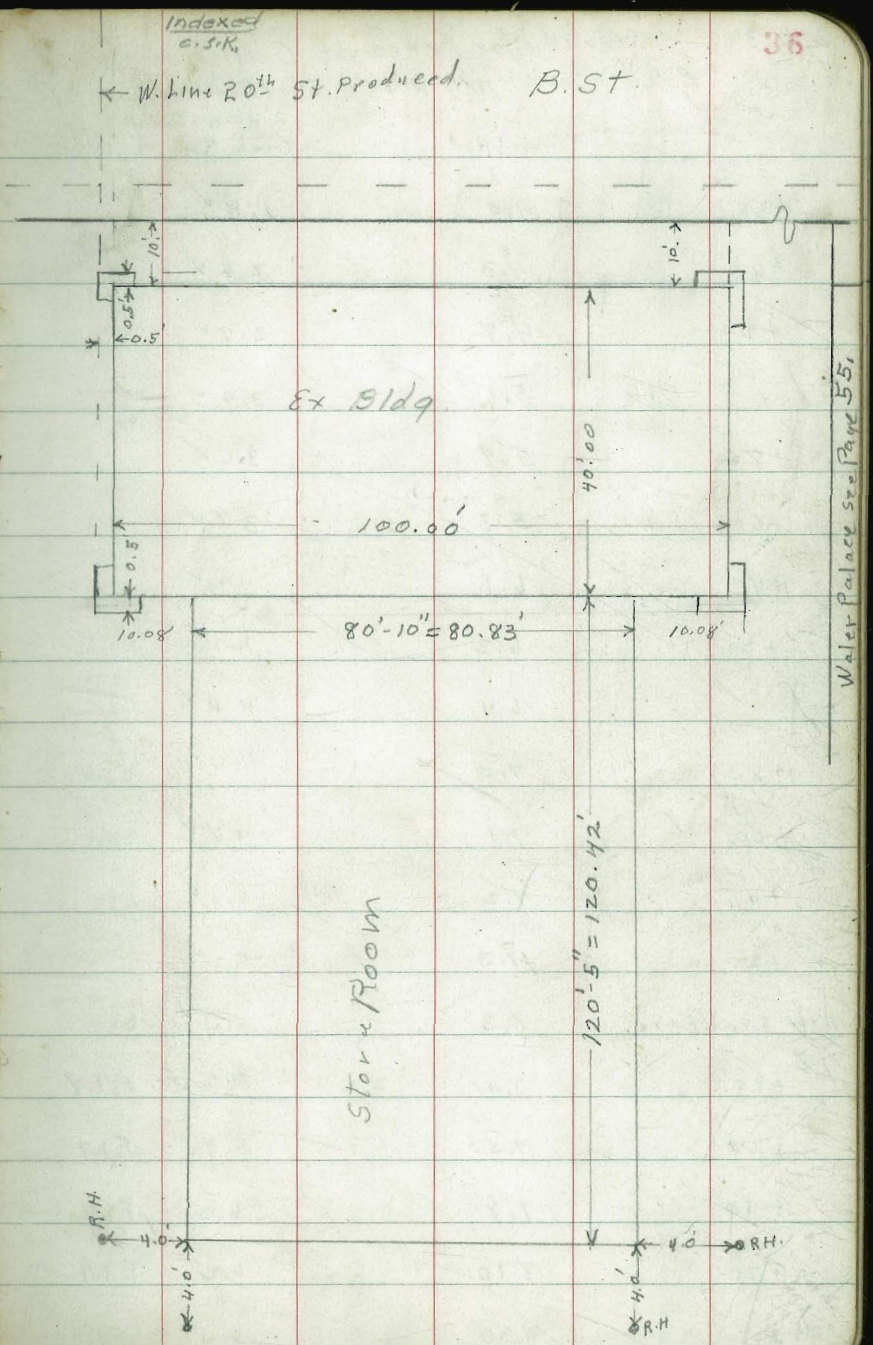
1-28-36
Millis
Walker
Bliss

Building at City Yards 20th & B. Sts

BM. BP	0.83	71.07		70.24	S.E. 20th & B. Sts.
			4.87	66.20 ✓	Floor Elev Shop.
Plano			5.82	65.25	
Nail Elec Pole			5.50	65.57	Floor Elev New Bldg
BM	0.86	71.10		70.24	
Floor Elev Shop.			4.90	66.20 ✓	
TP	4.69	70.26	5.53	65.57	
4.66 4.64					
			4.69		
			4.65		
			4.61		

Indexed
C.S.K.

36



2-3-34 Grade for Fence at Golf Course E. Side Pershing Drive S. of Redwood

		Ground. Rod		{2' above Grad Grade Rod}	
+60		4.0		1.9 ✓	
+40		4.3		2.4 ✓	
+20		4.8		2.9 ✓	
3	Brk	5.1	—	3.4 ✓	—
+80		5.4		3.6 ✓	
+60		5.7		3.8 ✓	
+40		6.1		4.0 ✓	
+20		6.2		4.2 ✓	
2		6.4		4.4 ✓	
+80		7.0		4.6 ✓	
+60		7.1		4.8 ✓	
+40		7.2		5.0 ✓	
+20		7.3		5.2 ✓	
1+00 S. End. Fence		7.3		5.4 ✓	
+80		7.4		5.6	F. 1.8
+60		7.5		5.8	F. 1.7
+40		7.8		6.0	F. 1.8
+20		8.10		6.2	F 1.9 ✓
0+00		8.30		6.4	F 1.9 ✓

Indexed C.S.K.

		Ground. Rod	{2' above Grad Grade Rod.}
+60			
+40			
+20			
5			
+80			
+60	N. End. Fence	1.5	+0.6 ✓
+40		2.2	+0.1 ✓
+20		2.7	0.4 ✓
4		3.0	0.9 ✓
+80		3.5	1.4 ✓

2-5-36.

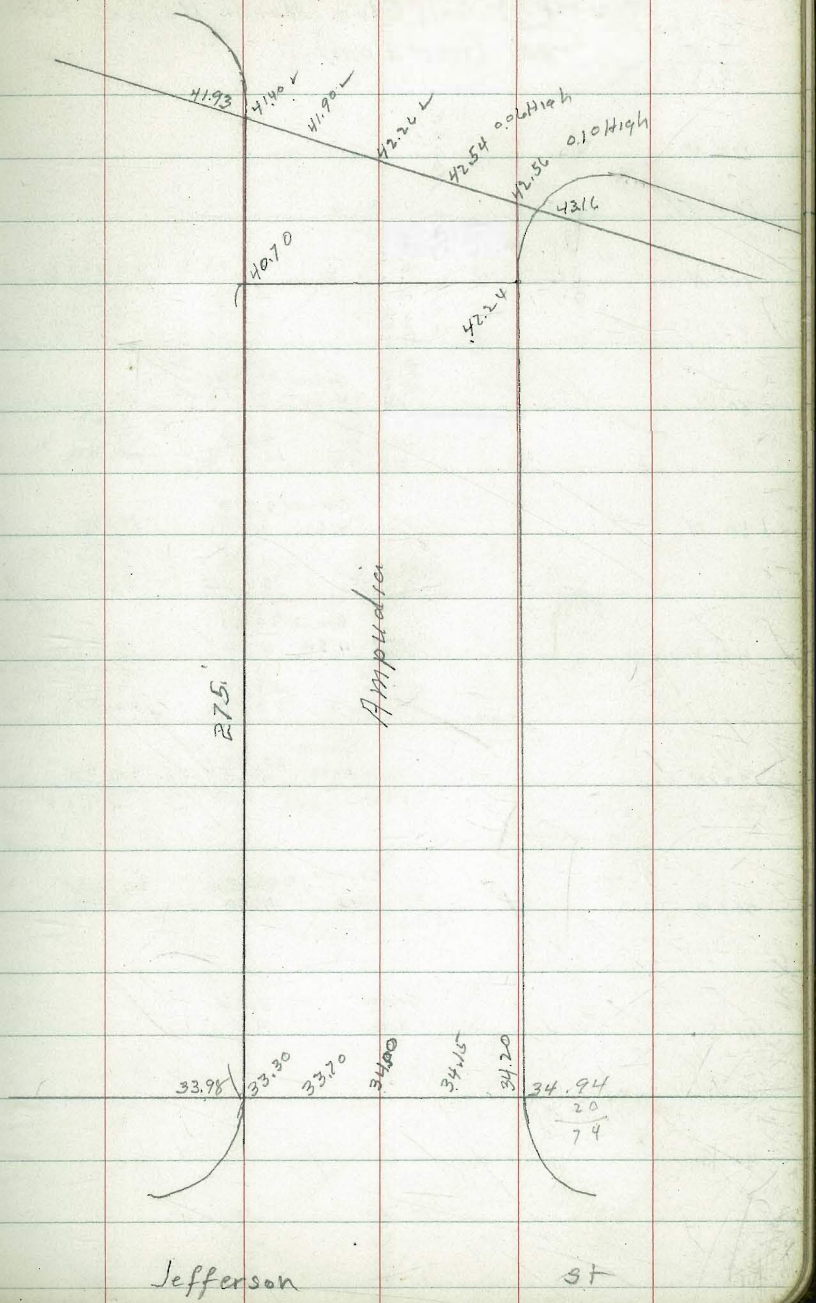
Ampudia Pav. Grades
La Jolla Ave to. Jefferson.

B.M. B.P	2.21	45.96		43.75	S. E. Ampudia + La Jolla Ave.
E. el			2.80	43.16	
E. G			3.40	42.56	
1/4			3.42	42.54	
℄			3.70	42.26	
1/4			4.06	41.90	
W G			4.56	41.40	
W. el			4.03	41.93	

N. Line Jefferson

E. el			11.02	34.94	
E. G			11.76	34.20	
W. G			12.66	33.30	
W. el			11.98	33.98	

Indexed
C. S. K.



2-10-36

Grades for Parking Area
Municipal Golf Club. House Balboa Park.
pal (what a pal)

Indexed
C.S.K.

39

B.M. 220.49
4.41
224.90

Cmt. Porch.
Golf Club House.
B.M. Elev 220.49
Cmt. Porch.

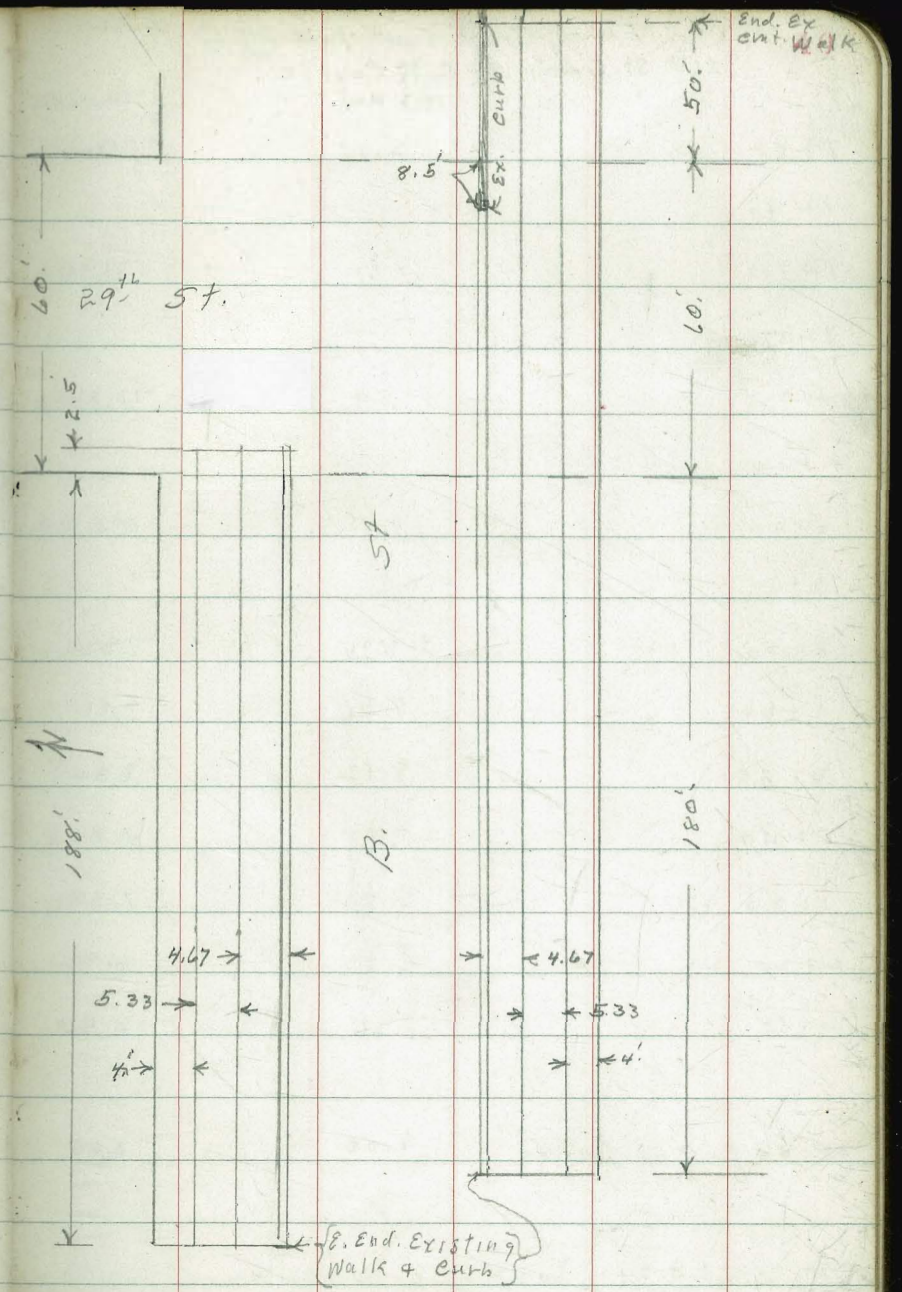
	0+00	20' S.	40' S.	60' S.	80' S.	100' S.	120' S.
120' N.							
108' N.							19.30 / 6.60 / 5.50 / +1.10 — 108' N.
100' N.			20.10 / 4.80 ✓	19.80 / 5.10 / 4.78 / +0.32	19.50 / 5.40 / 4.92 / +0.48	19.00 / 5.98 / 4.78 / 1.12	
80' N.		Ground 20.10 / 4.60 — 4.80 ✓	19.70 / 5.20 / 4.80 / +0.40	19.40 / 5.50 / 4.80 / +0.70	19.10 / 5.80 / 4.94 / +0.86	18.70 / 6.20 / 4.94 / +1.36 — 18.90 / 6.00 / 4.88 / +1.12	18.90 / 6.00 / 5.06 / +0.94
60' N.		Ground 20.10 / 4.80	19.80 / 5.10 / 4.80 / +0.30	19.50 / 5.40 / 4.80 / +0.60	19.40 / 5.50 / 5.02 / +0.48	19.30 / 5.60 / 5.02 / +0.58	19.30 / 5.60 / 4.85 / +0.75
40' N.		Ground 20.20 / 4.50 — 4.70 ✓	19.90 / 5.00 / 4.68 / +0.32	19.80 / 5.10 / 4.68 / +0.42	19.70 / 5.20 / 4.75 / +0.45	19.70 / 5.20 / 4.82 / +0.38	19.70 / 5.20 / 4.92 / +0.28
20' N.		Ground 20.30 / 4.40 — 4.60 ✓	20.30 / 4.60 ✓	20.10 / 4.80 / 4.57 / +0.23	20.10 / 4.80 / 4.65 / +0.15	220.10 / 4.80 ✓	220.10 / 4.80 ✓
0+00		Ground 20.40 ✓ / 4.40 — 4.30	20.60 ✓ / 4.30	20.60 / 4.30 ✓	20.80 ✓ / 4.10	20.90 ✓ / 4.00	220.90 / 4.00 ✓
20' S.	Ground 4.2	Ground. 4.0					
40' S.							

2-10-36 Sidewalk & Curb. Grades.
B. St. at. 29th

Indexed
C. S. K.

5.40
4.87
53

4.60
54
5.14



Fence Grades at foot of 26th St. Grade at Golf Course.

4-22-36

Indexed C.S.K.

		Stub Road.	Grade Road	
1+50		12.97	12.90	-0.07 ✓
1+40				
1+30		11.61	11.98	+0.37 ✓
1+20				
1+10		10.84	11.06	+0.22 ✓
1+00				
0+90		9.81	10.14	+0.33 ✓
0+80				
0+70		8.95	9.22	+0.27 ✓
0+60		8.51	8.76	+0.25 ✓
0+50		8.12	8.30	+0.18 ✓
0+40		7.58	7.84	+0.26 ✓
0+30		6.80	7.38	+0.58 ✓
0+20		6.66	6.92	+0.26 ✓
0+10		6.26	6.46	+0.20 ✓
0+00 = E. End Fence		6.00	6.00	00

B.M. Assumed 3.34

E. End conc Head wall S. of Road

Paymt Grades Alley B/K
65 W.P. Herberts Add. Bet 39½ + 40½ S. of Monroe

		W par	E par		Indexed C.S.K.	W. Par	E. Par
T.P. el	5.88	377.85	371.97				
	emt. el	W par	E par	emt. el			
S. Line Monroe	6.21	6.43	6.17	5.88			
	371.64 ✓	371.42 ✓	371.68 ✓	371.97 ✓			
					1+60 B	372.78	372.98
						4.89	4.79
						5.10	4.09
						−0.21 ✓	+0.70 ✓
						37267	
						5.19	
						372.48	
						2.90	
						375.38	
					1+80 B Out	372.83	373.03
					2+00.13	372.88	373.04
						4.79	4.59
						4.20	4.45
						+0.59 ✓	+0.14 ✓
0+20 75 B		371.98	371.83	372.21	2+20 B Out	372.80	373.00
		5.87	6.02	5.64			
		4.87		4.98			
		+1.00		+0.66			
					2+40 B	372.72	372.92
						4.95	4.75
						4.29	4.06
						+0.66 ✓	+0.69 ✓
0+40 25 B		372.33		372.54	2+90	372.50	372.70
		5.52		5.31		5.17	4.97
		4.85		4.92		4.99	3.95
		+0.67		+0.39		+0.18 ✓	+1.02 ✓
0+60 75 B		372.49		372.69	3+40	372.28	372.48
		5.36		5.16		5.39	5.19
		4.70		4.16		4.64	5.45
		+0.66		+1.00		+0.75 ✓	−0.76 ✓
0+87 75		372.55		372.75	3+90 B	372.06	372.26
		5.30		5.10		5.61	5.41
		5.12		4.10		5.30	5.24
		+0.18 ✓		+1.00		+0.31 ✓	0.17 ✓
1+00 75		372.60		372.80	4+10 B	371.96	372.16
		5.25		5.05		3.42	3.22
		5.01		4.05		3.10	2.90
		+0.24				+0.32 ✓	+0.32 ✓
			⊼ 377.67				
1+30 75		372.69		372.89	4+30 B	371.81	372.00
		4.98		4.78		3.57	3.38
		4.98		2.96		2.82	3.28
		0.0		+1.82		+0.75 ✓	+0.10 ✓

Continued Page 64.

Club House.
Police Pistol Range

5-19-36.

All. R.P.s 5'

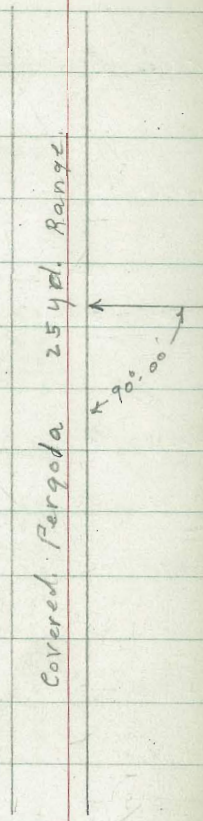
BM. 50.00 on walk
4.80
54.80
50.50 Floorgrade
4.30

Main Bldg.

N.W. Cor	S.W. Cor	N.E.	S.E.
4.30	4.30	4.30	4.30
4.59	5.53	3.67	4.72
-0.29	-1.23	+0.63	-0.42

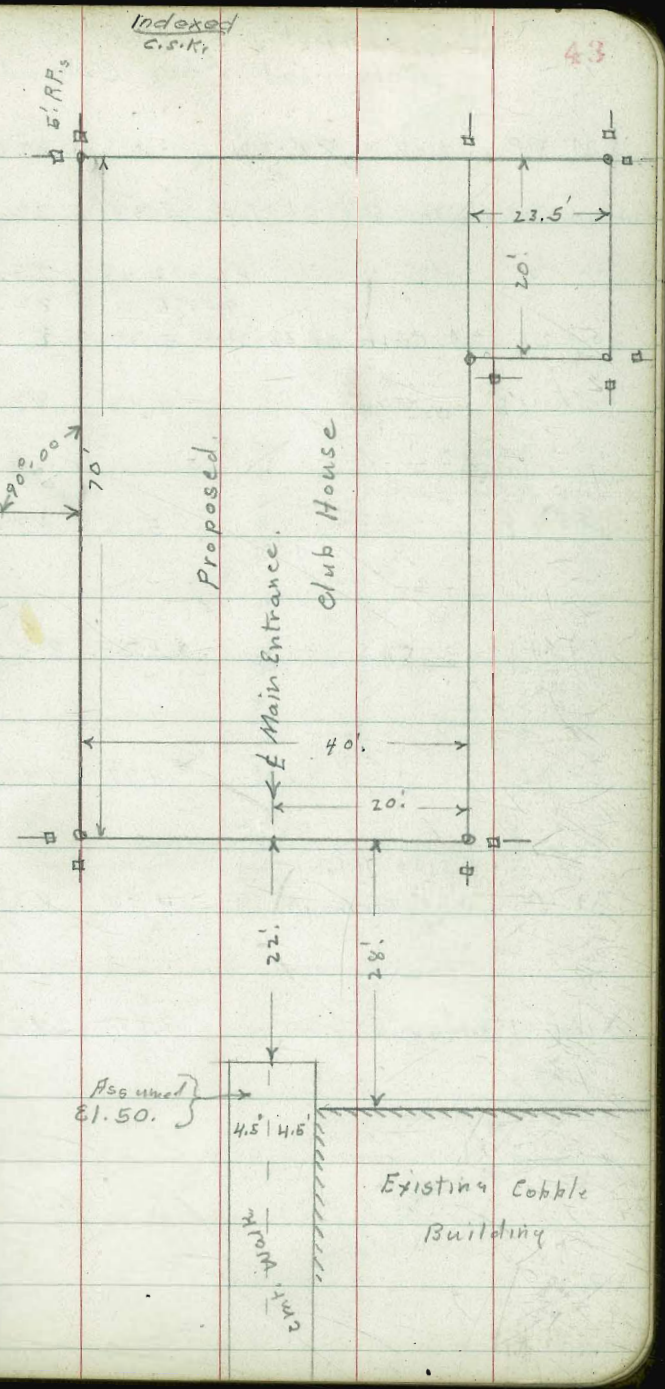
Wing

N.W.	S.W.	S.E.	N.E.
4.30	4.30	4.30	4.30
4.81	5.41	4.78	4.72
-0.51	-1.11	-.48	-0.42



Indexed
C.S.K.

43



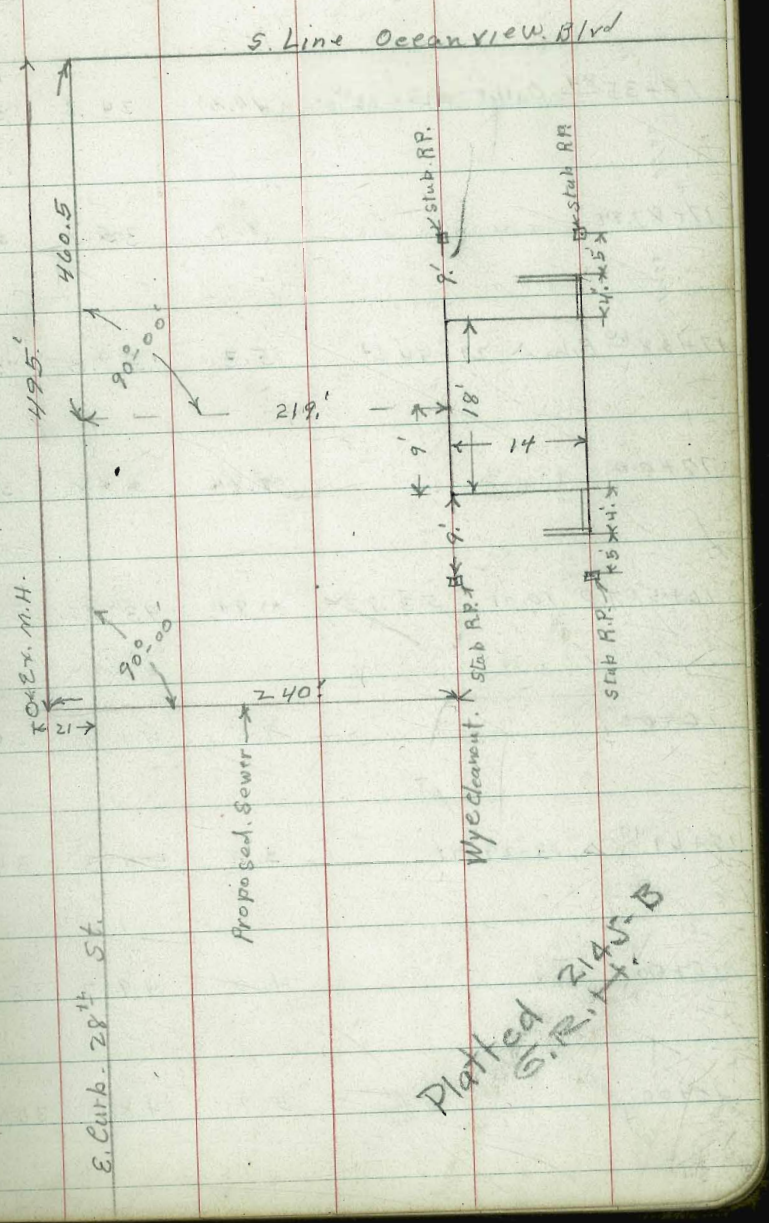
Indexed
C.S.I.K.

Comfort Station
Memorial Play Grounds.

5-25-36

B.M. B.P.	1.17	88.22		87.05	N.W. Sicard & Harrison
0+00 = M.H. in 28th St. Top.		5.38		82.84	76.24
" " " " "	F.L.	12.48		75.74	76.24
	guller	6.0		82.2	
0+21 = E. Curb of 28th St.		5.30		82.92	
0+41		4.48		83.74	77.04
0+91		5.16		83.06	78.04
1+41		5.00		83.22	79.04
1+91		4.97		83.25	80.04
2+40	W. side Bldg. Wye. cleanout.	4.50		83.72	81.04
Floor of Bldg.		2.82		85.40	

1/4" to the ft. = 2.000'



6-19-36 Southlook Storm Drain
See Book 1505-40,

See Book 182 Page 46

Indexed C.S.K.

B.M. & Stub	12.95	44.61		31.66	18+35.84	
18+35.84	Outlet = W. Line 36th St.		10.31	34.3	F.L. Grade 31.60	+2.7
17+87.22			8.9	35.7	32.8	+2.9
17+38.40	Brks △ 21°54' Lt.		5.3	39.3	34.00	+5.3
17+00			4.8	39.8	34.4	+5.4
16+50	T.P.	10.01	53.73	0.89	43.72	34.9	+8.8
16+00			9.5	44.2	35.4	+8.8
15+69.40	△ 13°29' Rt.		3.4	50.3	35.7	+14.6
15+50			4.0	49.7	35.9	+13.8
15+00			5.7	48.0	36.4	+11.6

		53.73				
14+50			7.1	46.6	36.9	+9.7
14+00			8.0	45.7	37.4	+8.3
13+61 10 ℄	Curb inlet #10		8.4	45.3	37.8	+7.5
13+50			8.2	45.5	37.9	+7.6
13+00			7.3	46.4	38.4	+8.0
12+50			6.0	47.7	38.9	+8.8
T.P.	12.81	60.84	5.70	48.03		3 Nails Tel. Pole N.W. Ocean View & Olivewood Terrace
12+42 ?	cleanout on Ex. pipe from E.					
11+74 ℄	Curb inlet #9		12.81	48.0	39.7	8.3 ✓
↳ 36" Pipe						
11+46 73	cleanout #1		12.3	48.5	40.00	+8.5 ✓
↳ 30" Pipe						
11+00			10.94	49.9	41.05	+8.9 ✓

		60.84				
10+50			9.16	51.7	42.16	+9.5
10+00			7.64	53.2	48.27	+9.94
9+50			5.15	55.7	44.38	+11.3
9+	= S. End curb inlet		4.0	56.8	44.5	+12.3
9+22 83 △	ch. inlet #8 { ℄				45.00	
62.2	ch. inlet #7 { ℄ S. End. ℄		Box 3.5	57.3	47.00 51.0	+4.3 grade raised 4'
8+40			5.4	55.4	45.7	+9.7
7+96.25 △	ch. inlet #6		7.0	53.8	46.30	+7.5
59.3						
7+37			8.3	52.5	47.4	+5.1
59.3	ch. inlet #5					
6+77.70 △			6.0	54.8	48.6	+6.2
T.P.	10.10	65.31	5.63	55.21		

		65.31								
6+20 8			9.1	56.2	49.7	+6.5				
5+63 2			9.1	56.2	50.8	+5.4				
5+07 1			8.5	56.8	51.8	+5.0				
4+50 3			7.7	57.6	52.8	+4.8				
3+93 5	W. Line Milbrae		6.0	59.3	53.8	5.5				
ch. inlet #4										
ch inlet #3										
3+43 50	E. Line Milbrae		5.1	60.2	54.6	+5.6				
					orig Grade 55.9				Nev. Grade Ex. Pipe 57.20	
New. Grade 3+09 for change										
2+89 1			1.5	63.8	57.0	+6.8			58.3	+5.5 ✓
T.P.	13.25	77.79	0.77	64.54						
2+34 7			11.4	66.4	59.4	+7.0			60.7	+5.7 ✓

		77.79					change in Grade		
1+80 ③			6.7	71.1	61.8	+9.3	63.1	+8.0	
1+25 ②			4.5	73.3	64.2	+9.1	65.5	+7.8	
0+71 ⑤ △			2.1	75.7	66.6	+9.1	67.9	+7.8	
ch. inlet ④ 2									
0+11 ⑤ ch. inlet * 1									
0+00 = Existing 15" Culvert					Profile 69.00				
BM B.P			1.03	76.76	N.E. 38th & Franklyn				
B.M. B.P	4.15	80.91		76.76					
Existing Pipe			Rod 3.71						
F.L. on Pipe			+ 7.90						
			11.61	69.30					
T.P	1.07	70.05	11.93	68.98					
Sta. 3+09 F.L. Pipe			12.85	57.20					

8-7-36
Miller Walker

Grades for Gutter Pershing Drive

Indexed
C.S.K.

50

1+79.8	B.C.					Stake			
15.6					20				
					3.6	3.61	57.98	57.45	+0.53 ✓
					58.0				
			Def ∠						
1+64	E.C.		27°-41'			4.64	56.95	56.45	+0.50 ✓
					20' Lt				
1+43.5			24°-13.3'		5.9	5.63	55.96	55.10	+0.86 ✓
					55.7				
1+23			20°-45.6'			7.04	54.53	53.90	+0.63 ✓
					20' Lt				
1+02.5		Δ = 55°-22'	17°-18'		7.8	8.64	52.98	53.10	-0.12 ✓
					53.8				
0+82		R 170'	13°-50.4'			9.21	52.38	52.50	-0.12 ✓
		T 89.18'							
		chd. 20.52'			20' Lt				
0+61.5			10°-22.8'		9.3	9.51	52.08	52.00	+0.08 ✓
					52.3				
0+41			6°-55.2'			10.25	51.34	51.65	-0.31 ✓
					10.00				
0+20.5			3°-27.6'		10.14	10.61	50.98	51.30	-0.32
					51.45				
0+00 = B.C.				10					
				BM	11.59	41.59		50.00 Assumed	

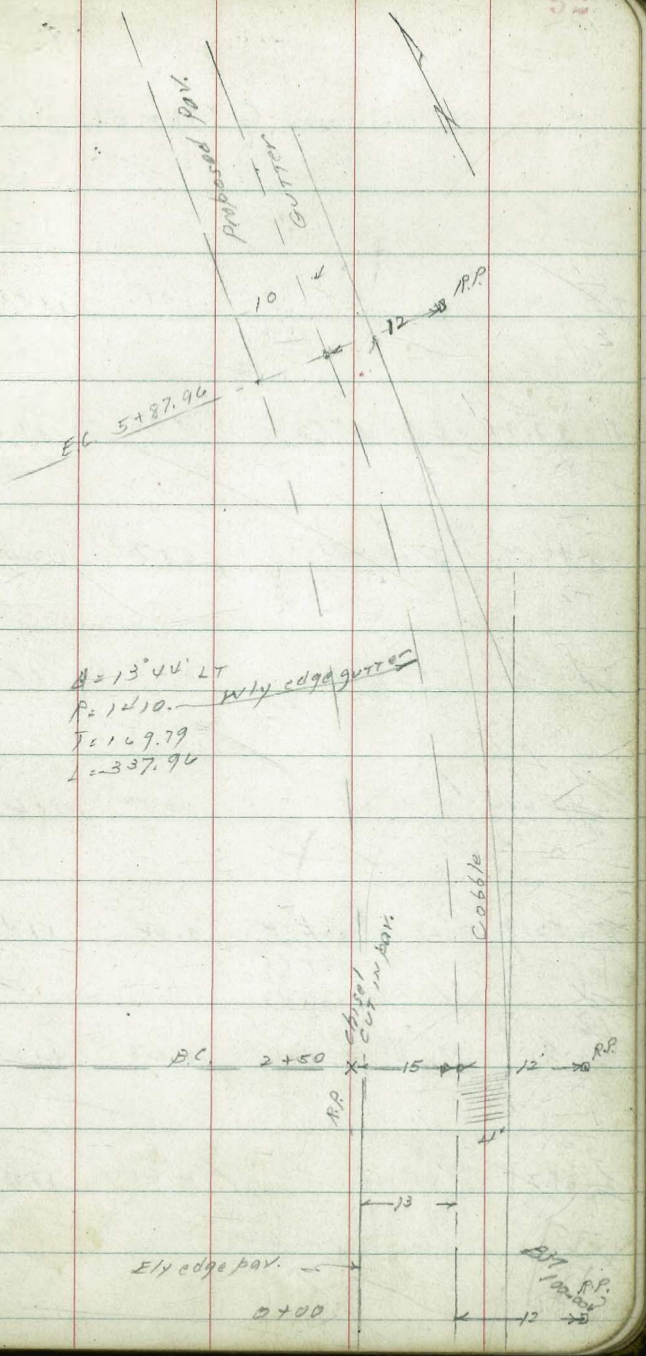
							Stub		
4+89					1.42	18' W. Pav 1.53 / 77.51	1.70	77.34	77.20	+0.14
4+39						74.12	5.48	73.56	73.82	-0.26
				T.P.	8.59	℄ 79.04	2.55	70.45		
3+89					℄ Pav 2.25	2.25 Pav. / 70.75	2.55	70.45	70.45	- 0.0
3+39						5.33 Pav / 67.67	5.43	67.57	67.45	+0.12
2+89	EC		Defl 11°-10'			12.5 Pav 8.24 / 64.76	8.62	64.38	64.45	-0.07
2+67.0			8°-56'			12.5 Pav 9.44 / 63.56	9.76	63.24	63.05	+0.19
2+45.2	Δ = 22.20		6°-42'				10.67	62.33	61.65	+0.68
	R = 280			T.P.	12.06	℄ 73.00	0.65	60.94		
2+23.4	T = 55.27		4°-28'			26' Lt. 0.9 / 60.7	0.65	60.94	60.25	+0.69
	L = 109.54									
2+01.6	chd. 21.78		2°-14'				2.26	59.33	58.85	+0.48
1+79.8	BC					20' Lt. 3.6 / 58.0 / ℄ 61.59	3.61	57.98	57.45	+0.53

Pershing Drive
Gutter Const.

1½ to 1 Cut

See G-176-51

			E. edge pav.	W edge Gutter Grade	
3+71.4	2°03'36"	6.50	108.8W	108.10	C 18.0 / 6.5 OUT
3+17.6	1°22'24"	8.56	106.26	106.0	C 12.8 / 4.6 OUT
2+88.8	0°41'12"	10.60	104.2W	104.0	C 12.4 / 4.7 OUT
+50 BC.		1.65	102.05	101.75	C 12.1 / 7 OUT
2		4.96	98.7W	98.4W	C 12.4 / 6.3 OUT
+50		8.10	95.60	95.30	C 10.5 / 5.3 OUT
T.P.	12.51	114.8W 0.67 114.15 12.41 126.56	1.39	102.31	
1			11.12	92.58	92.28	C 4.1 / 2 OUT
+50			13.90	89.80	89.50	C 5.9 / 3.0 OUT
0+00			16.80	86.90	86.60	C 13.0 / 6.5 OUT
0+00	3.70	103.70		100.0	12' OUT pav. Stake Assumed El.



continued G 176-51.

T.P.		137.46	1.95	135.51	E.C. 12" R.S. HUB TOP BANK	
5+87.94 = EC	6°52'		4.71	121.85	121.65	C 13.8 / 0.9 OUT
5+54.2	6°10'48"		6.57	120.0	119.8	C 12.2 / 6.1 OUT
5+20.4	5°29'36"		8.57	118.0	117.8	C 12.0 / 6 OUT
+86.6	4°48'24"		10.52	116.02	115.8	C 11.7 / 5.8
4+52.8	4°07'12"	124.56 / 1.01 / 125.55 / 1.91 / 137.46	0.61	114.2	114.0	C 11.6 / 5.8 OUT
4+19	3°26'		2.63	112.20	112.0	C 11.8 / 5.9 OUT
3+85.2	2°44'48"		4.61	110.21	110.0	C 12.7 / 6.4 OUT

G. 176 - 51.

Fire Engine House 8th + J.
Floor Grades

Indexed
C.S.K.

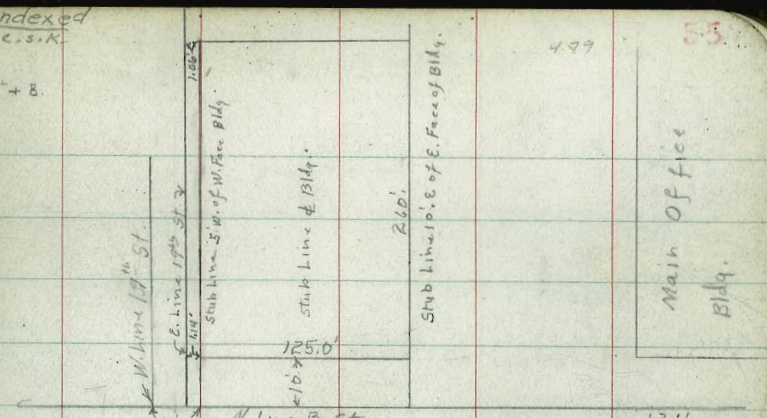
B.M. B.P.	5.19	24.19		19.00	N.W. 8th + J. St.					
		0+50 N.	0+44 N	0+38 N		℄ N+25 N	0+12 N	N+06 N	0+00 N+5. N. Line J. St.	
0.0 – 14.	= Curb	4.53							5.19	
00 – 4.5	Inside Wall	4.32							El 19.00	
0+00 =									5.00	
W. Line 8th		19.93		19.59	19.59	19.59	19.50		El 19.19	
		4.26		4.60	4.60	4.60	4.69		El 19.25	
T.P.	6.30	25.16	5.33	18.86					4.94	
0+09 W			19.70	19.67	19.67	19.67	19.67	19.70		
11			5.46 ✓	5.49 ✓		5.49 ✓	5.49 ✓	5.46 ✓		
0+20			19.64			19.60		19.64		
18			5.52 ✓			5.56 ✓		5.52 ✓		
0+38			19.52			19.48		19.52		
18			5.64 ✓			5.68 ✓		5.64 ✓		
0+56			19.40			19.36		19.42		
18			5.76 ✓			5.80 ✓		5.74 ✓		
							15 N			
0+74			19.28			19.24	19.28 ✓	19.32		
11			5.88 ✓			5.92	5.88 ✓	5.84 ✓		
0+85			19.17		19.12	19.17	19.23 ✓			
			5.99 ✓		6.04 ✓	5.99	5.93			

Survey of Footings for Water Palace at City Shops. 19th + B. Sts

12-30-36 mtn Water Elevs

	BM. BP				
				70.23	70.23
					0.87
					71.10
					7.55
	63.55				63.55
	3.90				3.93
	67.45				67.48
	3.59				
	63.86				
		S. W. of W Side	℄ Bldg	10' E. of E. Side	
		Grades. 6" below Floor Elev.			
N. End	9.81	ℸ 73.67	ℸ 73.67	ℸ 67.48	N. End
2+60	73.67	66.60	66.60	66.60 ←	2+60
	10.73	7.07	7.07	0.88	
	62.94	1.53	5.16	4.58	
	4.79	+5.54	+1.91	-3.70	
2+40	67.73	66.40	66.40	66.40 ←	2+40
	4.18	7.27	7.27	1.08	
	63.55	1.84	7.34	4.74	
		+5.43	-0.07	-3.66 ✓	
2+00		66.00	66.00	66.00 ←	2+00
		7.67	7.67	1.48	
		3.31	8.59	5.26	
		+4.36	-0.92	-3.78	3.98
			-1.1		
1+60		65.60	65.60	65.60 ←	1+60
		8.07	8.07	1.88	
		6.22	9.07	5.57	
		+1.85	-1.00	-3.69	
1+20		65.20	65.20	65.20 ←	1+20
		8.47	8.47	2.28	
		11.31	9.68	5.68	
		-2.84	+1.21	-3.40	
			-1.4		
0+80		64.80	64.80	64.80 ←	0+80
		8.87	8.87	2.68	
		10.46	10.27	5.48	
		-1.59	+1.40	-2.80	
			-0.6		
0+60		64.60	64.60	64.60	0+60
		9.07	9.07	2.88	
		10.13	10.26	5.38	
		-1.06	-1.19	-2.50	
0+40		64.40			0+40
		9.27			
		10.21			
		-0.94			
0+20			64.20	64.20	0+20
			9.47	3.28	
			10.65	5.28	
			-1.18	-2.00	
S. End Bldg = 0+00		64.00	64.00	64.00	
		9.67	9.67	3.48	
		10.73	11.31	4.85	
		-1.06	-1.64	-1.37	

Indexed
c.s.k.



1.56

BM. BP. NW 19th + B. 5.26 68.37

Grades. W. wall Existing Shed.

BM	6.15	69.26		
T.P	7.62	70.04	6.84	
2+60 N. End	66.60			
	1.8			
2+40	66.40	2+40	69.90	
	2.0	2+20	0.34	
2+00	66.00	2+00	69.50	
	2.4 ✓		0.54 ✓	
1+60	65.60	1+80	±0.00	
	2.8 ✓	1+60	0.16 ✓	
1+20	65.20	1+40	0.36 ✓	
	3.2 ✓	1+20	68.70	
			0.56 ✓ ✓	
0+80	64.80	1+00	0.76 ✓	
	3.6	0+80	0.96 ✓	
0+60	64.60	0+60	1.16 ✓	
	3.8 ✓	0+40	1.36 ✓	
0+20	64.20	0+20	67.70	
	4.2 ✓		1.56 ✓	
0+00 S. Bldg	64.00	0+00	67.50	
	4.4 ✓		1.76	

499

53

63.11
6.68
ℸ 69.79

63.11		
62.42	66.50	0+40 El. 66.50
✓ 3.27 ✓		0+00 Rad. 3.22 ✓
3.09 ✓		0+20 — 3.02 ✓
2.89 ✓		0+40 — 2.82 ✓
2.69 ✓		0+60 2.62 ✓
2.49 ✓		0+80 2.42 ✓
2.29 ✓		1+00 2.22 ✓
2.09 ✓		1+20 2.02 ✓
1.89 ✓		1+40 1.82 ✓
1.69 ✓		1+60 1.62 ✓
1.49 ✓		1+80 1.42 ✓
1.29 ✓		2+00 1.22 ✓
		2+00 64.00
		2.50
		68.50
		+ 1.00
1.09 ✓		2+20 + 1.20
0.89 ✓		2+40 + 1.40
0.69		2+60 + 1.60

63.11
6.61
ℸ 69.72
2.25
62.47
5.03
ℸ 67.50

Grades of piers ℄

64.00	
2.50	
66.50	
3.22 ✓	
3.02 ✓	
2.82 ✓	
2.62 ✓	
2.42 ✓	
2.22 ✓	
2.02 ✓	
1.82 ✓	
1.62 ✓	
1.42 ✓	
1.22 ✓	
1.30	
2+00 64.00	
2.50	
68.50	
+ 1.00	
2+20 + 1.20	
2+40 + 1.40	
2+60 + 1.60	

5-8-37

Finish Floor Grades

−63.11 BM.
5.89
169.00
4.51
62.49
4.64
171.15
5.67
65.48

65.48
3.93
169.41

64.50
2.40
66.90

62.49
4.78
67.27

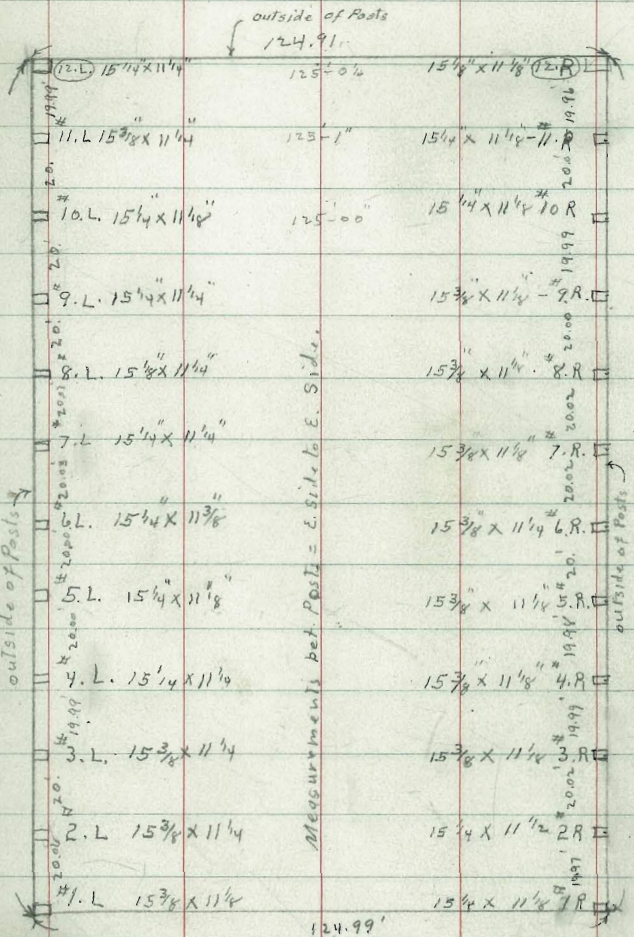
66.50
0.77
66.70
0.57
371
12
4.51

E. Wall

	Top Wall 2.50	W. Wall
	66.50	
0+00	Finish Floor 64.50 E1 4.50	64.59 4.91
0+20	4.30 1	4.71
0+40	4.10 2	4.51
0+60	3.90 3	4.31
0+80	3.70 4	4.51
1+00	3.50 5	3.91
1+20	3.30 6	E1 63.70 3.71
1+40	3.10 7	5.25
1+60	2.90 8	5.05
1+80	2.70 9	4.85
2+00	66.50 10	4.65
2+20	66.70 11	4.45
2+40	E1 66.90 4.25 12	4.25
2+60	E1 67.10 4.05	4.05

Park = E. End 19 + B = N. End

56



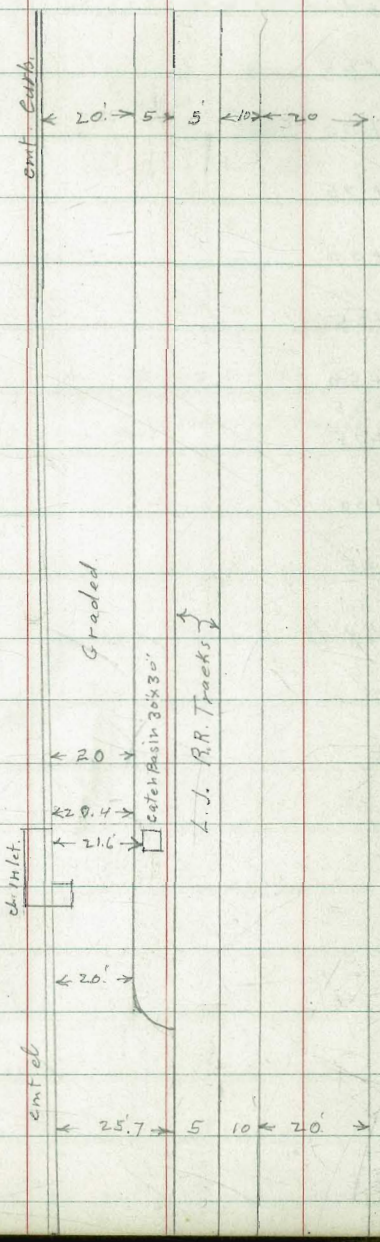
Park = W. End. = S. End. = 19 + B. 51s

Grades for Oiled Pavmt Fay Ave
at La Jolla High School

Indexed
C.S.K.

5.3

0+00
0+25
+50
+75
1+00
+25
+50
+75
2+00
+25
+50
+75
3+00
+25
+50
+60
+70
+75
4+00
+25
+50
+75



5+00

+25

+50

+75

6+00

+25

+50

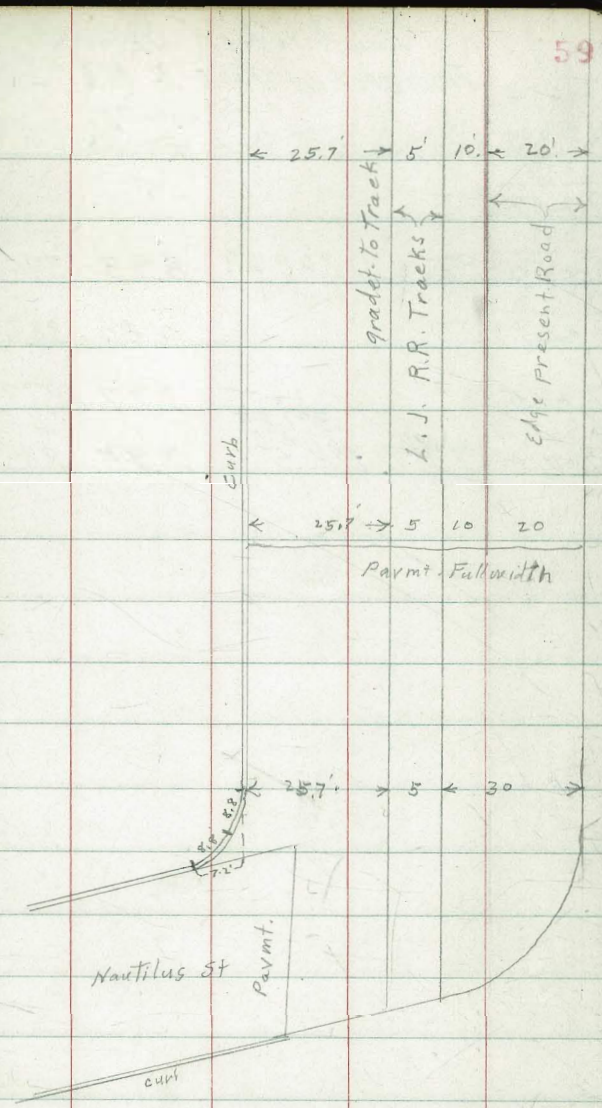
+65

+75

7+00

+25

BC. Rel
+54



Construction Sewer
From station 9+07 To M.H. #5 See Page 75

9+07				367.89		
8+50		383.49	8.93	374.56	368.12	+6.44
8+27			0.80	382.69	368.21	+14.48
7+75			3.77	379.72	368.42	+11.30
7+41.71 = 7+71.53	equation	391.83 T M.H. #5	2.95	388.88	368.55	+20.33

Station 9+15
Elev. top Septic Tank by Miller = 378.94
4.55+
T 383.49
0.15-
T.P. 383.34
8.49+
T 391.83

39th St. Grades

8-

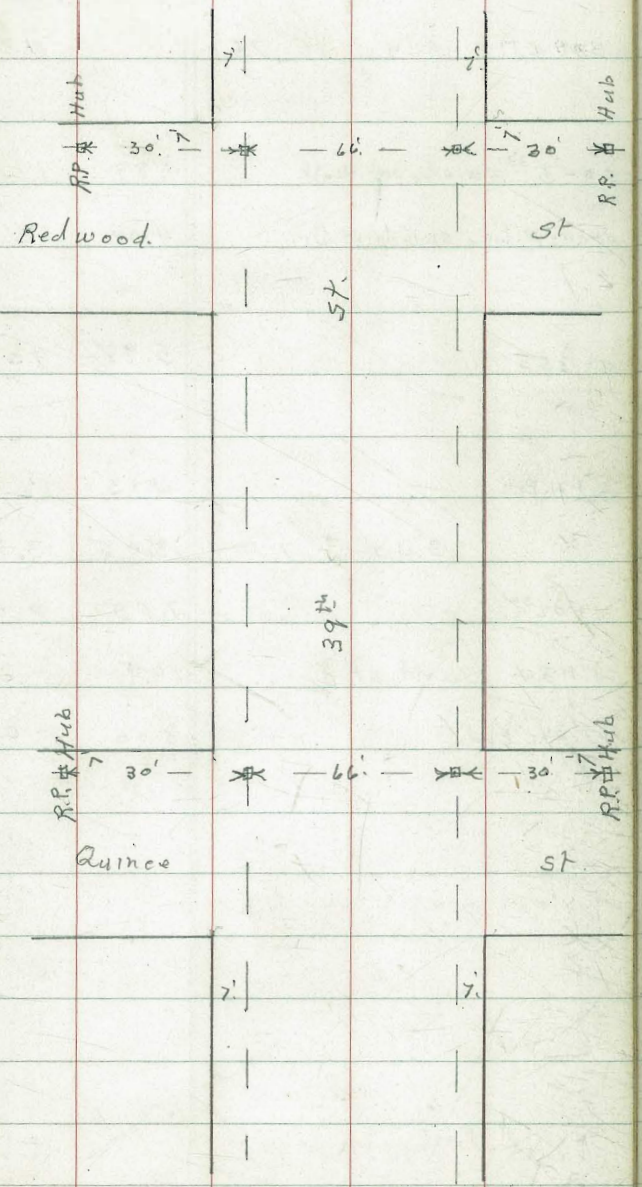
Indexed C.S.K.

304.76

										E. Line	W. Line
BM. Nail Pole	13.27	285.24		271.97	F.B. 519-P55	3+60 Brk				296.0	295.5
										8.8	9.3
				E. Line	W Line					6.6	7.5
				281.2	280.2					+2.2 ✓	+1.8 ✓
S. Line Quine.				4.0	5.0	4+00 Brk				297.2	296.7
				4.9	4.8					7.6	8.1
				+1.1	+0.2					5.6	6.0
T.P.	12.19	297.00	0.43	284.81						+2.0 ✓	+2.1
				283.2	282.2						
N. Line Quine.				13.8	14.8	4+40 Brk				298.2	297.7
				9.3	15.3					6.6	7.1
				+4.5	-0.8					4.3	4.4
										+2.3 ✓	+2.3 ✓
0+50				285.0	284.1	4+80 Brk				298.9	298.4
				12.0	12.7					5.9	6.4
				7.2	15.2					3.1	4.3
				+4.8 ✓	-2.3 ✓					+2.8 ✓	+2.1 ✓
1+00				284.8	286.0	5+20				299.5	299.0
				10.2	11.0					5.3	5.8
				5.8	13.3					3.0	4.1
				+4.4 ✓	-2.3 ✓					+2.3 ✓	+1.7 ✓
1+50				288.6	287.9	5+60				300.1	299.6
				8.4	9.1					4.5	5.0
				4.2	10.0					2.0	4.1
				+4.2 ✓	-0.9 ✓					+2.5 ✓	+0.9 ✓
						S. Line Redwood					
2+00				290.4	289.8	6+00				300.7	300.2
				6.6	7.2					4.1	4.6
				2.6	7.4					2.2	4.0
				+4.0 ✓	-0.2 ✓	BM T.P.	8.77	310.43	310 301.66	+1.9 ✓	+0.6 ✓
						N. Line Redwood					
2+50				292.2	291.7	0+00				301.2	300.7
				4.8	5.3					9.2	9.7
				1.3	4.8					6.6	7.7
				+3.5 ✓	+0.5 ✓					+2.6 ✓	+2.0 ✓
T.P.	9.29	304.76	1.53	295.47							
3+00				out	out	0+40				302.6	301.7
										8.4	8.7
										6.2	7.2
										+2.2	+1.5
3+20 Brk				294.8	294.2	0+80				302.8	302.7
				10.0	10.6					7.6	7.7
				7.2	10.0					5.5	6.4
				+2.8 ✓	+0.6 ✓					+2.1	+1.3

310.4

	E. Line	W. Line
1+20 Brk	203.6	303.7
	6.8	6.7
	5.0	5.7
	+1.8	+1.0
1+60 B	204.2	304.7
	6.2	5.7
	4.9	5.4
	+1.3	+0.3
2+00 B	204.7	305.2
	5.7	5.2
	4.7	4.8
	+1.0	+0.4
2+40 B	205.1	305.6
	5.3	4.8
	4.7	4.6
	+0.6	+0.2
2+80 Brk	205.5	306.0
	4.9	4.4
	4.7	4.3
	+0.2	+0.1
3+20	305.7	306.2
	4.7	4.2
	4.5	4.2
	+0.2	0.0
3+40 B	305.8	306.3
	4.6	4.1
	4.4	3.9
	+0.2	+0.2



Grades for 6' Path S. of Spindrift Inn. 8-14-36 mlen
See F.B. 1503 - P. 61.

Indexed
C.S.K.

63

B.M. C.T. at	5.14	16.75		11.61	N. Line E. End 6' Walk	
					Grade	
00 - 5^{33} = W. edge cmt. Walk			4.89	11.86	11.86	00
0+00 = N. line spindrift Dr.			4.00	12.75	11.61	+1.14
0+35.5			5.98	10.77	9.80	+0.97
0+71. Brk			4.13	12.62	8.00	+4.62
	3.40	7.10	13.05	3.70		
$1+02^{50}$			7.05	0.05	2.30	-2.25
1+34	Sand. at ℄		10.4	-3.3		
1+34	End.		8.00	-0.90	-3.4	+2.5

Grades Alley Blk 65.
W. P. Herbert's Add.
Continued from Page 42

	W. Line 375.38	E. Line
4+50 B	371.62	371.79
	3.76	3.59
	3.53	3.39
	+0.23 ✓	+0.20 ✓
4+70 B	371.40	371.54
	3.98	3.84
	3.82	3.44
	+0.16 ✓	+0.40 ✓
4+90 B	371.12	371.25
	4.26	4.13
	3.90	3.98
	+0.36 ✓	+0.15 ✓
5+20 B	370.65	370.73
	4.73	4.65
	4.64	4.01
	+0.09 ✓	+0.64 ✓
5+40 B	370.36	370.40
	5.62	4.98
	5.02 ✓	4.18
	0.0	+0.80 ✓
5+60 B	370.12	370.12
	5.26	5.24
	5.46	4.82
	−0.20 ✓	+0.44 ✓
5+80	369.95	369.90
	5.43	5.48
	5.89	4.93
	−0.46 ✓	+0.55 ✓
6+00		
N. Line Mead.	369.84	369.75
	5.54	5.13
Pav.	5.56	Pav. 5.62

Normal Hts Sewer — 8-20-36 — indexed C.S.K.

B. Line Pump House North.

BM.2" Pipe	0.20	363.48		363.28	S. side E. End Collier Ave.	
58+03 93	Pump. House.				F.L. Grade 328.25	
57+93 93					328.30	
57+50			8.63	354.85	328.47	+26.38
T.P.	2.90	353.83	12.55	350.93		
57+00			5.02	348.81	328.68	+20.13
T.P.	0.05	341.56	12.32	341.51		
56+71 82	M.H.35	∠ 66° 21' Rt	5.91	335.65	328.78	+6.87
56+50			5.44	336.12	328.84	+7.24
T.P.	14.10	346.33	9.33	332.23		
56+00			9.06	337.27	329.09	+8.18
55+50			7.81	338.52	329.30	+9.22
55+00			9.06	337.27	329.50	+7.77
54+50			8.37	337.96	328.69	+8.27
54+39 62	M.H.34	∠ 82° 19' Rt	11.02	335.31	329.73	5.58

		346.33				
T.P.	4.02	339.33	11.02	335.31		
54+39.62	M.H. #34		6.72	332.61 = 332.58	℄ Hub	
54+00			0.00	339.33	329.89	+9.44
53+55.22	M.H. #33	∠ 51°-52' Rt.	2.76	336.57	330.08	+6.49
T.P.	8.94	341.81	6.46	332.87		
53+00			1.44	340.37	330.30	+10.07
52+50			3.69	338.12	330.50	+7.62
T.P.	5.50	338.38	8.93	332.88		
52+00			1.41	336.97	330.51	+6.46
51+62.10	M.H. 32	℄ Hub	4.63	333.75 = 333.74		
51+62.60	M.H. #32	∠ 8°-01'-30" Lt.	1.80	336.58	330.87	+5.71
T.P.	10.82	348.42	0.78	337.60		
51+00			7.17	341.25	331.12	+10.13
50+50			7.47	340.95	331.33	+9.62
50+00			9.58	338.84	331.54	+7.30
49+53.60	M.H. 31	∠ 41°-34' Rt.	11.67	336.75	331.72	+5.03

348.42

49+00			6.23	342.19	331.92	+10.27 ✓
48+50			5.00	343.42	332.13	+11.29 ✓
47+99.98	M.H. #30	Δ 14°-45' Lt.	9.75	338.67	332.35	+6.32 ✓
" "	" "	℄ Hub	12.42	336.00	=336.01	
47+50			5.13	343.29	332.55	+10.74 ✓
47+00.05	M.H. #29	Δ 80°-35' Lt.	2.47	345.95	332.76	+13.19 ✓
T.P.	5.23	351.20 ✓	2.45	345.97 ✓		
46+57.72	M.H. #28	Δ 67°-09' Lt.	5.81	345.39	332.94	+12.45 ✓
46+00			4.83	344.37	333.17	+11.20 ✓
45+59.50	M.H. #27	∠ 49°-32' Rt.	9.33	341.87	333.34	+8.53 ✓
45+05.30 Equation = 44+36.64	M.H. #26	∠ 64°-18' Lt.	7.56	343.64	333.56	+10.08 ✓
	" " "	℄ Hub	11.05	340.15	=340.14	
T.P.	5.82	349.46		343.64		
44+00			1.60	347.86	333.71	+14.15
43+50			1.22	348.24	333.91	14.33 ✓

		349.46									
43+23 14	M.H. #25	∠ 24°-57' Lt.	10.90	338.56	334.02	+4.54 ✓					
T.P.	9.82	352.20	7.08	342.38							
43+00			15.09	337.11	334.11	+3.00 ✓					
+50			0.70	351.50	334.31	+17.19 ✓					
42+00			1.46	350.74	334.52	+16.22 ✓					
41+87 26	M.H. # 11	△ 54°-50' Lt.	8.00	344.20	334.57	+9.63 ✓					
17.72 T.P.	8.15	339.55	12.80	339.40							
41+70 24	End C.I.P. Pipe								Base of Pier		
12'											
41+58 24	Pier 6		9.71	329.84	334.70	-4.86 ✓	6' Lt		328.0		
12'		329.50									
+46 24	" # 5		4.35	325.15	334.75	-9.60 ✓	6' Lt		323.0		
12'											
+34 24	" # 4		9.24	320.26	334.80	-14.54 ✓	6' Lt		318.0		
12'											
+22 24	" # 3		5.32	324.18	334.84	-10.66 ✓	6' Lt		318.0		
12'		339.55									
+10 24	" # 2		10.80	328.75	334.89	-6.14 ✓	6' Lt		326.0		
12'											
40+98 24	" # 1		6.02	333.53	334.94	-1.41 ✓	6' Lt		330.0		
12' 24 TP	11.90	350.10	1.35	338.20							
40+86	End C.I.P. Pipe										
14'											
40+84 24	M.H. # 24	△ 87°-16' Lt	11.47	338.63	335.00	+3.63 ✓				℄ Hub 40+76.72	338.20
+50			8.03	342.07	335.22	+1.85 ✓					
40+00			3.97	346.13	335.55	+10.58 ✓					
39+64 29	M.H. # 23	△ 11°-26'-30" Lt	1.32	348.78	335.78	+13.00 ✓				℄ Hub	345.07
TP	12.33	357.40	5.03	345.07 ✓	℄ Hub M.H. 23						
+50			8.15	349.25	335.84	+13.41 ✓					

0.41%

0.65%

357.40

39+00			8.13	349.27	336.04	+13.23		
+86.43	P.O.T. Hub.						℄ Hub.	349.00
+50			9.50	347.90	336.25	+11.65		
38			6.91	350.49	336.45	+14.04		
+50			9.33	348.07	336.65	+11.42		
0.41/10								
+28.44 TP	M.H. #22	△ 57°-25' Rt	12.08	345.32	336.74	+8.58	℄ Hub	341.81
			12.08	345.32				
37					336.85			
50					337.05			
36					337.26			
50					337.46			
35					337.67			
+68.41	MH #21.	△ 41°-14' Rt.			337.81		℄ Hub.	343.42
+50					337.88			
+21.05	P.O.T							
34					338.08			
+50					338.29			
33+05.49	M.H #20	△ 86°-31' Rt			338.47		℄ Hub	349.33
+50					338.70			
32					338.90			
31+75.85	D.M.H #19	△ 78°-27' Lt.			339.00			
" "	"	#D Line to West			353.00			

+50						
31						
+50						
30						
+50						
BM.	7.92	359.33		351.41		
29+35.95	M.H. #18	Δ 106°-25' Rt			346.01	
28+98			4.58	354.75	347.13	+7.62
+48			1.50	357.83	348.61	+9.22
T.P.	9.80	369.01	0.12	359.21		
27+98			8.76	360.25	350.08	+10.17
48 +56.78	M.H. #17 New	19°-45'	9.76	359.25	351.29	+7.96
35 +53.28	M.H. #17	Δ 19°-23' Lt.			351.34	
M.H. Moved 3.5' E. to avoid end steps						
27+15			8.55	360.46	351.88	+8.58
+65			8.71	360.30	352.58	+7.72
41' +23.86	M.H. #16	Δ 38°-45' Lt.	3.85	365.16	353.16	+12.00
24						
26			5.00	364.01	353.50	+10.51
50 T.P.	7.99	372.89	4.11	364.90		
+50			4.89	368.00	354.20	+13.80
36 T.P.	4.33	372.12	5.10	367.79	End D. M.H. 15.	
+13.60	M.H. #15	Δ 76°-54' Lt.	0.67	371.45	354.70	+16.75
25			4.92	365.20	354.90	+10.30
T.P.	12.58	371.65	13.65	359.07		
+50			11.20	360.45	355.60	+4.85
+30			8.34	363.31	355.84	+7.43
24+08 T.P.	8.30	379.04	0.91	370.74		
23+88.5			10.14	368.90	356.20	+12.70 @ P.O.T. Hub.
			7.22	371.82	356.30	+15.52

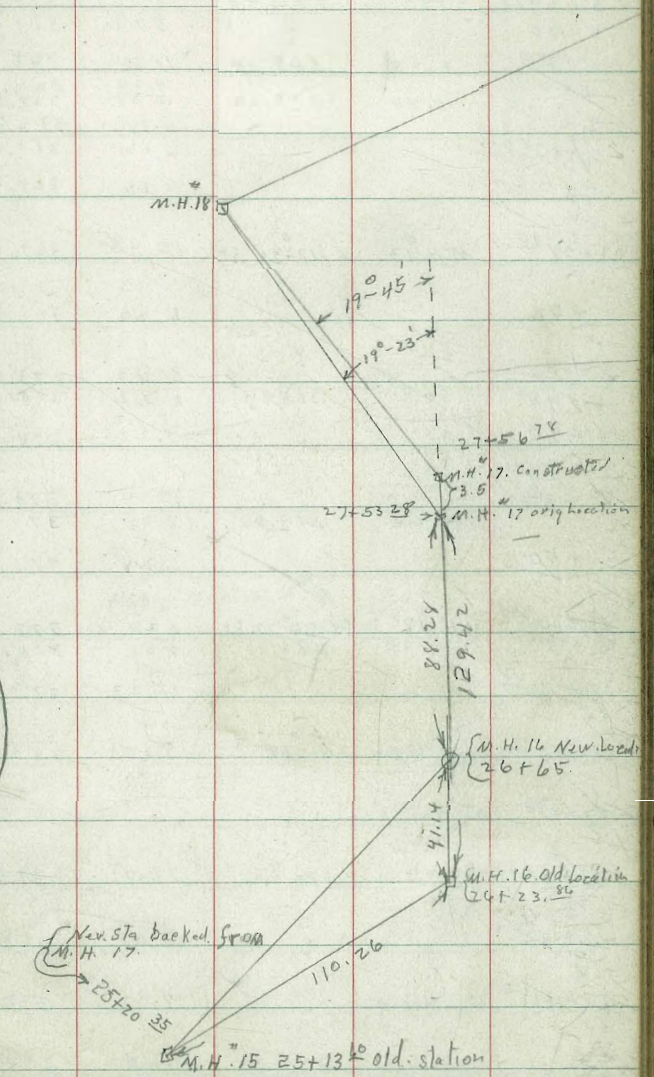
Grade change

see page 72

Line

292 d/o

292 d/o



		379.04								
+53.16	M.H. #14	∠ 26°-38' Rt.	12.29	366.75	356.95	+9.80 ✓			℄ Hub	362.40
23+29 T.P.	5.48	376.45	8.07	370.97	257.30	+13.67 ✓				
23+00			5.29	371.16	357.70	+13.46 ✓				
T.P.	2.35	368.15	10.68	365.80						
+50 T.P.	11.80	377.60	4.04	364.11	358.40	+5.71 ✓				
22			2.35	365.80						
			4.78	372.82	359.10	+13.72 ✓				
+70.35 P.O.T.			6.16	371.44	359.52	+11.92 ✓				
+40			8.13	369.47	359.94	+9.53 ✓				
21+08.90	M.H. #13	∠ 117°-28' Rt.	10.45	367.15	360.37	+6.78 ✓				
+72			6.20	371.40	360.88	+10.52 ✓				
20+35			3.62	373.98	361.40	+12.58 ✓				
19+98 T.P.	10.01	385.85	1.76	375.84	361.92	+13.92 ✓				
19+39			7.21	378.64	362.75	+15.89 ✓				
18+88			15.60	370.25	363.46	+6.79 ✓				
	2.28	379.08	9.05	376.80						
+50			2.28	376.80	363.98	+12.82 ✓				
18+36.61 =	M.H. #12	∠ 26°-22' Rt.	1.26	377.82	364.17	+13.65 ✓	Rod & Hub M.H. #12 ✓			
= +38.07 T.P.	15.10	386.17	8.01	371.07			4.50	374.58 = ℄ Hub		374.58 ✓
17+92.11			12.23	373.94	364.35	+9.59 ✓				
17+46.21	M.H. #10 New	∠ 41°-34' Lt.	3.15	383.02	364.54	+18.48				
17+28.09	P.O.T. Nail									
16+90.58	6.96	380.22	12.71	373.46	364.76	+8.70				
16+45			11.48	368.74	364.94	+3.80				
16+11.96	P.O.T. Hub ℄		7.92	372.30	365.07	+7.23				
T.P.	3.16	371.36	12.02	368.20						

Change Line + Grade Page 70

		359.33				
29+35.95	M.H. 18	△ 106-25 Rt			346.01	
29+98			4.58	354.75	346.39	+ 8.36
28+48			1.50	357.83	346.89	+ 10.94
T.P	9.80	369.01	0.12	359.21		
27+98			8.76	360.25	347.39	+ 12.86
27+56.75	M.H. 17	New Location	9.76	359.25	347.80	+ 11.45
27+15			8.55	360.46	348.22	+ 12.24
26+65	M.H. 16	New Location T.P.	8.71	360.30	348.72	+ 11.58
	2.73	363.03		360.30		
26+35			4.96	358.07	349.02	+ 9.05
26+16 ℄	1' Wash 4' wide 2' Deep.		14.8	348.2	349.22	
25+95			4.09	356.84	349.42	+ 7.52
25+75 ℄	was 6' wide 1' deep.		13.8	349.2	349.57	Pipe exposed.
25+65 T.P.	14.32	372.48	4.87	358.16	349.72	+ 8.44
25+40			1.93	370.55	349.97	+ 20.58
25+20.35	New Sta = D.M.H. 15		1.03	371.45	350.17	+21.28
= 25+13.60	Old "				354.70	+ 16.75

76' Sewer Lateral N. of M.H. 24

0+00 13"	16.96	351.96		335.00	F.L.M.H. 24	
					335.50	
0+22	℄ ground		3.4	48.6	46.6	
T P	12.86	364.54	0.28	351.68		
0+44	Stub + ℄ ground		3.01	361.53	57.80	3.73
T.P	14.55	378.36	0.73	363.81		
0+73	Stub + ℄		2.42	375.94	72.50	3.44

Levels for change

	# 349.01		
26+65 ℄	# 363.03	9.8	359.2
26+35 ℄		6.0	357.0
26+18 ℄		12.7	350.3
26+16 ℄		14.8	348.2
26+14 ℄		13.0	350.0
25+95 ℄		7.0	356.0
25+78 ℄		13.6	349.4
25+75 ℄		13.8	349.2
25+70 ℄		13.5	349.5
25+65 ℄	# 372.48	8.0	355.0
25+40 ℄		4.0	368.5
25+20.35 New =			
= 25+13.60 old		4.69	367.79

N.H. Sewer

371.36

15+90 42 Pier #5		10.20	361.16	365.16	-4.00 ✓	383.17 / 9.80 / 392.97
15+78 42 Pier #4		9.63	361.73	365.21	-3.48 ✓	
15+66 42 Pier #3		9.29	362.07	365.26	-3.19 ✓	
15+54 42 Pier #2		8.87	362.49	365.30	-2.81 ✓	
15+42 42 Pier #1		9.60	361.76	365.35	-3.59 ✓	
T.P.	11.70	2.71	368.65			
14+90 42 M.H. #9 ∠ 64°-47'-27"	380.35	3.00	377.35	365.56	+11.79 ✓	
38.42						
14+52		6.26	374.09	365.71	+8.38 ✓	
35.						
14+17 M.H. #8 See Page 75				365.85		

B.M. 6' R.P.	9.80	392.97		383.17	M.H. 2	
			Rod. 6' R.P. Stab	6' R.P. 81	Grade F.L.	
				383.17	370.32	+12.85
3+53 M.H. 2						
3+70. Top of Bank ←						
3+82 3 ℄ Curb. Benton ←						
3+99.8 New M.H. #2 ℄ Benton Place	Δ 59°-18' Rt	4.90	388.07	370.14	+17.93 ✓	
4+56		4.20	388.77	369.93	+18.84 ✓	
New M.H. #3 ℄ Benton Place						
4+98 6	Δ 46°-07' Rt.	3.82	389.15	369.78	+19.37 ✓	
5+19 2 ℄ curb. Benton Pl. ←						
5+36 7 Top. Bank ←						
5+46 2 =						
5+20 50 old M.H. #3		11.53	381.44	369.151	+11.93	see Page 74

Rod. ℄ change	Elev. ℄ change
4.8	388.2
4.82	388.15
4.7	388.3
3.9	389.1
3.5	389.5
3.50	389.47
3.2	389.8

46.8 / 35 3 / 37 3.8

385.02 / 7.95 / 392.97

64.1 / 38.1 / 26.0

40°07' / 59°18' / 105°25'

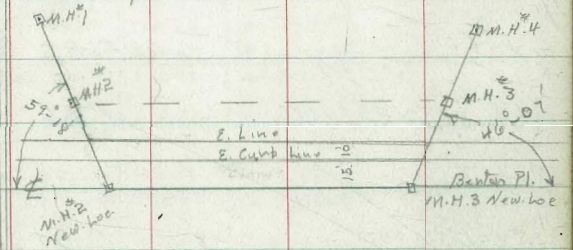
2-16-38

9 3.8 / 78.8 / 9 2.6 / 38.1 / 53 0.7 / 26 / 5567

61°15' / 44.10 / 105.25

72.97 / 11.53 / 81.44

Change in line bet. M.H. #2 & M.H. #3.



Walker
Bliss
2-3-38

Sewer Construction

North of Adams and East Mt. View Drive
Between South Line 35th to MH #5

See Drawing 51794. Profile 51812

Indexed
C.S.K.

74

Book 1404-15
Nat. B.P. 35th Wilshire 385.54
+5.99
π 391.53
19.72
371.81 –

Station 35th		π	Grade Elev. Stake	Elev. Flow Line	Cuts	offsets	
0+00		391.53	6.46	385.07	371.63	+13.44	on South edge side walk
+50			3.60	387.93	371.43	+16.50	6' Rt. chk. Flow MH. 0-30 Book 1404-15 =
1+00			4.43	387.10	371.23	+15.87	"
+50			5.83	385.70	371.03	+14.67	"
1+66.25	M.H.#1 = Δ Rt 89°56'		11.56	379.97	370.97	+9.00	"
2+17			6.30	385.23	370.77	+14.46	"
+52.83	= P.O.T.		6.51	385.02	370.62	+14.40	"
2+85			7.46	384.07	370.49	+13.58	"
3+25		389.87	13.23	376.64	370.33	+6.31	"
3+53	= MH #2 Δ 61°15' Lt.		6.70	383.17	370.22	+12.95	"
4+00		391.42	9.47	381.95	370.03	+11.92	"
4+50			9.49	381.93	369.83	+12.10	"
4+85			9.58	381.84	369.69	+12.15	"
5+20	= M.H.#3 Δ 44°10' Lt.		9.98	381.44	369.55	+11.89	"
5+50			16.61	374.81	369.43	+5.38	"
5+83			12.29	379.13	369.30	+9.83	"
6+15	=	389.09	1.77	387.32	369.17	+18.15	O.K. "
6+56	= Nail on ℄ Line		1.51	387.58	369.01	+18.57	" O.K.
6+87	= M.H.#4 Δ 81°34' Rt.		11.99	377.10	368.89	+8.21	" O.K.

Grade change 0+00 to M.H. 2 2-17-38

0+00 (0.16)	6' R.P. El.	F.L. Grade	
0+90 O.W.			
1+00	387.10	371.26	+15.84
1+50	385.70	371.07	+14.63
1+66.25 M#1	379.97	371.01	+8.96
2+17	385.23	370.81	+14.42
2+52.83	385.08	370.68	+14.34
2+85	384.07	370.56	+13.51
3+25	376.64	370.42	+6.22
3+53 M.H.2 ctr. Lt.	383.17	370.32	+12.85

π 391.53
6.43 –
T.P. = 385.10
4.77 +
π 389.87
1.77 –
T.P. 388.10
3.32 +
π 391.42
3.25 –
T.P. 388.17
0.92 +
π 389.09
10.16 –
378.93
chk. on cor. septic tank P-75 = 378.94
" " by miller
difference 0.01

2-17-38
change in grade M.H. #3 to M.H. 4

	6' R.P. El.	F.L. Grade	
	381.44	369.51	+11.93
	374.81	369.40	+5.41
	379.13	369.28	+9.85

		380.73								
℄ Hub 14+90 42	M.H.#9 L 64°-47' Lt		5.10	375.63	= 375.65	6' offset stub				BM. ℄ Hub. 10+49.87
℄ Hub. 14+17	M.H.#8		6.91	373.82	F.L. Grade				Rod ℄	
14+17	M.H. #8	L 50°-47' Lt	2.86	377.87	365.85	+12.02				372.55
17										11+27.15 P.O.T. Hub
14+00			1.80	378.93	365.92	+13.01				379.52
13+38			2.34	378.39	366.04	+12.35				0.28
13+50			9.45	371.28	366.12	+ 5.86				↑ 379.80
13+00		↑ 380.45	4.06	374.39	366.32	+ 8.07				12.90
										366.90
12+50			0.65	379.80	366.52	+13.28				6.37
		↑ 373.27								↑ 373.27
12+00			0.67	372.60	366.72	+ 5.88				0.63
11+98 30 87	S. Line Lot 37						Grade Base of Piers	Cut to Base Piers		372.64
11+95	S. End Trestle.				366.75				4.6 / 368.7 +2.0	7.81
										↑ 380.45
11+83 87	Pier #2		8.86	374.41	366.79	-2.38	360.00	+4.4	12.2 / B61.1 F5.7	7.89
										372.56
11+71 87	Pier #1		5.50	367.77	366.83	+ 0.94	360.00	+7.8	9.1 / 364.2 F2.6	8.17
		↑ 379.80								↑ 380.73
11+59 87	N. End Trestle.				366.87					
11+50			3.38	376.42	366.92	+ 9.50				℄ Hub. 11+27.15
11+47 7.3	N. Line Lot 37 ℄		6.1	373.7	366.93	+ 6.8 ℄				T.P. 379.52
11+27.15	P.O.T. Hub.	389.70	6.88	382.82	367.01	+15.81	{℄ Hub 379.52		4'1 / 373.7 C6.8	10.18
										389.70
10+90			5.34	384.36	367.16	+17.20				T.P. Septic Tank 10.76
										378.94
										10.84
										388.78
10+49 87	M.H. #7	Δ 80°-41' Rt.	14.87	374.83	367.32	+ 7.51	{℄ Hub 372.55			New cut stub for M.H.#6
10+30.15	P.O.T. Hub.		4.57	385.13	367.40	+17.73	℄ Hub 384.44			11' N.W. of MH#6 T.P. S.T. 378.94
										5.38
10+00			13.27	376.43	367.52	+ 8.91				↑ 384.32
9+63			3.74	385.96	367.67	+18.29				F.L.Gr. 367.89
9+23			0.37	389.33	367.83	+21.50				16.43
9+07	M.H.#6	L 42°-20' Lt. 389.78	3.28	386.50	367.89	+18.61	℄ Hub 380.48			5.34
8+50			15.25	374.53	368.12	+ 6.41				+ 11.09
8+27			7.13	382.65	368.21	+14.44				on T.P. Tank
7+75			10.06	379.72	368.42	+11.30				384.32
										367.89
7+41 71 = 7+71 53	Equation M.H.#5	65°-03' Lt	0.92	388.86	368.55	+20.31	{℄ Hub 384.88			C 16.43
		↑ Page 74								6.85
										+9.58
7+35		389.09	12.79	376.30	368.70	+ 7.60				

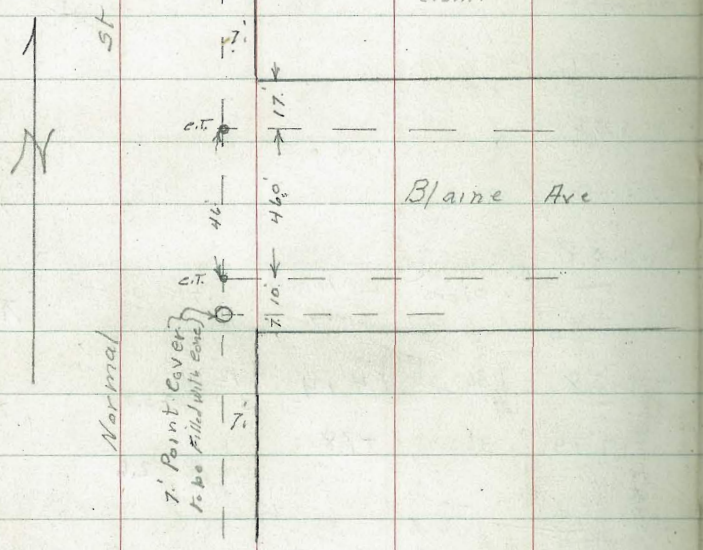
Levels Rerun see P-60

Continued on Page 74

℄ Hub
14+17
374.52

11-21-36 Tie Points Normal + Blaine · indexed C.S.K.
Millin
Walker
Bliss

plotted on Tie point sheet
11-20-43
C.S.K.



9-17-36 Grades Alley Blk 153. U.H. indexed C.S.K.
F.B. 1519-59

BM	3.78	376.18	372.40	Nail Pole N end Alley
S.L. Howard Ave = 6+00		W. 371.68 / 4.50	E. 371.47 / 4.71	
5+70		371.56 / 4.42 / 4.14 / +0.48	371.35 / 4.83 / 0.0	
5+35		371.42 / 4.76 / 0.0	371.21 / 4.97 / 4.73 / +0.24	
5+00		371.28 / 4.80 / 4.74 / +0.16	371.07 / 5.11 / 4.25 / +0.86	
4+65		371.14 / 5.04 / 4.56 / +0.48	370.93 / 5.25 / 4.25 / +1.00	

See G.186-P54.

0+70		369.56	369.36	

	Track	2' S of Rail	℄	Gutter	BM Lyllo. NSH
St. Lyllo.	40.00	39.88		38.86 X	41.75
		8.26		7.28	6.39
		Pav.		00 G	↑ 48.14
					1.50
0+50 B.	41.12	40.89		39.70 X	46.64
		7.39		8.44	12.66
		7.25			59.30
		Reset To fit Track.		00 G	
N.L. Kingsley					
2+00	43.65	43.50		42.47 X	
		4.64		5.67	
		00			
2+35					
℄ Kingsley		4.01		4.91	
S.L. Kingsley					
2+70	44.87	44.76		44.00 top 6	
		3.38		4.14	
		00		4.28	
				-0.04	
3+20 B	45.87	45.64		45.06 4.24	
		2.46		3.08	
		00		8.36	
				F 0.28	
					↑ 59.30
N.L. James					
4+70	48.79	48.72		48.26 X	
		10.58		11.04	
		00		0.0	
℄ James		9.72		10.18	
				10.32	
				0.14	
S.L. James					
5+40	50.50	50.44		49.98 -0.20	
		8.86		9.32	
				9.51	
				-0.19	
5+90 B	51.64	51.60		51.21 X	
		7.70		8.09	
		8.00			
		-0.30			
N.L. Ibsen					
7+40	54.16	54.08		53.63 +.02	
		5.22		5.67	
		0.0		5.74	
				F 0.07	

	Indexed C.S.K.	Track	2' S of Rail	℄	Gutter	
			Rosecrans Paymt. Grades			
						↑ 59.30
						9.15
	44	54.38	54.32	= 54.25	53.84	50.15
			4.78		5.42	3.31
			5.08		0.0	
			F 0.20			53.46
						1.95
	℄ Ibsen	54.55	54.48	= 54.33	54.13 X	51.51
			4.82		5.17	BM NW Homer
			5.32		5	
			F 0.50		00	
	44	54.35	54.29	= 54.18	53.83 X	
			5.01		5.47	
			5.51			
			F 0.50			
	S. Line Ibsen					
	8+10	54.05	53.90		53.50	
			5.40		5.80	
			5.65			
			F 0.25			
	N.L. Homer					
	10+10	50.41	50.39		50.00 .10	
			8.91		9.30	
			8.91		1.40	
			00		-0.10	℄
		9.41				9.95
	S. L. Homer					
	10+80	49.49	49.38		48.70 X	
			9.92		10.60	
			0.0		10.60	
					DO	
				↑ 51.01	46.07 4.94 G	↑ 53.46
	12+30 B	47.03	46.90	46.90	46.07 X	3.48
			6.56	4.11	7.39	49.98
			6.06		7.44	Hydt SW. Goldsmith
			C 0.50		-0.05	
	N.L. Goldsmith			5.59	Lowered 0.07	
	12+80	46.77	46.62	46.62	45.79 X	49.94
			4.39	4.97	5.22	1.80
				4.83	5.29	↑ 51.74
				4.69	0.0	46.90
					5.38	4.84
			4.40		5.38	49.94
						1.03
						51.07
	S.L. Goldsmith				Lowered 0.03	
	13+50	46.72	46.59		45.67 X	
			4.42		5.34	
					.00	

	℄ Track	2:1			Π 51.01 3.93 47.08 7.74 Π 54.82
S. Line Goldsmith 13+50	46.72	46.59 5.00		45.69	
					BM 49.28 1.41 51.59
13+75		46.71 4.88			
14+00 B	46.95	46.83 4.76			
+25		47.07 4.52			
N. End Switch +40		47.23 4.36	47.23 6.93	gutter O.K.	BM Hydt SW Goldsmith 49.98 4.18 54.16 0.63 53.53 Top. Hydt S.W. Elliot
+75		47.58 6.58			
15+00		47.83 6.33			
+25		48.07 6.09			
N.L Freeman +50	48.44 3.15	48.31 5.85		47.40 6.76	
℄ +85		48.69 5.47			

	℄ Track	4.5 ℄ ℄		Gutter	78.
		Π 54.16			Π 54.82
S.L. Freeman 16+20	49.18	49.07 5.09		Lowered to Fit 48.22 6.66	
+45		49.22 4.94			
+70		49.38 4.78		gutter O.K.	
+95		49.53 4.63			
17+14		49.65 5.17	49.65 4.51	49.02	
Drive	℄ Drive 49.78 5.04	0.0	49.78 4.38		
+55	0.0	49.91 4.11 0.0	49.91 4.25	49.21 gutter O.K.	
+70		50.00 4.16			
+95		50.15 4.01			
N.L Elliot 18+20	50.42	50.31 3.85		49.25	
18+55 ℄		50.29 3.87		49.62	
S. Line Elliot 18+90		50.14 4.02		49.44	

Pav. Grades at City Shops
20th + 13

Indexed
C.S.K.

S.E. 20th & 13 Sts.

B.M. B.P.	2.05	72.28		70.23					
		0+00 = N. Line B. St.							
	90. W.	80' W.	70' W.	60' W.	30' W.	15	0+00	15' E.	
		65.99 / 6.29 ✓		66.65 / 5.63	67.40 / 4.88	67.81 / 4.47	68.6 / 3.7 / 2.7 / +1.0	71.60 / 0.7	
		0+18 N.							
		66.1 / 6.18 ✓	66.26	66.70 / 5.58 ✓	67.6 / 4.68 ✓		68.0 / 4.3 ✓ / +0.2 / +4.5	68.2 ✓ / 4.1 ✓	
		0+34 N.							
		66.0 / 6.24 ✓	66.16 / 6.12 ✓	66.1 / 6.18 ✓	66.7 ✓ / 5.6 / 4.6 / +1.0		67.3 ✓ / 5.0 ✓	67.7 ✓ / 4.4 / +0.4 / +5.0	
		0+50.5 N							
Floor 64.19	64.0	65.70 / 6.58 / 5.58 / +1.00	66.02	65.70 / 6.58 ✓	66.3 ✓ / 6.0 / 5.0 / +1.0		66.9 ✓ / 5.4 ✓	67.2 ✓ / 5.1 / 0.6 / +4.5	

Grades for Elec. Conduits
Box
13' N. of N. Line B. St.

36' W. of 0.0		67.16 / 5.12 / 4.62 / +0.50
44' W. of 0.0		67.40 / 4.88 / 4.38 / +0.50

IMPROVED TABLES

AND

INFORMATION

DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder stake for any width roadway, slope 1½ to 1. If ground is nearly level, the cut or fill at side stake is located by the double entry method in left column and top row. The number in body of table in same row and column gives distance from side stake to slope stake. If ground is not level estimate the difference in elevation between the side stake and slope stake, lower target by this amount if cut, elevate if fill. Add this amount to cut or fill and find distance in table. Set up rod at this point, and line of sight should cut target. If it does not make the slight adjustment necessary.

TABLE No. 9.

To find Tangent and External for curve of any other degree, divide by degree of curve and add correction found in column of corrections.

Degree of curve with a given I may be found by dividing tangent, (or external), opposite I by given tangent, (or external).

The distance from a point on the tangent to the curve is very nearly the square of the tangent lenth divided by twice the radius.

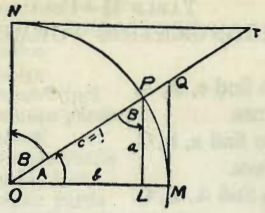


TABLE II

TRIGONOMETRIC FORMULÆ.

$\angle A = \angle MOP \qquad \angle B = \angle PON = \angle OPL$

$R = OB = c = 1$

$$\sin A = \frac{a}{c} = \frac{a}{1} = a = \cos B = LP$$

$$\cos A = \frac{b}{c} = \frac{b}{1} = b = \sin B = OL$$

$$\tan A = \frac{a}{b} = \frac{MQ}{OM} = \frac{MQ}{1} = MQ = \cot B = MQ$$

$$\cot A = \frac{NT}{ON} = \frac{NT}{1} = NT = \tan B = NT$$

$$\sec A = \frac{OQ}{OM} = \frac{OQ}{1} = OQ = \csc B = OQ$$

$$\csc A = \frac{OT}{ON} = \frac{OT}{1} = OT = \sec B = OT$$

$$\text{vers } A = \frac{LM}{OP} = LM = \text{covers } B \#$$

$$\text{covers } A = \frac{OP - LP}{OP} = OP - LP = \text{vers } B$$

$$\text{exsec } A = PQ = \text{coexsec } B$$

$$\text{coexsec } A = PT = \text{exsec } B$$

$$\sin \tfrac{1}{2} A = \sqrt{\frac{1 - \text{Cos } A}{2}} \qquad \cos \tfrac{1}{2} A = \sqrt{\frac{1 + \text{Cos } A}{2}}$$

$$\sin 2A = 2 \sin A \cos A \qquad \cos 2A = \cos^2 A - \sin^2 A$$

$$\text{Law of Lines} \quad \frac{\sin A}{a} = \frac{\sin B}{B} = \frac{\sin C}{C}$$

$$\text{Law of Cosines} \quad c^2 = a^2 + b^2 - 2ab \cos C$$

$$\text{Law of Tangents} \quad \frac{a+b}{a-b} = \frac{\tan \tfrac{1}{2}(A+B)}{\tan \tfrac{1}{2}(A-B)}$$

Table II—Continued
TRIGONOMETRIC FORMULAE (continued)

In any triangle:

Given a, b, C; to find c, B, A.

Use Law of Lines.

Given A, B, c; to find a, b, C.

Use Law of Lines.

Given a, b, c; to find A, B, C.

$$\text{Let } \frac{a+b+c}{2} = s, \sqrt{\frac{(s-a)\ (s-b)\ (s-c)}{s}} = r$$

$$\cos \tfrac{1}{2} A = \sqrt{\frac{s(s-a)}{bc}}$$

$$\tan \tfrac{1}{2} A = \frac{r}{s-a}$$

$$\tan \tfrac{1}{2} B = \frac{r}{s-b}$$

$$\tan \tfrac{1}{2} C = \frac{r}{s-c}$$

Area of a triangle:

Area $= \tfrac{1}{2}$ ab Sin C

$$\text{Area} = \sqrt{s\,(s-a)\ (s-b)\ (s-c)}$$

PRISMOIDAL FORMULA.

$$\text{Vol.} = \frac{h}{6}(B+b+4M)$$

h = altitude; b, B = bases; M = midsection

Table III
INCHES AND FRACTIONS OF AN INCH IN DECIMALS OF A FOOT

	0	1	2	3	4	5	6	7	8	9	10	11	
1/16	.0052	.0885	.1719	.2552	.3385	.4219	.5052	.5885	.6719	.7552	.8385	.9219	1/16
1/8	.0104	.0938	.1771	.2604	.3438	.4271	.5104	.5938	.6771	.7604	.8438	.9271	1/8
3/16	.0156	.0990	.1823	.2656	.3490	.4323	.5156	.5990	.6823	.7656	.8490	.9323	3/16
1/4	.0208	.1042	.1875	.2708	.3542	.4375	.5208	.6042	.6875	.7708	.8542	.9375	1/4
5/16	.0260	.1094	.1927	.2760	.3594	.4427	.5260	.6094	.6927	.7760	.8594	.9427	5/16
3/8	.0313	.1146	.1979	.2813	.3646	.4479	.5313	.6146	.6979	.7813	.8646	.9479	3/8
7/16	.0365	.1198	.2031	.2865	.3698	.4531	.5365	.6198	.7031	.7865	.8698	.9531	7/16
1/2	.0417	.1250	.2083	.2917	.3750	.4583	.5417	.6250	.7083	.7917	.8750	.9583	1/2
9/16	.0469	.1302	.2135	.2969	.3803	.4635	.5469	.6302	.7135	.7969	.8802	.9635	9/16
5/8	.0521	.1354	.2188	.3021	.3854	.4688	.5521	.6354	.7188	.8021	.8854	.9688	5/8
11/16	.0573	.1406	.2240	.3073	.3906	.4740	.5573	.6406	.7240	.8073	.8906	.9740	11/16
3/4	.0625	.1458	.2292	.3125	.3958	.4792	.5625	.6458	.7292	.8125	.8958	.9792	3/4
13/16	.0677	.1510	.2344	.3177	.4010	.4844	.5677	.6510	.7344	.8177	.9010	.9844	13/16
7/8	.0729	.1563	.2396	.3229	.4063	.4896	.5729	.6563	.7396	.8229	.9063	.9896	7/8
15/16	.0781	.1615	.2448	.3281	.4115	.4948	.5781	.6615	.7448	.8281	.9115	.9948	15/16
1	.0833	.1667	.2500	.3333	.4167	.5000	.5833	.6667	.7500	.8333	.9167	1.000	1
	0	1	2	3	4	5	6	7	8	9	10	11	

Table IV
USEFUL RELATIONS.

Lineal feet	×.00019	= miles
Lineal yards	×.0006	= miles
Square inches	×.007	= square feet
Square feet	×.111	= square yards
Square yards	×.0002067	= acres
Acres	×4840	= square yards
Cubic inches	×.00058	= cubic feet
Cubic feet	×.03704	= cubic yards
Links	×.22	= yards
Links	×.66	= feet
Feet	×1.5	= links

360° = 21600′ = 1296000″

Radius = arc of 57.2957790°

Arc of 1° (radius = 1) = .017453292

Arc of 1′ (radius = 1) = .000290888

Arc of 1″ (radius = 1) = .000004848

$\pi = 3.141592654$ $\qquad \sqrt{\frac{1}{\pi}} = 0.564190$

$\frac{\pi}{4} = 0.785398163$ $\qquad \sqrt[3]{\frac{6}{\pi}} = 1.240700982$

$\frac{\pi}{6} = 0.523598776$ $\qquad \pi^2 = 9.869604401$

$\sqrt{\frac{4}{\pi}} = 1.128379167$ $\qquad \frac{1}{\pi^2} = 0.101321184$

$\frac{\pi}{6} = 0.523598776$ $\qquad \sqrt{\pi} = 1.772453851$

$\frac{4.\pi}{3} = 4.188790205$ $\qquad \frac{1}{\pi} = 0.3183099$

Curvature of Earth's surface = about 0.7 feet in 1 mile

Curvature in feet = 0.667 (Dist. in miles)²

Difference between arc and chord length, 0.05 feet in 11½ miles

$$\text{Probable error of a single observation} = 0.6754\sqrt{\frac{\sum v^2}{n-1}}$$

Error in chaining of 0.01 feet in 100 feet:

Due to—

1. Length of tape error of 0.01 feet
2. Alignment. One end 1.4 feet out of line
3. Sag of tape at centre of 0.61 feet.
4. Temperature difference of 15°
5. Difference of pull of 15 lbs.

STADIA REDUCTION FORMULÆ.

Horizontal Distance = R — R $\sin^2$ a + C cos a

Vertical Distance = R ½ sin 2 a + C sin a

$$\text{R} = \text{Reading} \times \frac{\text{distance from Object glass to cross hairs}}{\text{distance between cross hairs}}$$

C = distance from Object glass to cross hairs + distance from Object glass to center of instrument.

a = angle of elevation for mid Reading

4·50
4·42

TABLE X.

MIDDLE ORDINATES OF RAILS

Length of Rail (feet)

C ° ′	R Feet	30 Inch	28 Inch	26 Inch	24 Inch	22 Inch	20 Inch	C °	R Feet	30 Inch	28 Inch	26 Inch	24 Inch	22 Inch	20 Inch
0–20	17189	.08	.07	.06	.05	.04	.03	8	716.8	1.88	1.64	1.42	1.20	1.01	.84
0–40	8594	.16	.14	.12	.10	.08	.07	9	637.3	2.12	1.84	1.60	1.35	1.14	.94
1–0	5730	.24	.20	.18	.15	.13	.10	10	573.7	2.36	2.05	1.78	1.50	1.27	1.04
1–20	4297	.31	.27	.23	.20	.17	.13	11	521.7	2.59	2.26	1.95	1.65	1.39	1.15
1–40	3438	.39	.34	.29	.25	.21	.17	12	478.3	3.83	2.47	2.15	1.81	1.54	1.26
2–0	2865	.47	.41	.35	.30	.25	.20	13	441.7	3.05	2.66	2.30	1.96	1.66	1.36
2–20	2456	.55	.48	.41	.35	.29	.23	14	410.3	3.30	2.87	2.48	2.10	1.78	1.46
2–40	2149	.63	.55	.47	.40	.33	.27	15	383.1	3.54	3.08	2.68	2.26	1.91	1.57
3–0	1910	.71	.62	.53	.45	.38	.31	16	359.3	3.76	3.28	2.83	2.40	2.04	1.67
3–20	1719	.78	.68	.59	.50	.42	.35	17	338.3	4.00	3.48	3.02	2.57	2.16	1.78
3–40	1563	.86	.75	.65	.55	.46	.38	18	319.6	4.21	3.67	3.18	2.70	2.28	1.87
4–0	1433	.94	.82	.71	.60	.50	.42	19	302.9	4.45	3.89	3.36	2.86	2.41	1.98
4–20	1323	1.02	.89	.77	.65	.55	.45	20	287.9	4.70	4.09	3.55	3.00	2.54	2.09
4–40	1228	1.10	.96	.83	.70	.59	.48	22	262.0	5.16	4.44	3.84	3.30	2.80	2.29
5	1146	1.18	1.03	.89	.75	.63	.52	24	240.5	5.64	4.92	4.20	3.59	3.04	2.50
6	955.3	1.41	1.23	1.06	.90	.76	.62	26	222.3	6.07	5.29	4.58	3.88	3.29	2.70
7	819.0	1.65	1.44	1.24	1.05	.89	.73								

TABLE XI.

SHORT RADIUS CURVES

Radius Feet	Chord Feet	Central Angle	Deflection Angle	Deflection for 1 Foot
35	10	16-26	8-13	49.3
45	10	12-46	6-23	38.3
50	15	17-16	8-38	34.5
60	15	14-22	7-11	28.8
75	15	11-30	5-45	23.0
100	20	11-30	5-45	17.3
120	20	9-34	4-47	14.3
150	20	7-39	3-49	11.5
190	25	7-32	3-46	9.15
200	25	7-10	3-35	8.6
225	25	6-25	3-12	7.7
240	25	5-58	2-59	7.2
250	25	5-44	2-52	6.9
275	25	5-12	2-36	6.2
288	50	9-58	4-59	6.0
300	50	9-32	4-46	5.7
350	50	8-12	4-06	4.9
376	50	7-40	3-50	4.6
400	50	7-10	3-35	4.3
410	50	7-00	3-30	4.2

To find length of curve divide angle from P. C. to P. T. by central angle of chord, and multiply by length of chord.

TABLE XII.

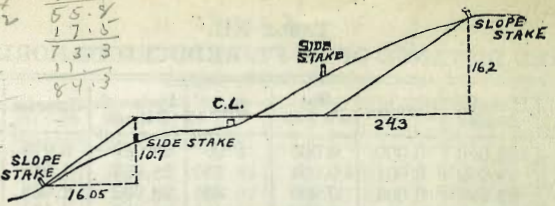
INCLINED DISTANCE OF 100 FT. REDUCED TO HORIZONTAL

Slope	Horizontal Distance	Correction	Rise Per Foot	Slope	Horizontal Distance	Correction	Rise Per Foot
0°00′	100.000	0.000	0.000	8°00′	99.027	0.973	0.139
15′	99.999	0.001	0.004	15′	98.965	1.035	0.143
30′	99.996	0.004	0.009	30′	98.902	1.098	0.148
45′	99.991	0.009	0.013	45′	98.836	1.164	0.152
1 00	99.985	0.015	0.017	9 00	98.769	1.231	0.156
15	99.976	0.024	0.022	15	98.700	1.300	0.161
30	99.966	0.034	0.026	30	98.629	1.371	0.165
45	99.953	0.047	0.031	45	98.556	1.444	0.169
2 00	99.939	0.061	0.035	10 00	98.481	1.519	0.174
15	99.923	0.077	0.039	15	98.404	1.596	0.178
30	99.905	0.095	0.044	30	98.325	1.675	0.182
45	99.885	0.115	0.048	45	98.245	1.755	0.187
3 00	99.863	0.137	0.052	11 00	98.163	1.837	0.191
15	99.839	0.161	0.057	15	98.079	1.921	0.195
30	99.813	0.187	0.061	30	97.992	2.008	0.199
45	99.786	0.214	0.065	45	97.905	2.095	0.204
4 00	99.756	0.244	0.070	12 00	97.815	2.185	0.208
15	99.725	0.275	0.074	15	97.723	2.277	0.212
30	99.692	0.308	0.078	30	97.630	2.370	0.216
45	99.657	0.343	0.083	45	97.534	2.466	0.221
5 00	99.619	0.381	0.087	13 00	97.437	2.563	0.225
15	99.580	0.420	0.092	15	97.338	2.662	0.229
30	99.540	0.460	0.096	30	97.237	2.763	0.233
45	99.497	0.503	0.100	45	97.134	2.866	0.238
6 00	99.452	0.548	0.105	14 00	97.030	2.970	0.242
15	99.406	0.594	0.109	15	96.923	3.077	0.246
30	99.357	0.643	0.113	30	96.815	3.185	0.250
45	99.307	0.693	0.118	45	96.705	3.295	0.255
7 00	99.255	0.745	0.122	15 00	96.593	3.407	0.259
15	99.200	0.800	0.126	15	96.479	3.521	0.263
30	99.144	0.856	0.131	30	96.363	3.637	0.267
45	99.087	0.913	0.135	45	96.246	3.754	0.271

TABLE XIII.

MINUTES IN DECIMALS OF A DEGREE.

0 30″	.00833	10′ 30″	.17500	20′ 30″	.34167	30′ 10″	.50833	40′ 30″	.67500	50′ 10″	.84167
1 00	.01667	11 00	.18333	21 00	.35000	31 00	.51667	41 00	.68333	51 00	.85000
30	.02500	30	.19167	30	.35833	30	.52500	30	.69167	30	.85833
2 00	.03333	12 00	.20000	22 00	.36667	32 00	.53333	42 00	.70000	52 00	.86667
30	.04167	30	.20833	30	.37500	30	.54167	30	.70833	30	.87500
3 00	.05000	13 00	.21667	23 00	.38333	33 00	.55000	43 00	.71667	53 00	.88333
30	.05833	30	.22500	30	.39167	30	.55833	30	.72500	30	.89167
4 00	.06667	14 00	.23333	24 00	.40000	34 00	.56667	44 00	.73333	54 00	.90000
30	.07500	30	.24167	30	.40833	30	.57500	30	.74167	30	.90833
5 00	.08333	15 00	.25000	25 00	.41667	35 00	.58333	45 00	.75000	55 00	.91667
30	.09167	30	.25833	30	.42500	30	.59167	30	.75833	30	.92500
6 00	.10000	16 00	.26667	26 00	.43333	36 00	.60000	46 00	.76667	56 00	.93333
30	.10833	30	.27500	30	.44167	30	.60833	30	.77500	30	.94167
7 00	.11667	17 00	.28333	27 00	.45000	37 00	.61667	47 00	.78333	57 00	.95000
30	.12500	30	.29167	30	.45833	30	.62500	30	.79167	30	.95833
8 00	.13333	18 00	.30000	28 00	.46667	38 00	.63333	48 00	.80000	58 00	.96667
30	.14167	30	.30833	30	.47500	30	.64167	30	.80833	30	.97500
9 00	.15000	19 00	.31667	29 00	.48333	39 00	.65000	49 00	.81667	59 00	.98333
30	.15833	30	.32500	30	.49167	30	.65833	30	.82500	30	.99167
10 00	.16667	20 00	.33333	30 00	.50000	40 00	.66667	50 00	.83333	60 00	1.00000



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.

SLOPE 1½ TO 1. ROADWAY OF ANY WIDTH.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0 00	0 15	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	0
1	1.50	1 65	1 80	1.95	2.10	2.25	2.40	2.55	2.70	2.85	1
2	3.00	3.15	3.30	3 45	3.60	3 75	3.90	4.05	4.20	4 35	2
3	4.50	4 65	4.80	4.95	5.10	5 25	5 40	5.55	5.70	5.85	3
4	6.00	6 15	6.30	6.45	6.60	6.75	6.90	7.05	7.20	7.35	4
5	7 50	7.65	7.80	7.95	8.10	8.25	8.40	8.55	8.70	8.85	5
6	9 00	9 15	9.30	9.45	9.60	9.75	9.90	10.05	10.20	10.35	6
7	10.50	10 65	10.80	10.95	11.10	11.25	11.40	11.55	11 70	11.85	7
8	12.00	12 15	12.30	12.45	12.60	12.75	12.90	13.05	13.20	13.35	8
9	13 50	13.65	13 80	13 95	14.10	14.25	14.40	14 55	14.70	14.85	9
10	15.00	15 15	15 30	15 45	15.60	15.75	15.90	16.05	16.20	16 35	10
11	16 50	16 65	16 80	16.95	17 10	17.25	17.40	17.55	17.70	17.85	11
12	18 00	18.15	18.30	18 45	18.60	18 75	18.90	19.05	19.20	19.35	12
13	19 50	19 65	19.80	19.95	20.10	20.25	20 40	20.55	20.70	20.85	13
14	21.00	21 15	21.30	21.45	21 60	21.75	21.90	22 05	22 20	22 35	14
15	22 50	22 65	22 80	22 95	23.10	23.25	23.40	23.55	23.70	23.85	15
16	24.00	24 15	24 30	24 45	24.60	24.75	24 90	25 05	25.20	25.35	16
17	25.50	25 65	25.80	25 95	26.10	26 25	26 40	26.55	26.70	26.85	17
18	27.00	27 15	27.30	27 45	27.60	27.75	27.90	28.05	28 20	28.35	18
19	28 50	28 65	28 80	28.95	29.10	29.25	29.40	29.55	29.70	29.85	19
20	30 00	30.15	30.30	30.45	30.60	30.75	30.90	31.05	31.20	31.35	20
21	31 50	31 65	31.80	31.95	32 10	32 25	32.40	32.55	32 70	32 85	21
22	33 00	33 15	33 30	33 45	33.60	33 75	33.90	34.05	34.20	34.35	22
23	34 50	34 65	34.80	34.95	35.10	35 25	35 40	35.55	35.70	35 85	23
24	36.00	36 15	36.30	36 45	36.60	36.75	36.90	37.05	37.20	37.35	24
25	37.50	37.65	37 80	37.95	38.10	38.25	38.40	38.55	38.70	38.85	25
26	39 00	39 15	39.30	39 45	39 60	39.75	39.90	40.05	40.20	40.35	26
27	40 50	40 65	40 80	40.95	41.10	41.25	41 40	41.55	41.70	41.85	27
28	42 00	42 15	42.30	42.45	42.60	42 75	42.90	43.05	43.20	43.35	28
29	43 50	43 65	43.80	43 95	44.10	44 25	44 40	44.55	44.70	44 85	29
30	45 00	45 15	45.30	45 45	45.60	45.75	45.90	46.05	46 20	46.35	30
31	46.50	46.65	46.80	46 95	47.10	47.25	47.40	47.55	47.70	47.85	31
32	48 00	48.15	48.30	48 45	48.60	48 75	48.90	49.05	49 20	49.35	32
33	49.50	49 65	49.80	49.95	50.10	50.25	50.40	50.55	50.70	50.85	33
34	51 00	51.15	51.30	51.45	51.60	51.75	51.90	52.05	52.20	52.35	34
35	52 50	52.65	52.80	52.95	53.10	53.25	53.40	53.55	53.70	53.85	35
36	54 00	54.15	54.30	54 45	54.60	54.75	54.90	55.05	55.20	55.35	36
37	55 50	55 65	55.80	55.95	56.10	56.25	56.40	56.55	56.70	56.85	37
38	57.00	57.15	57.30	57 45	57.60	57.75	57.90	58.05	58.20	58 35	38
39	58 50	58.65	58 80	58.95	59.10	59 25	59.40	59 55	59.70	59.85	39
40	60 00	60.15	60 30	60 45	60 60	60.75	60 90	61.05	61 20	61.35	40
41	61.50	61 65	61 80	61 95	62 10	62 25	62.40	62 55	62 70	62.85	41
42	63 00	63.15	63 30	63 45	63 60	63 75	63 90	64 05	64 20	64.35	42
43	64.50	64 65	64 80	64.95	65.10	65 25	65 40	65.55	65.70	65.85	43
44	66 00	66 15	66 30	66.45	66.60	66 75	66.90	67.05	67.20	67.35	44
45	67 50	67 65	67 80	67.95	68.10	68.25	68 40	68.55	68.70	68.85	45
46	69 00	69 15	69 30	69.45	69.60	69.75	69.90	70.05	70.20	70.35	46
47	70.50	70 65	70 80	70 95	71.10	71.25	71.40	71.55	71.70	71.85	47
48	72.00	72 15	72.30	72.45	72.60	72.75	72.90	73 05	73.20	73 35	48
49	73 50	73 65	73.80	73.95	74.10	74.25	74.40	74.55	74.70	74.85	49
50	75.00	75.15	75.30	75.45	75.60	75.75	75.90	76.05	76.20	76.35	50

Computed by L. Leland Locke.