1551

SEWERS

BASIN

1551

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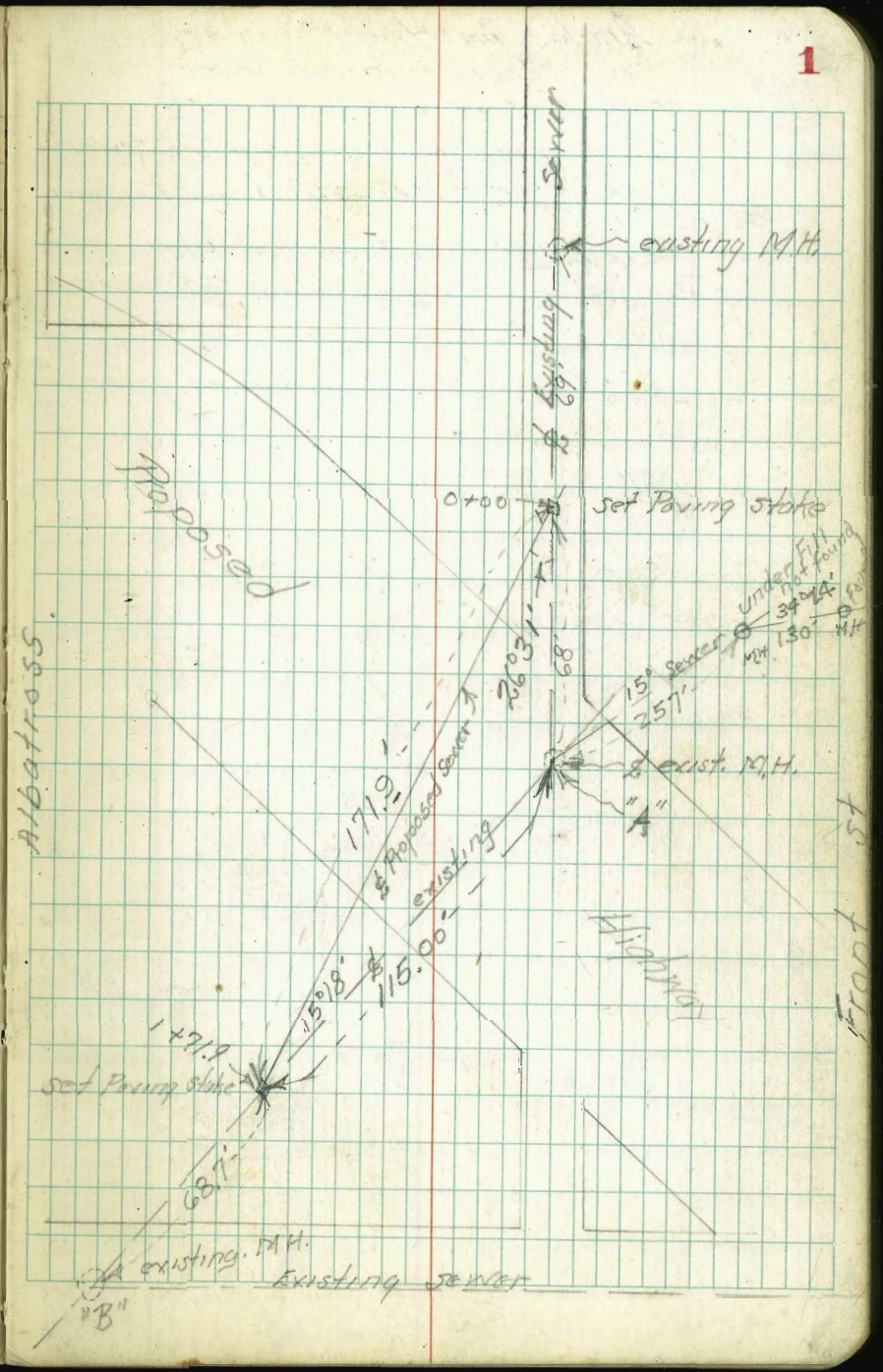
Proposed Sewer Location And Levels
Bet. Albatross And Front
at and North of University Ave

Walker
Bliss
1-27-38

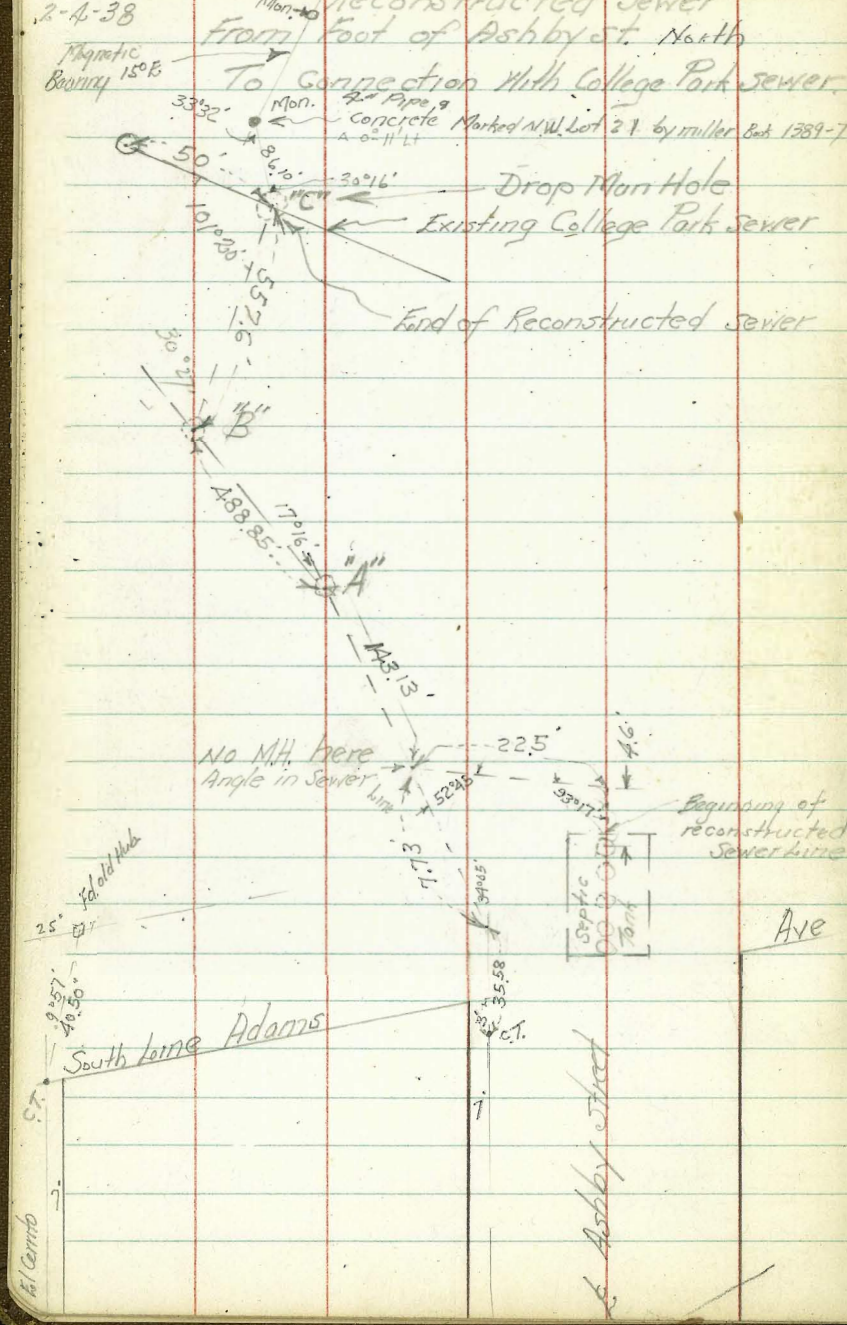
	2.25	272.78		270.53	SW. BP Douglas & Albatross
T.P.	0.37	260.40	12.75	260.03	
T.P.	0.47	248.15	12.72	247.68	
0+00 on stub.			1.35	246.80	
+18 on Fill			2.1	246.1	
+21 on old Fill			6.6	241.6	
+44 " " "			12.3	235.9	
T.P.	2.71	238.30	12.56	235.59	
+67			9.1	229.2	
+70 = Flow of ditch		Culvert ditch	9.9	228.4	
on Rim M.H. at "A"			4.10	234.20	
" Flow M.H.			9.22	229.08	
0+94 = Bottom ditch			10.2	228.1	
+98			9.2	229.1	
1+15			9.7	228.6	
+35			11.4	226.9	
1+71.9 △ at "B"		intersection on stub.	11.18	227.12	
68.7' South on Exist. Rim M.H.			13.14	225.16	Prop. MH. at "B"
" " " Flow line to North			17.40	220.90	
" " " " " South			18.16	220.14	

Alignment Changed
See Construction Notes
in Grade Book 188 - Page 1



Weller
Bliss
2-4-38

Angles and distances over Reconstructed Sewer From Foot of Ashby St. North To Connection With College Park Sewer



BM. BP 2
SW. Ashby + Adams
Book 1389-9

	1.20	400.93		399.73
Top Rim M.H. North end Septic Tank			2.22	398.71
" M.H. # "A"			9.33	391.60
Flow line M.H. "A"			19.93	381.00
T.P.	0.33	388.40	12.86	388.07
T.P.	0.51	376.51	12.40	376.00
T.P.	1.20	364.96	12.75	363.76
Rim M.H. "B"			2.42	362.54
Flow " "B"			9.12	355.84
T.P.	1.00	352.93	13.03	351.93
T.P.	2.30	342.49	12.74	340.19
Rim M.H. "C"			5.11	337.38
Flow line M.H. "C"			11.11	331.38
Chk. on Mon. Book 1382-18		SE. Cor. Lot 22	6.65	335.84
Flow line College Park line			11.46	331.03

Drop M.H.

Euclid Ave X. See El Cajon Blvd North.
Continued from F.B. 1535-P 24

360.42

7+00

E+66		8.4	352.0
E+76 = W. Line proposed.		8.9	351.5
E+86		9.3	351.1
	7+17.5 ℄ 9' conc. Drive		
E+39		6.4	354.0
E+40 = E. End 9' Conc Drive		7.17	353.2
E+76 = W. Line		8.70	
	7+27 = S. side shack		351.7
E+49.5 = S.E. Cor		8.4	352.0
E+69 = S.W. "		9.0	351.4
	7+35 N side shack		
E+49.5 = N.E. Cor		8.5	351.9
E+69 = N.W. "		9.0	351.4
	7+52		
E+66		8.7	351.7
E+76 = W. Line		9.0	351.4
E+86		9.3	351.1
✓	7+55 S. side chicken shed		Removed.
E+67	S.E. Cor shed	8.7	351.7
E+76 = W. Line = S.W. Cor shed		9.0	351.4
E+86		9.3	351.1
	7+70		
E+67 = N.E. Cor	above shed	8.8	351.6
E+76 = N.W "	" "	9.2	351.2
E+86			

Indexed
C.S.K.

360.42

8+01.8

E+66	8.7	351.7
E+76 = W. Line	9.1	351.3
E+86	9.7	350.7
8+50		
E+66	9.0	351.4
E+76 = W Line	9.6	350.8
E+86	10.0	350.4

Chk. BM F.B. 1535-P 21. 6.56 353.86 ✓

(76' wide 10' cbs. 56' Rdw.) Additional Notes Euclid N. of El Cajon Blvd 8-12-39.

✓ 3+52.5 = N. End Walk, curb & Pav. on W. side = N. End Full width St.
✓ 3+53 = S " Fence 40' W. of E. Line
✓ 3+53 Fence from 40' W. of E. Line W. to 76' W. of E.
✓ 4+95 6x6 Clothes Pole 60' W. of E. Line
✓ 5+05 4x4 " " 75.5 " " " "
✓ 5+22 4x4 " " 60' " " " "
✓ 5+37 S. End double garage 51.5 " " " " 78' W. of E = S.W. Cor
✓ 5+60 N " " " " " " " " 78' W of E = N.W. "
✓ 5+64 E+W. Fence from 40' W. of E. West.
✓ 5+72 E+W. " " 40' " " W. = Lot. Division fence
✓ Bet 5+72 + 6+00 from 40' W of E. Line West. is Divided into small chicken pens. Not in use bad repair
✓ 6+00 = S. End Corrigated iron Garage 47' W. of E. = SE. Cor.
✓ 6+00 " " " " 93.5 " " " = S.W. "

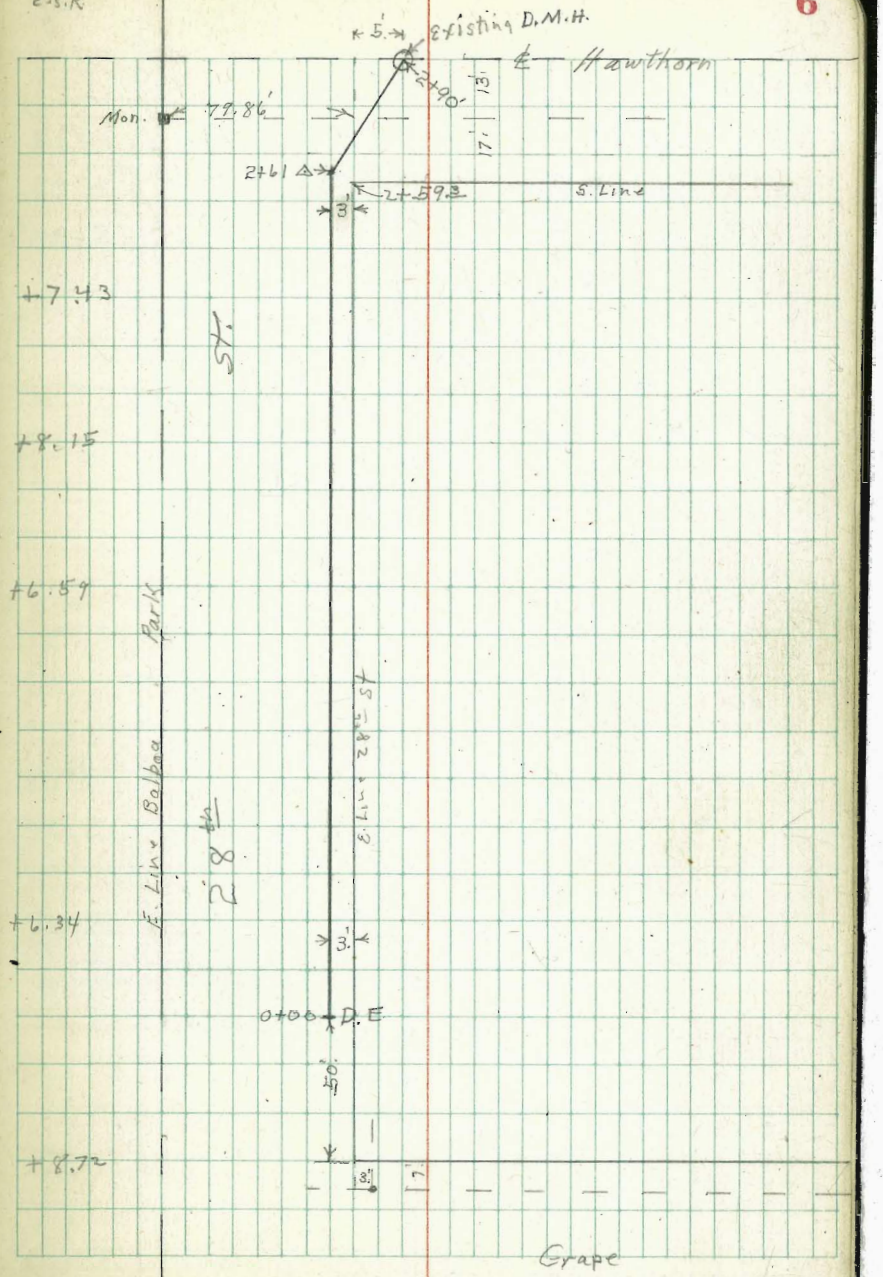
Continued on Page 15.

1-29-39
Miller
Walker
Bliss

Sewer in 28th St. Grape to Hawthorn

BM.BP	0.46	233.41		232.95	S. E. Grape + Granada.
00-60	N. Gutter Grape		7.45	225.96	
00-60	N Cb.	"	6.45	226.96	
00-50	F.L. Out Let Culvert.		10.30	223.11	
0+00 ℄	Nat Gr.		6.0	226.4	
0+00	6' W.R.P.		5.48	227.93	F.L. Grade 220.50
0+00 ℄	Ditch		10.8	222.6	
0+50 ℄	Nat. Gr		7.9	225.5	
0+50	6' W. RP.	Brk.	6.76	226.65	218.50
0+50	Ditch		11.6	221.8	
1+00 ℄	Nat. Gr		12.4	221.0	
1+00	6' W. R.P.	Brk.	11.82	221.59	215.00
T.P.	0.36	220.72	13.05	220.36	
1+31	Fill		2.0	218.7	
1+31	Nat. gr.		5.0	215.7	
1+50 ℄	" "		8.7	212.0	
1+50	6' W. R.P.		8.38	212.34	206.0
T.P.	0.52	208.33	12.91	207.81	
2+00	℄ Nat Gr		6.0	202.3	
2+00	6' W. RP		2.61	205.72	197.00
T.P.	3.31	198.87	12.77	195.56	

Indexed
C.S.K.



		198.87			Grade
2+61 ℄			9.5	189.4	
2+61	6" W.R.P.		9.46	189.41	186.0
2+90	E+M.H. Rim.		5.93	192.94	185.0
2+90	" " " F.L.		16.93	181.94	= 182.00 Plan

+3.41

+7.94

3-7-39
Miller
Walker
Bliss

Montclair Sewers.

Maple St. +
Vancover Ave F.B. 1191-20

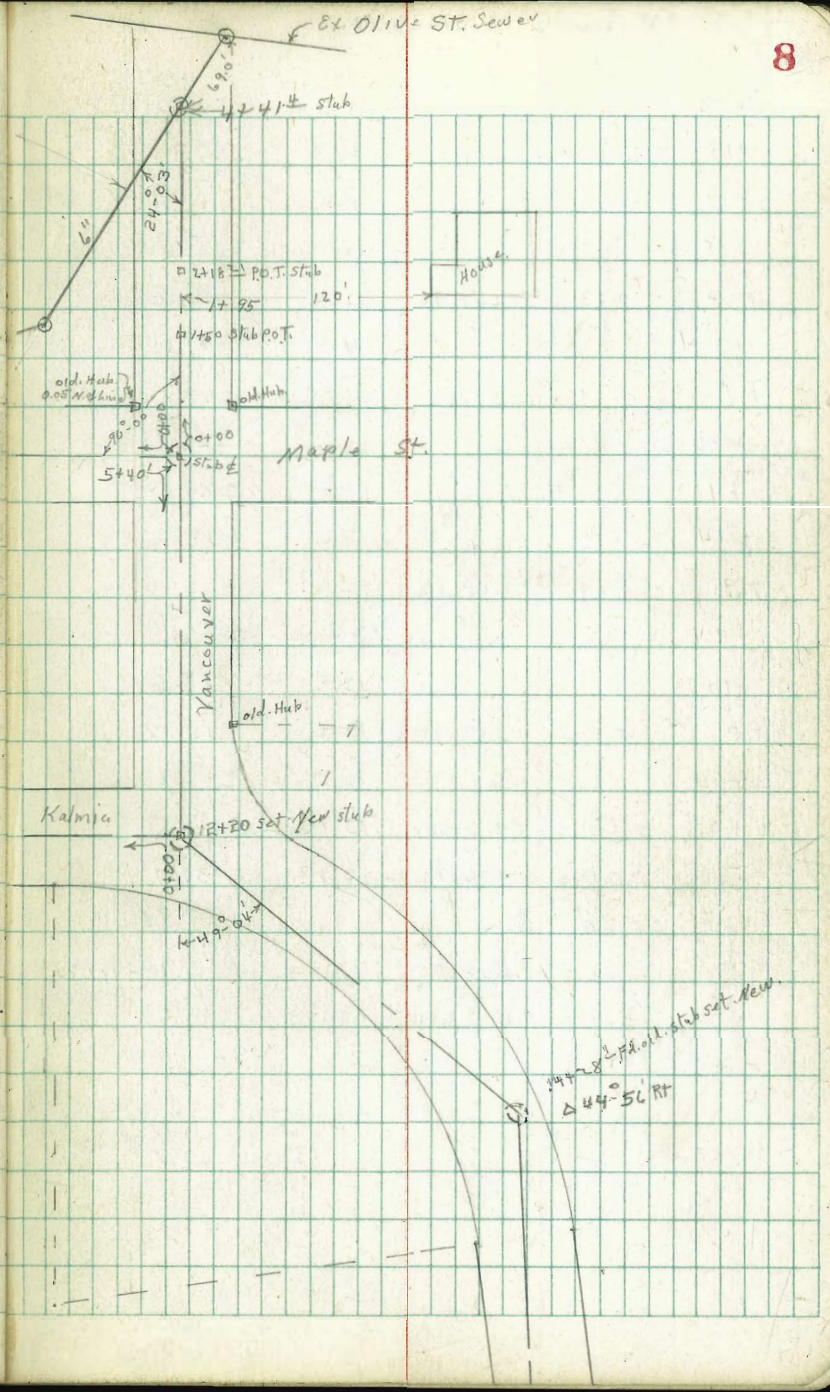
B.M. B.P.	0.43	286.88		286.45	S.W. Cooper & Maple
T.P.	3.01	276.96	12.93	273.95	

℄ Maple St.

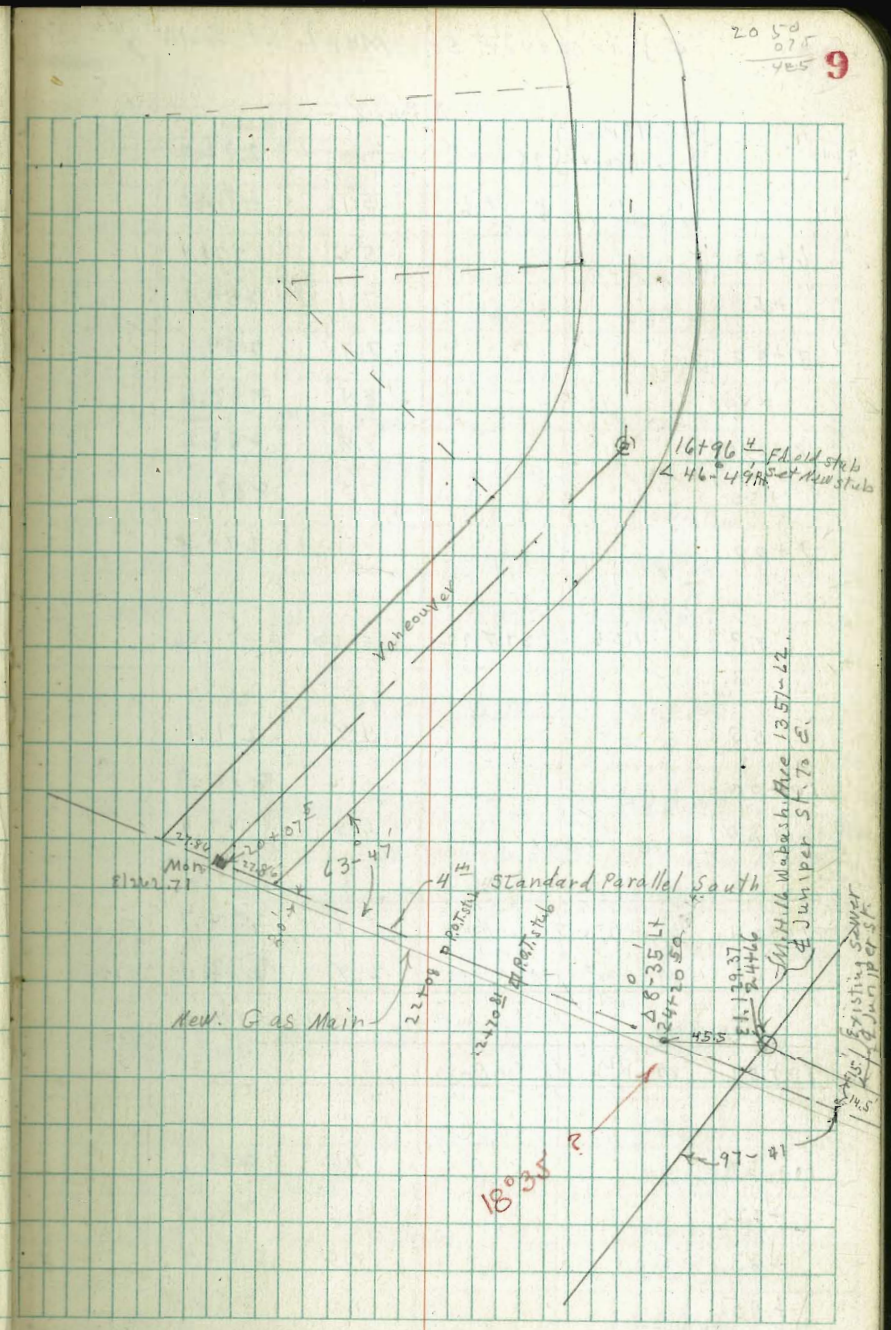
Stub {℄ Maple ℄ Vancouver} = 0+00	ground		5.0	272.0	
0+30 W			4.7	272.3	
0+60			5.8	271.2	
1+00			7.5	269.5	
+20			8.3	268.7	
+22	wash		10.0	267.0	
+24			9.0	268.0	
+50			7.3	269.7	
+90 3 W = Ex MH {℄ Maple ℄ Alley W of Vancouver			3.50	273.46	Rim MH
" " " " " " "			10.30	266.66 = 267.0 F.L.	

℄ Vancouver St. Maple North.

0+00 {℄ Maple ℄ Vancouver	ground		5.0	272.0	
" "	New ℄ stub		5.16	271.80	
0+50			5.1	271.9	
1+00			6.2	270.8	
1+25			7.3	269.7	
1+50			9.3	267.7	
1+63			11.2	265.8	
1+95 — 126' Rt = House	floor		4.7	272.3	
" " " "	ground		6.6	270.6	
T.P.	0.25	264.46	12.75	264.21	



	℄ Vancouver	Maple North 264.46		
2+00			5.3	259.2
+18 21	P.O.T. stub		6.57	257.89
+27			8.0	256.5
+35			12.0	252.5
T.P.	0.13	251.96	12.63	251.83
+54			4.9	247.1
T.P	0.61	239.83	12.74	239.22
+86	wash		13.0	226.8
+91	"		15.0	224.8
3+14			11.6	228.2
T.P.	1.48	228.60	12.71	227.12
+44			6.1	222.5
+70			13.0	215.6
T.P.	0.82	216.80	12.62	215.98
+94			10.0	206.8
4+41 4	℄ stub P.T.	Ex. Sewer	13.13	203.67
T.P.	3.26	206.93	13.13	203.67
5+10 4	Ex MH.	Rim	9.02	197.91
"	" "	F.L. 6" to S	17.03	189.90 - 189.80
"	" "	F.L. 8" E+W	17.33	189.60



℄ Vancouver St. Maple St. South

276.96 π Page 8

5+40 1	℄ Maple ℄ Vancouver	ground	5.0	272.0	
"	" "	℄ stub	5.11	271.80	
6+00			5.6	271.4	
+50			7.1	269.9	
7+00			7.7	269.3	
+50			8.4	268.6	
8+00			8.8	268.2	
+50			7.5	269.5	
9+00			6.1	270.9	
T.P.	4.56	275.92	5.60	271.36	
+50			4.8	271.1	
10+00			5.2	270.7	
+50			4.5	269.4	
10+54	47' Rt = S.E. Cor. House		1.2	274.7	Floor
"	47 " " " "		3.8	272.1	Gravel
10+57	89' Rt = N.E. Cor. House				
10+57 ℄			7.6	268.3	
+72			12.5	263.4	
+83			18.5	257.4	
+95			19.0	256.9	

275.92

10+95 15' Rt. of ℄		8.1	267.8
11+12		13.5	262.4
11+32		8.0	267.9
11+50		6.5	269.4
12+00		7.2	268.7
+20	Δ 49°-04' Lt. ground	7.4	268.5
+20	New Hub old scraped out	7.55	268.37
+50		9.8	266.1
13+00		11.7	264.2
+50		12.0	263.9
T.P.	6.40	270.42	11.90	264.02
13+60	27' Rt ℄ House Floor	4.8	265.6
13+60	47' Rt Laundry Trays in basement	13.3	257.1	Laundry Room Floor
13+60	54' Rt Main plumbing	7.3	263.1	X in pipe
13+60	54' Rt	13.5	256.9	basement Floor
13+85	63' Lt = S.E. Cor. House	2.3	268.1	Floor
14+00		5.3	265.1
+28 1	Δ 44°-56 Rt. ground	4.0	266.4
+28 1 "	" New Stub	4.25	266.17
+60		4.7	265.7
15+00		5.0	265.4

270.42

15+50			5.0	265.4	
16+00			4.4	266.0	
+50			4.1	266.3	
+96.4	Δ 46'-49' Rt.	ground	3.8	266.6	
+96.4	"	New Stub	4.16	266.26	
T.P. & stub	3.05	269.31	4.16	266.26	
15+55	41' Lt Front of House	floor	4.3	265.0	
	59' Lt = Y in plumbing above ground.		6.6	262.7	
	59' Lt. = ground.		8.8	260.5	
15+50	42' Rt = Front of House	floor	2.5	266.8	
	56' Rt = Plumbing outlet		6.7	262.6	Y above ground
	56' Rt = " "		7.6	261.7	ground
17+50			4.0	265.3	
17+94	42' Lt = S.W. Cor House	floor	2.0	267.3	
"	"	ground.	4.7	264.6	
18+00			5.9	263.4	
+50			6.7	262.6	
19+00			7.3	262.0	
19+04	45 Lt = SW. Cor. House		6.7	262.6	Floor
"	" " "	"	7.3	262.0	ground

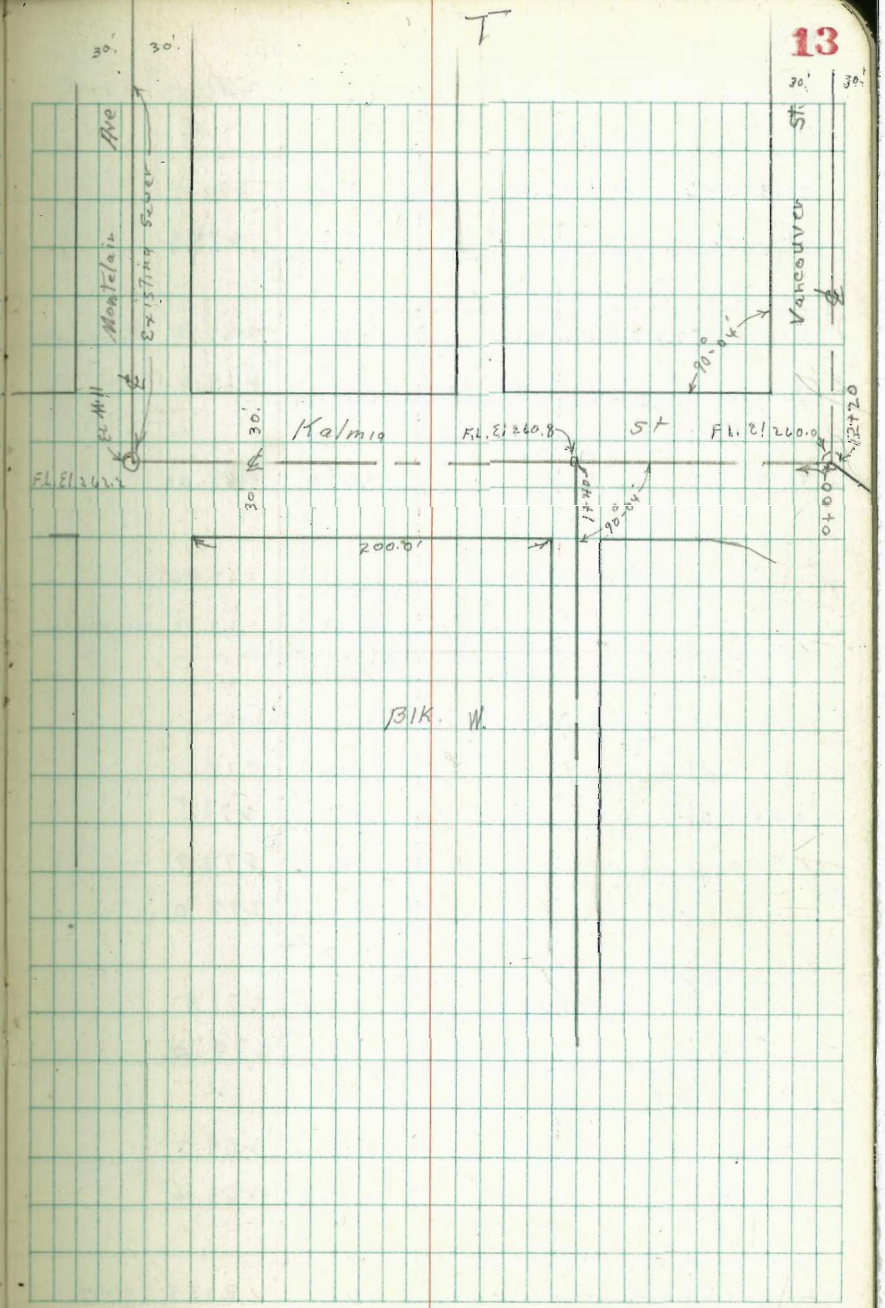
269.31

19+10	47' Rt = N.E. Cor House		4.6	264.7	floor
19+10	63' Rt = N.W. " "		8.0	261.3	Ground Near plumbing
19+50			6.9	262.4	
20+07.5	S. Line Montclaire; N. Line Hortons purchase Lt. Δ		6.60	262.71	= 262.83
T.P. & Mon	0.69	263.40	6.60	262.71	
20+50			3.1	260.3	
+73			4.8	258.6	
+73	6' S. of Line		6.0	257.4	
+94			15.6	247.4	
+94	6' South		17.0	246.4	
+94	6' N		13.6	249.8	
		21+18			
6' Lt			9.7	253.7	
℄			12.0	251.4	
6' Rt			13.6	249.8	
		21+33			
6' Rt			5.9	257.5	
℄			4.6	258.8	
		21+50			
℄			4.4	259.0	
6' Rt			5.6	257.8	

		263.40		
22+00			9.0	254.4
22+08	℄ stub P.O.T.			
T.P.	0.38	251.08	12.70	250.70
22+13.5	℄ Alley. To N		0.2	250.9
22+50			8.1	243.0
T.P.	0.10	238.28	12.90	238.18
22+70.81	℄ stub P.O.T.		1.97	236.31
22+80			1.0	232.3
T.P.	4.80	241.11	1.97	236.31
T.P.	2.38	140.34	103.15	137.96
24+00				149.0
24+18			0.0	140.3
24+20.54	△ 8°-35' Lt.			
24+22			4.2	136.1
24+66				
MH. 16 Wabash. 14.5 N. of ℄	M.H. Rim		5.80	134.54
24+66	F.L.		11.00	129.34 = 129.37 ✓

Montelaine Sewers.:
℄ Kalmia St.

BM. ℄ Stub 12+20 Page 10					
BM.	10.19	278.56		268.37	
0+00 to W = ℄ Stub 12+20 Vancouver St.				268.5	ground
0+60 W			7.9	270.7	
0+60	52' N = Ctr S. Edge House ground		6.0	272.6	
"	" " " " " floor		4.4	274.2	
1+00			6.5	272.1	
1+40' = {0+00 Line to S ℄ Alley Blk. W}			5.0	273.6	
1+80			4.5	274.1	
1+80 - 58' N = S.W Cor House ground			3.4	275.2	
" - 58' " = " " " " Floor			1.4	277.2	
1+80 - 274' N = S.W. Cor House ground			1.7	276.9	
" " " " " " floor			1.2	277.4	
1+80 - 323' N = S.W Cor House ground			1.5	277.1	
" " " " " " floor			0.3	278.3	
2+00				4.5	274.1
+50				5.0	273.6
65+ - 115' S = N.W. Cor House ground			7.5	271.1	
" " " " " floor			6.4	272.2	



	278.56			
3+00		6.1	272.5	
3+15 — 34.5 = N.E. Cor House ground		6.4	272.2	
" " " " " " " floor		5.3	273.3	
3+17 — 170.5 = E. side House ground		9.8	268.8	Plumbing outlet
" " " " " " floor		8.8	269.8	" "
3+50.5	E. Line Mountclaire Ave / E. edge Pav.	10.50	268.06	
3+80.5	Ex. M.H. ℄ Mountclaire Rim	10.70 / 5.70	267.86	
" " " " " "	FL	16.40	262.16 = 262.2 Prof.	
	Line ℄ Alley Blk. W. Kalmia South.			
0+00 = ℄ Kalmia		5.0	273.6	
0+50 S.		5.1	273.5	
1+00		5.9	272.7	
+50		6.6	272.0	
1+60 — 11.6 E. = S.W. Cor House ground		6.7	271.9	
" " " " " " " floor		4.6	274.0	
2+00		8.9	269.7	
+25		12.2	266.4	
2+25 — 22.W = Plumbing outlet of House		14.8	263.8	ground
" " " " " " "		14.0	264.6	floor

2+60 ℄ Alley	18.8	259.8

8/12/39
mlb
Walker
Bliss

Additional Improvements
Euclid Ave Opening N of El Cajon.

76' wide
10' do
56' Rdw.

Continued from Page 5.

	N. side above Cor. Iron Garage		
✓ 6+14.5	S. " 3 Wooden garages.	47' W. of E. =	S.E. Cor
✓ 6+14.5	N " " " "	67. W of E =	SW "
		67. " " " =	" "
✓ 6+45	N. " above " "	47 " " " =	S.E. "
✓ Bet: 6+45 + 6+81.5	from 40' W. of E. Line West =		Rotting use Chicken Pens.
✓ 6+81.5	= E+W. Prop. Division Fence,	from 40. W. of E Line	West
✓ 6+55	Eucalyptus Tree cut off at ground		
✓ 6+64	" " " " " "		
✓ 6+76	" " " " " "		
✓ 7+10	flowering " " " " "		New Bush.
✓ Bet. 7+27 + 7+35	shack Removed.		
✓ 7+17.5 & 9.	Conc. drive on W.		
✓ 7+24 & 7+31	pine clothes posts 77' W. of E. Line		
✓ 7+55	to 7+70 chicken House Removed.		
✓ 7+84	58' W of E. Pepper Tree cut down		
✓ 7+80	to 7+86 from 40' W. to 70' W.		Condition Terrible chicken wire Pen
✓ 8+92	51' W. of E. = orange Tree Butt = 10" Diam.		
✓ 9+01.9	S. End. Full width St. cb. walk. & pav.		

10-2-39
Miller
Walker
Bliss

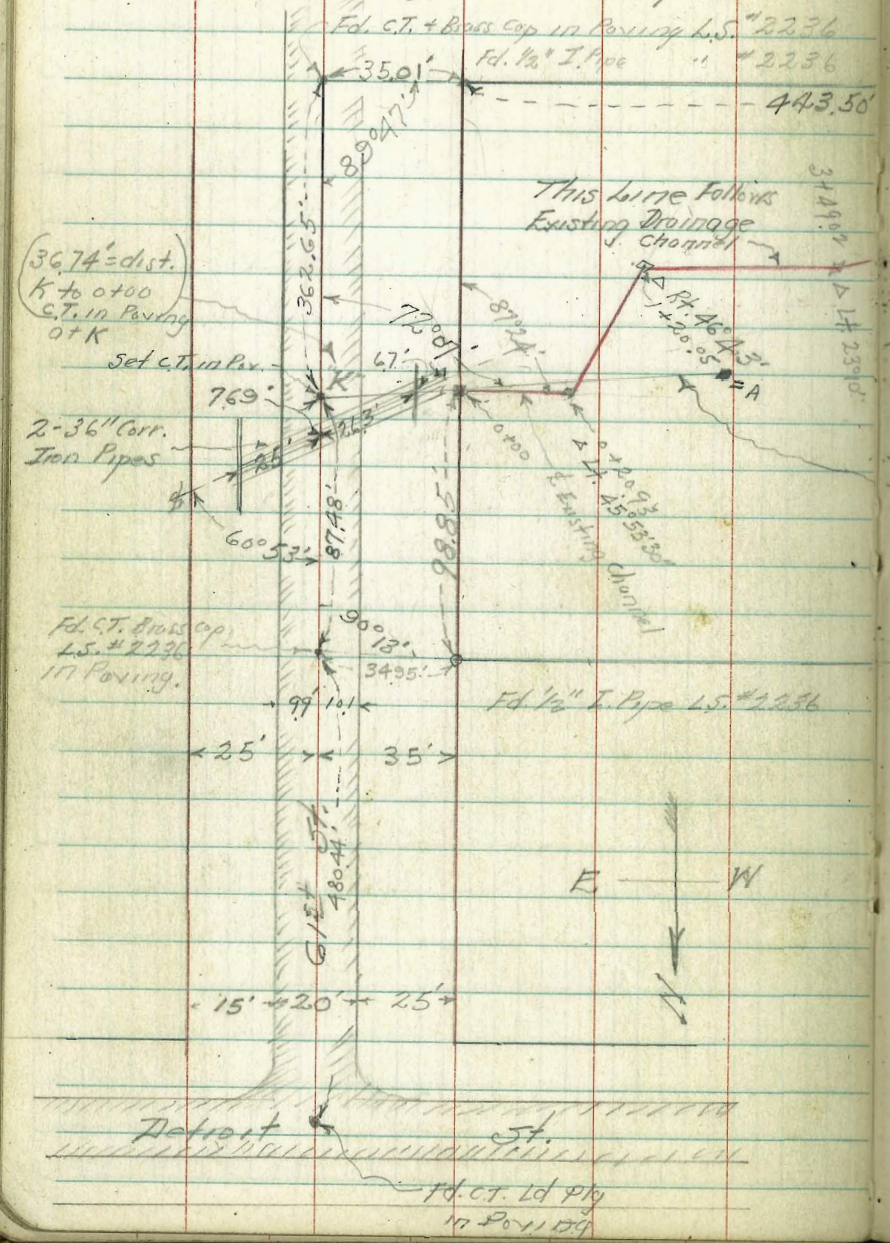
Sewer Levels ℄ Webster 33rd to Payne
℄ Payne N + S. of Webster

Indexed
C.S.K.

B.M. Top. Hydt.	2.01	23.61		21.60	S.E. 33rd + Webster
0+00 Ex. M.H.	41' E of W. Line 33rd ℄ Webster St		4.05 Below 7.20	19.56	Rim
0+00			11.25	12.36	F.L.
+25			5.4	18.2	
0+50 W			5.4	18.2	
1+00 N			5.3	18.3	
1+41	M.H. 4 ℄ Payne St.		4.7	18.9	0+00
	S. on ℄ Payne St.				
1+55			4.0	19.6	+14
1+72			5.0	18.6	+31
2+00			5.4	18.2	+59
+50			5.8	17.8	1+09
3			6.3	17.3	+59
+50			6.6	17.0	2+09
4			6.6	17.0	+59
+70	S. Line Home Garden		7.3	16.3	3+29
	N. on ℄ Payne.				
0+00	℄ Payne ℄ Webster		4.7	18.9	
0+60	N		4.9	18.7	
1+00	N		4.7	18.9	
	W. on ℄ Webster				
0+00	℄ Payne ℄ Webster		4.7	18.9	
0+20			4.0	19.6	
0+35			1.7	21.9	
0+83			+17.6	41.2	
0+97	W. Line Home Garden		+20.7	44.3	

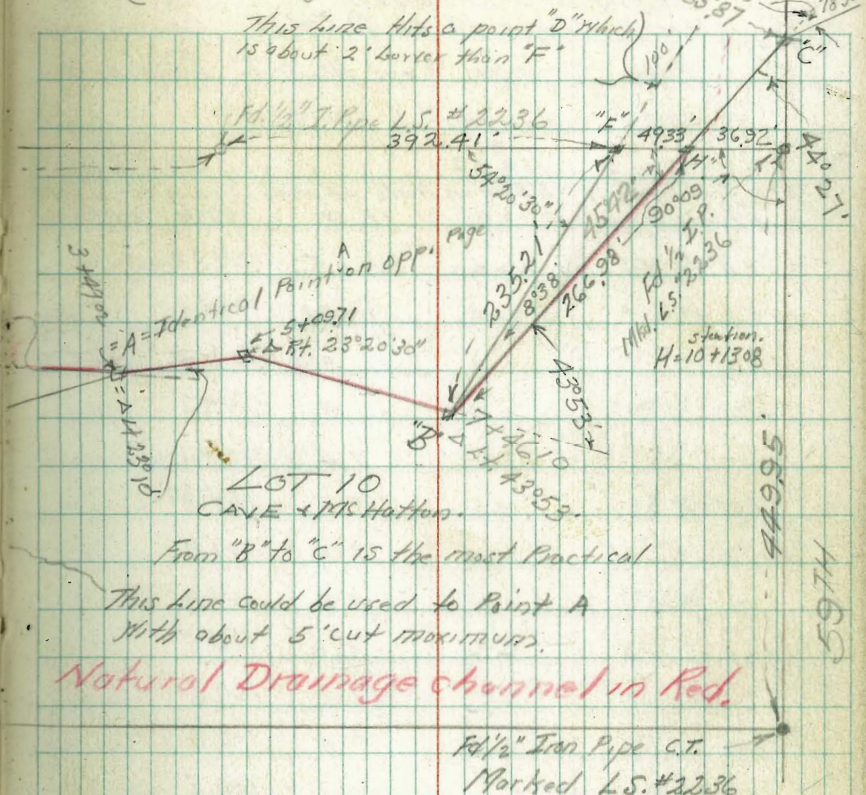
Walker
Bliss
Isbell
11-15-39

Survey thru. Lot 10
CAVE & Mc Hatton Sub.
For Drainage Rt. of Way.



Indexed C.S.K.

(See B-Sheet 2292 For opening on 61st St)



Point H 0.3 Lower than F
" C 0.7 " " "
" D 2.0 " " " in ditch

Walker
Bliss
Isbell
3-14-40

Preliminary Levels for Sewers.
Altavista Suburb #1
IN Alleys Blocks D And E.
From Ocean View Blvd. To Logan Ave.
See sketch P-22.

INDEXED
EFB

	3.03	119.52		116.49	S.W.B.P. Ocean View & 47th
1+35.06 Book 1047-67 = ℄ Alley on North 44' North of S. Line = ℄ MH #3					Ocean View
= 0+00 on ground			11.9	107.6	98.77 = Flow
0+04 on Paving. N. edge			11.05	108.47	
0+24 " " S. edge			10.88	108.64	
+50			11.3	108.2	All property on Lt. Above ℄ Elev. this Block
0+75			10.4	109.1	
1+00			7.4	112.1	
75' Rt.			14.7	104.8	
1+15			7.6	111.9	
+50			5.2	114.3	
2+00			5.0	114.5	
75' Rt.			12.0	107.5	
2+50			9.5	110.0	
3+00 = Δ 0°31' Rt.			10.0	109.5	
75' Rt.			13.3	106.2	
3+40			8.8	110.7	
3+75			5.5	114.0	
4+00			4.3	115.2	
25' Rt.			3.4	116.1	
75' Rt.			8.2	111.3	
T.P.	5.10	124.08	0.54	118.98	
4+50			4.0	120.1	
5+00			3.3	120.8	

124.08

(5+00) 15' Rt. Lt.			3.2	120.9	
" 75' Rt. Lt.			9.5	114.6	
5+30			3.9	120.2	
+70			7.2	116.9	
6+00			7.8	116.3	
75' Rt.			11.2	112.9	
6+40			7.7	116.4	
6+44 = N.L. - T-St.			7.1	117.0	
+50			6.7	117.4	
7+04 = S.L. - T-St.			6.6	117.5	
+50			5.4	118.7	
40' Rt.			8.8	115.3	All property on Lt. in this Block Above ℄
75' Rt.			7.7	116.4	
7+80			5.9	118.2	
8+00			7.6	116.5	
+20			8.2	115.9	
85' Rt. at House on ground			9.9	114.2	
" " " " " Floor.			8.9	115.2	
8+50			8.1	115.0	
9+00			7.6	116.5	
T.P.	3.99	121.39	6.68	117.40	
75' Rt. of 9+00			11.9	109.5	
9+50			1.9	119.5	
10+00			3.8	117.6	
50 Rt.			7.2	114.2	
75' Rt.			11.8	109.6	

	121.39		
10+50		6.5	114.9
11+00		8.0	113.4
75' Rt.		9.7	111.7
11+30		7.2	114.2
+60		9.2	112.2
12+00		8.6	112.8
75' Rt.		11.9	109.5
12+50		7.4	114.0
75' Rt.		11.8	109.6
13+04 = N.L. Logan Ave on paving		7.10	114.29
N.E. Return Logan + Rynchon		10.65	110.74
For check see P. 24			

Additional Hand level Shots

Left of ℄ of Alley Blocks A + D

12+84 = ℄ House on Lt.	121.4	0.5	120.9	70' Lt. Floor.
" " " Ground		4.0	117.4	
11+80 ℄ " " "		4.0	117.4	
" " " Floor		0.5	120.9	65' Back
(11+00) 70' Lt.		4.5	116.9	
(9+00) 70' Lt.	124.1	+0.5	124.6	
(8+00) 70' Lt.	124.1	2.4	121.7	
(5+00) 75' Lt.	124.1	1.8	122.3	on Floor
" " "	124.1	5.0	119.1	" Ground
4+00 75' Lt.	119.5	6.0	116.1 ~~113.5~~	Basement of House
" " " on ground		3.0	119.1 ~~116.5~~	

Hand level 119.5

(3+00) 75' Lt.	8.0	111.5
(2+00) 75' Lt.	5.0	114.5
(1+00) 75' Lt.	4.4	115.1

D + E ?

Abandoned

See side shots by level P. 62

? See page 19

Walker. Preliminary Levels for Sewer
Bliss
Isbell. IN Blocks C, And F. Altavista Suburb #1
3-18-40 From Ocean View Blvd. To Logan Ave.

Location - Sketch P-22

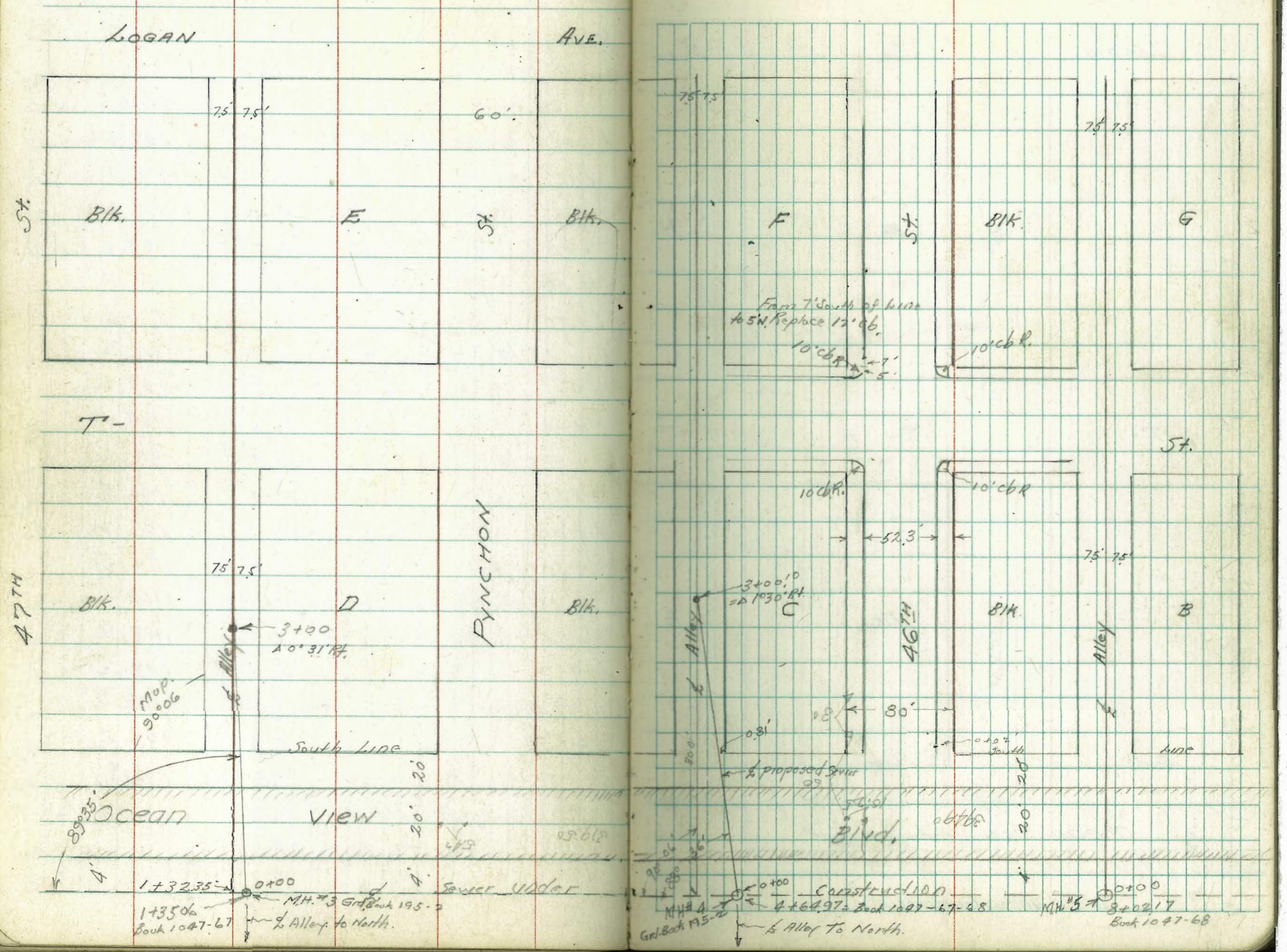
	9.19	103.90		94.71	B.M. C.T. in Pav. 5+99.81 Back 1047-72 Flow Line
4+64.97 sketch P-22 = 0+00			7.5	96.4	90.52
0+04 on N. edge Paving			6.72	97.18	
0+24 " S. edge Paving			6.68	97.22	
0+30			7.1	96.8	
+50			4.8	99.1	
1+00			5.6	98.3	
75' Rt. at House on ground.			6.4	97.5	
75' " " " " Floor			4.80	99.10	
1+50			5.0	98.9	
2+00			4.7	99.2	
75' Rt.			4.7	99.2	
2+50			5.8	98.1	
3+00			6.3	97.6	
75' Rt.			7.7	96.2	
3+50			5.2	98.7	
4+00			4.6	99.3	
75' Rt.			5.3	98.6	
+50			4.5	99.4	
5+00			2.6	101.3	
75' Rt.			6.8	99.1	
T.P.	12.61	114.11	2.40	101.50	on top lath 5+00 Driven Almost flush
5+50			8.9	105.2	
5+75			6.8	107.3	

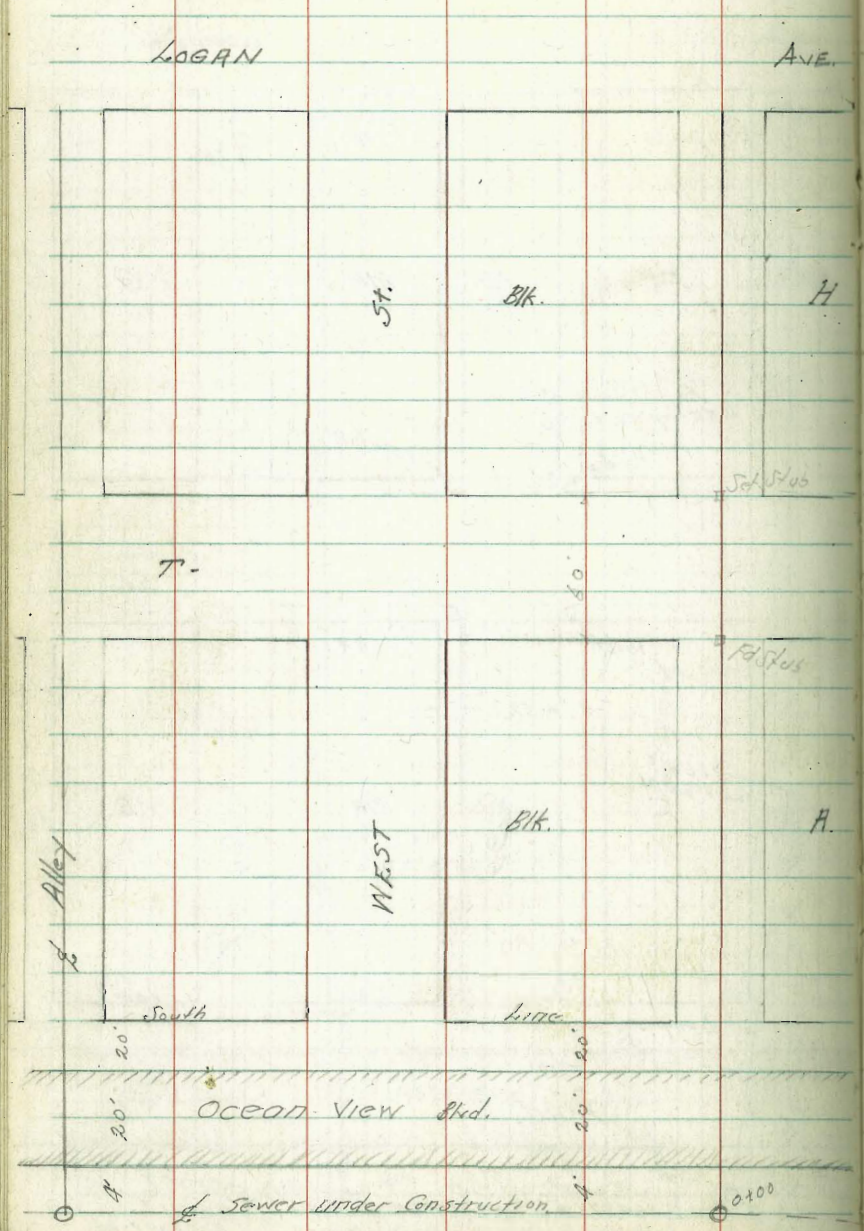
INDEXED 114.11
EFB

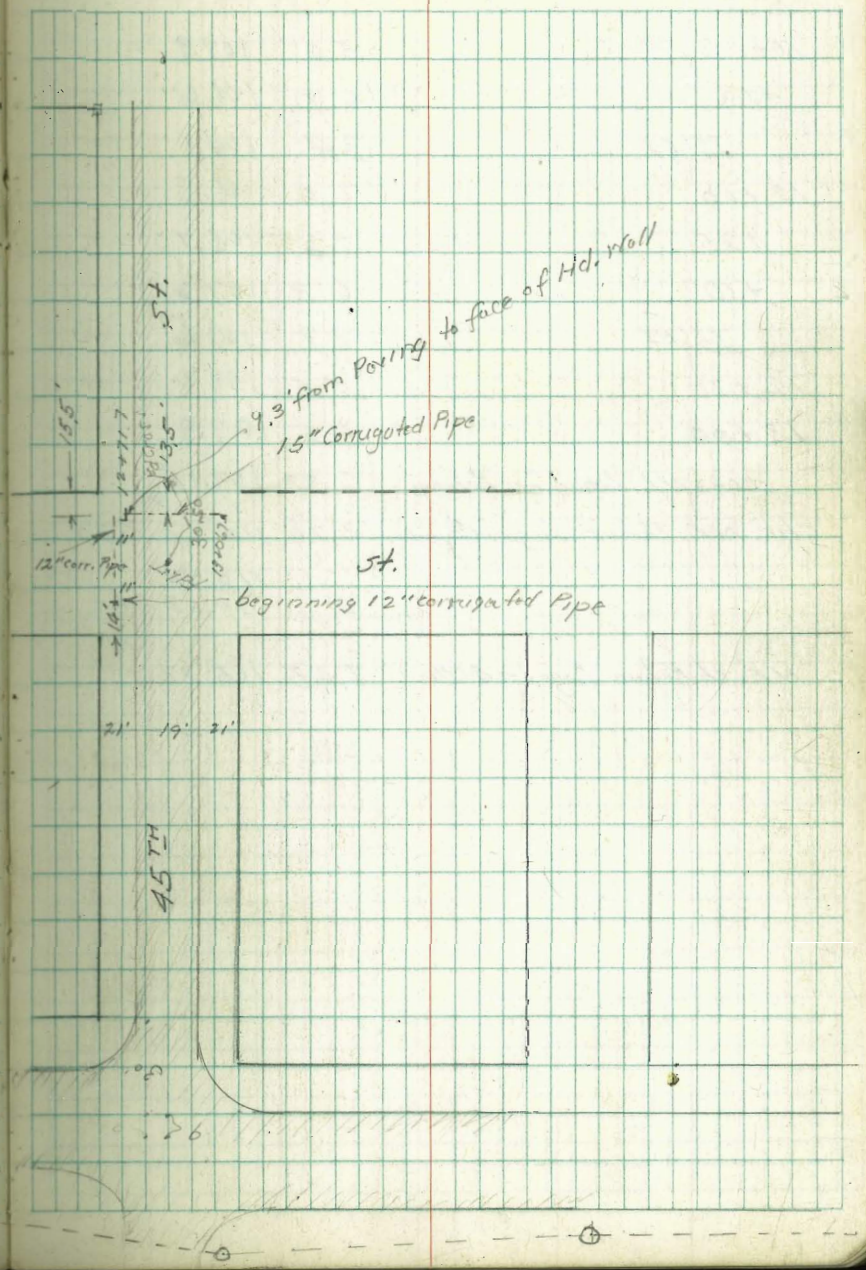
6+00		6.1	108.0
30' Rt.		7.4	106.7
75' Rt.		11.6	102.5
6+44± on stub = N.L. - T-St.		4.95	109.16
+50		6.0	108.1
+75		5.5	108.6
7+00		4.5	109.6
+10		2.7	111.4
7+50		2.3	111.8
75' Rt.		7.9	106.2
8+00		6.9	107.2
+50		9.7	104.4
75' Rt.		14.5	99.6
8+75		11.3	102.8
9+00		10.9	103.2
+50		8.6	105.5
75' Rt.		10.7	103.4
9+85		5.2	108.9
10+00		4.9	109.2
65' Rt.		5.1	109.0
10+50		4.6	109.5
75' Rt.		7.3	106.8
T.P.	3.69 113.47	4.33	109.78

Cont Page 24

Location + Preliminary Levels for Sewers
Altavista Suburb #1




LOGAN
AVE.
St.
Blk.
H
Set Stub
T-
60'
Fd Stub
Blk.
A.
WEST
℄ Alley
South
Line
20'
20'
20'
20'
Ocean View Blvd.
4'
4'
℄ Sewer under Construction
0+00


St.
9.3' from Paving to face of Hd. Wall
15" Corrugated Pipe
15.5'
13.5'
12" Corr. Pipe
St.
beginning 12" corrugated Pipe
21'
19'
21'
45TH

113.47

Alleys Blocks C And F

11+00	5.6	107.9	
+50	6.9	106.6	
75' Rt	9.4	104.1	
12+00	7.0	106.5	
+25	7.8	105.7	
+50	6.3	107.2	
75' Rt.	9.9	103.6	
12+75	5.5	108.0	
13+00	5.6	107.9	
+04 = N.L. Logan on Posing	6.32	107.15 ✓	
Chk. N.E. Return Logan + Byrdon	2.70	110.77	P.20
		110.74	
		0.03 Error	
N.E. ch. Return Logan + 46th	7.65	105.82 ✓	

Walter Bliss. Isbell 3-15-40

Preliminary Levels for Sewer In ℄ Alleys Blocks B, And G In Altavista Suburb #1

From Ocean View Blvd To Logan Ave

4.01	98.72		94.71	B.M. CT. P. 21
8+02.17 Book 1047-68				Flow Line
=0+00		5.8	92.9	85.46
+04 = N. edge Paving.		5.58	93.14	
+24 = S. " "		5.53	93.19	
+30		6.0	92.7	
+50		3.3	95.4	
+65		4.2	94.5	
1+00		3.9	94.8	
75' Rt.		4.9	93.8	Lt. Above ℄ Elev.
+50		3.9	94.8	
80' Rt. at house on ground		4.8	93.9	
" " " " " Floor.		3.4	95.3	
2+00		4.5	94.2	
+50		4.9	93.8	
75' Rt.		5.7	93.0	Lt. Above ℄ Elev.
3+00		5.0	93.7	
+50		6.1	92.6	
65' Lt.		5.7	93.0	Rt. Above ℄ Elev.
4+00		6.5	92.2	
+50		6.6	92.1	
50' Rt. = Lowest point in Lt.		7.6	91.1	Lt. Above ℄ Elev.
5+00		5.9	92.8	
+25		6.6	92.1	
+50		6.0	92.7	
75' Rt.		7.4	91.3	Lt. Above ℄ Elev.

INDEXED EFB 98.72

6+00		6.7	92.0	
75' Rt.		8.6	90.1	Lt. Above ℄ Elev.
6+35		8.1	90.6	
+44 = N.L. - T-St. on stub.		6.25	92.47	
+60		6.2	92.5	
+90		6.6	92.1	
7+04 = S.L. - T-St.		6.1	92.6	
7+30		6.0	92.7	
+50		5.2	93.5	
75' Rt.		6.4	92.3	
8+00		5.0	93.7	
T.P. 8.04	101.74	5.02		93.70
+50		7.8	93.9	
75' Rt.		9.9	91.8	All property on Lt. this block Above ℄ Elev.
9+00		8.4	93.3	
+15		8.0	93.7	
+40		9.6	92.1	
+55		8.8	92.9	
75' Rt.		10.7	91.0	
9+70		9.2	92.5	
10+00		6.9	94.8	
+10		7.4	94.3	
+30		5.1	96.6	
+50		5.6	96.1	
75' Rt.		9.0	92.7	

101.74

Alleys & Blocks G & B.

Cont from P-25

11+00			8.3	93.4
(11+08)	75' Rt. at House on ground.		9.3	92.4
"	" " " " " Floor		8.20	93.5
11+50			8.0	93.7
+75			6.2	95.5
12+00			6.2	95.5
60' Rt.			9.5	92.2
100' Rt			12.5	89.2
12+25			3.7	98.0
+50			3.0	98.7
65' Rt			9.8	91.9
12+85			0.5	101.2
T.P.	4.67	105.67	0.74	101.00
N. line Logan				
= 13+04 on ground.	(Paving buried)		6.5	99.2
13+14 = N.cb. Logan on paving.			7.76	97.91
Chk. N.E. cb Return Logan = 46'N			+0.15	105.82 ✓ P-24
	4.51	105.51	4.67	101.00
N.E. cb Return Logan +			12.82	92.69
Chk. P-27				

Walker
Bliss
Irbill
3-15-40

Preliminary levels for Sewer
In L. Alleys Blocks A, And H
Altavista Suburb #1
From Ocean View Blvd. To Logan Ave

Sketch: P-23

Grd 195-3	10.18	95.62		85.44	BM. C.T. 45th & Ocean View to West
11+27.32 Book 1047-69					
= 0+00 on ground			6.2	89.4	80.59
0+04 " N. edge Paving.			5.66	89.96	
+24 = S " "			5.45	90.17	All property on both sides of Alley Abovet in this block
+30			6.3	89.3	
+43			4.3	91.3	
+46			2.3	93.3	
+65			2.0	93.6	
1+00			2.9	92.7	
+50			3.9	91.7	
2+00			4.8	90.8	
+50			6.5	89.1	
3+00			7.5	88.1	
+50			7.6	88.0	
T.P.	3.99	92.22	7.39	88.23	
4+00			4.4	87.8	
+50			4.3	87.9	
5+00			5.2	87.0	
+50			5.1	87.1	
6+00			5.3	86.9	checked P-57
+44 = N. line T. st. on stub			5.57	86.65	
6+60			5.6	86.6	
+75			4.8	87.4	

INDEXED
EFB

92.22

6+90			5.3	86.9
7+04 = S. line T. st.			4.3	87.9
7+50			4.3	87.9
75' Rt.			6.5	85.7
8+00			5.9	86.3
+50			5.2	87.0
75' Rt.			5.9	86.3
9+00			3.5	88.7
T.P.	5.15	93.76	3.61	88.61
9+50			4.5	89.3
50' Rt.			5.9	87.9
10+00			5.7	88.1
+20			5.0	88.8
+35			5.8	88.0
+55			4.7	89.1
40' Rt.		?	6.4	87.4
40' Rt.			5.6	88.2
11+00			4.8	89.0
+50			5.9	87.9
75' Lt.			6.1	87.7
12+00			6.9	86.9
+30			7.5	86.3
+50			6.8	87.0
75 Rt.			7.9	85.9
13+04 = N.L. - Logan Ave on Pav.			6.00	87.8
Chk. N.E. Cor. Int. - Logan & West St.			1.12	92.64

92.69 = P-26
0.05 Error

Walker
Bliss
Isbell
3-14-40

CROSS SECTIONS PYNCHON St.
From Ocean View Blvd
To Logan Ave

60' wide
10' cbs.
10' 1/4s.

Sketch P-22

	12.55	107.26	94.71	on CT.
	0-20' = S edge Paving Ocean View Blvd.			
W-20'	on Paving.	7.59	99	67
W	" "	7.15	100	11
cb.	" "	6.95	100	31
1/4	" "	6.67	100	59
℄	" "	6.37	100	89
1/4	" "	6.15	101	11
E cb.	" "	5.91	101	35
E	" "	5.62	101	64
+20	" "	4.60	102	66
	0+00 = S line Ocean View Blvd.			
E		5.1	102	2
cb.		5.5	101	8
1/4		6.1	101	2
℄		6.1	101	2
1/4		6.5	100	8
cb.		6.6	100	7
W		6.8	100	5
+20		7.2	100	1
	0+50			
-20		6.1	101	2
W		5.4	101	9
cb.		5.0	102	3

Red. - Plot. new profile 3/25/40. CBH

INDEXED 107.26
EFB

1/4		5.2	102.1
℄		4.9	102.4
1/4		4.9	102.4
cb.		4.8	102.5
E		4.3	103.0
	1+00		
E		4.5	102.8
cb.		5.1	102.2
1/4		4.9	102.4
℄		5.0	102.3
1/4		5.2	102.1
cb.		5.2	102.1
W		5.2	102.1
+20		5.6	101.7
	1+50		
-20		6.2	101.1
W		5.2	102.1
cb.		5.1	102.2
1/4		5.1	102.2
℄		4.9	102.4
1/4		4.8	102.5
E cb.		4.8	102.5
E		4.2	103.0
	2+00		
E		4.2	103.1
cb.		4.7	102.6

1/4		4.7	102.6
℄		4.8	102.5
1/4		4.9	102.4
cb		5.0	102.3
W		5.3	102.0
+20		7.1	100.2
	2+50		
-20		6.9	100.4
W		4.8	102.5
cb.		4.6	102.7
1/4		4.7	102.6
℄		4.7	102.6
1/4		4.6	102.7
cb.		4.4	102.9
E		4.3	103.0
	3+00		
E		3.4	103.9
cb.		3.9	103.4
1/4		4.0	103.3
℄		4.0	103.3
1/4		4.3	103.0
cb.		4.1	103.2
W		4.4	102.9
+20		5.5	101.8
	3+50		
-50		6.2	101.1

-20		5.6	101.7
W		3.7	103.6
cb.		3.3	104.0
1/4		3.3	104.0
℄		3.0	104.3
1/4		2.9	104.4
cb.		3.0	104.3
E		2.6	104.7
	4+00		
E		0.5	106.8
cb		1.5	105.8
1/4		1.4	105.9
℄		1.5	105.8
1/4		2.0	105.3
cb		2.0	105.3
W		2.3	105.0
+20		4.1	103.2
+50		5.5	101.8
	4+50		
-20		3.1	104.2
W		1.0	106.3
cb.		0.7	106.6
1/4		0.6	106.7
℄		0.3	107.0
T.P.	12.64 119.77	0.13	107.13

Cont. P-3.

E 1/4		12.7	107.1
" cb.		12.9	106.9
E		12.6	107.2
	5+00		
E		11.1	108.7
cb.		11.5	108.3
1/4		11.0	108.8
℄		11.3	108.5
1/4		11.4	108.4
cb.		11.5	108.3
W		11.4	108.4
+20		13.1	106.7
	5+50		
-20		9.5	110.3
-5		9.4	110.4
W.		8.2	111.6
cb.		8.6	111.2
1/4		8.9	110.9
℄		8.6	111.8
1/4		8.4	111.4
cb.		8.5	111.3
E		8.5	111.3
	6+00 = N.L. -T-St.		
E		4.8	115.0
cb.		5.2	114.6
1/4		5.3	114.5

℄		5.7	114.1
1/4		6.1	113.7
W. cb.		5.7	114.1
W		4.7	115.1
W on Hub.		4.55	115.22 N.W. Hub T-St + Pynchon
	6+10 = N cb. -T-St.		
W		5.2	114.6
cb.		5.5	114.3
1/4		5.5	114.3
℄		5.3	114.5
1/4		5.2	114.6
cb.		4.9	114.9
E		5.0	114.8
	6+20 = N 1/4 -T-St.		
E		4.8	115.0
cb		4.9	114.9
1/4		4.9	114.9
℄		5.0	114.8
1/4		5.1	114.7
cb		5.2	114.6
W		5.2	114.6
	6+30		
W		5.0	114.8
cb.		5.1	114.7
1/4		5.0	114.8
℄		5.0	114.8

1/4		4.9	114.9
cb.		4.8	115.0
E		4.7	115.1
	6+40 = S 1/4 - T-st.		
E		4.5	115.3
cb.		4.6	115.2
1/4		4.7	115.1
℄		4.8	115.0
1/4		4.9	114.9
cb.		4.9	114.9
W		5.1	114.7
	6+50 = S cb. - T-st.		
W		5.0	114.8
cb		4.9	114.9
1/4		4.8	115.0
℄		4.8	115.0
1/4		4.6	115.2
cb.		4.4	115.4
E		4.5	115.3
	0+00 = S line T-st.		
E		4.6	115.2
cb.		4.5	115.3
1/4		4.4	115.4
℄		4.8	115.0
1/4		4.9	114.9
cb.		4.7	115.1

+8		4.4	115.4
W		3.8	116.0
	0+50		
W		3.7	116.1
+2		4.3	115.5
cb.		4.6	115.2
1/4		4.6	115.2
℄		4.5	115.3
1/4		4.2	115.6
cb.		4.4	115.4
E		3.8	116.0
	1+00		
E		5.4	114.4
cb		5.6	114.2
1/4		5.5	114.3
℄		5.7	114.1
1/4		5.9	113.9
cb.		5.9	113.9
+6		5.5	114.3
W		4.7	115.1
	Conc.		
1+05 = W. Ribbon Drive Way on E		5.44	114.33
+10 = S " " " " "		5.40	114.37
1+27 = ℄ Conc. Walk on E		5.81	113.96
	1+50		
-20		8.2	111.6
W		6.7	113.1

cb.			7.5	112.3
¼			7.6	112.2
℄			7.5	112.3
¼			7.4	112.4
E cb.			7.4	112.4
E			6.9	112.9
+20			8.1	111.7
	2+00			
-20			11.3	108.5
E			10.1	109.7
cb.			9.6	110.2
¼			9.7	110.1
℄			10.0	109.8
¼			10.0	109.8
cb.			9.8	110.0
W			9.8	110.0
+20			10.7	109.1
+35			12.9	106.9
T.P.	6.27	114.96	11.08	108.69
	2+50			
-30			8.5	106.5
W			7.4	107.6
cb.			7.1	107.9
¼			7.1	107.9
℄			7.1	107.9
¼			7.0	108.0

cb.		7.4	107.6
E		7.1	107.9
+25		6.8	108.2
	3+00		
-25		7.2	107.8
E		7.7	107.3
cb		7.9	107.1
¼		7.6	107.4
℄		7.7	107.3
¼		7.9	107.1
cb		8.1	106.9
W		8.2	106.8
+20		8.5	106.5
+30		8.1	106.9
	3+50		
-20		8.2	106.8
W		7.6	107.4
cb		8.0	107.0
¼		7.9	107.1
℄		7.8	107.2
¼		7.7	107.3
cb.		7.9	107.1
E		7.0	108.0
+20		7.3	107.7

4+00			
-10'		6.6	108.4
E.		6.6	108.4
cb.		6.7	108.3
1/4		6.3	108.7
℄		6.5	108.5
1/4		6.3	108.7
cb.		6.5	108.5
W		6.0	109.0
+20		7.6	107.4
4+35			
-10		4.9	110.1
W		4.4	110.6
cb.		4.9	110.1
1/4		4.9	110.1
℄		4.9	110.1
1/4		4.7	110.3
cb.		5.0	110.0
E		4.9	110.1
+10		5.5	109.5
4+50			
-10		4.5	110.5
E		4.2	110.8
cb.		4.6	110.4
1/4		4.3	110.7
℄		4.1	110.9

1/4		4.0	111.0
cb.		3.7	111.3
+8'		3.2	111.8
W		2.5	112.5
+10		2.3	112.7
	5+00		
W		1.5	113.5
+3		2.5	112.5
cb.		2.8	112.2
1/4		2.7	112.3
℄		2.6	112.4
1/4		2.6	112.4
cb.		2.7	112.3
E.		3.2	111.8
+10		3.9	111.1
	5+50		
E.		2.6	112.4
cb.		2.8	112.2
1/4		3.1	111.9
℄		3.2	111.8
1/4		3.3	111.7
cb.		3.5	111.5
W		3.4	111.6
	5+85		
W		3.8	111.2
cb.		3.3	111.7

	114.96		PYNCHON
¼		3.0	112.0
℄		3.5	111.5
¼		3.1	111.9
cb.		3.0	112.0
E		3.1	111.9
6+00 = N.L. Logan			
E on Con. Walk		4.11	110.85
" cb. on Ret.		4.27	110.69
" Gut " paving		4.86	110.10
" ¼ " "		4.91	110.05
℄ " "		5.07	109.89
W ¼ " "		5.23	109.76
W Gut.		5.68	109.28
W cb. on Ret.		5.10	109.86
W on Conc. Walk.		5.04	109.92
Chk. N E Top cb P. 20		4.22	110.74 ✓

Walker.
Bliss
Isbell
3-15-40

CROSS SECTIONS 46TH St. 80' Wide
From Ocean View Blvd. 14' cbs.
To Logan Ave 13' 1/4s.
Sketch P-22

6.25	100.96		94.71	BM. C.T. P-25
0-20 = S. edge Paving.				
-20'	on Paving.	5.91	95.05	
E	" "	6.26	94.80	
cb	" "	6.43	94.53	
1/4	" "	6.65	94.31	
℄	" "	6.75	94.21	
1/4	" "	6.91	94.05	
cb.	" "	7.05	93.91	
W	" "	7.22	93.74	
+20'	" "	7.33	93.63	
0+00				
W-5		7.0	94.0	
W		7.0	94.0	
cb		6.6	94.4	
1/4		6.3	94.7	
℄		6.3	94.7	
1/4		6.4	94.6	
Gut.		6.4	94.6	
E top cb.		5.50	95.46	
E		6.2	94.8	
0+02				
E		5.8	95.2	
cb.		5.41	95.55	

Red. + Plot. on new profile 3/23-40 GBH

INDEXED 100.96 46TH
EFB

Gut.	6.1	94.9
1/4	6.1	94.9
℄	6.2	94.8
1/4	6.2	94.8
W Gut.	6.7	94.3
W Top cb	5.86	95.10
W	6.2	94.8
0+50		
W	4.7	96.3
+11	4.7	96.3
W top cb.	4.90	96.06
W Gut	5.9	95.1
" 1/4	5.2	95.8
℄	4.8	96.2
1/4	4.9	96.1
Gut.	5.1	95.9
E Top cb.	4.57	96.39
E	4.3	96.7
1+00		
E	4.1	96.9
" top cb.	3.92	97.04
Gut.	4.7	96.3
1/4	4.8	96.2
℄	4.8	96.2
1/4	5.2	95.8
Gut.	5.7	95.3

	100.96	46TH
W Top cb.	4.79	96.17
W	4.6	96.4
1+50		
W	4.3	96.7
+2	4.8	96.2
W cb.	4.94	96.02
Gut.	5.6	95.4
½	5.1	95.9
℄	4.7	96.3
½	4.7	96.3
Gut	4.9	96.1
E top cb.	4.22	96.74
E	3.9	97.1
2+00		
E	4.3	96.7
E Top cb.	4.31	96.65
Gut.	4.9	96.1
½	4.7	96.3
℄	4.8	96.2
½	5.3	95.7
Gut.	5.5	95.5
W top cb.	4.92	96.04
+1	4.6	96.4
+7	4.8	96.2
W	5.1	95.9

	100.96	46TH
2+50		
W	5.8	95.2
+2	5.8	95.2
+8	4.2	96.8
+12	4.5	96.5
W Top cb.	5.10	95.86
" Gut.	5.9	95.1
½	5.5	95.5
℄	5.1	95.9
½	4.9	96.1
Gut.	4.7	96.3
Top cb.	4.45	96.51
E	4.6	96.4
3+00		
E	5.0	96.0
+13	5.0	96.0
Top cb.	4.49	96.47
E Gut	4.9	96.1
½	5.1	95.9
℄	5.2	95.8
½	5.7	95.3
Gut.	5.7	95.3
top cb.	5.33	95.63
+3	4.7	96.3
+7	4.5	96.5
W	6.4	94.6

	100.96	46TH
3+50		
W-	5.8	95.2
W	5.8	95.2
+7	5.0	96.0
+11	5.1	95.9
top cb.	5.34	95.62
Gut	5.6	95.4
1/4	5.4	95.6
℄	5.0	96.0
1/4	4.8	96.2
Gut	4.8	96.2
E. top cb.	4.20	96.76
+1	4.6	96.4
+12	4.4	96.6
E.	4.0	97.0
4+00		
E.	2.9	98.1
+1	3.6	97.4
E. top cb.	3.96	97.00
Gut.	4.6	96.4
1/4	4.6	96.4
℄	4.8	96.2
1/4	5.1	95.9
Gut.	5.4	95.6
top	5.15	95.81
+4	4.6	96.4
+8	5.3	95.7

	100.96	46TH
W	5.3	95.7
4+50		
W	4.5	96.5
+2	4.7	96.3
cb.	4.77	96.19
Gut.	5.1	95.9
1/4	4.8	96.2
℄	4.4	96.6
1/4	4.3	96.7
Gut.	4.2	96.8
E. top cb.	3.78	97.18
E.	3.7	97.3
5+00		
E.	4.4	96.6
cb.	3.72	97.24
Gut.	4.5	96.5
1/4	4.3	96.7
℄	4.3	96.7
1/4	4.5	96.5
Gut.	5.0	96.0
cb.	4.62	96.34
W	4.7	96.3
5+50		
W	5.3	95.7
+13	4.8	96.2
W cb	4.51	96.45
Gut	4.5	96.5

1/4	4.3	96.7
℄	4.2	96.8
1/4	4.2	96.8
Gut.	4.3	96.7
top cb.	3.45	97.51
+1	3.9	97.1
E	3.8	97.2
6+00 = N.L. - T-St.		
E	2.6	98.4
cb.	3.00	97.96
Gut.	3.0	98.
1/4	3.3	97.7
℄	3.7	97.3
1/4	3.9	97.1
Gut.	4.3	96.7
top cb.	4.27	96.69
W	4.4	96.6
6+10		
W Gut. at Line	4.6	96.4
W.L. top cb.	4.48	96.48
cb	4.1	96.9
1/4	4.0	97.0
℄	3.6	97.4
1/4	3.2	97.8
cb	2.7	98.3
E. Line Top cb.	2.20	98.76
E. " Gut	2.4	98.6

6+20 = N 1/4 - T-St.		
E	2.0	99.0
cb.	2.6	98.4
1/4	3.4	97.6
℄	3.6	97.4
1/4	3.9	97.1
cb.	4.4	96.6
W	5.7	95.3
6+30 = ℄ - T-St.		
W	4.6	96.4
cb.	4.4	96.6
1/4	4.1	96.9
℄	3.6	97.4
1/4	3.1	97.9
cb.	2.7	98.3
E.	2.0	99.0
6+40		
E	2.1	98.9
cb.	2.8	98.2
1/4	3.1	97.9
℄	3.7	97.3
1/4	4.1	96.9
cb.	4.3	96.7
W	4.7	96.3

100.96 46TH

6+50 = S cb. - T-st

W.b. Top cb.		4.47	96.49
" Gut		4.3	96.7
cb		4.4	96.6
1/4		4.0	97.0
℄		3.5	97.5
1/4		3.3	97.7
cb.		2.6	98.4
E.L.Gut.		2.2	98.8
E Line top cb.		1.93	99.03
S Line T-st. = 0+00			
E		1.5	99.5
cb		2.2	98.8
Gut.		3.1	97.9
1/4		3.1	97.9
℄		3.3	97.7
1/4		3.7	97.3
Gut		4.0	97.0
top cb.		3.97	96.99
W		4.5	96.5
+5		4.5	96.5
0+07 on cb. on E		2.17	98.89
T.P.	11.04 109.50	2.50	98.46
0+50			
W		11.2	98.3
+13		11.2	98.3
W cb.		11.42	98.08

109.50

W Gut.	12.0	97.5
1/4	11.4	98.1
℄	11.0	98.5
1/4	11.2	98.3
Gut.	11.0	98.5
E. cb.	10.61	98.89
+7	10.4	99.1
E.	9.4	100.1
1+00		
E.	10.4	99.1
cb.	10.55	98.95
Gut	11.1	98.4
1/4	10.8	98.7
℄	10.7	98.8
1/4	11.1	98.4
Gut.	11.3	98.2
W top cb.	10.85	98.65
+13	11.4	98.1
W	11.8	97.7
+20	13.2	96.3
1+50		
-20	14.2	95.3
W	11.9	97.6
+7	10.6	98.9
cb.	10.31	99.19
Gut	10.8	98.7

1/4		10.6	98.9
℄		10.2	99.3
1/4		10.3	99.2
Gut		10.5	99.0
top cb.		10.20	99.30
E		10.6	98.9
	2+00		
E		9.1	100.4
cb.		9.20	100.30
Gut.		9.6	99.9
1/4		9.4	100.1
℄		9.3	100.2
1/4		9.8	99.7
Gut.		10.2	99.3
cb.		9.61	99.89
W		9.8	99.7
+20		12.3	97.2
	2+50		
-25		10.5	99.0
W		8.5	101.0
cb.		8.53	100.97
Gut.		9.2	100.3
1/4		8.9	100.6
℄		8.4	101.1
1/4		8.4	101.1
Gut.		8.7	100.8

E cb.	8.24	101.26
E	7.7	101.8
Replace cb. on West 2+91 to 2+98		
3+00		
E	6.5	103.0
+5	7.5	102.0
cb.	7.60	101.90
Gut.	8.00	101.50
1/4	7.6	101.9
℄	7.5	102.0
1/4	7.9	101.6
Gut.	8.3	101.2
W cb.	7.66	101.84
W cb+1	7.8	101.7
W	8.7	100.8
+25	10.4	99.1
Replace cb on E 3+24 to 3+27 and 3+40 to 3+46		
3+50		
-25	10.2	99.3
-5	9.7	99.8
W	7.8	101.7
+13	7.6	101.9
top cb.	6.96	102.54
Gut.	7.8	101.7
1/4	7.3	102.2
℄	6.9	102.6

1/4	7.0	102.5
Gut.	7.4	102.1
E. cb.	7.00	102.50
E.	6.5	103.0

cb. on West 3+79 to 4+55 in Bad shape Should be replaced.

4+00

E.	6.7	102.8
+13	6.9	102.6
cb.	6.40	103.10
Gut.	6.9	102.6
1/4	6.6	102.9
℄	6.4	103.1
1/4	6.5	103.0
Gut.	6.9	102.6
cb.	6.25	103.25
+1	6.9	102.6
+13	6.8	102.7
W	7.3	102.2
+5	8.9	100.6
+25'	9.8	99.7

4+50

-25'	8.7	100.8
-5'	8.1	101.4
W	6.0	103.5
+13	5.6	103.9
Cb.	5.06	104.44
Gut.	5.8	103.7

1/4	5.3	104.2
℄	5.1	104.4
1/4	5.4	104.1
Gut.	5.8	103.7
top cb.	5.29	104.21
+1	5.6	103.9
E.	5.4	104.1

5+00

E.	2.9	106.6
+10	3.2	106.3
cb.	3.56	105.94
Gut.	3.8	105.7
1/4	3.5	106.0
℄	3.5	106.0
1/4	3.7	105.8
Gut.	3.9	105.6
W cb.	3.54	105.96
W	3.4	106.1
+25	5.2	104.3

5+25

W	2.4	107.1
Cb.	2.75	106.75
Gut.	3.5	106.0
1/4	3.1	106.4
℄	3.0	106.5
1/4	2.8	106.7

Gut.	3.2	106.3
E top cb.	2.73	106.77
E	2.7	106.8

Replace cb. on East 5+30 to 5+38
" " " W 5+39 to 5+49.5

5+50

E	3.5	106.0
cb.	3.12	106.38
Gut.	3.3	106.2
¼	2.9	106.6
℄	3.0	106.5
¼	3.1	106.4
Gut.	3.4	106.1
cb.	2.90	106.60
+1	3.3	106.2
W	3.0	106.5

5+87 = End cb on E

W	2.7	106.8
+8	3.0	106.5
+9	3.3	106.2
top cb	3.14	106.36
Gut.	4.0	105.5
¼	3.8	105.7
℄	3.8	105.7
¼	3.9	105.6
Gut.	4.1	105.4

E top cb.	4.00	105.50
E	4.5	105.0
+10	5.9	103.6

6+00 = N line Logan

E top walk	3.65	105.85
E top cb.	3.75	105.75
" Gut. on paving	4.38	105.12
¼ " "	4.66	104.84
℄ " "	4.72	104.78
¼ " "	5.02	104.48
Gut. " "	5.33	104.17
W cb.	4.73	104.77
W L. on walk	4.73	104.77

5+95 = End cb. on West. Shot Not taken in order

on W cb.	3.15	106.35
cbk. NE Rel. Logan + 46th	3.74	105.76
		105.82

0.06 = Error.

P. 24

Walker
Bliss
Isbell
3-15-40

CROSS SECTIONS WEST Street
From Ocean View Blvd.
To Logan Ave

60' Wide
10' cbs.
10' 1/4s

Sketch P-23

3.51 98.22 94.71 BM P-35

0-20 = S. edge Paving.

-20	on Paving	5.46	92.76
E	" "	5.57	92.65
cb.	" "	5.64	92.58
1/4	" "	5.64	92.58
℄	" "	5.69	92.53
1/4	" "	5.82	92.40
cb.	" "	5.89	92.33
W	" "	5.99	92.23
+20	" "	6.28	91.94

0+00 = S.L. Ocean View

W		5.1	93.1
cb		5.1	93.1
1/4		5.4	92.8
℄		5.3	92.9
+6		5.3	92.9
1/4		4.8	93.4
cb		4.8	93.4
E		4.8	93.4

0+04

E		4.2	94.0
cb.		4.0	94.0
1/4		4.3	93.9

Red. & Plot on new profile
3/22-1940 G.B.H.

INDEXED
EFB

98.22

+4		5.2	93.0
℄		5.2	93.0
1/4		5.3	92.9
+6		5.3	92.9
cb.		4.0	94.2
W		3.8	94.4

0+45

W		4.4	93.8
+8		4.7	93.5
cb.		5.2	93.0
1/4		5.2	93.0
℄		4.9	93.3
1/4		4.5	93.7
cb.		4.4	93.8
+5		4.0	94.2
E		2.9	95.3

0+65

E		4.6	93.6
cb.		4.8	93.4
1/4		4.9	93.3
℄		5.3	92.9
1/4		5.3	92.9
cb		5.5	92.7
+2		5.0	93.2
W		4.8	93.4

98.22 WEST-ST.

	1+00		
W		5.7	92.5
+8		5.7	92.5
cb.		6.1	92.1
+3		5.7	92.5
1/4		5.7	92.5
℄		5.5	92.7
1/4		5.1	93.1
cb.		5.1	93.1
E.		4.6	93.6
	1+39 = ℄ Ribbon drive	5.00	93.2 on E.
	1+50		
E		5.2	93.0
cb.		5.6	92.6
1/4		5.6	92.6
℄		6.0	92.2
1/4		6.2	92.0
cb.		6.3	91.9
W		5.9	92.3
	1+70 = ℄ Conc. Walk on W	6.10	92.12
	1+90 ℄ " Ribbon drive	6.20	92.02 on W
	2+00		
W		6.2	92.0
cb		6.4	91.8
1/4		6.6	91.6
℄		6.5	91.7
1/4		6.1	92.1
cb.		6.2	92.0
E		5.7	92.5
	2+44 ℄ Conc. Walk on W	6.30	91.92 = 3' wide
	2+50		
E		6.2	92.0
cb		6.4	91.8
1/4		6.7	91.5
℄		7.1	91.1
1/4		7.2	91.0
cb.		6.9	91.3
W		6.7	91.5
	3+00		
W		7.7	90.5
cb.		7.6	90.6
1/4		7.5	90.7
℄		7.4	90.8
+5		7.1	91.1
+6		6.8	91.4
1/4		6.8	91.4
cb.		7.1	91.1
E		6.4	91.8
	3+50		
E		6.4	91.8
cb		6.5	91.7
1/4		7.0	91.2

1/4+5		7.2	91.0
℄		7.4	90.8
1/4		7.6	90.6
cb.		7.7	90.5
W		7.1	91.1
	4+00		
W		7.2	91.0
cb.		7.7	90.5
1/4		7.6	90.6
℄		7.3	90.9
1/4		7.1	91.1
cb.		7.1	91.1
E		6.5	91.7
	4+50		
-5		8.3	89.9
E		7.3	90.9
cb		7.5	90.7
1/4		7.6	90.6
℄		8.0	90.2
1/4		8.2	90.0
cb.		8.3	89.9
W		8.5	89.7
	5+00		
W		7.9	90.3
cb.		8.2	90.0
1/4		8.2	90.0

℄		8.0	90.2
1/4		7.6	90.6
cb.		7.0	91.2
E		7.0	91.2
	5+50		
E-5		8.6	89.6
E		7.6	90.6
cb.		7.4	90.8
1/4		7.4	90.8
℄		7.8	90.4
1/4		8.2	90.0
cb		8.2	90.0
W		8.0	90.2
	6+00 = NL - T-St.		
W		8.1	90.1
cb		8.3	89.9
1/4		8.4	89.8
℄		8.0	90.2
1/4		7.4	90.8
cb.		7.2	91.0
E		6.8	91.4
T.P.	4.94 96.17	6.99	91.23
	6+10 = N cb. T-St.		
E		5.6	90.6
cb.		5.8	90.4
1/4		5.7	90.5

N.E. Prop Hub. chk P-55

96.17 WEST St.

℄	6.3	89.9
¼	6.5	89.7
W.cb.	6.9	89.3
W	6.7	89.5
6+20 = N ¼		
W	6.9	89.3
cb.	6.5	89.7
¼	6.4	89.8
℄	6.2	90.0
¼	5.9	90.3
cb.	5.6	90.6
E.	5.5	90.7
6+30		
E.	5.4	90.8
cb	5.6	90.6
¼	5.8	90.4
℄	6.1	90.1
¼	6.3	89.9
cb.	6.4	89.8
W	6.7	89.5
6+40		
W	6.9	89.3
cb.	6.5	89.7
¼	6.3	89.9
℄	6.1	90.1
¼	6.0	90.2

cb.	5.8	90.4
E	5.6	90.6
6+50		
E.	5.8	90.4
cb.	5.9	90.3
¼	6.0	90.2
℄	6.3	89.9
¼	6.4	89.8
cb.	6.4	89.8
W.	6.5	89.7
0+00 = SL-T-St		
W	6.0	90.2
cb	6.1	90.1
¼	6.3	89.9
℄	6.0	90.2
¼	5.6	90.6
cb.	5.6	90.6
E	5.2	91.0
0+50		
E.	4.5	91.7
cb.	4.8	91.4
¼	5.0	91.2
℄	5.7	90.5
¼	6.0	90.2
cb.	6.1	90.1
W.	6.0	90.2

1+00			
rw		6.1	90.1
cb.		5.7	90.5
1/4		6.2	90.0
d		5.9	90.3
1/4		5.4	90.8
+9		5.5	90.7
cb.		4.8	91.4
E		4.4	91.8
1+50			
E		5.3	90.8
+8		5.4	90.8
cb.		6.2	90.0
1/4		6.0	90.2
d		6.4	89.8
1/4		6.6	89.6
cb.		6.5	89.7
rw		6.7	89.5
2+00			
rw		7.0	89.2
cb		6.9	89.3
1/4		6.8	89.4
d		6.5	89.7
1/4		6.0	90.2
cb.		6.2	90.0
+2		5.7	90.5

E		5.5	90.7
2+50			
E		5.6	90.6
cb		6.1	90.1
1/4		5.9	90.3
d		6.4	89.8
1/4		6.7	89.5
cb.		6.7	89.5
rw		6.7	89.5
3+00			
rw		6.2	90.0
cb.		6.7	89.5
1/4		6.8	89.4
d.		6.7	89.5
1/4		6.1	90.1
d.		6.8	89.4
+2		6.2	90.0
E		6.2	90.0
3+50			
E		6.2	90.0
+8		6.3	89.9
cb.		6.7	89.5
1/4		6.7	89.5
d.		7.0	89.2
1/4		7.0	89.0
cb.		7.4	88.8
rw		6.8	89.4

9617 WEST St.

4+00		
W	7.1	89.1
cb.	7.2	89.0
¼	7.0	89.2
℄	6.9	89.3
¼	6.4	89.8
cb.	6.4	89.8
+2	6.0	90.2
E.	5.8	90.4
4+25 = Conc. Walk	5.87	90.30 on E
4+45 = ℄ Ribbon Conc. Drive	5.93	90.24 " "
4+50		
E.	5.9	90.3
cb.	6.3	89.9
+2	6.9	89.3
¼	6.9	89.3
℄	7.4	88.8
¼	7.6	88.6
cb.	7.7	88.5
W	7.4	88.8
5+00		
W	7.6	88.6
cb.	7.6	88.6
¼	7.4	88.8
℄	7.3	88.9
¼	6.9	89.3

9617

cb.	7.1	89.1
E.	7.1	89.1
5+50		
E.	6.7	89.5
cb.	6.9	89.3
¼	6.5	89.7
℄	6.7	89.5
¼	6.7	89.5
cb.	6.5	89.7
W	6.6	89.6
5+77		
W	5.4	90.8
cb.	5.3	90.9
¼	5.6	90.6
℄	5.4	90.8
+5	4.5	91.7
¼	4.5	91.7
+7	4.7	91.5
cb.	5.4	90.8
E.		
6+00 = N.L. Leagan Ave		
E. top walk	3.33	92.84
" " cb	3.59	92.58
" out on Paving	4.20	91.97
¼ " "	4.32	91.85
℄ " "	4.49	91.68

	9617		West St.
W 1/4 on Paving	4.80	91	37
"Gut" "	5.32	90	85
W Top cb.	4.80	91.	37
W on conc. Walk	4.67	91.	50
Cht N.E. cb Ref P-26	3.51	92.66	
		92.69	P-26
		0.03	Error.

Walker
Bliss
Isbell
3-16-40

CROSS SECTIONS 7th St.
From 47TH St.
To 45TH St.

60' Wide
10' cbs.
10' 1/4s.

	12.70	127.92	115.22	B.M. on Hub N.W.T. Rynchon P-30
	0+00 = West Line 47th			
N on Walk.		1.95	125.97	
N top cb.		2.31	125.61	
Gut. on Pav		2.89	125.03	
1/4 " "		2.63	125.29	
℄ " "		2.51	125.41	
1/4 " "		2.60	125.32	
S. Gut. " "		2.96	124.96	
S Top cb.		2.10	125.82	
S. on		1.88	126.04	
	0+05			
-10'		2.9	125.0	
S		3.2	124.7	
cb.		3.6	124.3	
+5		3.0	124.9	
1/4		3.0	124.9	
℄		2.9	125.0	
1/4		3.1	124.8	
+6		3.2	124.7	
cb.		1.7	126.2	
N		1.1	126.8	
	0+15			
-5		3.2	124.7	

INDEXED
EFB

N		3.2	124.7
cb.		3.8	124.1
1/4		3.7	124.2
℄		3.6	124.1
1/4		3.5	124.2
+5		3.3	124.6
cb.		3.7	124.2
+5		4.0	123.9
S		3.8	124.1
+10		3.6	124.3
	0+50		
-10		5.2	122.7
S		5.7	122.2
cb.		6.3	121.6
+6		6.1	121.8
1/4		6.4	121.5
℄		6.4	121.5
1/4		6.5	121.4
cb.		6.4	121.5
N		6.2	121.7
+10		5.9	122.0
	1+00		
-10		10.1	117.8
N		9.1	118.8
cb.		9.0	118.8
+5		8.9	118.9

12792 T-57.

¼		9.1	118.8
℄		9.2	118.7
¼		9.1	118.8
+4		8.5	119.4
cb.		9.0	118.9
S		8.6	119.3
+10		7.9	120.0
	1+50		
-10		11.1	116.8
S		11.0	116.9
cb.		11.3	116.6
¼		11.2	116.7
℄		11.2	116.7
¼		11.2	116.7
cb		11.3	116.6
N		11.5	116.4
+2		12.3	115.6
+10		11.6	116.3
	2+00		
-10		12.9	115.0
-3		12.9	115.0
N		12.3	115.6
+2		12.0	115.9
cb		12.4	115.5
¼		12.3	115.6
℄		12.2	115.7

12792 T-57.

¼		12.1	115.8
cb.		12.3	115.6
S		12.0	115.9
+10		12.1	115.8
	2+50		
-10		11.0	116.9
S		11.9	116.0
cb		12.6	115.3
¼		12.5	115.4
℄		12.7	115.2
¼		12.8	115.1
cb.		12.9	115.0
N		12.9	115.0
+10		15.8	112.1
	2+65 = East line Ryncham st		
N		12.8	115.1
cb.		13.0	114.9
¼		13.0	114.9
℄		12.8	115.1
¼		11.6	116.3
cb.		12.7	115.2
S		12.7	115.2
	3+25 = West line Ryncham.		
S		12.4	115.5
cb.		13.0	114.9
¼		13.2	114.7

		127.92		T-st.
d			13.3	114.6
1/4			13.2	114.7
cb			13.5	114.4
N			12.8	115.1
T.P.	0.73	115.95	12.70	115.22
	3+50			
-10			3.7	112.3
N			1.3	114.7
cb			1.2	114.8
1/4			1.5	114.5
d			1.4	114.6
1/4			1.4	114.6
cb.			1.3	114.7
S			0.5	115.5
	4+00			
S			1.4	114.5
cb.			2.4	113.5
1/4			2.6	113.4
d			2.7	113.3
1/4			2.5	113.5
+7			2.9	113.1
cb			2.3	113.7
+5			1.9	114.1
N			2.2	113.8
+10			2.5	113.5

		115.95	T-st.
	4+30		
-10		4.8	111.2
N		3.8	112.2
+5		4.0	112.0
cb.		5.0	111.0
1/4		4.8	111.2
d		4.7	111.3
1/4		4.6	111.4
cb		4.4	111.6
S		3.6	112.4
	4+65 = Beginning cb		
S		6.6	109.4
+5		7.2	108.8
cb.		7.02	108.93
Gut.		7.3	108.7
1/4		7.7	108.3
d		8.0	108.0
1/4		8.1	107.9
Gut.		8.5	107.5
N Top cb.		7.58	108.32
+6		7.5	108.5
N		7.0	109.0
+5		7.4	108.6
	4+81		
-5		9.7	106.3
N		9.4	106.6

		115.95		T-St.
cb.			8.78	107.17
Gut			9.6	106.4
1/4			9.2	106.8
℄			9.2	106.8
1/4			8.9	107.1
Gut.			8.4	107.6
cb			8.26	107.69
S			8.4	107.6
	5+00			
S			8.6	107.4
+2			9.5	106.5
cb.			9.76	106.19
Gut.			10.0	106.0
1/4			10.3	105.7
℄			10.7	105.3
1/4			10.6	105.3
Gut.			11.0	105.0
N top cb.			10.26	105.69
N		2.	10.6	105.4
+5			11.0	105.0
T.P.	1.53	104.53	12.95	103.00
-5			3.0	101.5
N			2.3	102.2
N top cb.			2.69	101.84
Gut.			3.2	101.3
1/4			3.0	101.5

		104.53		T-St.
℄			2.8	101.7
1/4			3.0	101.5
Gut			3.0	101.5
cb			2.45	102.08
+7			2.6	101.9
S			1.1	103.4
	5+90	= East line 46th St.		
S			4.9	99.6
cb.			5.49	99.04
Gut			5.5	99.1
1/4			5.6	98.9
℄			5.6	98.9
1/4			5.6	98.9
Gut.			5.8	98.7
N top cb			5.75	98.78
N			6.1	98.4
T.P.	6.79	99.25	12.07	92.46
	6+70	= West line 46th St.		
N			2.8	96.5
N top cb.			2.76	96.49
Gut.			2.9	96.4
1/4			3.0	96.3
℄			2.9	96.4
1/4			3.0	96.3
+5			3.1	96.2
Gut.			2.6	96.7

6+44 P.25 on stub.

Above cb.

99.25 T-st.

S cb.	2.77	96.48
S	2.8	96.5

Levels on cb Returns 46th st. 10' cb. Radius

S.W. cb. Return

℄ Return	2.28	96.97
P.C. on T-st. Roadway	2.57	96.68

S.E. cb. Return

P.C. on T-st. Roadway	0.32	98.93
℄ Ret.	0.40	98.85

N.E. cb. Return

P.C. on T-st. Roadway	0.72	98.53
℄ Ret.	1.01	98.24

N.W. Return

P.C. on T-st. Roadway	2.70	96.55
℄ Ret.	2.52	96.73

7+00

S	3.5	95.8
cb.	3.67	95.58
Gut.	4.1	95.2
+4	4.3	95.0
¼	4.1	95.2
½	4.0	95.3
¾	4.1	95.2
Gut.	4.0	95.3
cb.	3.53	95.72
N	4.0	95.3

T-st.

7+50

N	5.5	93.8
+9	5.4	93.9
N cb.	4.95	94.30
N Gut.	5.6	93.7
¼	5.4	93.9
½	5.5	93.8
¾	5.7	93.7
+6	5.8	93.5
Gut.	5.6	93.7
cb.	5.13	94.12
+1	5.5	93.8
S	5.3	94.0

7+94.6 = End Existing cb.

S	6.4	92.9
cb.	6.29	92.96
Gut.	6.7	92.6
¼	6.6	92.7
½	6.2	93.1
¾	6.3	93.0
Gut.	6.5	92.8
N top cb.	6.14	93.11
+4	6.1	93.2
N	6.5	92.8
+5	8.4	90.9
+10	8.4	90.9

	9925	T-St.
8+50		
-5	8.7	90.6
N	7.4	91.9
+6	7.1	92.2
cb.	7.2	92.1
1/4	7.3	92.0
℄	7.2	92.1
1/4	7.5	91.8
cb.	7.6	91.7
S	7.5	91.8
9+00		
S	7.8	91.5
+5	7.8	91.5
cb.	8.5	90.8
1/4	8.1	91.2
℄	7.9	91.4
1/4	8.0	91.3
+8	8.3	91.0
cb	7.9	91.4
+4	7.5	91.8
N	7.4	91.9
9+35.4 = East line of West st		
N	7.8	91.5
+6	7.8	91.5
cb.	8.5	90.8
+4	9.0	90.3

	9925	T-St.	
1/4	8.6	90.7	
℄	8.5	90.8	
1/4	8.8	90.5	
cb.	8.9	90.4	
+9	8.2	91.1	
S	8.1	91.2	
Chk. N.E. Bop. Hub T-2 West st	8.01	91.24	P. 45
T.P. 133 91.64	8.94	90.31	
9+95.4 = W.L. West st.			
S	1.5	90.1	
+4.	1.7	89.9	
cb.	2.1	89.5	
1/4	2.3	89.3	
℄	2.1	89.5	
1/4	2.3	89.3	
+5	2.5	89.1	
cb.	2.0	89.6	
N cb. +8	1.7	89.9	
N	1.4	90.2	
10+10			
N	1.1	90.5	
+4	1.7	89.9	
cb	2.3	89.3	
+3	2.8	88.8	
1/4	2.6	89.0	
℄	2.5	89.1	

	9164	T-St.
1/4	2.5	89.1
cb.	2.4	89.2
S	2.1	89.5
10+35		
S	2.8	88.5
cb.	3.1	88.5
1/4	3.0	88.6
+5	2.7	88.9
℄	2.9	88.7
1/4	3.2	88.4
+4	3.2	88.4
cb.	2.7	88.9
N	2.7	88.9
11+00		
N	4.1	87.6
cb.	3.8	87.8
+6	4.6	87.0
1/4	4.2	87.4
℄	3.7	87.9
+4	3.7	87.9
1/4	4.1	87.5
cb.	4.2	87.4
+4	3.5	88.1
S	3.3	88.3
11+50		
S	4.3	87.3

	9164	T-St.
+6	4.2	87.4
cb.	5.1	86.5
1/4	4.9	86.7
℄	4.9	86.7
1/4	5.2	86.4
+6	5.5	86.1
cb.	4.9	86.7
N	4.6	87.0
12+00		
N	5.5	86.1
cb.	5.8	85.8
+4	6.2	85.4
1/4	5.8	85.8
℄	5.7	85.9
1/4	5.7	85.9
cb.	5.7	85.9
S	5.8	85.8
12+50		
S-S	6.9	84.7
S	6.7	84.9
cb.	6.0	85.6
+3	6.7	84.9
1/4	6.2	85.4
℄	6.2	85.4
1/4	6.1	85.5
+5	6.3	85.3

91.64 T-St.

+6	7.0	84.6
cb.	6.4	85.2
N	6.3	85.3
12+60 = East line 45th St.		
N	6.2	85.4
cb	6.4	85.2
+3	7.0	84.6
+5	6.3	85.3
1/4	6.1	85.5
℄	6.1	85.5
+8	6.2	85.4
1/4	5.7	85.7
+6	6.9	84.7
cb	6.4	85.2
S	6.7	84.9
+5	7.0	84.6
12+70 = ℄ Existing 12" Corrugated pipe		
N+14' = N. end on Flow	7.73	83.91
N+44.5 = S " " "	8.02	83.62
12+71.7 = East end of East + West 15" pipe		
N+46.5 on Hd. Wall	6.22	85.42
N+46.5 on Flow east end	8.14	83.50
13+06.2 = West end 24"		
N+46.5 on Flow West end	8.80	82.84
" Hd. Wall	7.12	84.52
12+81 = East edge 19' strip Paving		
-50 on Paving	5.90	85.74

91.64

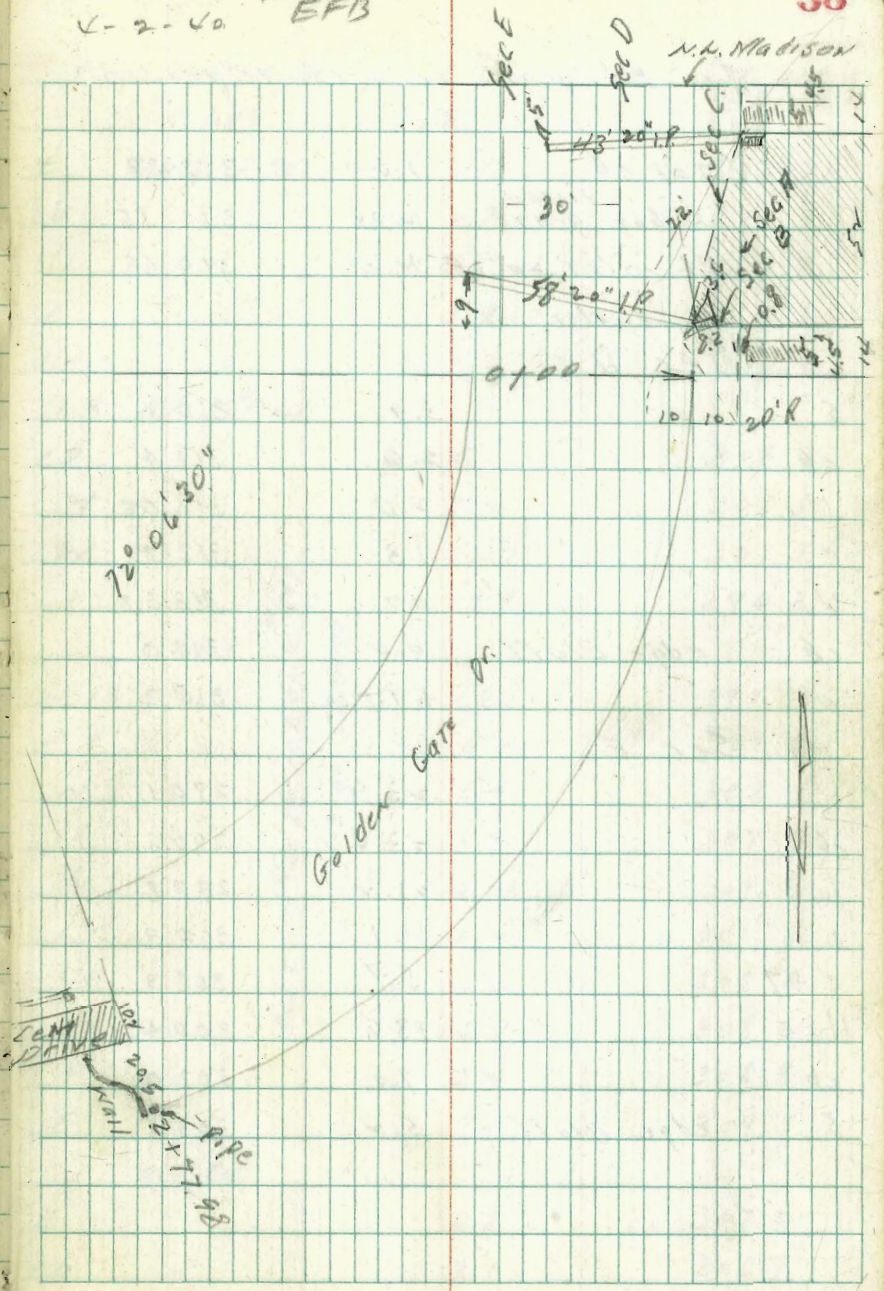
N.L. on Paving	6.10	85.54
cb. " "	6.04	85.60
1/4 " "	6.05	85.59
℄ " "	6.11	85.53
1/4 " "	6.07	85.57
cb. " "	6.00	85.64
S. " "	5.98	85.66
+50' " "	5.98	85.66
+100 " "	5.68	85.96
Ch. stub 6+44 P-27	4.96	86.68
		86.65
		0.03 = Error.

} Flat

X sec Golden Gate Dr. 60' wide 10 obs 10 1/4
S of Madison

T.P. 824-61	1.58	313.98		312.40
Sec A				
S			1.4	312 6
S cb			1.48	312.50
gut			2.15	312 83
1/4 pav			1.53	312 45
C "			1.19	312 79
1/4 "			1.02	312 96
gut FL 6"x36" cb inlet			1.15	312 83
N cb			0.46	313 52
Sec C end pav.				
N cb			0.46	313 52
gut			0.75	313 23
+5 pav			1.13	312 85
1/4 "			1.11	312 87
C "			1.32	312 66
1/4 "			1.70	312 28
+ 8.5 " 5 cb Madison			2.06	311 92
cb Top grate			2.02	311 96
+ 2 gut " "			2.02	311 96
Top cb end			1.71	311 27

Moore INDEXED EFB
4-2-40



Sec. B grate on S cb Madison

3.6

S. Top cb		1.60	312.38
on bot. tilted grate		2.43	311.55
Fl inlet 20" I.P.		4.30	309.68
" outlet "			
Sec D			
S		3.9	310.1
cb		2.6	311.4
1/4		2.0	312.0
c		1.3	312.7
1/4		0.7	313.3
cb	edge Bluff	0.0	314.0
N		+1.2	315.2
Sec E			
N		23.9	290.1
cb		23.4	290.6
1/4		21.2	292.8
c		11.1	302.9
+7		5.7	308.3
1/4		13.6	300.4
cb		7.0	307.0
S	edge Bluff	5.2	308.8

X Sec Golden Gate Dr. Note! Sta. on E. line

0+00 = S L Madison

E	Top 1/2" pipe	1.77	312.21
cb		2.7	311.3
1/4		3.8	310.2
c		3.9	310.1
1/4		4.0	310.0
+9	P.P. St. Lt.		
cb		5.1	308.9
+2		5.2	308.8
W		12.7	301.3
+10		19.7	294.3
	0+40		
-18		16.7	297.3
-3		6.4	307.6
W		5.9	308.1
cb		6.2	307.8
1/4		6.2	307.8
c		6.2	307.8
1/4		5.6	308.4
cb		5.4	308.6
+		5.2	308.8
E		4.5	309.5
	0+80		
E		6.8	307.2
cb		7.1	306.9

Red. & curb line plot on profile #1847
4-3-40 CB Hough

1/4	7.0	307.0
c	7.5	306.5
1/4	7.6	306.4
cb	7.3	306.7
W	7.7	306.3
1+15 W +7 14" PP.		
1+20		
W	10.1	303.9
cb	9.0	305.0
1/4	9.1	304.9
c	9.4	304.8
1/4	9.5	304.5
cb	9.5	304.5
E	9.6	304.4
1+40		
E	10.7	303.3
cb	10.4	303.6
1/4	10.0	304.0
c	9.9	304.1
1/4	9.7	304.3
cb	9.6	304.4
W	11.8	302.2
+10	16.2	297.8

1+80		
−10	18.5	295.5
W	14.0	300.0
cb	10.9	303.1
1/4	10.5	303.5
c	10.6	303.4
1/4	10.8	303.2
cb	10.8	303.2
E	10.8	303.2
1+84		
E −5 ℄ do. gar.	10.56	303.42 Top Cent. Rd. No floor yet
2+20		
E	11.4	302.6
cb	10.7	303.3
1/4	11.3	302.7
c	11.0	303.0
1/4	11.1	302.9
cb	11.2	302.8
W	12.1	301.9
+10	15.7	298.3
2+40		
−20	16.5	297.5
−10	13.4	300.6
W	12.0	301.0
cb	11.5	302.5

313.98

1/4	11.6	302	4
c	11.5	302	5
1/4	11.9	302	1
cb	12.1	301	9
E	13.0	301	0
+10	18.5	295	5
2 +77.98 E.C.			
-10	20.9	293	1
E	15.7	298	3
+3	12.7	301	3
cb	12.0	302	0
cb Top Wall	8.0	306	0
1/4 +0.5 end 4 Sh con. Drive	11.43	302	55
Q +0.7 " N2 "	11.43	302	55
1/4	11.9	302	1
cb	11.7	302	3
N	11.8	302	2

Walker-
Bliss
Isbell
5-22-40

Additional Levels East of ℄ Alley.

Blocks D And E

(℄ Levels And Levels West of ℄, See Page 19)

Side shots are from West edge side Walk of 47th St. = 25' East of P. line = Base Line

	9.88	126.37		116.49	S.W.B.P. Ocean View + 47th
0+00 = 4' N.N. edge Pav.					
0+44 = S line ocean View			9.8	116.6	
1+00 = W edge Walk.			8.9	117.5	
56' Rt.			11.0	115.4	
2+00 = on W edge side Walk.			7.43	118.94	
13' Rt.			11.0	115.4	
60' Rt.			11.8	114.6	
3+00 = " " " "			5.85	120.52	
17' Rt.			11.5	114.9	
60' Rt.			15.3	111.1	
4+00 " " " "			4.17	122.20	
58' Rt. = Back of House			2.33	124.04	Main floor.
58' Rt. " " "			10.4	116.0	Basement.
58' Rt. " " "			7.1	119.3	Ground
~~4+00~~ 5+00 = W edge of Walk.			2.69	123.68	
55' Rt. = Back of House			0.4	126.0	floor.
55' " = " " "			3.9	122.5	Ground
~~5+00~~ 6+00 on W. edge Walk.			1.03	125.34	
T.P.	4.67	130.00	1.04	125.33	
60'			8.1	121.9	
6+44' = N.L. T-St.			4.09	125.91	W. edge Walk.
7+04 = S.L. T-St.			4.07	125.93	"
8+00 = W. edge Walk.			5.25	124.75	
60' Rt.			7.4	122.6	

130.00

9+00 = on W edge Walk.	6.36	123.64	outs Above this El.
10+00 " " "	7.44	122.56	
60' Rt.	9.7	120.3	
11+00 = on W edge Side Walk.	8.68	121.32	
60' Rt.	12.9	117.1	
11+65	9.45	120.55	
55' Rt. = Back of House	8.9	121.1	floor
55' Rt.	12.2	117.8	Ground
12+00 = on W. edge Walk	9.91	120.09	
60' Rt.	12.9	117.1	
12+55 " " "	10.50	119.5	
63' Rt. = Back of house	8.96	121.04	floor.
63' Rt. " " "	10.4	119.6	Ground.
13+04 = N.L. Logan	10.90	119.10	
Chk. N.W. top cb Return Page 50	4.41	125.59	
		125.61 = P. 50	
		0.02 = Error.	

Elevation Pressure Recording Gauge
Pacific + Harbor
20' East of East Line Pacific on South Line Harbor

BM	4.67	6.07		1.40	S/A BP Market + Kettner
TP	6.29	10.18	2.18	3.89	
Elev. Center of Metal Box on Pedestal		1.08 x 1.48	+0.23	10.41	
TP	2.17	6.06	6.29	3.89	
BM			4.65	1.41	S/A BP Market + Kettner 1.40

Elevation Pressure Recording Gauge
East San Diego Water Dept Shop
El Cajon Between Van Dyke + 43rd

BM	4.53	368.09		363.56	S/A BP El Cajon + Van Dyke
TP	5.10	368.47	4.72	363.37	
Elev. Center of Metal Box on Pedestal			0.27	368.20	

indexed
C.S.K.

Feb-7-44
Sisson
Bliss +
Osborne

Elevation Pressure Recording Gauge
Main + Vesta 20' West of West line of Main
South side of Vesta

BM	4.96	19.85		14.89	S/A BP Main + Vesta
Elev. Center of Metal Box on Pedestal			0.26	19.59	

Pressure Recording Gauge
Metal Box

Center Box
Center of Gauge

Elevation of Over Flow Pipe
University Heights Water Tank

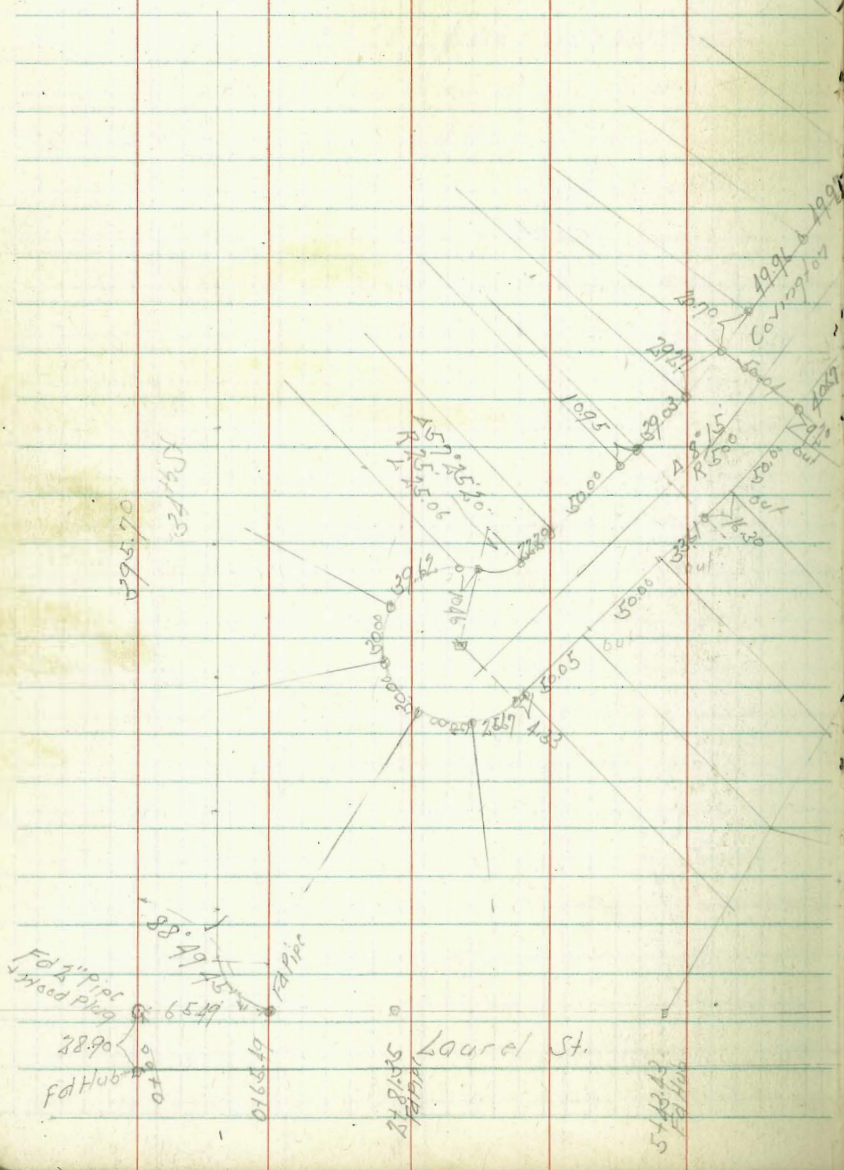
Indexed
c.s.k.

BM	7.38	380.39		373.01	SF&P Howard & Idaho
TP	4.77	380.71	4.45	375.94	
Top of Stake			4.41	376.30	
			+	125.13	
Elevation Flow Line Over Flow Pipe				501.43	

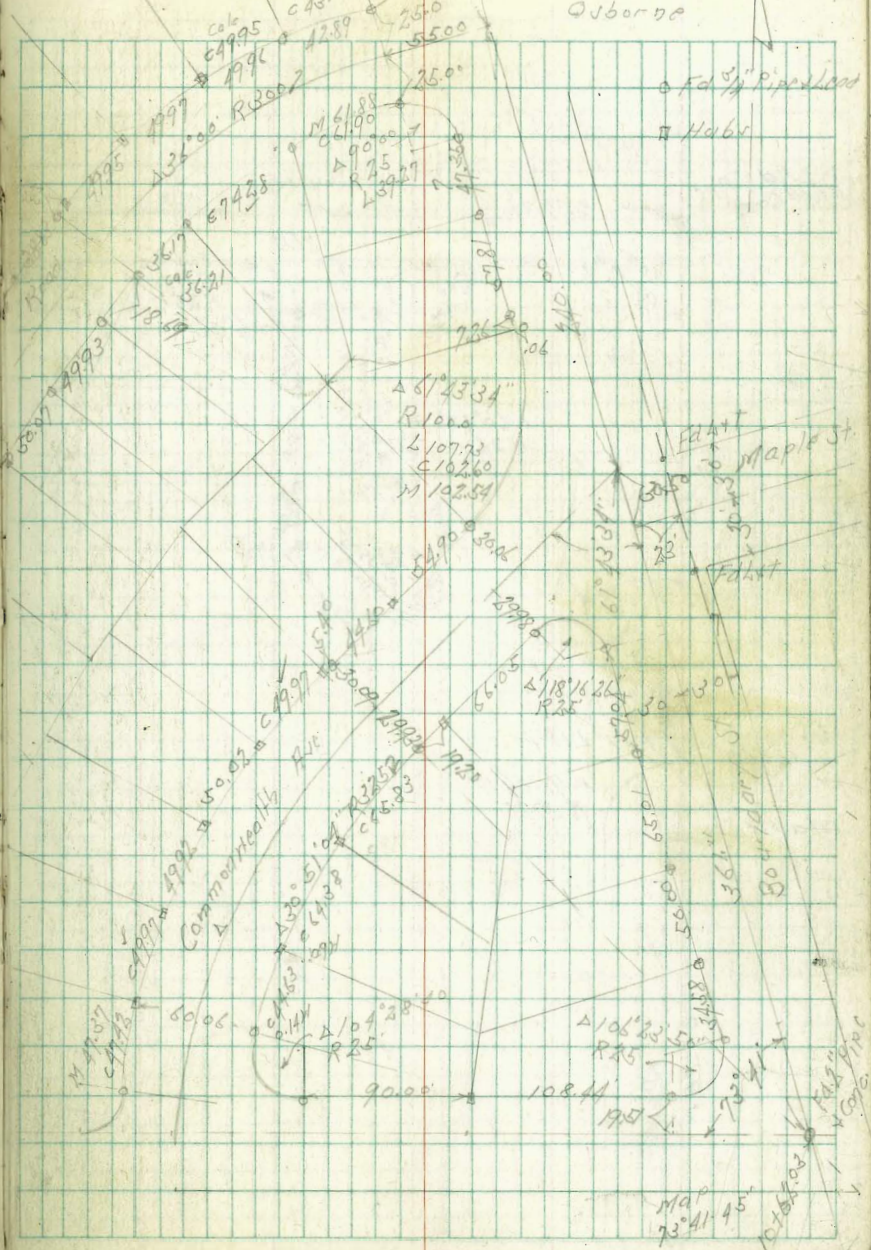
Feb. 10. 1944
Sisson
Bliss
Osborn

Laurel Heights Check of Sub.

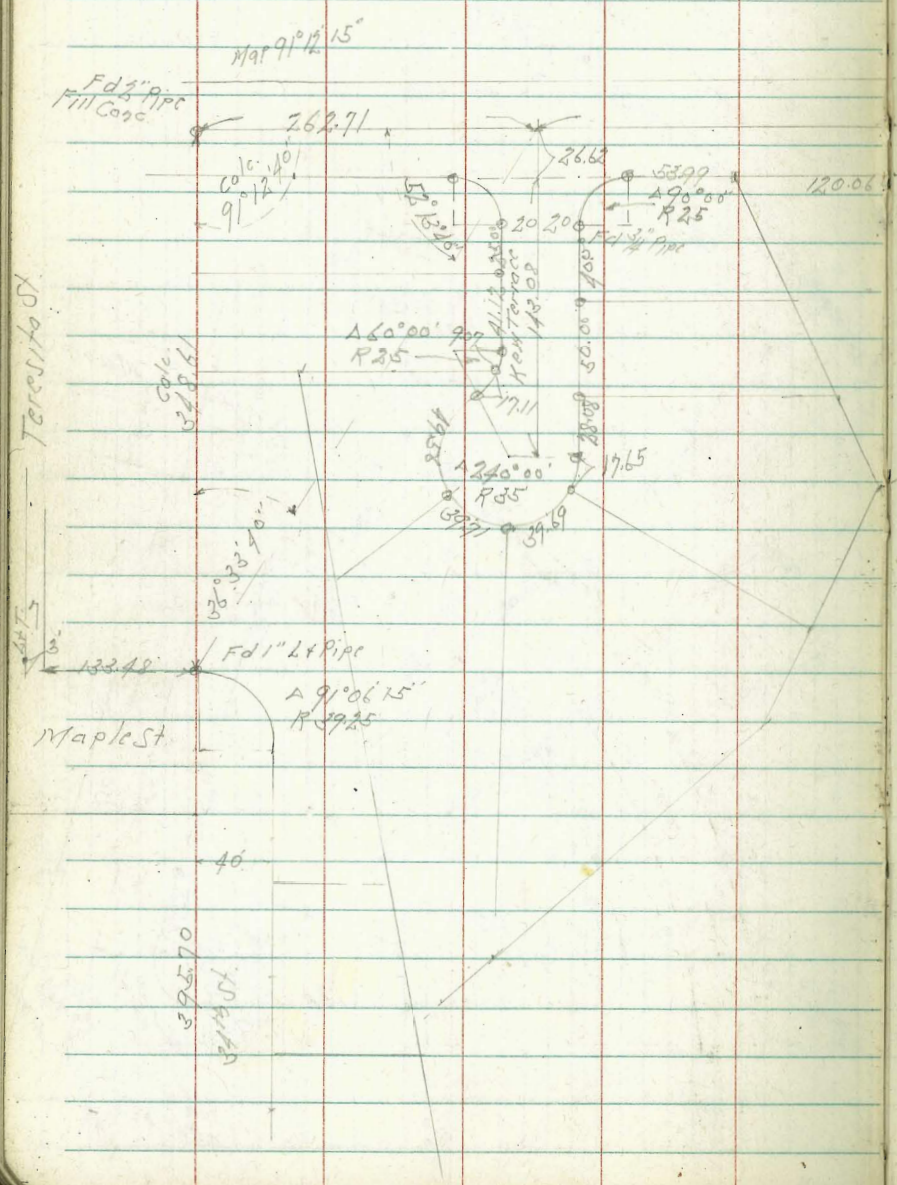
Indexed
C.S.K.

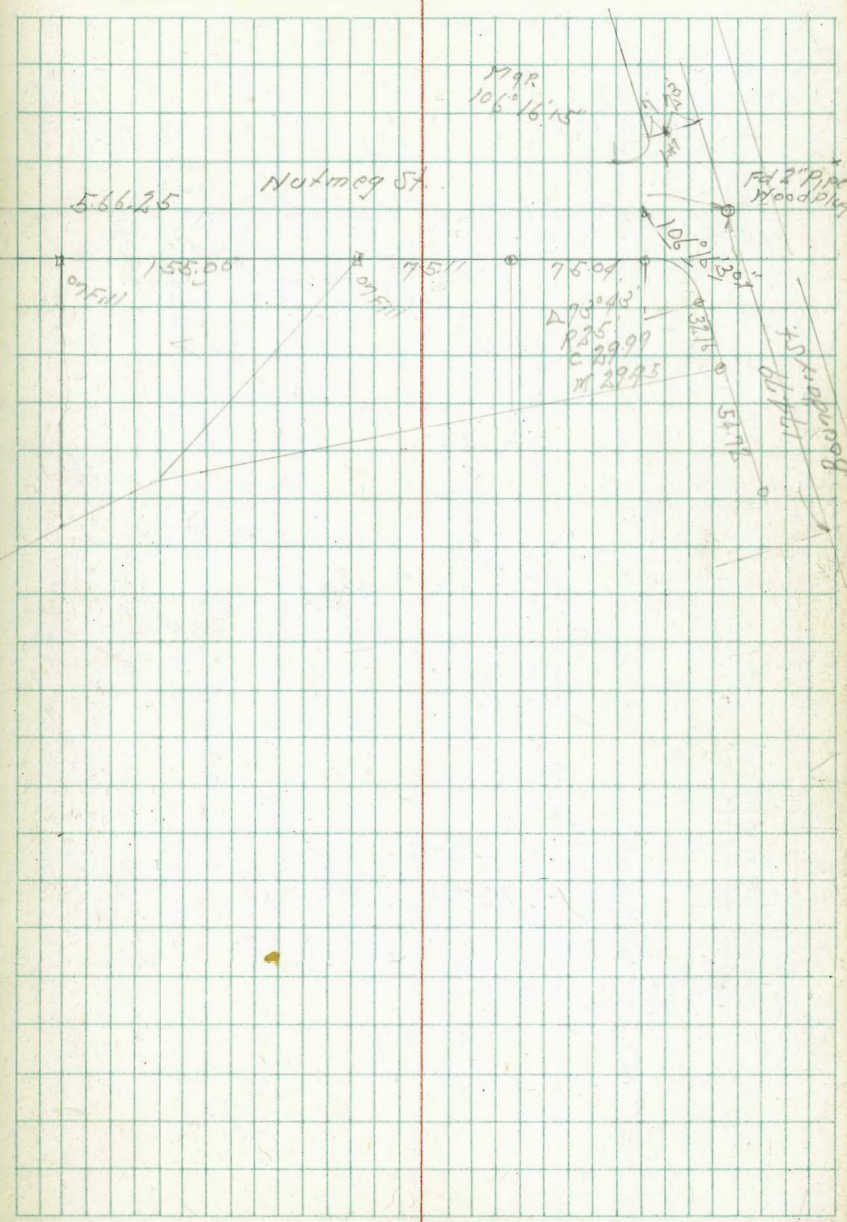


Feb. 29. 44
Sisson
Bliss
Osborne



Laurel Heights



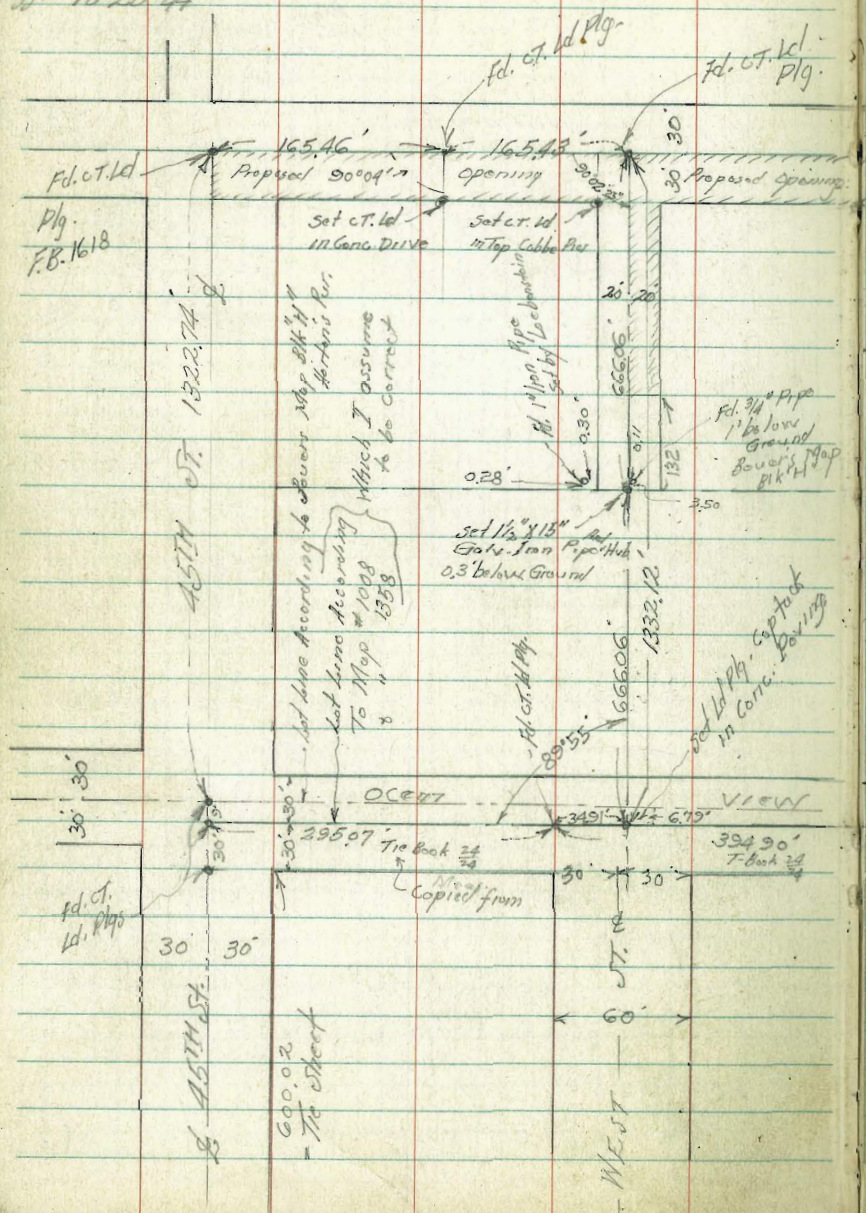


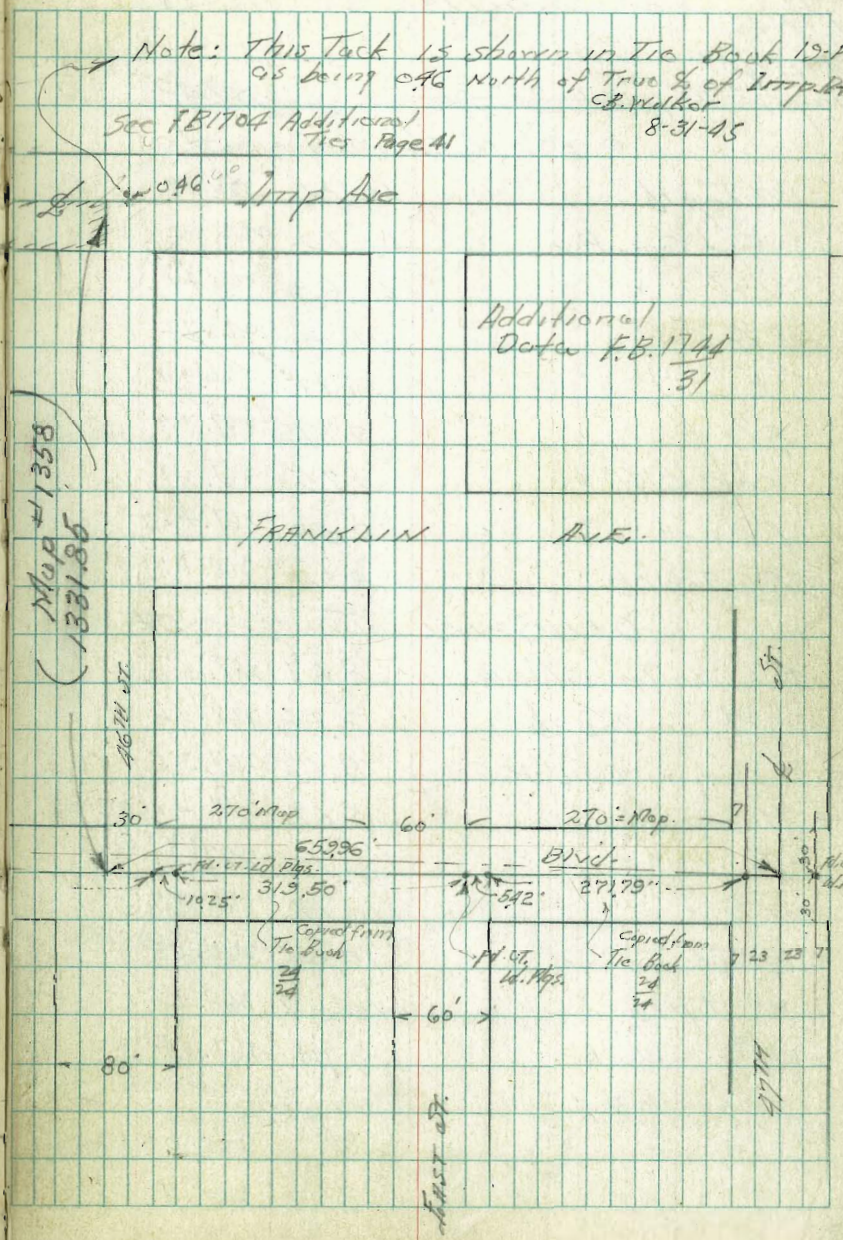
Walker
Hazard
Hardin
Beggs 10-20-44

Survey – Proposed Opening
Imperial Ave. (South side)
between 45TH And West St.

Indexed
C.S.K.

Plotted on Tie Point Sheets
C.S.K. 11-3-44





Walker
Hunley
Begg
1-17-46

Cross Section Commonwealth St.

from Juniper 10' Cbs.
To Laurel St. 10' 1/4 S.

BM SW BP + Commonwealth Juniper 10.61 277.04 266.43 FB. 1402/21

0-10' = N. Cb Juniper St.

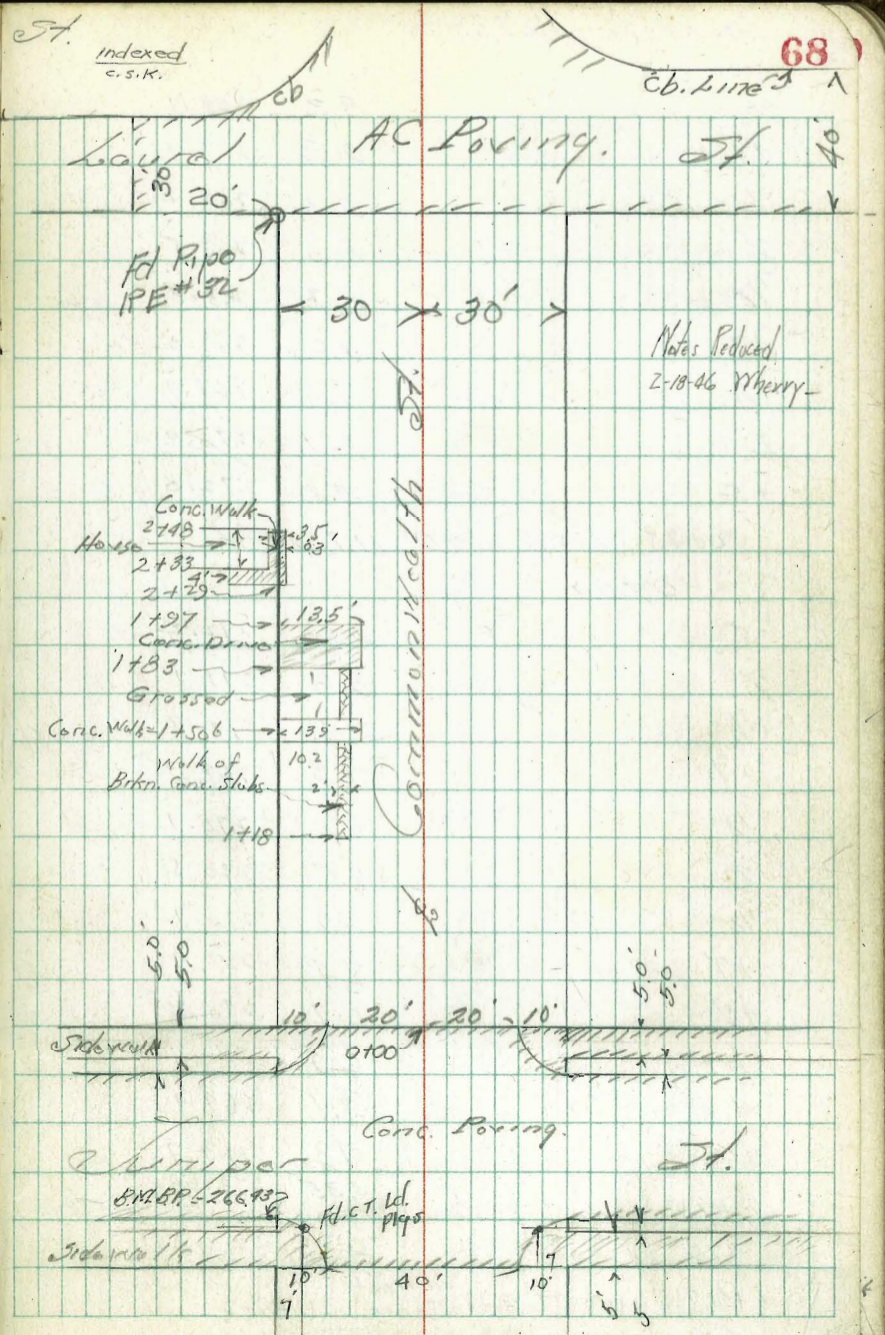
W.L. Top Cb.	10.06	266.98
" Gut. Conc. Pov.	10.79	266.25
W Cb. " "	10.63	266.41
" 1/4 " "	10.30	266.74
℄ " "	10.05	266.99
E 1/4	9.87	267.17
Cb Gut "	9.75	267.29
E.L. " "	9.59	267.45
E.L. Top Cb.	8.93	268.11

0+00 = N.L. Juniper St.

E.L. on Top Sidewalk	8.67	268.37
E Cb. on Top Cb	8.88	268.16
" Gut. on Conc. Pov	9.69	267.35
1/4 on Pov	9.62	267.42
℄ " "	9.72	267.32
W. 1/4 " "	10.17	266.87
W Gut.	10.54	266.50
W Top Cb	10.01	267.03
W.L. " Walk	9.70	267.34

0+20

-5	8.0	269.0
W	7.9	269.1



cb.	8.3	268.7
+1	9.3	267.7
1/4	9.0	268.0
℄	8.5	268.5
1/4	8.7	268.3
+3	9.0	268.0
cb.	7.1	269.9
E	6.1	270.9
+5	5.0	272.0

0+25 = ℄ Pole on E 11.7' in st.

0+50

-5	4.6	272.4
E	5.3	271.7
cb	6.1	270.9
+7	7.3	269.7
1/4	6.9	270.1
℄	6.5	270.5
1/4	6.9	270.1
+7	7.4	269.6
+8	6.7	270.3
cb.	6.9	270.1
W	7.1	269.9
+5	7.3	269.7
	3.35	273.69

0+70 = S. edge 8' Conc. Drive on E 0.7' Back

+78 N " " 3.20 273.84 "

0+46 to 1+17 = Pickett Fence on West 1' Back

+95.6 ℄ Pole on W 10.1' in st.

1+00

-10	8.0	269.0
W	7.0	270.0
+1	5.4	271.6
cb.	4.5	272.5
+4	4.8	272.2
E	4.5	272.5
℄	4.2	272.8
1/4	4.4	272.6
+4	4.7	272.3
+6	3.8	273.2
cb.	3.7	273.3
E	2.4	274.6
+5	1.3	275.7

1+50

-5	+0.5	277.5
E	0.6	276.4
cb.	1.8	275.2
+4	1.8	275.2
+5	2.6	274.4
1/4	2.5	274.5
℄	2.3	274.7
1/4	2.6	274.4
+6.1	3.0	274.0
+6.1 on Conc Walk	2.65	274.39
cb. on " "	2.61	274.43
W " " "	2.45	274.59

1+56.6 = ℄ 5.7' Conc. Walk on W 13.9' in st.

277.04

1+18				
W cb. on slab Walk		3.65	273.39	
W +1 on Ground		4.0	273.0	at Wall
" " Wall		1.35	275.69	
+2 W side Wall		6.7	270.3	
+10		7.0	270.0	
1+61				
W +1' on Wall		0.96	276.08	
T.P. 8.46	284.74	0.76	276.28	
1+83 = S edge Drive on W				
-0.8 on Garage Floor		8.40	276.34	
W.L. +5' Brk. in Drive		9.20	275.54	
cb. on Drive		9.32	275.42	
+2 Brk "		9.35	275.39	
+3 Toe Lip To Drive		9.60	275.14	
1+97				
W -0.8 = Gar. Floor		8.35	276.39	
W +5' = Brk Drive		8.93	275.81	
cb. on "		8.95	275.79	
+2 Brk. in "		8.96	275.78	
+3 = Toe Lip to Drive		9.15	275.59	
2+00				
-10		15.3	269.4	
W		10.6	274.1	
+5		9.0	275.7	
cb.		8.8	275.9	
1/4		8.7	276.0	

Commonwealth Ave. 70

284.74 X-Sections.

℄	8.3	276.4
1/4	8.4	276.3
+8.2 = Pole	8.3	276.4
cb.	8.3	276.4
E	7.3	277.4
+5	6.6	278.1
2+15		
-5	6.2	278.5
E	6.8	277.9
cb.	7.6	277.1
1/4	8.0	276.7
℄	7.7	277.0
1/4	8.3	276.4
cb.	8.5	276.2
+5	8.8	275.9
W	9.9	274.8
+10	10.6	274.1
	on Wall = 6.4	278.3

2+09 = Beginning. 8" Conc Wall on E on Line 5.26 279.48

2+48 End Above Wall " "

2+29 = S edge Walk on W 0.3' in St. 3.5' wide

2+33 on Above Walk	7.44	277.30
2+48 " N end "	7.02	277.72
2+50		
-10	7.3	277.4
W	7.0	277.7
cb.	6.9	277.8

284.74

2+50

W 1/4	6.8	277.9	
℄	6.5	278.2	
1/4	6.7	278.0	
Cb.	6.5	278.2	
E	5.5	279.2	
+5 in Dirt Drive	5.2	279.5	
		274.3	

2+52 = Pole on W 10.4' in st.

2+69 = 18" Pepper on W 2' in st.

3+00

-5'	3.5	281.2	
E	3.8	280.9	
+3	4.3	280.4	
Cb.	4.5	280.2	
+6	4.9	279.8	
1/4	4.6	280.1	
℄	4.4	280.3	
1/4	4.6	280.1	
+3	4.9	279.8	
Cb.	4.8	279.9	
W	4.8	279.9	
+5	4.8	279.9	

3+16 = ℄ South Conc. Ribbon on E

E	on Toe Ribbon	3.07	281.67
+2	on "	2.79	281.95
+8	" "	2.64	282.10

284.74. Commonwealth Ave X-Sections.

3+20.5 = ℄ 2' Conc. Ribbon on E on Line

E on Toe Ribbon	3.03	281.71	
+2 " "	2.83	281.91	
+8 " "	2.59	282.15	
T.P. 7.38	289.52	2.60	282.14

1.3' in st

3+50 = beginning Wire Fence on W

-5	7.6	281.9	
W	7.6	281.9	
Cb	7.4	282.1	
+3	7.2	282.3	
+5	7.9	281.6	
1/4	7.5	282.0	
℄	7.3	282.2	
1/4	7.6	281.9	
+5	7.3	282.2	
Cb.	7.2	282.3	
E	6.6	282.9	
+5	6.5	283.0	
	5.12	284.40	

3+65 = ℄ 8' Conc. Drive on E 30.7' Back

3+83 = ℄ Pole on E 12.4' in st.

1.3' in st

3+70 to 4+10.3 = 2.5' High Pickett Fence on E

4+00

-5	5.4	284.1	
E	5.3	284.2	
Cb.	5.9	283.6	
+8	6.2	283.3	

289.52 Commonwealth Ave
X-Sections

	4+00		
E 1/4		5.9	283.6
℄		5.8	283.7
W 1/4		6.1	283.4
+5'		6.4	283.1
W cb.		6.3	283.2
W		6.5	283.0
		6.5	283.0
	3+94.5 = ℄ Garage on W.	0.8' Back Dirt Floor	
	2+02 ℄ Pole on W	10.4' in st.	
		4.76	284.76
4+10.3 = beg. 4" Conc. Wall on E		1.3' st.	
			285.57
4+46 = End " " "		3.95	1.3' in st.
		3.93	285.59
4+47 = 1.8' Conc. Ribbon Drive on East			1.3' in st.
4+52.2 = 1.8' " " "		3.90	285.62
	4+50		
-5		5.4	284.1
W		5.3	284.2
cb.		5.0	284.5
+4		5.4	284.1
1/4		5.0	284.5
℄		4.6	284.9
1/4		4.7	284.8
+7		4.9	284.6
cb.		4.6	284.9
E		4.0	285.5
+5		3.8	285.7
	5+00		
-5		3.1	286.4

289.52

E		3.2	286.3
cb.		3.5	286.0
+7		4.0	285.5
1/4		4.0	285.5
℄		3.9	285.6
1/4		4.3	285.2
+6		4.6	284.9
cb.		4.3	285.2
W		5.1	284.4
+5		5.0	284.5
	5+40		
-5		5.3	284.2
W		4.6	284.9
cb.		4.0	285.5
+4		4.3	285.2
1/4		4.1	285.4
℄		3.7	285.8
1/4		3.7	285.8
+4		3.6	285.9
cb.		2.8	286.7
E		2.0	287.5
+5		1.9	287.6
	5+57		
-5		1.7	287.8
E		2.2	287.3
cb.		3.5	286.0

289.52 Commonwealth Ave. X-Sections

	5+57			
cb+4		4.2	285.3	
'/4		4.3	285.2	
℄		4.6	284.9	
'/4		4.9	284.6	
+5'		5.0	284.5	
cb.		3.8	285.7	
W		4.6	284.9	
+5		5.0	284.5	
	5+60.7± South Line Laurel St.			
-19.6 = W. end Paving.		5.56	283.96	
W.L.	on "	5.30	284.22	
cb.	" "	5.22	284.30	
'/4	" "	5.07	284.45	
℄	" "	4.84	284.68	
'/4	" "	4.63	284.89	
cb.	" "	4.42	285.10	
E	" "	4.28	285.24	
+20	" "	3.95	285.57	
+40	" "	3.65	285.87	
	15' N			
-40	on Paving	3.31	286.21	
-20	" "	3.66	285.86	
E	" "	3.97	285.55	
cb.	" "	4.14	285.38	
'/4	" "	4.28	285.24	
℄	" "	4.44	285.08	

289.52

W.L. on Pav.	4.64	284.88
cb. " "	4.89	284.63
W " "	5.08	284.44
+20 = W end Paving	5.38	284.14
30' N of St. Laurel = W.L. on W		
-20' on cb.	5.14	284.38
-20' on Pav.	5.47	284.05
W.L. " "	5.13	284.39
cb " "	4.77	284.75
'/4 " "	4.30	285.22
℄ " "	4.15	285.37
'/4 " "	4.02	285.50
cb. " "	3.92	285.60
E " "	3.81	285.71
+20 " "	3.54	285.98
+40 " "	3.23	286.29
40' N of St. = E cb Laurel on East.		
-40 on Pav.	3.27	286.25
1' N on cb. Rolled	2.92	286.60
-20' on Paving	3.60	285.92
E " "	3.75	285.77
cb. " "	3.83	285.69
'/4 " "	3.98	285.54
℄ " "	4.20	285.32
'/4 " "	4.53	284.99
cb.	4.98	284.54

		289.52	Commonwealth Ave X-Sections		
cb. +5 = Int cb		Rot. on Cut	5.15	284.37	✓
+6 on Top		Rolled cb	4.80	284.72	✓
H.L. on Conc.		Drive	4.86	284.66	✓
+20 "		" "	5.14	284.38	✓
TP	0.65	280.52	9.65	279.87	
Chk. Starting BM			14.10	266.42	
				266.41	266.43
				0.01	0.01

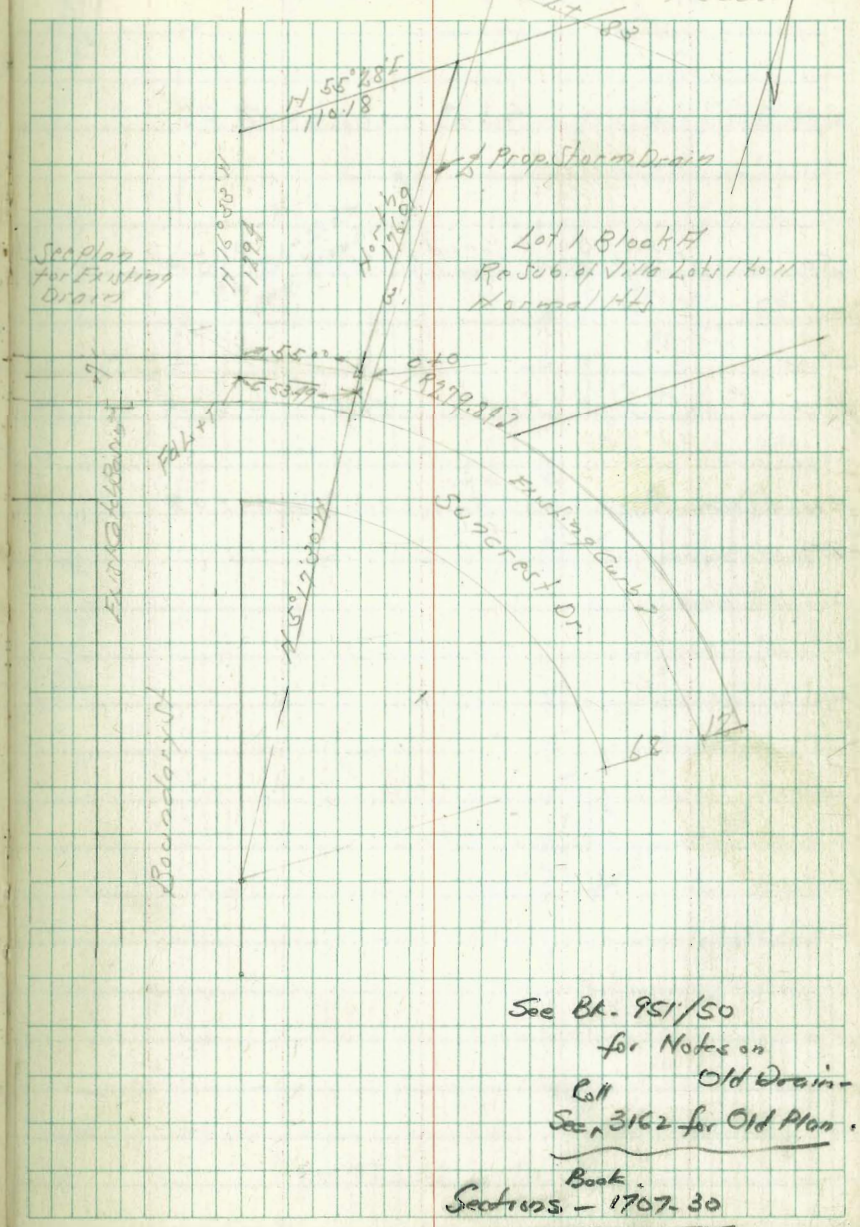
Proposed Storm Drain
Lot 1 Block A Re Sub of Villa Lots 1 to 11
Normal Hts
For Mr. Baines

BM	2.87	393.83		390.96	S.E. BP Adams & Boundary
TP	4.80	391.21	7.42	386.41	
Curb Inlet N Cb Suncrest West Curb Line Boundary to S			7.70	383.51	12" Conc Pipe Flow Line
0+0 = N.L. Suncrest			5.0	386.2	
+50			5.9	385.3	
+74			7.8	383.4	
TP	0.88	379.39	12.70	378.51	
1+0			15.2	364.2	
TP	0.37	367.45	12.31	367.08	
+11	= Sly		9.8	357.6	
TP	0.35	355.48	12.32	355.13	
+24			3.5	352.0	
TP	0.36	342.93	12.91	342.57	
+54			9.6	333.3	
TP	0.83	331.64	12.12	330.81	
+80			9.2	322.4	
TP	0.99	319.96	12.67	318.97	
2+0			8.0	312.0	
+10			13.3	306.7	
TP	0.35	307.66	12.65	307.31	
TP	0.39	295.22	12.83	294.83	
+40			5.3	289.9	
+53			8.9	286.3	
+65			12.1	283.1	
+83 = Bottom Wash			18.8	276.4	

Indexed
C.S.K.

April 18.46
Sisson
Wright
Waddel

75

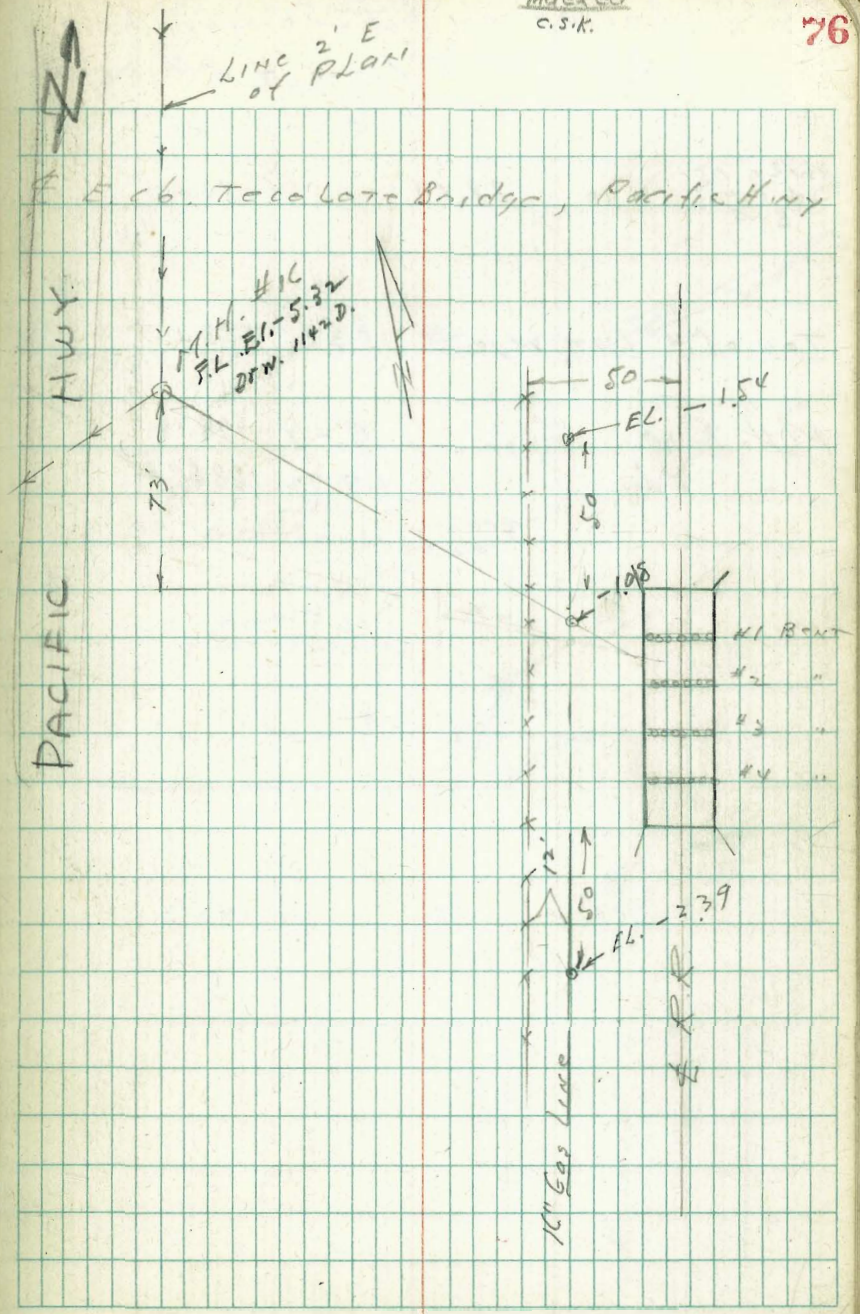


See Bk. 951/50
for Notes on
Old Drain -
See Roll 3162 for Old Plan.
Book
Sections - 1707-30

Levels Top 16" Gas Line
at Tecolote RR. Bridge

B.M.B.P.	1.40	9.25	7.85
50' N of N. Bulkhead of RR Bridge		10.79	-1.54
50' S of S. Bkhd.		11.64	-2.39
On Line Betw. #1 and #2 Bents		10.33	-1.08

Indexed
C.S.K.



Location of Sewer Lat.
Swly Cor. Clove & Whittier

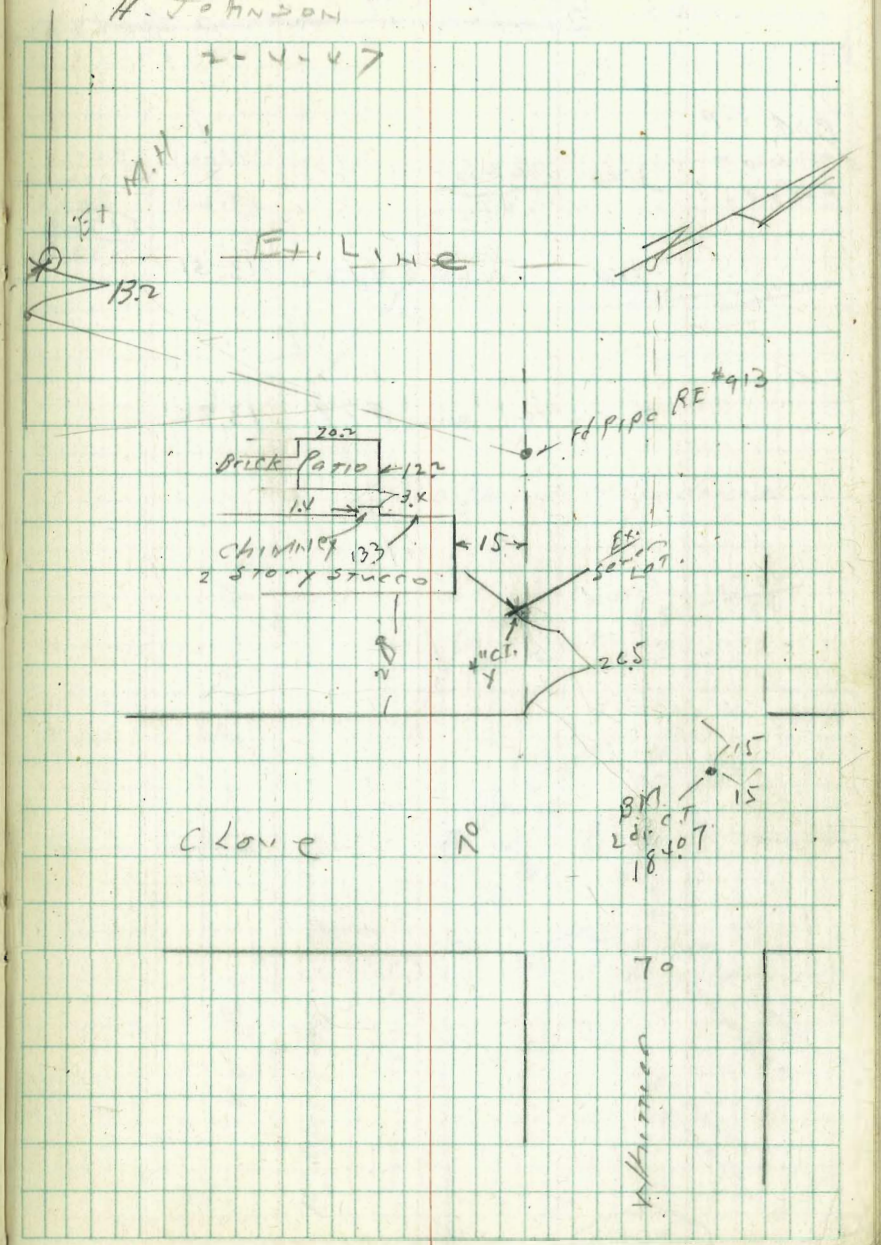
Nwly 15' 2d. C.T. B.M.	4.40	188.47		184.07
Top of 4" Lat. Wye			5.36	183.11
M.H. Rim	9.29 / 10.63 / 19.92		9.29	179.18
" F.L.			19.92	168.55

ground also

Moore
Begg
H. Johnson

indexed
c.s.k.

W.O. #258

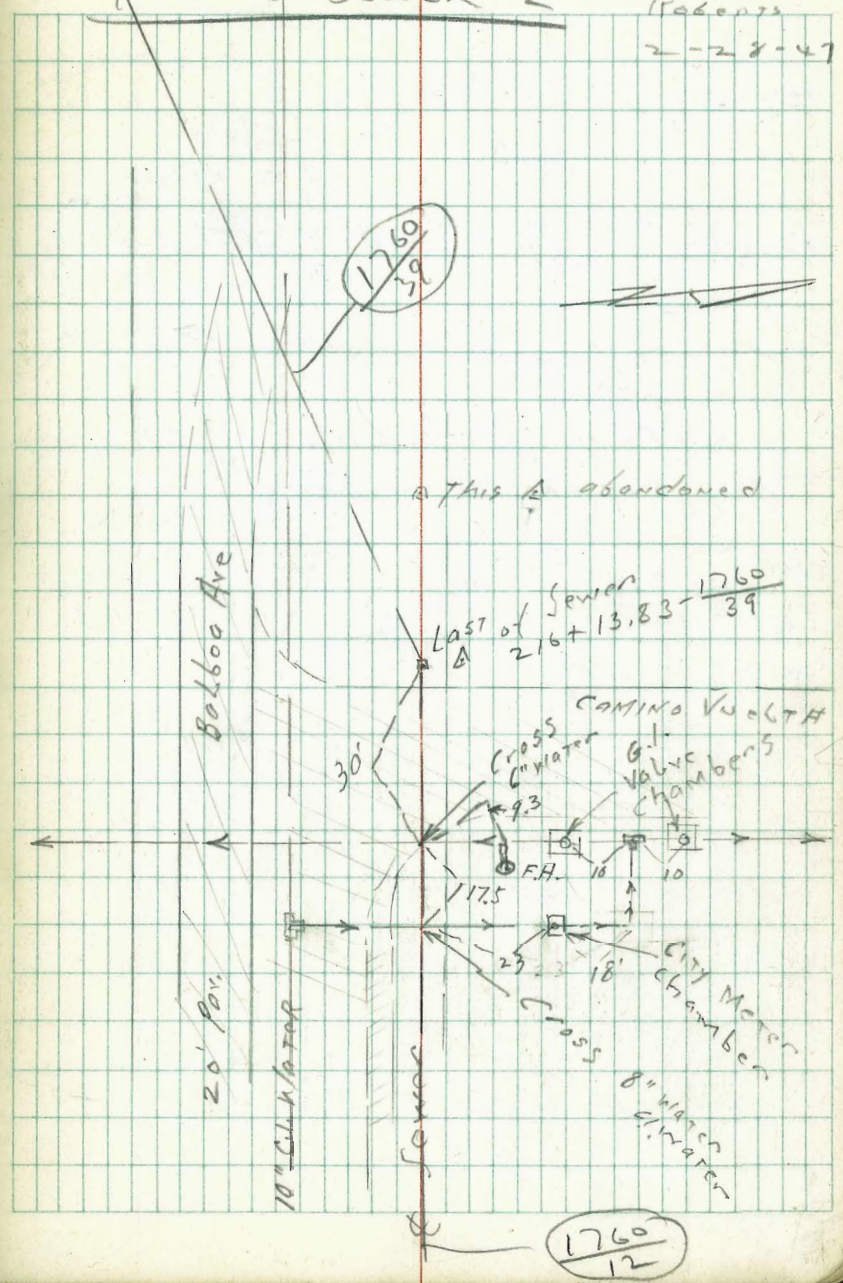


Elev.s Top of Water Lines at Balboa + Camino Vuelta

B.M. Top Ctr. Nut F. Hyd.	3.40	22.63 H.I.		Elev ? 19.23	See other Book 1760/30
	Top	City Cl. Water	9.12	13.51	
	Top 6"	G.I. C.I. Water	8.79	13.84	

Moore
Begg
Green
Roberts
2-28-47

Trunk Sewer #2



Elev.'s Top of 16" Gas Lines on W.O. 155

76 + 22.5 = Cross 16" gas line 3.22 stub to Top of 16" gas line

EL. = 2.11

1742/76

See other Books for Elev.

113 + 67.5 Cross 16" gas line 3.37 stub to Top of 16" gas line

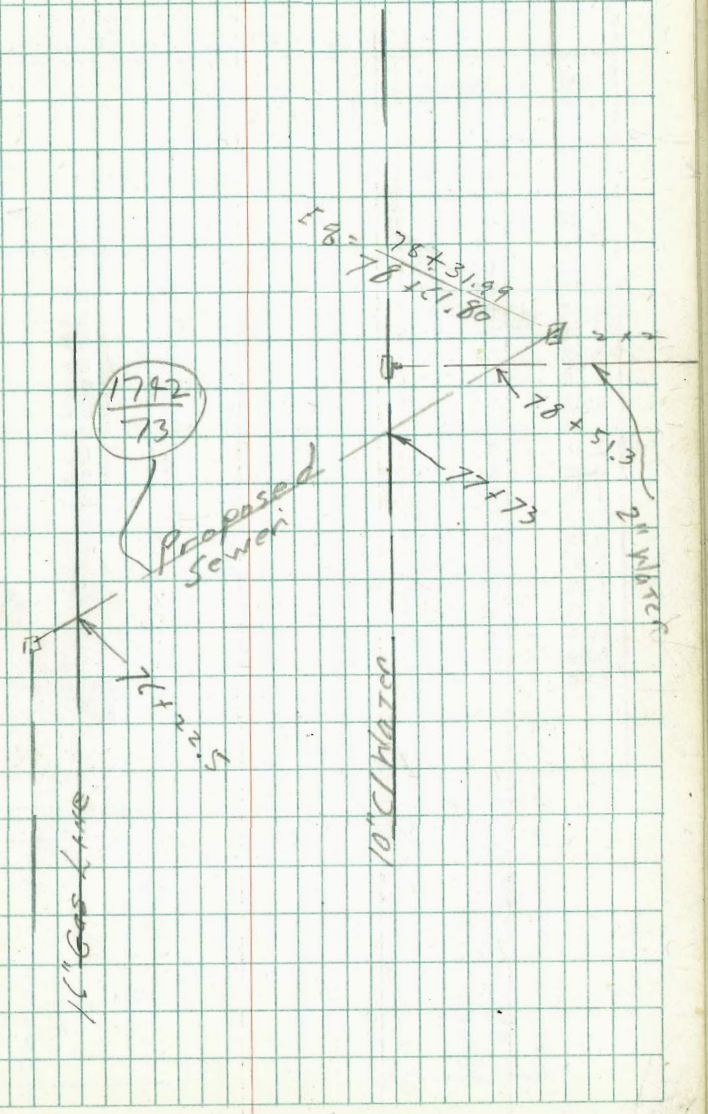
1686/62

EL. = 7.09

Elev. of Top of 10" C.I. water and 2" water

T.P. 2x2 3.41

TRUNK SEWER #2



IMPROVED TABLES
AND
INFORMATION

HORIZONTAL STADIA CORRECTIONS								
2°—00′	—	0.1	21°—00′	—	12.8	33°—00′	—	29.7
3°—00′	—	0.3	21°—30′	—	13.4	33°—15′	—	30.1
4°—00′	—	0.5	22°—00′	—	14.0	33°—30′	—	30.5
5°—00′	—	0.8	22°—30′	—	14.7	33°—45′	—	30.9
6°—00′	—	1.1	23°—00′	—	15.3	34°—00′	—	31.3
7°—00′	—	1.5	23°—30′	—	15.9	34°—15′	—	31.7
8°—00′	—	1.9	24°—00′	—	16.5	34°—30′	—	32.1
9°—00′	—	2.5	24°—30′	—	17.2	34°—45′	—	32.5
10°—00′	—	3.0	25°—00′	—	17.9	35°—00′	—	32.9
10°—30′	—	3.3	25°—30′	—	18.6	35°—15′	—	33.3
11°—00′	—	3.6	26°—00′	—	19.2	35°—30′	—	33.7
11°—30′	—	4.0	26°—30′	—	19.9	35°—45′	—	34.1
12°—00′	—	4.3	27°—00′	—	20.6	36°—00′	—	34.6
12°—30′	—	4.7	27°—30′	—	21.3	36°—15′	—	35.0
13°—00′	—	5.1	28°—00′	—	22.0	36°—30′	—	35.4
13°—30′	—	5.5	28°—30′	—	22.8	36°—45′	—	35.8
14°—00′	—	5.9	29°—00′	—	23.5	37°—00′	—	36.2
14°—30′	—	6.3	29°—30′	—	24.3	37°—15′	—	36.6
15°—00′	—	6.7	30°—00′	—	25.0	37°—30′	—	37.1
15°—30′	—	7.2	30°—15′	—	25.4	37°—45′	—	37.5
16°—00′	—	7.6	30°—30′	—	25.8	38°—00′	—	37.9
16°—30′	—	8.1	30°—45′	—	26.2	38°—15′	—	38.3
17°—00′	—	8.5	31°—00′	—	26.5	38°—30′	—	38.7
17°—30′	—	9.0	31°—15′	—	26.9	38°—45′	—	39.1
18°—00′	—	9.5	31°—30′	—	27.3	39°—00′	—	39.6
18°—30′	—	10.1	31°—45′	—	27.7	39°—15′	—	40.0
19°—00′	—	10.6	32°—00′	—	28.1	39°—30′	—	40.5
19°—30′	—	11.2	32°—15′	—	28.5			
20°—00′	—	11.7	32°—30′	—	28.9			
20°—30′	—	12.3	32°—45′	—	29.3			

Chains to Feet	
1	66
2	132
3	198
4	264
5	330
6	396
7	462
8	528
9	594
10	660

Feet to Chains	
100	1.515
200	3.030
300	4.545
400	6.060
500	7.575
600	9.090
700	10.606
800	12.121
900	13.636
1,000	15.151

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:

$$\text{Area} = \tfrac{1}{2}\, ab \sin C$$

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

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

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

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 sin² a + C cos a

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

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

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

a = angle of elevation for mid Reading

67
38
102
732

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.

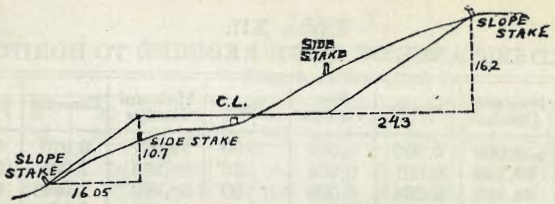
INCLINED DISTANCE OF 100 FT. REDUCED TO HORIZONTAL

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.

269.5

450.13' bet Brass Plugs.

262'N to c.T.

90°13'

14.88

26.22

45013
362.65
87.48

357.69
34.803
9.66

1293
117
1410

100' Level
V.L. 10°42' — 83.00
V.L. 2°46' 84.30

73-53
16-07
90-00

85
4.8
133

.2278

790
240
10.30

12.2
6.6
18.8

10.8
2
12.91

233.41
12.91
220.50

10+5 544
1+10 540
1+27 581

119.5
10
109.5
13
122.5
7
115.5
119.5
60

73° 34