

1570

SEWER

1875
1876

ENGINEERS

LEVEL BOOK

No. 4105

EUGENE DIETZGEN CO.

DRAWING MATERIALS, MATHEMATICAL and
SURVEYING INSTRUMENTS

Chicago New York San Francisco New Orleans Pittsburg Toronto

Distances from Center of Roadway for Cross-Sectioning
Roadway 16 feet wide. Side Slopes 1 on 1.
For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	0
1	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	1
2	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	2
3	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	3
4	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	4
5	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	5
6	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	6
7	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	7
8	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	8
9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	9
10	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	10
11	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	11
12	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	12
13	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	13
14	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	14
15	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	15
16	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	16
17	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	17
18	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	18
19	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	19
20	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	20
21	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	21
22	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	22
23	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	23
24	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	24
25	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	25
26	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	26
27	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	27
28	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	28
29	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	29
30	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	30
31	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	31
32	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	32
33	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	33
34	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	34
35	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	35
36	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	36
37	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	37
38	46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.8	46.9	38
39	47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8	47.9	39
40	48.0	48.1	48.2	48.3	48.4	48.5	48.6	48.7	48.8	48.9	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 30.6. For same slopes but other widths of roadbed, correct above figures by one-half difference in width of roadbed; thus in example above, for 20 ft. roadbed distance will be $30.6 + (20 - 16) \div 2$ or 2 ft. added to 30.6 = 32.6. For slopes of 1 on 1½ see inside of back cover.

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204 + 50

ENGINEERING DEPARTMENT
CITY OF SAN DIEGO,
CALIFORNIA.

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

Made in U. S. A.

INDEXED

Completely
except page # 68, 79, 80, 81

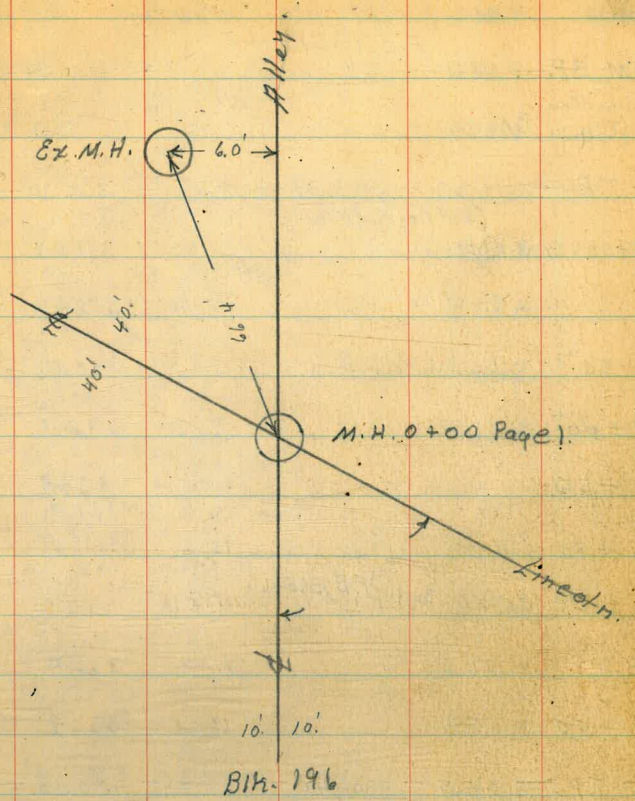
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to
of
30

Bk. 200.

0



9-15-39

Mills
Walker
Bliss

Wabash Ave Sewer

see page 0 for
Lincoln Ave

Lincoln Ave South

E. Alley W. of Wabash

F.B. 1351-65

S.W. Univ

BM B.P. — 10.11 — 332.26 — 322.15 — N. Mile ST

E. Lincoln Alley
N. Mile Univ

BM Bolt

5.25

327.01

T.P. — 11.29 — 343.39 — 0.16 — 332.10 —

0+00 = Ex. M.H. { E. Alley W. of Wabash }
{ Lincoln }

1.91

341.48

Rim S. Edge

Deep 4.55

6.46

336.93

F.L.

0+50 = S. edge Lincoln pav. 2.46 340.93

1+00 3.2 340.2

+65 4.5 338.9

2 6.0 337.4

+50 8.5 334.9

+75 Ex. M.H. Burried F.B. 1365-16 { Rim 333.55 }
{ F.L. 326.60 }

3 11.0 332.4

+50 12.6 330.8

T.P. — 0.25 — 330.40 — 13.24 — 330.15 —

4 1.9 328.5

+55 N. edge Univ. Pav. 3.65 326.75

+69 N. gutter 4.27 326.13

+95 E. Univ. 3.52 326.88

5+21 S. gutter 4.43 325.97

5+27 S. S. Univ. Mail pav.

5+35 S. Edge Univ. pav. 4.15 326.25

{ Rim 324.88 }

5+55 Ex. M.H. Burried F.B. 1365-66 { F.L. 315.86 }

Indexed
224

330.40

339

5+65

5.7

324.7

6+00

8.5

321.9

+50

11.4

319.0

INDEXED

T.P. — 0.37 — 317.93 — 12.84 — 317.56 —

7 1.6 316.3

+50 4.5 313.4

+80 6.6 311.3

8 8.9 309.0

T.P. — 0.25 — 305.22 — 12.96 — 304.97 —

+61 4 Ex. M.H. 19-141 4.75 300.47 Rim S. Edge

+90 7.3 297.9

9+03 N. Edge wash 12.3 292.9

+20 13.3 291.9

+47 S.W. 12.9 292.3

+51 9.7 295.5

10 11.6 293.6

T.P. — 1.59 — 294.01 — 12.80 — 292.42 —

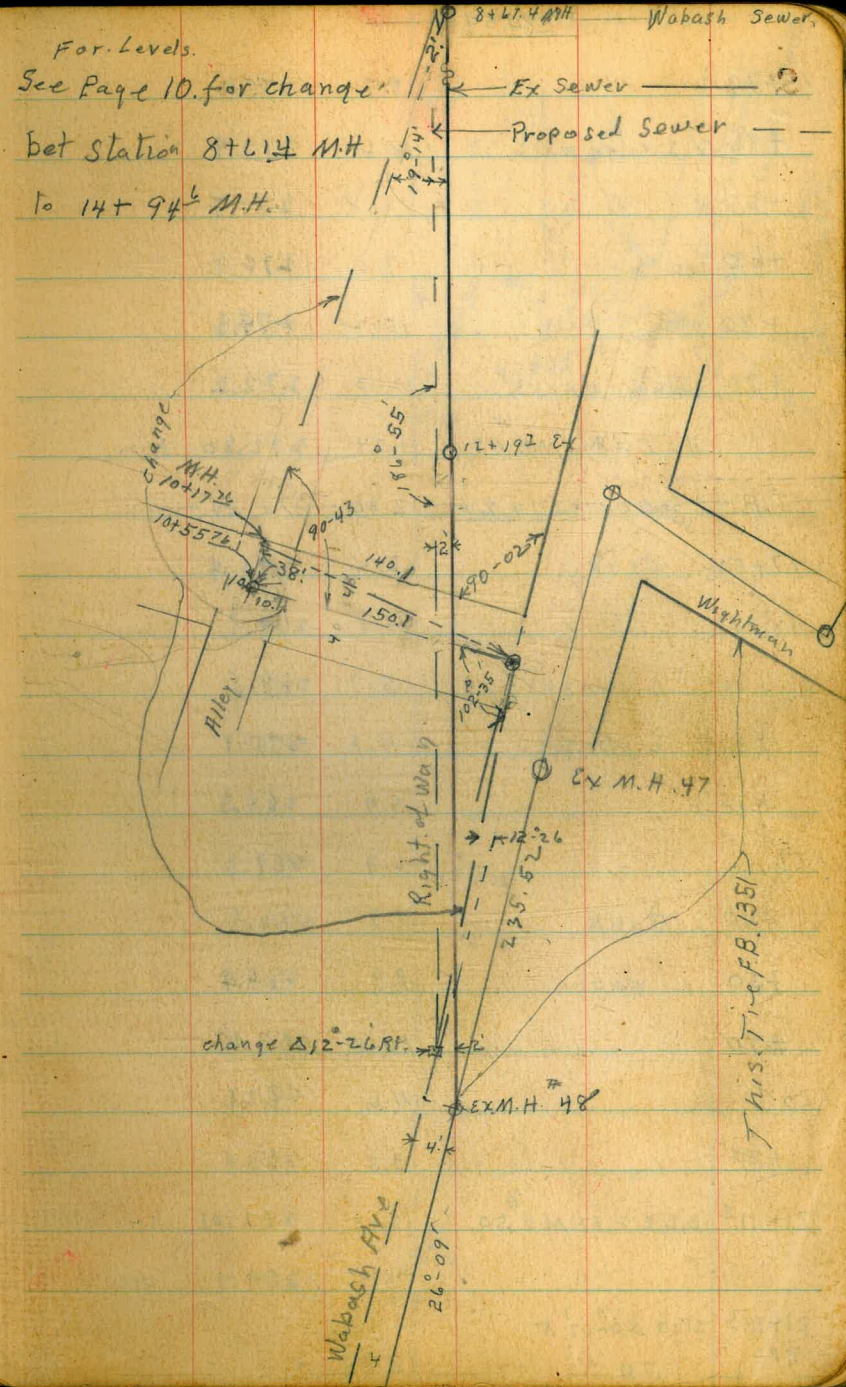
+40 4.5 289.5

+70 5.5 288.5

+77 N.W. wash 6.9 287.1

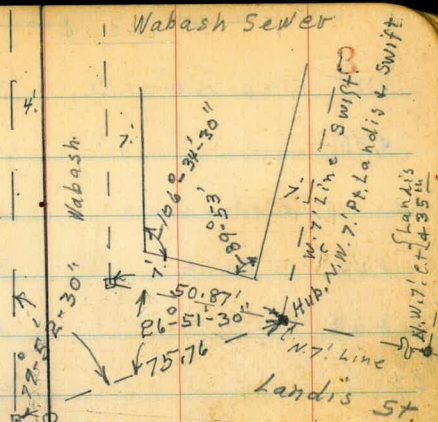
11 S.E. 8.0 286.0

294.01				
11 +03 ¹ / ₂	Cone. Pier for Water Main	6.5	287.5	Ground 2.5' X 1.5'
"	Top. 6" C.I. Pipe	2.40	291.61	
+08		5.0	289.0	
+50		5.8	288.2	
12		9.0	285.0	
+02	N. E. edge wash	10.8	283.2	
+19 ² / ₂	Ex M.H. Rim S. Edge	9.98	284.03	$\Delta 6^{\circ}-55' \text{ LT}$
+19 ² / ₂	ground in wash	10.3	283.7	
+50		12.6	281.4	
T.P. — 3.38 — 284.54 — 12.85 — 281.16 —				
13	wash	3.2	281.3	
+70.	E. side "	4.7	279.8	
+71.		2.7	281.8	
14		3.8	280.7	
+35		4.5	280.0	
+65		2.4	282.1	
+91	M.H. $\Delta 26^{\circ} 09' \text{ RT}$	3.52	281.32	$\phi \Delta 5 \text{ Tab}$
+94 ¹ / ₂	-4.01 = EX. M.H. 48	3.13	281.41	Rim
"		Boof 9.00		
"		12.13	272.41	F.L.
15+13		4.2	280.3	
+35		7.6	276.9	

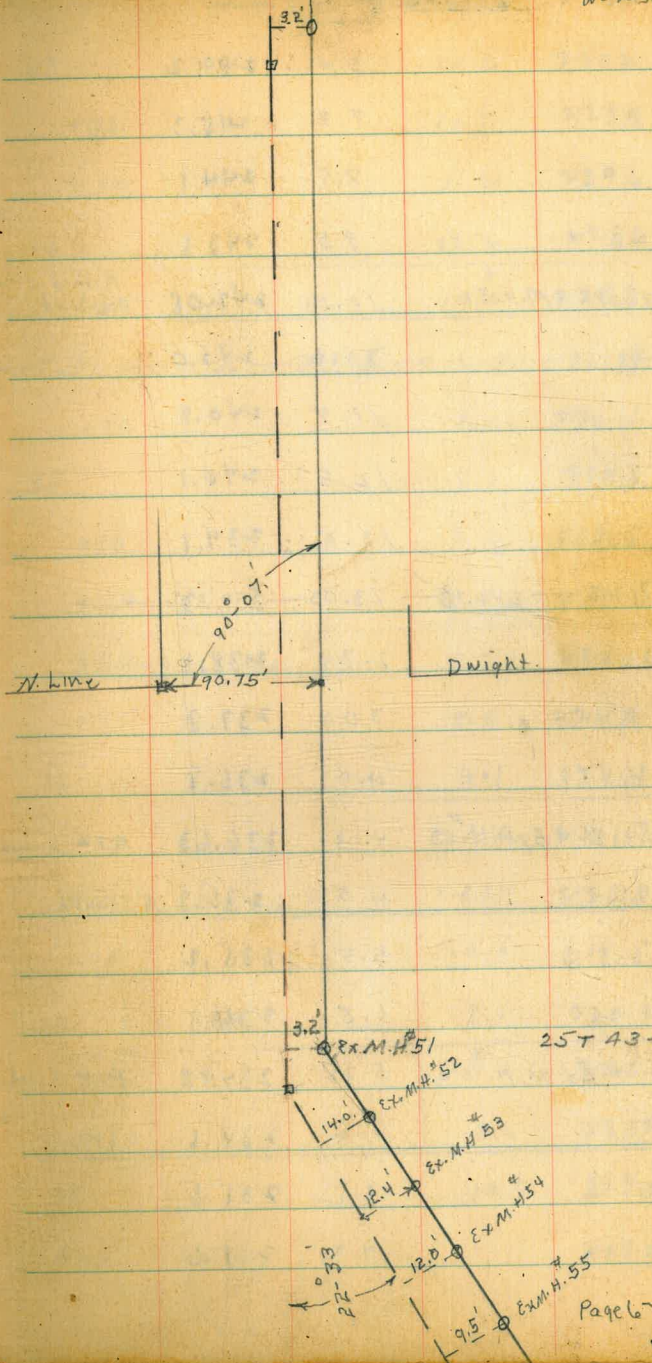


284.54

15+79		8.7	275.8
+86	N.E. edge Wash	10.6	273.9
16+56	" "	12.8	271.7
+60	Top. "	9.6	274.9
+80	Top. "	10.2	274.3
+98 ⁸⁶	Stub W. Wash	12.3	272.2
"	H.O.E. = Ex. M.H. 49	11.74	272.80 Rim.
T.P. — 2.00 — 274.24 — 12.30 — 272.24 —			
17+50	Wash	3.8	270.4
18+00	"	4.7	269.5
+20	E. Wash	5.7	268.5
+23	E. Bank.	4.1	270.1
+75		5.9	268.3
19		6.9	267.3
+45	Bank	7.9	266.3
+50	E. Wash.	9.3	264.9
+90		10.4	263.8
20		11.6	262.6
+50		13.3	260.9
21+11 ⁶	3.2 E. = Ex. M.H. 50	13.23	261.01 Rim S. Edge.
"	" " "	14.5	259.7 ground
21+18 ⁶	Stub Δ 0°-07' at		
T.P. — 1.70 — 262.71 — 13.23 — 261.01 —			



262.74			
21+18 ⁶	Stub Δ 0°-07' Rt.	2.90	259.81
+55	"	.44	258.3
22	E. edge wash	5.7	257.0
+20	E Bank	3.7	259.0
+60	"	5.0	257.7
23	"	4.2	258.5
+17	E. Bank	5.1	257.6
+24	E Edge Wash	7.9	254.8
+82	W " "	10.7	252.0
+84	" Bank	8.7	254.0
24+00	"	9.3	253.4
+19.2	Ex. Sewer.		
+50	"	10.3	252.4
+95	W. Bank.	11.3	251.4
+97	W. edge wash.	14.8	247.9
25+43 ⁴	3.2 E. of M.H. #51 Rim	13.26	249.45 sealed
" "	Ex Ground	14.8	247.9
T.P.	3.11	252.56	13.26 249.45 S. Edge M.H. #51
25+49 ³³	Stub Δ 22°-33' Lt.	4.10	248.46
26+19	E. edge wash,	6.6	246.0
+21	E Bank,	3.6	249.0
+50	"	2.4	250.2



252.43
241.96

123.4

Page 6

252.56

27		3.4	249.2	
+40		7.3	245.3	
+65		8.5	244.1	
28		9.5	243.1	
+39	14.21 = M.H. 52	10.51	242.05	Rim S. side ground.
+50		10.6	242.0	
29		11.8	240.8	
+50		12.5	240.1	
+70		13.5	239.1	
T.P.	1.23	240.76	13.03	239.53
+75		2.7	238.1	
30		3.0	237.8	
+50		4.0	236.8	
+77	12.4 LT = Ex M.H. 53	4.13	236.63	Rim S. side
"	" " " "	4.5	236.3	ground
31		5.5	235.2	
+45		6.5	234.3	
+45	12.4 E of M.H. 54	5.78	234.98	Rim S. side
		6.2	234.6	ground
32		9.2	231.6	
+50		9.2	231.6	

240.76

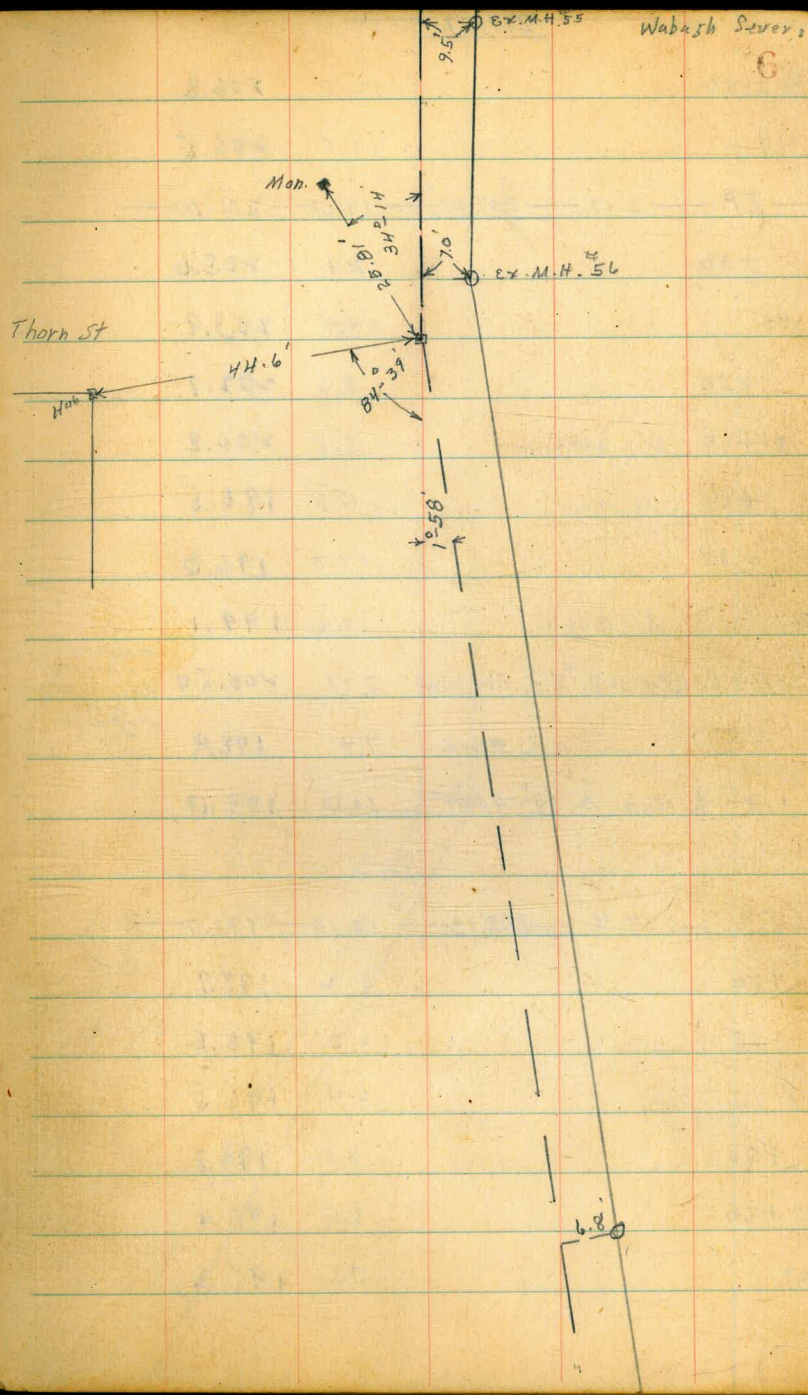
Wabash Sewer

5

33.		10.6	230.2	
+36		11.9	228.9	
+50		11.2	229.6	
34.		12.2	228.6	
+50		14.0	226.8	
T.P.	1.26	229.45	12.57	228.19
+70		4.4	225.1	
35		4.7	224.8	
+30		6.0	223.5	
+49		6.0	223.5	
+49	9.5 LT = M.H. 55	5.29	224.16	ground Rim s. edge
+75		5.3	224.2	
36		6.1	223.4	
+50		7.8	221.7	
+65	E. edge wash	8.7	220.8	
+90	"	10.0	219.5	
37	= W. edge "	9.1	220.4	
+35		9.4	220.1	
+50		8.6	220.9	
38		10.5	219.0	
+50		12.5	217.0	

229.45

39+00		13.3	216.2	
T.P.	2.55	219.27	12.73	216.72
39+29	7' Lt. ground	3.80	215.5	
	7' Lt Ex. M.H. # 56	3.59	215.68	Rim S. Edge
39+30 ²⁵	Hub. Δ 1-58 Lt.	3.70	215.57	
+72	Wly Bank	5.3	214.0	
+74	wash	8.4	210.9	
40	"	7.2	212.1	
+60	"	7.4	211.5	
+70	"	9.3	210.0	
+85	"	10.2	209.1	
+88	Wly Bank	9.0	210.3	
41		9.0	210.3	
+58	Wly Bank	10.5	208.8	
+60	wash	12.2	207.1	
42+20	"	13.8	205.5	
+25	Wly Bank	10.0	209.3	
+50		10.4	208.9	
43		10.8	208.5	
43+38	6.8 Lt = Ex. M.H. # 57	11.75	207.52	Rim S. Side
		12.3	207.0	ground

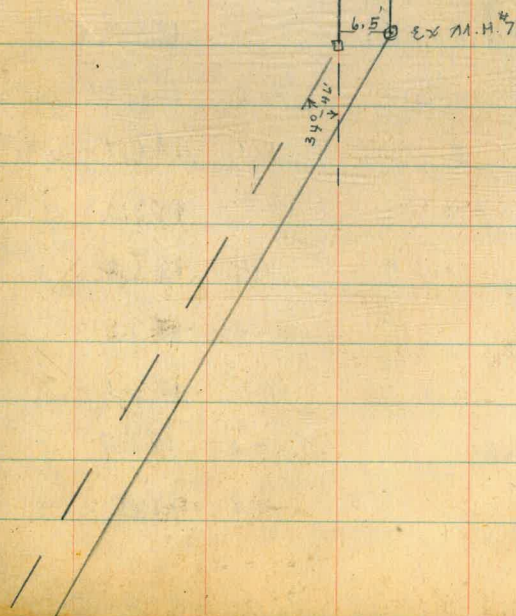


219.27

43+50		12.5	206.8
44		12.4	206.5
T.P.	2.27	208.27	13.27
+50		2.7	205.6
45		4.4	203.9
+50		5.6	202.7
46+15	Wly Bank.	7.5	200.8
+20	16 Wash	11.8	196.5
+88		12.3	196.0
47	Elg Bank.	9.2	199.1
+17.2	6.5 Ht Ex. M.H. #7	Rim. s. End ground.	7.77
			9.4
+18 ⁴⁷	stub Δ 34° 46' RT.	10.10	198.17
T.P.	4.76	202.93	10.10
+50		5.2	197.7
+75		6.3	196.6
48		6.4	196.5
+50		8.1	194.8
+60		6.5	196.4
49		7.6	195.3

Note this
M.H. rim used
as BM for Victoria
St sewer
See P 81617
page 5

Napash Sewers

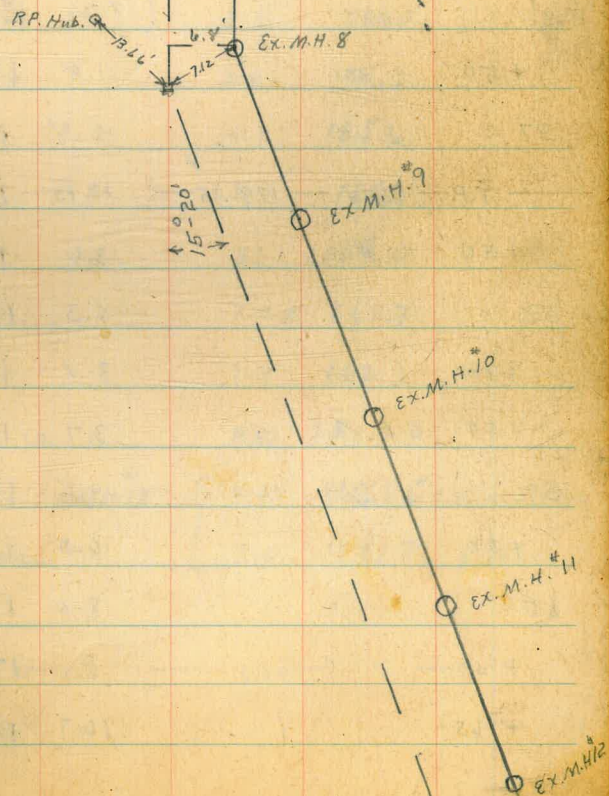


-202.93

+50		8.7	194.2	
50		10.8	192.1	
+50		11.4	191.5	
+85	Ely Bank.	11.4	191.5	
51.	wash	13.5	189.4	
+50	"	13.9	189.0	
52	"	14.5	188.4	
+13- 7.12 Lt. of	Ex.M.H. #8	13.59	189.34	Rim S. edge
		16.4	186.5	in wash ground
T.P. — 0.50 — 189.84		13.59	189.34	
+18 ⁶	of stub Δ 15-20 Lt.	3.6	186.2	
+28	£ in wash	3.6	186.2	
+38	£ Ely Bank	1.2	188.6	
+38	3' Lt. in wash	2.2	187.1	
+45	£ " "	2.7	187.1	
53	" "	4.0	185.8	
+50	" "	4.6	185.2	
+93	" "	5.9	183.9	
54	" "	9.7	182.1	
+01.	Wly Bank.	4.1	185.7	
+10		4.8	185.0	

Wabash Sewer

8



+15	Wash	6.5	183.3
+50	"	7.1	182.7
55	"	8.7	181.1
+40	"	9.7	180.1
+50	"	11.0	178.8
+95	"	11.9	177.9
56	"	13.4	176.4
+34 ²	5.7 Lt = Ex M.H. #9	12.4	177.4 ground
	"		7.24
+50	"	11.8	178.0
57	"	12.8	177.0
T.P. — 2.74 — 179.75 — 12.83 — 177.01 —			
+50	Wash	3.6	176.2
58	"	6.3	173.5
+10	"	3.4	176.4
+50	"	3.7	176.1
59	"	4.8	175.0
+50	"	6.5	173.3
60	"	8.0	171.8
+40	"	8.1	171.7
+65	"	10.7	169.1

+85	5.6 Lt = M.H. #10	6.83	172.92	Rim S. Edge
	Wash		8.9	170.9
61+50	"	9.6	170.2	
+75	"	11.5	168.3	
62	"	11.8	168.0	
+44 ³	4.8 Lt = Ex M.H. #11	10.20	169.55	Rim S. Edge
	Wash		12.3	167.5
T.P. — 2.69 — 169.69 — 12.75 — 167.00 —				
+75	Wash	3.6	166.1	
63	"	3.4	166.3	
+50	"	4.1	165.6	
64	"	5.4	164.3	
+50	"	5.7	164.0	
65	"	7.0	162.7	
+50	"	7.4	162.3	
+68 ⁴⁵	Estab. Δ	8.47	161.22	
+56	Lt = Ex M.H. #12	6.04	163.65	Rim S. Edge
	Wash.		8.0	161.7
T.P. — — — 6.04 — — —				

Levels for change Page 2.
 @ Alley S of M.H.

B.M. Rim M.H.	9.22	309.69	300.47	8+61.4
8+92 N. Bank	12.2	297.5		
9+00	17.5	292.2		
+05	18.3	291.4		
+18	17.0	292.7		
+25	14.6	295.1		
+38	14.3	295.4		
+41	12.0	297.7		
+80	11.3	298.4		
10	10.7	299.0		
+07	8.3	301.4		
+29	3.0	306.7		
+50	0.4	309.3		
+55 ²⁶ M.H. Δ	1.0	310.7		
+80	9.5	300.2		
	17.1	292.6		
T.P.	7.98	304.75	12.92	296.77
+12	15.7	289.0		
+36 W. Bank	16.9	287.9		
+37 Wash	17.8	286.9		
+59	16.8	288.0		

change see page 11

change see page 11

		304.75		
+64 E. Bank.	12.8	291.9		10
+89	10.9	293.9		
12+05 ⁸⁶ Mt. of stubs	4.98	299.77	11+73.04	
+30	6.3	298.5	+97.2	
+46	7.6	297.1	12+13.2	
+70	5.4	299.4	+37.2	
+80	3.8	300.9	+47.2	
+86	2.8	302.0	+53.2	
+91 P.O. T. stub	2.70	302.05	+58.2	
13+10	5.3	299.5	+77.2	
+22	8.4	296.3	+89.2	
+40	10.0	294.8	13+07.2	
+45	12.3	292.4	+12.2	
	1.72	293.65	12.82	291.93
+65	2.0	291.7	+32.2	
14	5.3	288.4	+67.2	
+50	8.7	285.0	14+17.2	
15	10.0	283.7	+67.2	
+27	11.2	282.5	+94.2	
+50	9.5	284.2	15+17.2	
+65	9.4	284.3	+32.2	

change below

293.65

+85	11.4	282.3	15+82.2
16+03 ⁰⁹ =14+91	change = } # stab	12.63	281.02
			15+70.27

change from 10+17²⁶ To 14+91 (original)

B.M. # stab	8.47	308.24	299.77	11+73 ⁰⁴
10+17 ²⁶ M.H.		4.7	303.5	
+35		11.5	296.7	
+53		14.6	293.6	
+61		17.0	291.2	
+83		19.3	288.9	
11+04		18.5	289.7	
+06	Wash	20.5	287.7	
+23	"	20.0	288.2	
+32		14.5	293.7	
+54		14.3	293.9	
		8.47	299.77	

11

Walker
Bliss
Tobell
10-20-39

Preliminary Location + Levels
TRUNK LINE SEWER
Wabash Canyon
Continued from Page 9

INDEXED

70+15.0 on Rim Existing M.H. 10.04 154.46

70+00 10.7 153.8

+50 Bottom Wash 9.8 154.7

69+00 Bottom Wash 9.0 155.5

+50 7.5 157.0

68+00 5.9 158.6

67+50 E 5.1 159.4

67+20 10' Rt. in Bottom Wash 7.6 156.9

67+20 4' Rt. edge Bank at Wash 5.0 159.5

+25 E 5.0 159.5

67+00 5.8 158.7

+50 4.2 160.3

66+00 - Bottom Wash 2.5 162.0

check.

65+68.65 on Hub. 3.26 161.24

0.85 164.50

163.65 Page 9

65+68.65 = Δ 4°04' Rt.

12

M.H. 6' → 70+15.0

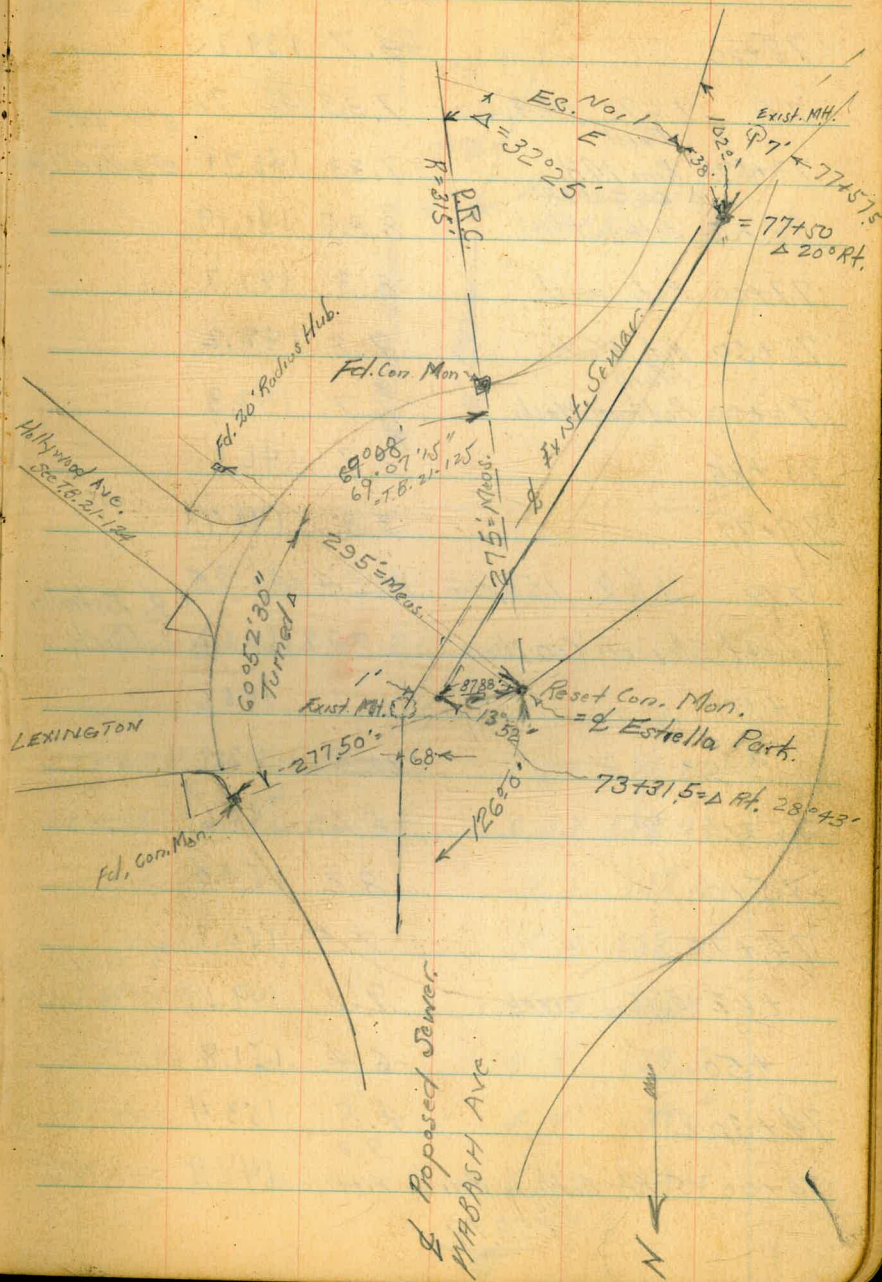
#12
Exist. M.H. 5.6' ← 65+72.7

Δ 4°04' Rt.
65+68.65

Mabash Canyon Sewers.

74+00	3' Rt. on edge Bank	5.3	152.9	Borrow Pitt
74+00		5.2	153.0	
73+85		4.6	153.6	
73+69	= Bottom Borrow Pitt	7.6	150.6	
73+50		4.5	153.7	
73+31.5	= $\Delta 28^\circ 43'$ Rt.	4.53	153.66	$\frac{1}{2}$ Hub.
Sta. - Rt. Δ to Forward Tangent				6.8 Lt. of Δ
73+30.5	on Rim Exist. MH,	3.99	154.20	South edge
T.P.		4.10	158.19	4.24 154.09
73+00		6.2	152.1	
+60		6.3	152.0	
+50		7.6	150.7	
Top of Pipe of exist. line C' Lt.	approx. Same Elev.			to Lexington Ave. Canyon
72+40	Bottom Wash	10.2	148.1	
+30		6.3	152.0	
72+00		5.3	153.0	
71+50		5.3	153.0	
T.P.		4.24	158.33	10.41 154.09
71+00		11.0	153.5	
70+50		10.2	154.3	
70+43		10.3	154.2	Wash turns Right here
70+40	in Bottom Wash	13.0	151.5	
		164.50		

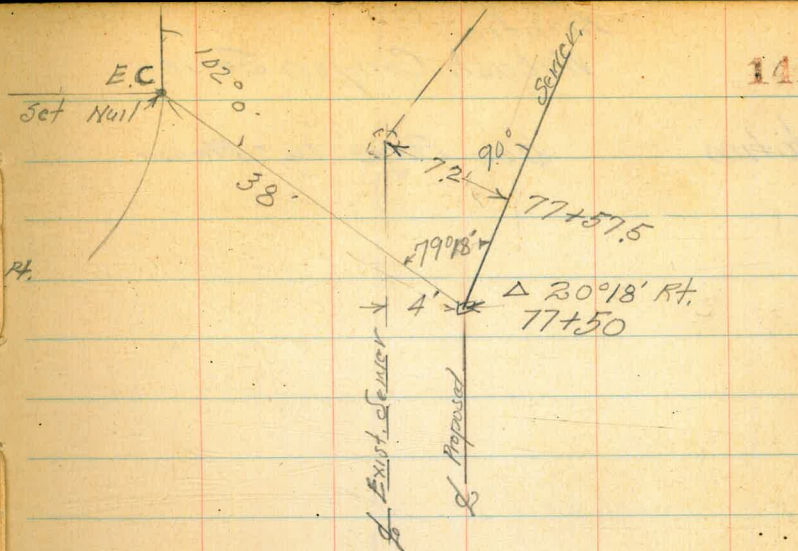
13



Wobash Canyon Sewer
Preliminary's.

78+00	4.7	139.7	
T.P. 1.69 144.40	7.33	142.71	± 7' Lt.
Exist.			
77+57.5 Rim M.H.	7.33	142.71	S. edge Elev. Pt.
Δ Δ 20°18'			
77+50 Bottom Wash	8.85	141.19	
77+00 Bot. Wash.	8.3	141.7	
76+50 Bot. Wash.	7.8	142.2	
Main			
76+00 Bottom Wash	7.7	142.3	
75+85	3.7	146.3	
75+77	3.3	146.7	
T.P. 3.09 150.04	11.24	146.95	± Estrella
Left Elev. on Con. Man.	7.97	150.22	Party.
+50'	11.6	146.6	
+20	10.3	147.9	
75+10	8.6	149.6	
75+00	8.2	150.0	
74+75	7.5	150.7	
+62 Bottom creek.	9.1	149.1	To Hollywood
+50	6.4	151.8	Ave Canyon
74+30 E	4.8	153.4	
74+00 5' Pt. Bottom Barron P.H.	9.3	148.9	

158.19



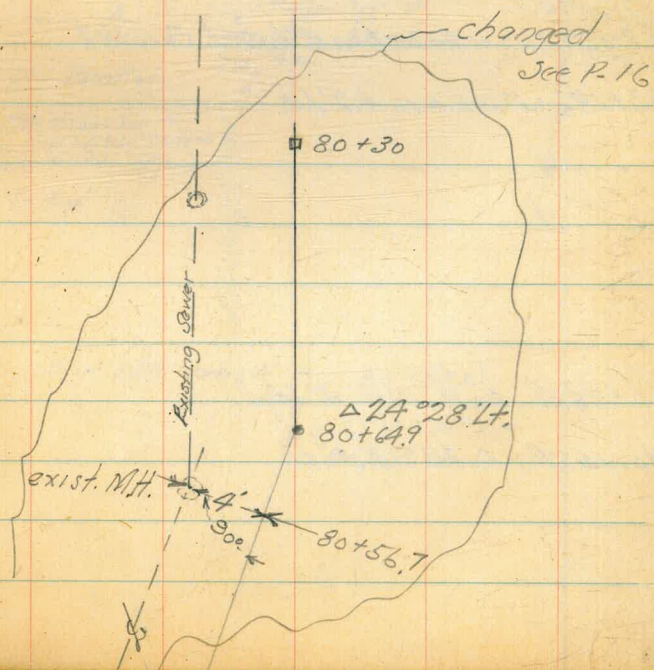
Levels Cont. P-25

T.P.			
80+64.90 Δ Lt. 24°28'	7.59	136.81	on S.H. 6.
T.P. on Rim 4' Lt.			
86+58.82 (on Rim Exist. M.H.)	6.33	138.07	S. edge
+50	7.1	137.3	
+25	5.8	138.6	
80+00	5.5	138.9	
79+50	4.9	139.5	
79+00	4.9	139.5	
78+50 Bot. Wash	5.0	139.4	

Location
Wabash Canyon Sewer

15

Station See Page 16 - Please



Wabash Canyon Sewer
 "Alignment"
 LEVELS - Page 25

88+07 = Existing M.H. 4.6' Lt.

88+03.43 = $\Delta 12^{\circ}20' Rt.$

84+12.6 = P.O.T. Hub

84+12.1 = Exist. M.H. 4' Lt.

P.O.T.

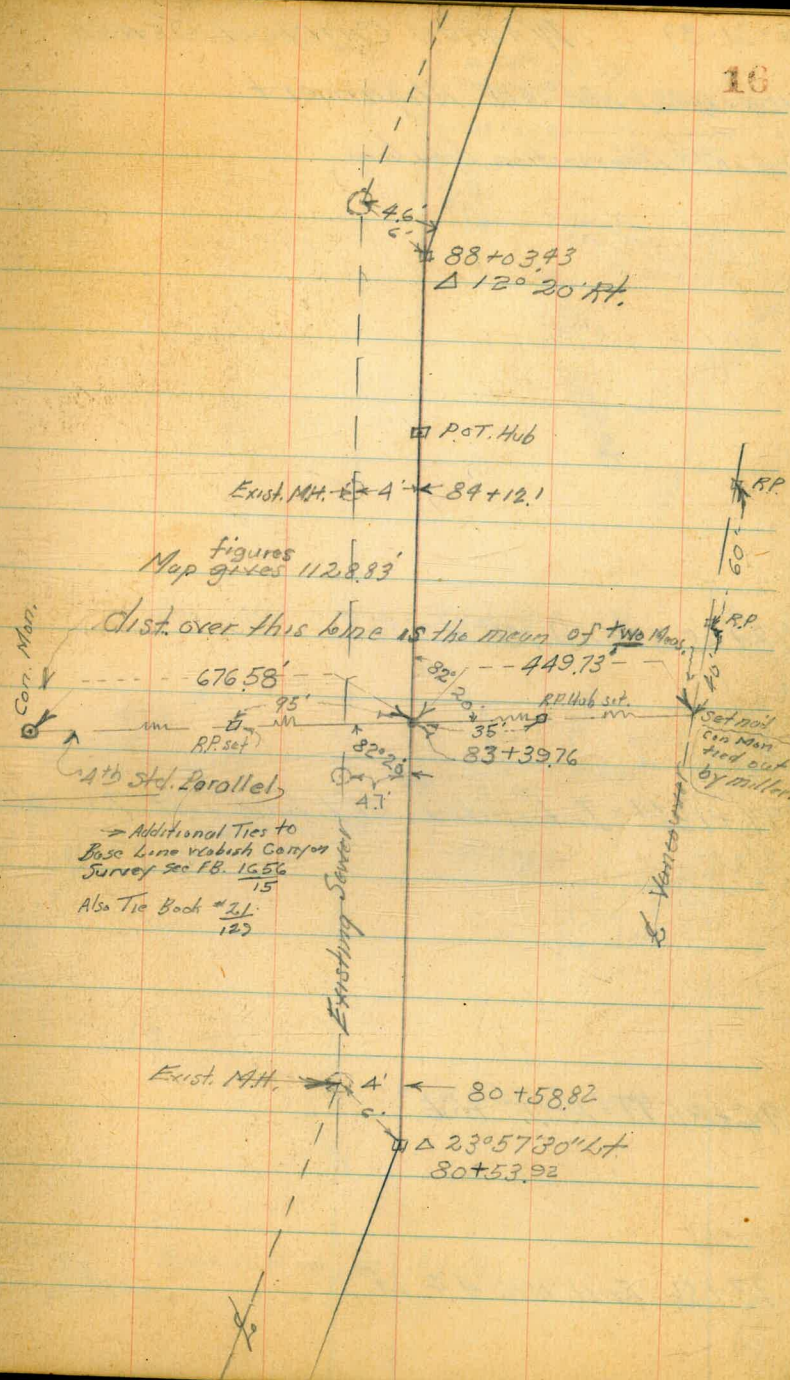
83+39.76 = intersection 4th Std. Parallel

83+24.8 = Exist. M.H. 4.7' Lt.

Pepper Dr.

80+58.82 = Exist. M.H. 4' Lt.

80+53.92 = $\Delta 23^{\circ}57'30'' Lt.$



10-31-39

WABASH CANYON SEWER

104+11.48 = Δ 29° 24' RA Alignment.

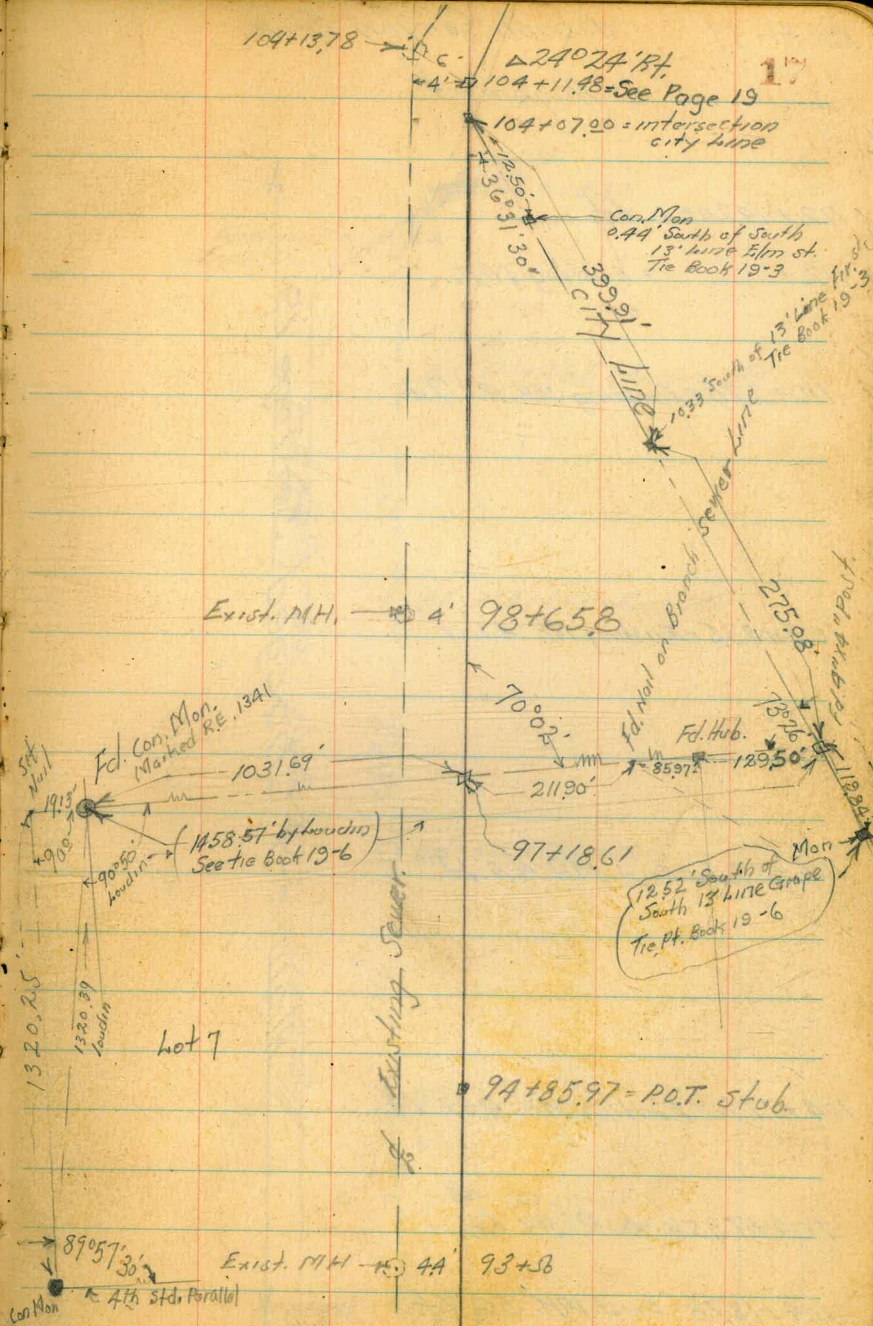
104+07 = intersection city line

98+65.8 = Exist. M.H. 4.2' Lt

97+18.61 = Intersection sly. line lot 7

94+85.97 = P.O.T. Hub

93+56 = Exist. M.H. 4.4' Lt.



10-31-39

Wabash Canyon Sewer

Alignment

112+14.20 = Δ Lt.

112+ = Existing M.H.

110+28.5 = Existing M.H. 41' Lt.

108+43.5 = Existing M.H. 41' Lt.

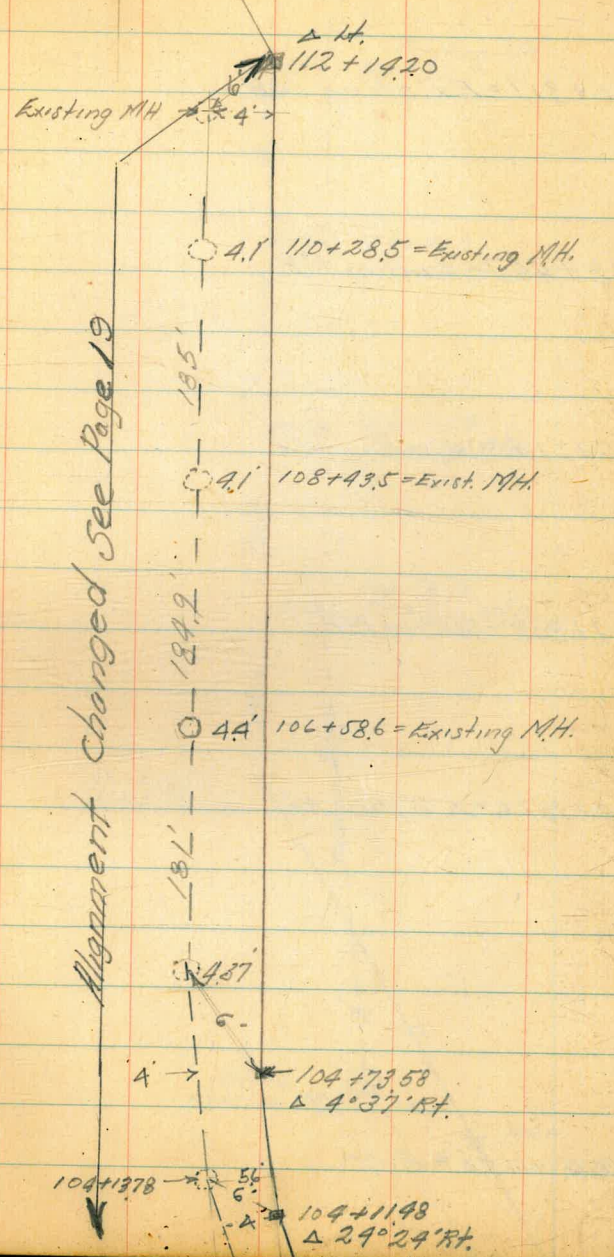
106+58.6 = Exist. M.H. 4A' Lt.

104+77.6 = Existing M.H. 9.37' Lt.

104+73.58 = Δ 4°37' Rt.

104+13.78 = Exist. M.H. 5.6' Lt.

Alignment Changed See Page 19



Wabash Canyon Sewer
"Alignment"

110+31.7 = Existing M.H.

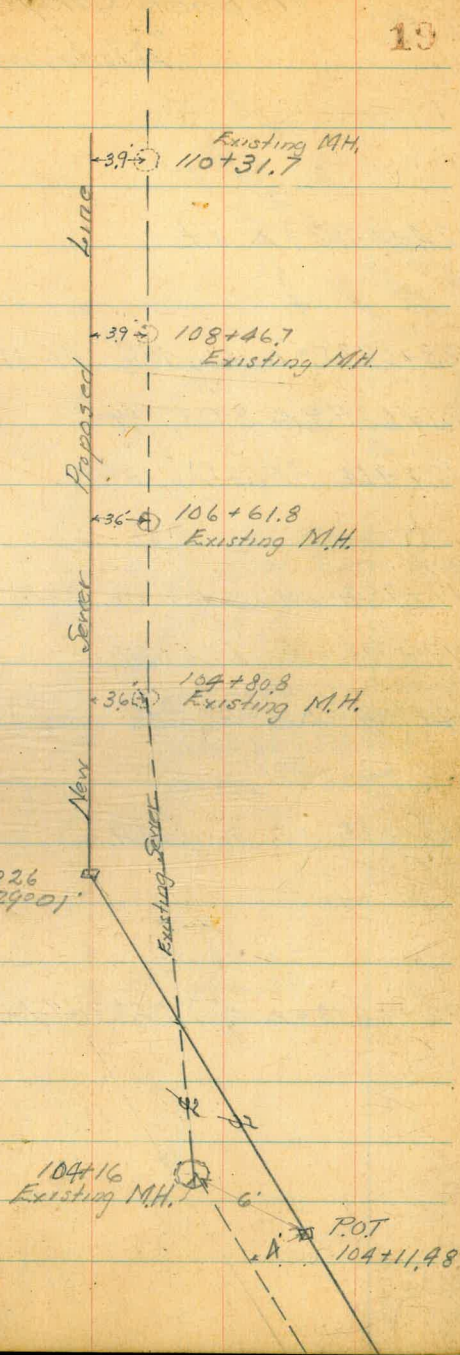
108+46.7 = Existing M.H.

106+61.8 = Existing M.H.

104+80.8 = Existing M.H.

104+382.6 = Δ 29°01' R_L

104+11.98 = P.O.T.



Wabash Canyon Sewer
"Alignment"

124+45.03 = Δ Lt.

123+09.25 = Existing M.H. 4.4' Ft.

121+68.56 = Δ 89°37' Rt

121+64 = Existing M.H.

117+964 = Intersection of South 13' line of Beech St.

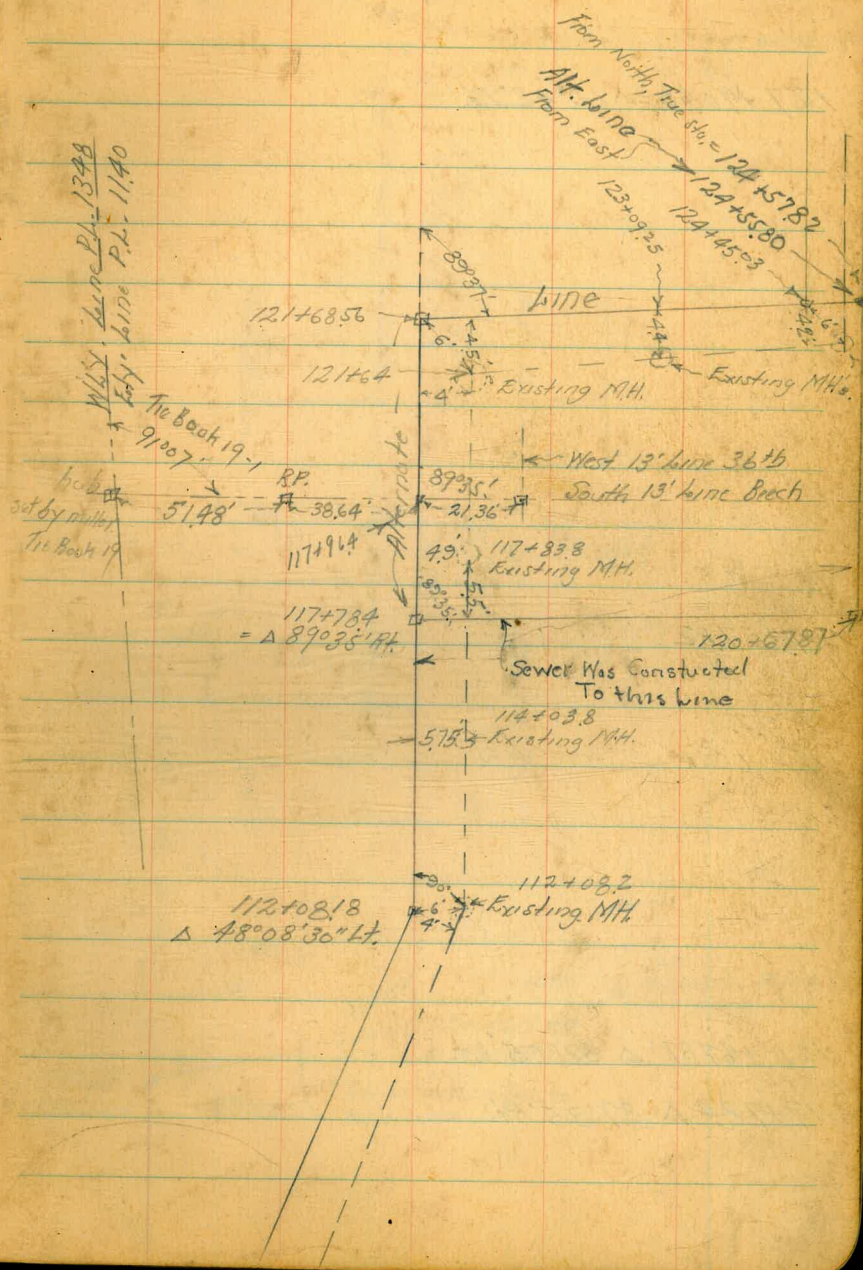
117+838 = Existing M.H.

117+784 = Δ 89°35' Ft. See Continuation this line P. 21

114+038 = Existing M.H.

112+08.18 = Δ 48°08'30" Lt.

Alternate line
LEVELS ON PAGE 83



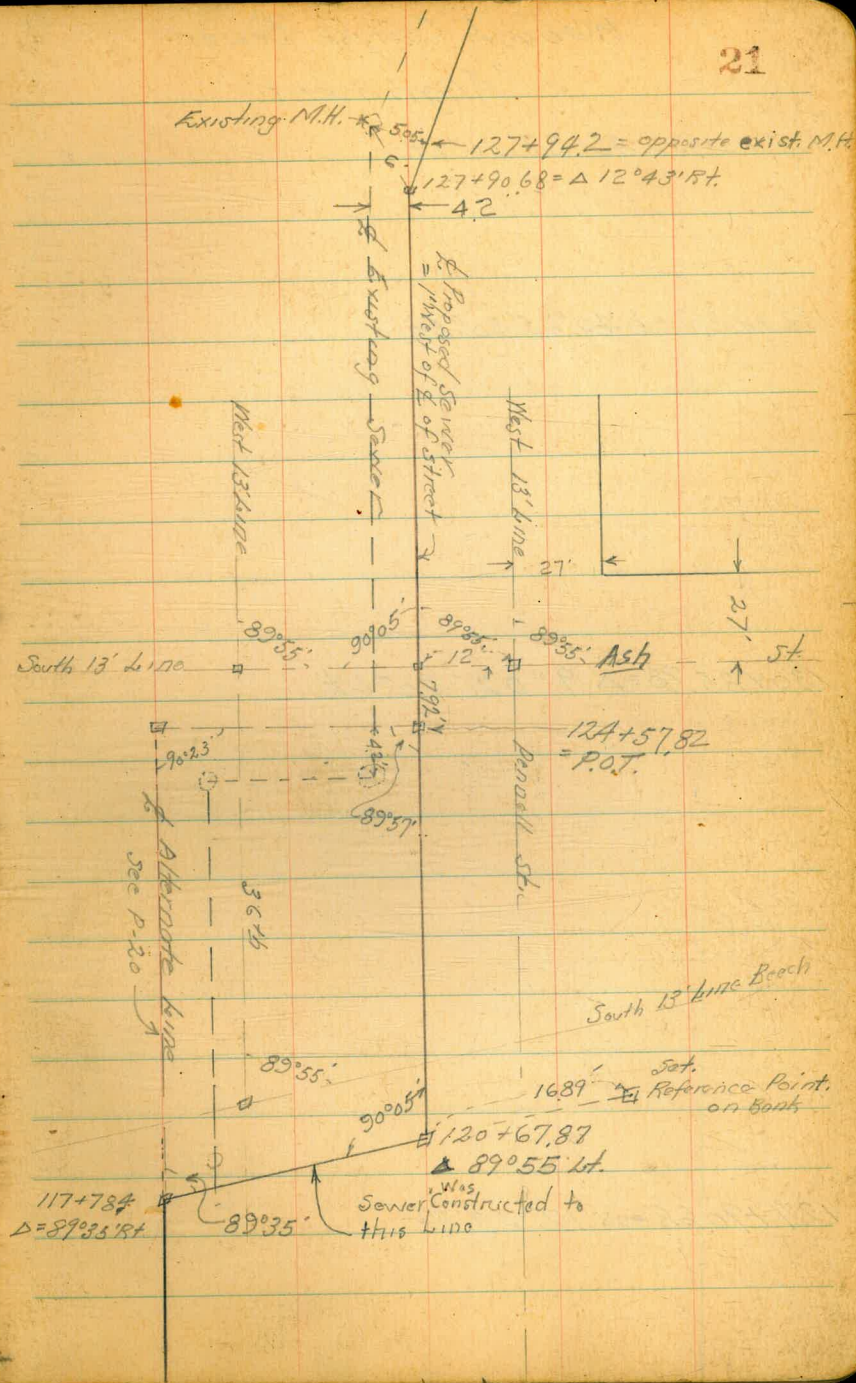
Wabash Canyon Sewer "Alignment"

$$127+90.68 = \Delta 12^\circ 43' \text{ Rt.}$$

$$124+57.82$$

$$120+67.87 = \Delta 89^\circ 55' \text{ Lt.}$$

$$117+78.4 = \Delta 89^\circ 35' \text{ Rt.}$$



Wabash Canyon Sewer
"Alignment"

135+53.53 Δ 45° 23' 30" Lt.

132+23.67 Δ 40° 25' 30" Rt.

130+85.78 Δ 9° 02' 30" Lt.

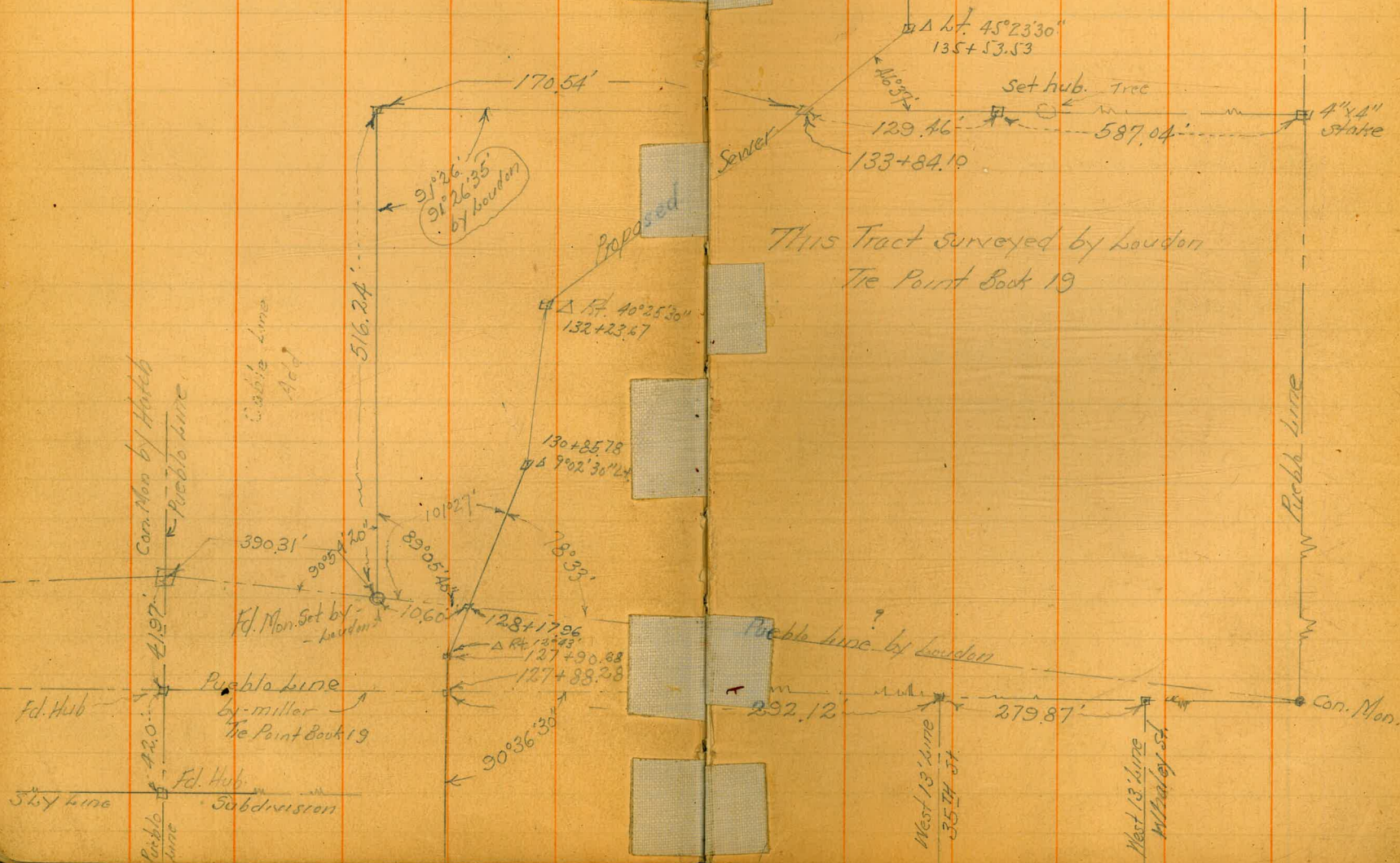
127+90.68 Δ 12° 43' Rt.

Nov. 10-1939.

Walker
Bliss
Isbell

Wabash Canyon Sewer location

21-A



This Tract surveyed by London
The Point Book 19

Existing M.H.
 135+62.2 → 4' 4"

135+53.53
 Δ 45° 23' 30" Lt.

Existing M.H. 8' 0"

132+23.67
 Δ 40° 25' 30" Rt.

See Tie Book 19 Page 10-32

130+85.78
 Δ 9° 02' 30" Lt.

Existing M.H. 4'

5' 6"
 127+90.68
 Δ 72° 43' Rt.

Wabash Canyon Sewer
Alignment - Cont. from P. 22

23

146+32 = North edge existing Pavement Lemon Grove Blvd

144+07.5 = Existing M.H. 4' RT.

141+32.3 = Existing M.H. 4' RT.

139+42.7 = Existing M.H. 4' RT.

135+62.2 = Existing M.H. 4' RT.

135+53.53 = $\Delta 45^{\circ} 23' 30''$ LT.

4' (C) Existing M.H.

4' (C) 141+32.3
Existing M.H.

4' (C) 139+42.7
Existing M.H.

4' (C) 135+62.2
Existing M.H.

135+53.53
 $\Delta 45^{\circ} 23' 30''$ LT.

Wabash Canyon Sewer

Alignment Cont. from Page 23

146+98.1 = Existing M.H. = 2.8' RT = $\frac{1}{2}$ of top

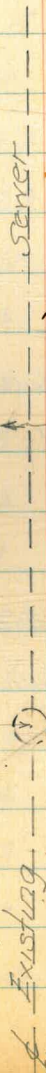
146+58.5 = Existing M.H. 4' RT.

For line South of Federal
See F.B. 1573-1

Sholla Sewer --- 2.8' RT --- Existing M.H.

39.7

146+58.5 --- 4' RT --- Existing M.H.



Walker
Bliss
Isbell
10-27-39

Wabash Canyon Sewer
"LEVELS."
Hereafter and even after that, stations
will be from top of Page

Station	Dist	Elev	Notes
Bottom of wash	2.27	140.34	
80+53.92	$\Delta 23^{\circ}57'30''$ Lt.	3.29 137.05	on hub.
81+00	in wash.	3.0 137.3	
+50	" "	3.2 137.1	
82+00	" "	4.4 135.9	
+60	" "	5.1 135.2	
83+00	" "	5.4 134.9	
+25	" "	7.5 132.8	
83+29.8	on Rim East. M.H.	5.56 134.78	South edge
+43	on ^{West} Bank	4.5 135.8	
+50		4.5 135.8	
84+00		5.4 134.9	
+12.64	on P.O.T. hub.	5.28 135.06	
+12.1	on Rim East. M.H.	5.72 134.62	S. edge
+50		6.0 134.3	
+70		7.2 133.1	
+75		6.2 134.1	
85+00		6.7 133.6	
"	45' Lt. in Creek	10.2 130.1	West Bank

B.M. on Rim M.H.
80+53.92
Page 19

140.34

Station	Dist	Elev	Notes
85+50		7.8 132.5	25
86+00		8.8 131.5	
+50		9.2 131.1	
87+00		10.1 130.2	
+50		10.5 129.8	
88+00		11.9 128.4	
88+03.93	$\Delta 12^{\circ}20'$ Rt.	11.97 128.37	
88+07	on Rim East. M.H.	12.23 128.11	
T.P.	3.19 131.56	11.97 128.37	on Hub 88+03.93
50' Lt. of Δ in Wash.		6.4 125.2	
88+50		3.8 127.8	
89+00		4.5 127.1	
+50		4.4 127.2	
90+00		6.4 125.2	
90+00	20' Lt. in Wash.	8.3 123.3	
90+50		7.1 124.5	
91+00		7.3 124.3	
+50		8.4 123.2	
92+00		8.9 122.7	
+45		10.2 121.4	
+60		12.0 119.6	

Wabash Canyon Sewer Levels.
Cont. from P-25
131.56

92+70	12.2	119.4	
+77	13.9	117.7	
+85 on Hwy Bank Wash.	12.4	119.2	
93+90 in Wash.	15.5	116.1	
93+00 " "	15.3	116.3	
+20 " "	13.5	118.1	
+50 " "	13.7	117.9	
93+56 on Rim M.H.			4.4' Lt.
T.P. 2.78	121.12	13.22	118.34
93+56 in Wash.	3.5	117.6	
94+00 in Wash.	5.3	115.8	
+26 = 54' Bank.	7.3	113.8	
94+50	3.5	117.6	
94+85.97 on P.O.T.	3.74	117.38	Stub.
95+00	4.2	116.9	
+50	4.7	116.4	
96+00	5.8	115.3	
+50	6.1	115.0	
(96+00) 3' Rt. Borrow P.H.	7.7	113.4	
97+00	6.8	114.3	
(97+00) 5' Rt. " "	9.2	111.9	

121.12

26

97+25	8.6	112.5	
(97+25) 5' Rt. in Borrow P.H.	9.7	111.4	
97+50 in Wash.	10.4	110.7	
+65	8.6	112.5	
98+00	8.5	112.6	
(98+00) 5' Rt. in Wash.	10.4	110.7	
" 15' Lt. " "	11.8	109.3	
98+15	10.6	110.5	
+50	10.5	110.6	
For check see Book 1191-27 sta 34+52.7			
98+65.8 T.P.	3.18	114.90	9.40
			111.72
			111.68 = Book 1191-25
98+66	4.2	110.7	
+75	5.3	109.6	
+80	4.1	110.8	
99+00	4.5	110.4	
+50	5.8	109.1	
+88 in Wash.	6.6	108.3	
100+00	5.7	109.2	
+10	3.8	111.1	
(100+10) 7' Lt. = Hwy Bank.	8.0	106.9	Bottom Wash.
100+50	3.7	111.2	
+74.15 on P.O.T. stub.	4.19	110.71	

114.90

Stations

101+00	5.0	109.9	
+50	6.6	108.3	
102+00	7.3	107.6	
+50	8.7	106.2	
103+00	10.5	104.4	
+50	10.9	104.0	
104+00	11.2	103.7	
= P.O.T.			
+1148 = 24 24' RT.	11.37	103.53	
T.P. 4.24	107.86		
104+1378 = exist. MH.	11.28	103.62	on Rim Exist. MH.
104+54 = NLY Bank Wash	5.1	102.8	
+62 = Bottom Wash	7.6	100.3	
104+7358 = Δ 4°37' RT	7.37	100.49	on Hub.
437' Lt.			
+77.6 on Rim Exist. MH	5.63	102.23	South edge
105+00 in Wash.	8.0	99.9	
+50 " "	7.8	100.1	
106+00 " "	9.2	98.7	
+40 " "	9.8	98.1	
+45 " "	11.0	96.9	
+50 " "	10.2	97.7	
+53 on Bank	7.7	100.2	

Cont. P. 28

27



Line Change
New levels Page 29

Wobash Canyon Sewer
Levels - Cont. from P. 27

	107.86			
106+58.6 Exist. M.H.	7.74	100.12	on Rim	South edge
107+00	8.8	99.1		
T.P. 3.92	102.69	8.59	99.27	
+50	4.1	98.6		
108+00	4.9	97.8		
4.1' Lt.			on Rim	
+43.5 = Existing M.H.	5.37	97.32	South edge	
108+50	5.0	97.7		
109+00	5.6	97.1		
+50	6.3	96.4		
110+00	6.7	96.0	on Rim	
4.1' Lt.			South edge	
110+28.5 = Existing M.H.	7.50	95.19		
+50	7.5	95.2		
111+00	8.1	94.6		
+50	8.3	94.4		
112+00	9.0	93.7	on Rim	
112+ on Existing M.H.	9.37	93.32	South edge	
112+14.20 = Δ Lt.	8.99	93.70		

Line Change. New levels P-29

Wabash Canyon Sewer

Sta.	"LEVELS"		
	Cont. from P-27		
217	105.79	103.62	on Rim M.H.
104+16	on Fluv. line	10.14	95.65
104+38	26-29001' RT	2.56	103.23
+50	in Wash.	5.3	100.5
104+80.8	on Rim Exist. M.H.	3.56	102.23
105+00	in Wash.	5.9	99.9
+50	" "	5.9	99.9
106+00	" "	6.8	99.0
+50	" "	8.7	97.2
+58.	on Bank	5.6	100.2
106+61.8	on Rim M.H.	5.67	100.12
107+00		6.9	98.9
+50		7.4	98.4
108+00		8.0	97.8
+46.7	on Rim M.H.	8.47	97.32
+50		8.6	97.2
T.P.	5.09	102.47	8.41 97.38
109+00		5.4	97.1
+50		6.3	96.2

		102.47	23
110+00		7.1	95.4
+31.7	on Rim M.H.	7.28	95.19
+50		7.6	94.9
111+00		8.2	94.3
+50		8.5	94.0
112+00		8.9	93.6
+08.18	at on Hub	9.19	93.28
+08.2	on Rim M.H.	9.15	93.32
+50		9.9	92.6
113+00		13.3	89.2
+17	on Bank of Wash	13.5	89.0
+27	Bottom " "	15.5	87.0
+50	" " "	14.6	87.9
+77	" " "	17.5	85.0
+80	on Bank	13.3	89.2
114		10.2	92.3
+03.8	5.75' RT on Rim M.H.	10.67	91.80
+50		10.2	92.3
115+00		11.3	91.2
+50		12.9	89.6

Wobash Canyon Sewer

"LEVELS"

94.01

	102.97		
T.P.	3.95	94.01	12.41 90.06
116+00		5.2	88.8
+50		6.2	87.8
117+00		6.2	87.8
+50		4.9	89.1
+78.40 = $\Delta 89^{\circ}35'$ Rt.	5.43	88.58	on stub.
Station alternate Route	13.84	80.17	= Flow line
+83.8 on Rim M.H.	5.84	88.17	= Rim
118+00		6.0	88.0
+50		10.2	83.8
119+00		11.8	82.2
+25		9.7	84.3
+40		10.4	83.6
+50		12.1	81.9
+75		11.2	82.8
120+00		12.1	81.9
+50		12.7	81.3
Bottom Wash.			
+67.87 = $\Delta 89^{\circ}55'$ Lt.	14.99	79.02	
121+00 Bottom Wash.	14.4	79.6	
+35	14.5	79.5	

	21+50		12.5	81.5	30
T.P.	2.72	84.03	12.70	81.31	on Rock 121+54 on E
122+00			3.1	80.9	
+50			4.2	79.8	
123+00			4.4	79.6	
+50			5.6	78.4	
124+00			6.5	77.5	
			7.26	76.77	
+57.82 = P.O.T. = intersection of Alternate line					
6.6' Lt.					
+53.6 = on Rim M.H.			5.22	78.81	ch. P. 83 72.21 = Flow 71.39 = "South
125+00			7.6	76.4	
+50			8.6	75.4	
126+00			9.6	74.4	
+50 in Wash			12.0	72.0	
27+00			11.6	72.4	
+50			12.4	71.6	
129+65			12.0	72.0	
+78			13.8	70.2	
27+90.68 = $\Delta 12^{\circ}43'$ Rt.			12.02	72.01	on Rim M.H.
+94.2 on M.H.			12.32	71.71	South edge
T.P.	2.35	74.36	12.02	72.01	
128+00			2.6	71.8	

Wabash Canyon Sewer
"LEVELS"

7436

128+50	in Wash.	4.0	70.4
129+00	" "	4.4	70.0
+35	" "	7.2	67.2
+50		4.8	69.6
130+00		5.0	69.4
+50		6.9	67.5
+50	4' Lt. in Wash	9.1	65.3
+78		6.7	67.7
+82		8.9	65.5
+8	4' Lt. on Rim MH	7.63	66.73
	on Flow line	14.06	60.30
+85.78	= Δ 9°02'30" Lt.	8.75	65.61 on Hub
"	8' Lt.	10.6	63.8
131+00		8.1	66.3
+25		9.8	64.6
+50		7.1	67.3
132+00		8.3	66.1
+06		9.9	64.5
+12		8.4	66.0

7436

31

132+2367	= Δ 40°25'30" Rt	8.44	65.92	on Hub.
+	on Rim MH	10.16	64.20	2' of MH. edge covered.
+	on Ground of MH	8.3	66.1	
+50		8.8	65.6	
TP	2.65	68.92	8.09	66.27
133+00		4.6	64.3	
+50		5.0	63.9	
+69	on Bank	5.0	63.9	
+81	in Wash	7.5	61.4	
134+00	" "	7.1	61.8	
+15	" "	6.6	62.3	
+40	" "	8.4	60.5	
+50	" "	7.2	61.7	
135+00		6.4	62.5	
+53.53	= Δ 45°23'30" Lt.	7.34	61.58	on Hub.
+62.2	on Rim MH	7.68	61.24	
+62.2	" Flow line	14.80	54.12	
TP	4.43	66.01	7.34	61.58 on Hub. 135+53.53
+78		4.9	61.1	
136+00	in Bottom Wash	8.9	57.1	main channel

Wabash Canyon Sewer

LEVELS

136+35 in Wash	66.01	7.1	58.9
+50		7.4	58.6
+85		6.6	59.4
137+00		8.1	57.9
+10		8.5	57.5
+25		4.3	61.7
+50		4.9	61.1
138+00		5.9	60.1
+50		6.2	59.8
139+00		6.9	59.1
+42.7 = Exist. MH		8.36	57.65
+50		8.4	57.6
140+00		8.6	57.4
+50		8.8	57.2
141+00		9.3	56.7
+32.3 on Rim MH		9.78	56.23
+50		9.8	56.2
142+00		10.5	55.5
TP	2.43	57.73	10.71 55.30
+50		3.6	54.1
143+00		4.0	53.7

57.73

32

143+50	4.3	53.4
144+00	4.7	53.0
+0.75 on Rim MH	5.02	52.71
144+50	4.9	52.8
145+00	5.5	52.2
+50	5.9	51.8
146+00	5.5	52.2
+32 on Nedge Pav	5.65	52.08
+42 " Pav	6.30	51.43
+50 " " 4' RT	6.10	51.63
+58.5 on Rim MH	5.78	51.95
146+91.9 - South edge Pav	6.58	51.15
+67 = Pavling	5.75	51.98
146+98.1	6.1	51.6
" 28' RT on Rim	5.63	52.10
" on Flow Line	18.38	39.35
	5.70	52.03
	51.87 = Elev by Miller	
	0.16 - difference	

Flow line
Elev on G. Book
188-66
Not shown
order book etc

28' line
to East
NW 1/4
Federal 814
43543
Elev by
Miller
difference

Moore
12-20-39

SEWER CONST.

INDEXED
C.S.K.

BIK 117 Mid. ground FL.

RIM	INDEXED	7.31	7.596	
00 = EX. M.H.			47.96 ✓	
0 + 40.45 = A B 36 ft.	5.8	48.24	C 10.97	
0 + 90.45	3.9	48.59	C 11.45	
1 + 40.45 END	2.9	48.94	C 9.77	

INDEXED

83.27	83.27	83.27
68.94	68.89	68.94
15.03	14.68	14.33
4.06	3.33	4.56
C 10.97	C 11.45	C 9.77

CUT STAKES OFFSET 4' E of S sewer

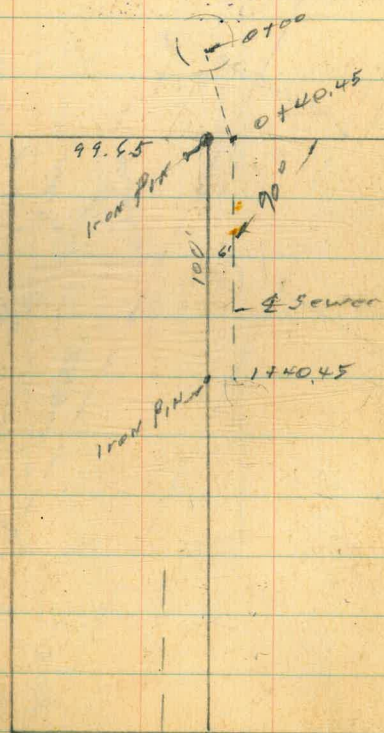
59.45
12.64
72.09
2.38
71.74
11.53
83.27

QUINCE
S&BP
RET.

33

83.27
15.21
47.96 EL. M.H.

Redwood



Redwood

India

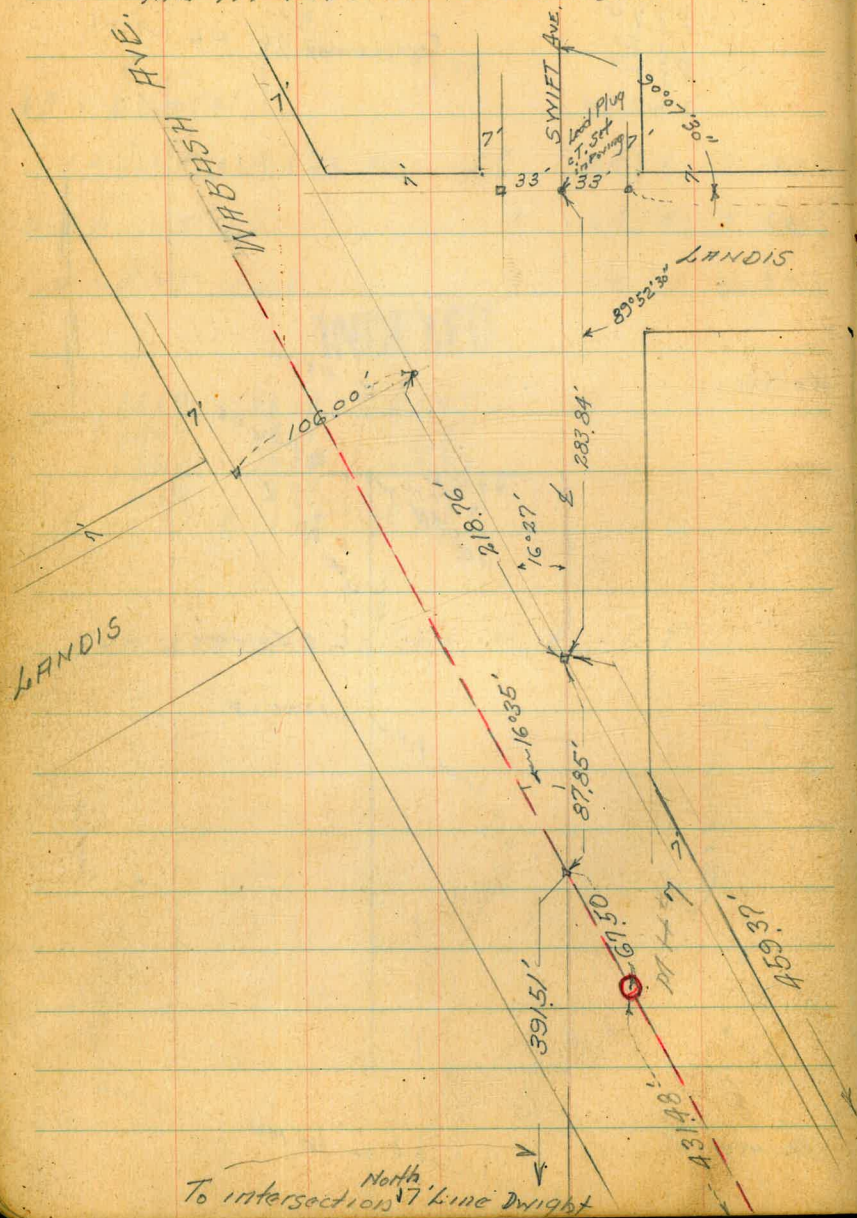
QUINCE

NEW M.H. → C. on OLD M.H.

Walker
Bliss
Isbell
4-19-46

LOCATION EXISTING SEWERS IN
WABASH AVE. Bet. LANDIS and MYRTLE
And IN DWIGHT from WABASH, east.

And IN MYRTLE from WABASH to Cherokee Ave.



North
To intersection of Line Dwight

INDEXED
EFO

34

INDEXED

○ = indicates Existing Manholes

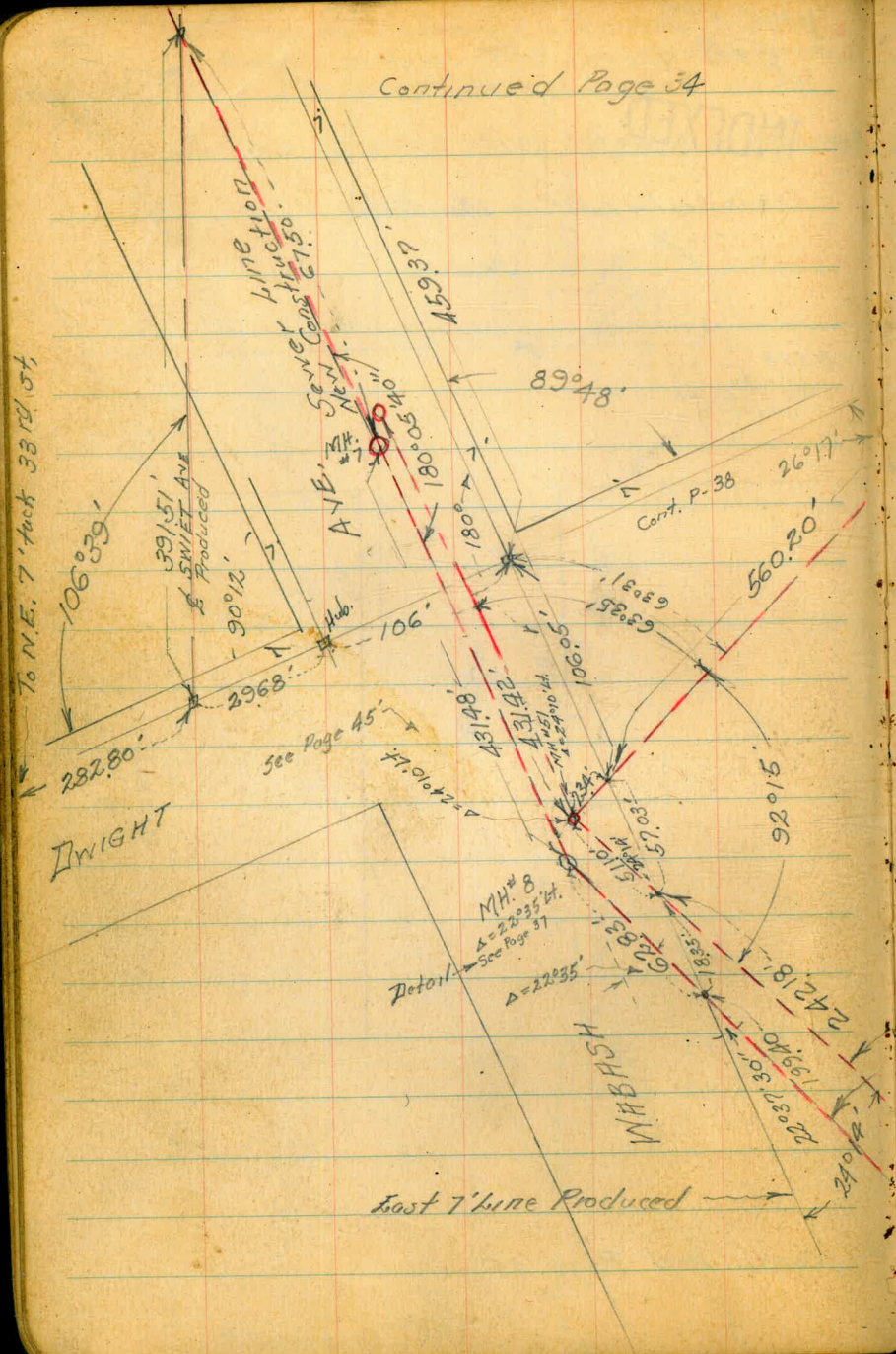
--- = " " Sewer

313.38
Cont.
See Page 40

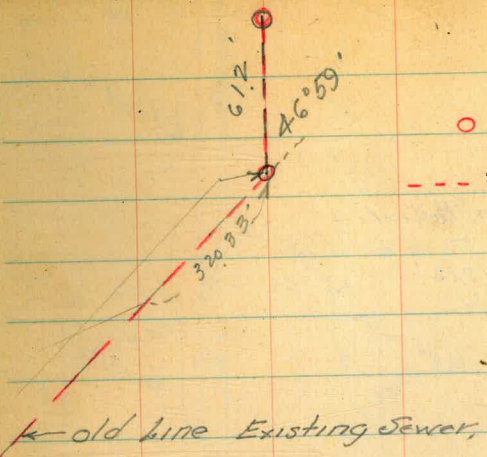
35TH

Continued Page 35

Continued Page 34

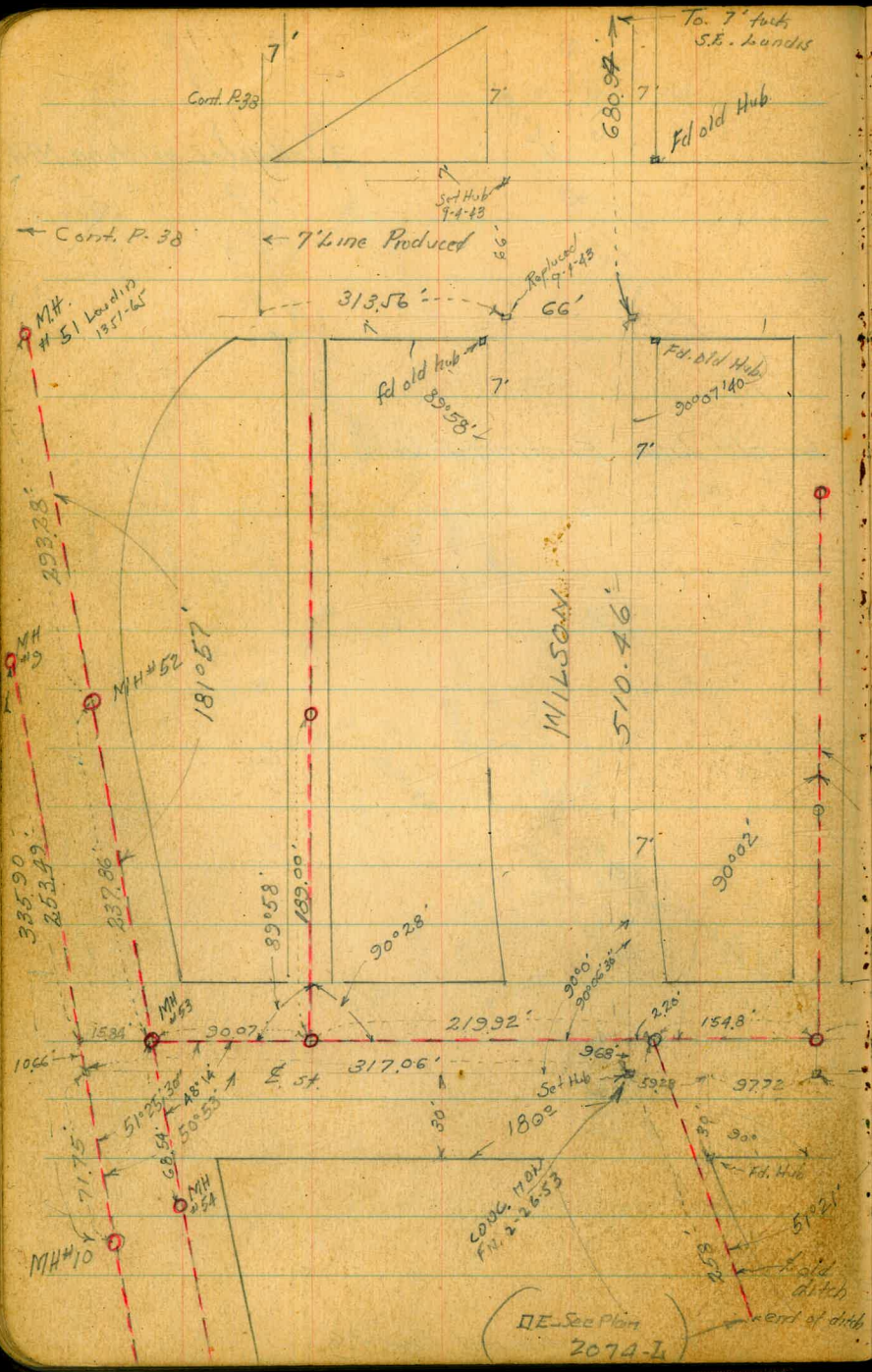


○ = Indicates existing M.H.
 --- = " " " Sewers.

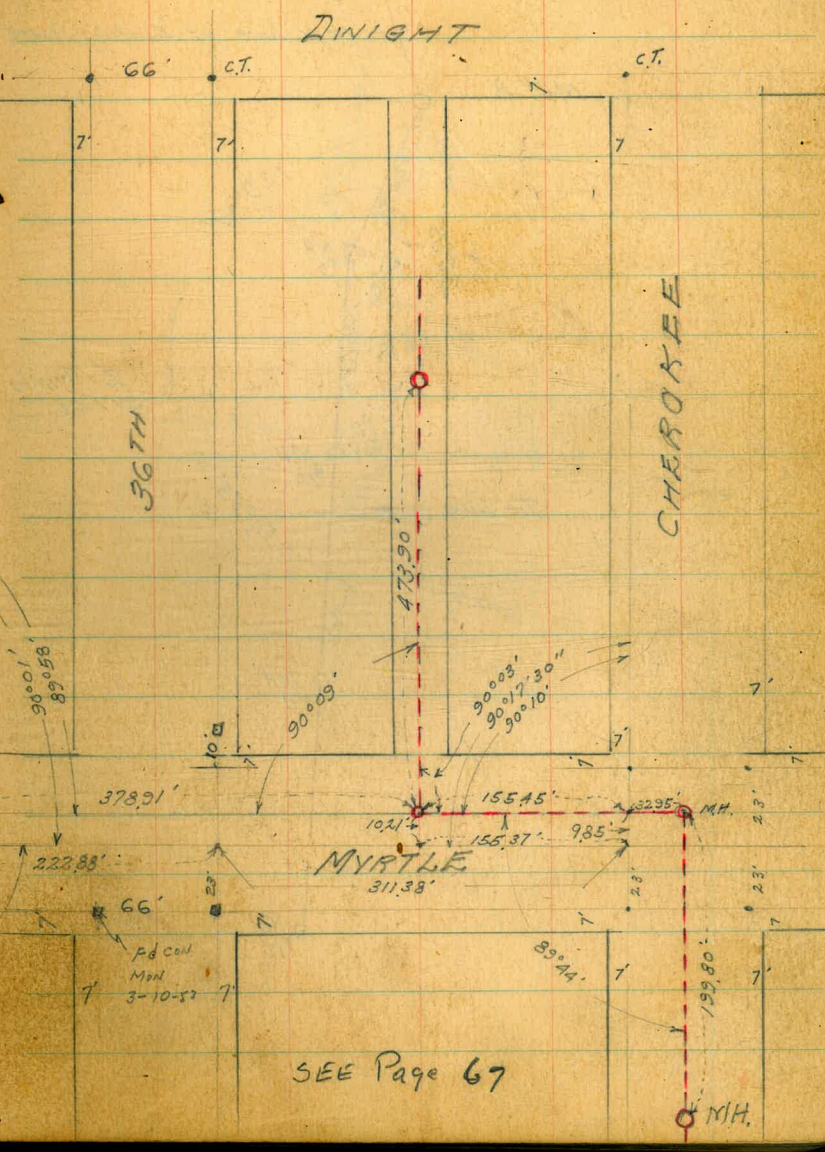


old sewer line
 New " "

Continued Page 36



DE-See Plan
2074-I



SEE Page 67

WABASH CANYON

Location Existing Sewers

MH # 8

MH # 7 $0^{\circ}05'40''$

431.48'

New line of Existing Sewer

123°07'

22035'

26223.1'

MH # 9

Stub

71.75'

359.90'

Myrtle 317.06'

Tie line

MH # 10 50°53'

MH # 11

MH # 12

East 7^{1/2} 11th 35th Produced.

313.56'

Fd. hub

66.0'

89°58'

DWIGHT

37

Fd. hub

Fd. hub

90°01'40"

WILSON

510.46'

90°

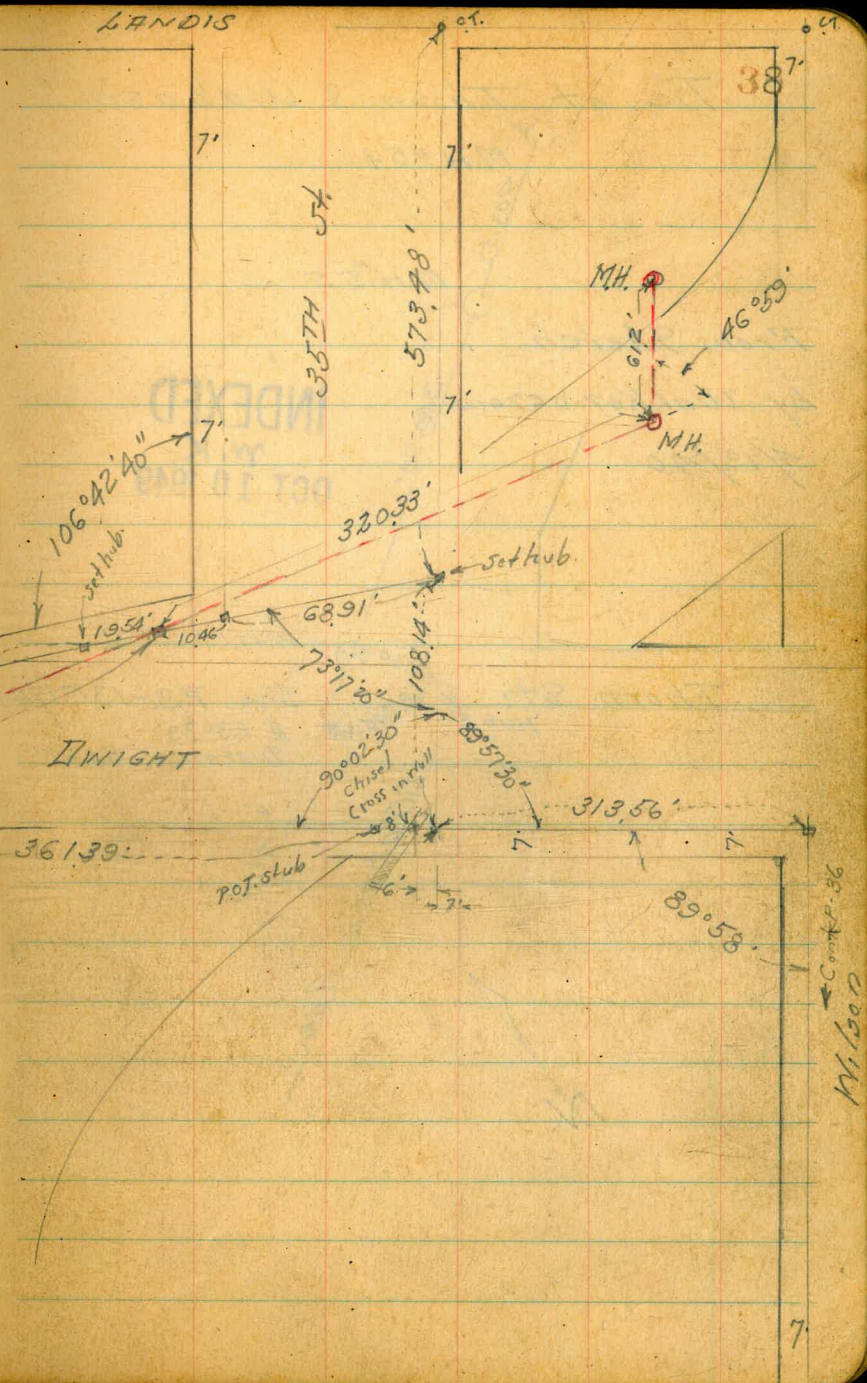
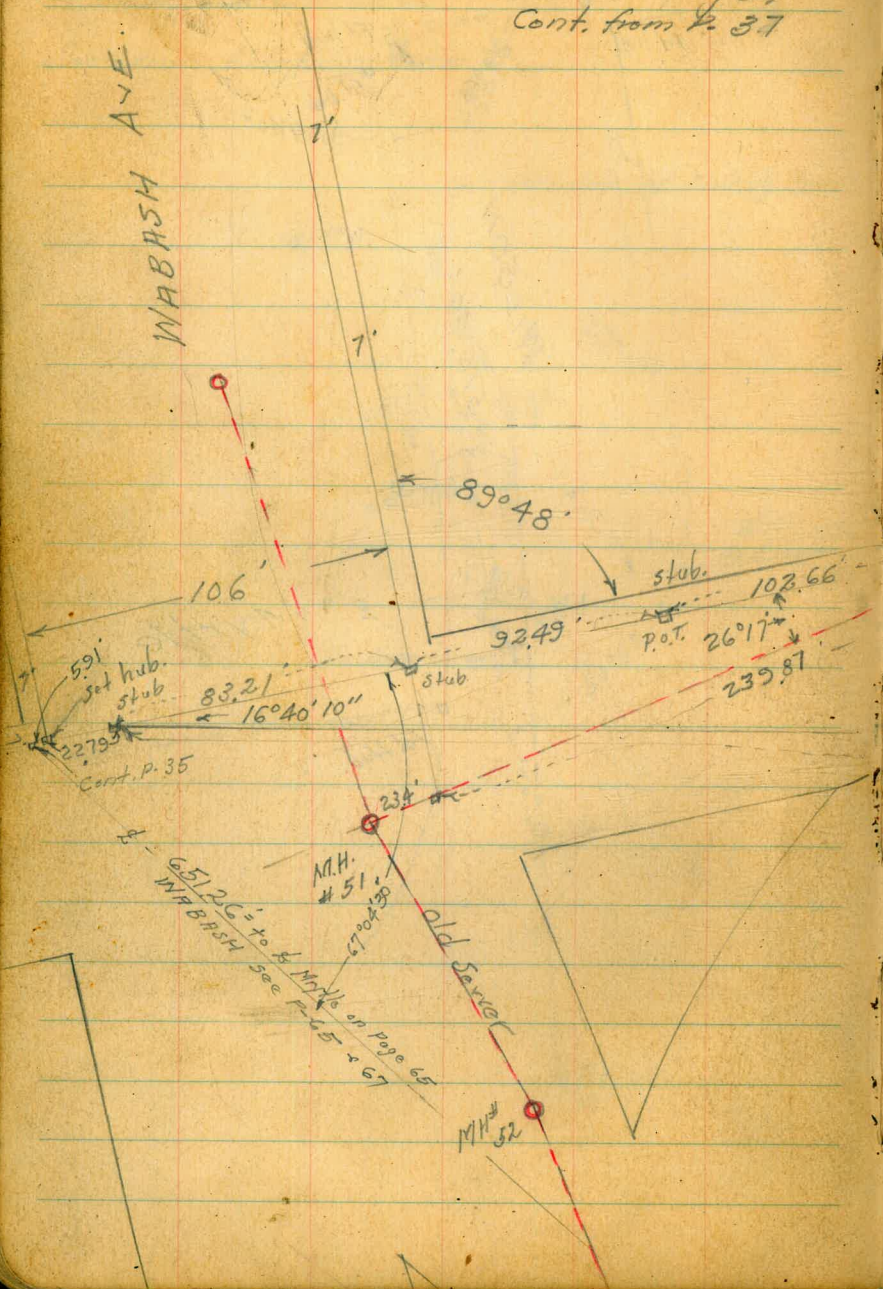
90°

Myrtle

Sch. Hub

Fd. Hub.

Location Existing Sewers
 - 17 Wabash Canyon
 Cont. from p. 37



Cont. p. 36
 W/1500

Tie at Thorn. & Wabash.

33



From Sketch.

by Walker & crew

4/19/40

INDEXED

W.K.

OCT 10 1949

380.80'

51.60'

MH#56

Thorn St.

Hub

83°40'30"

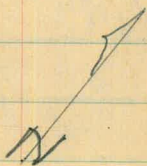
See F.B.-1351/66

A 83°33'

Distance 51.63'

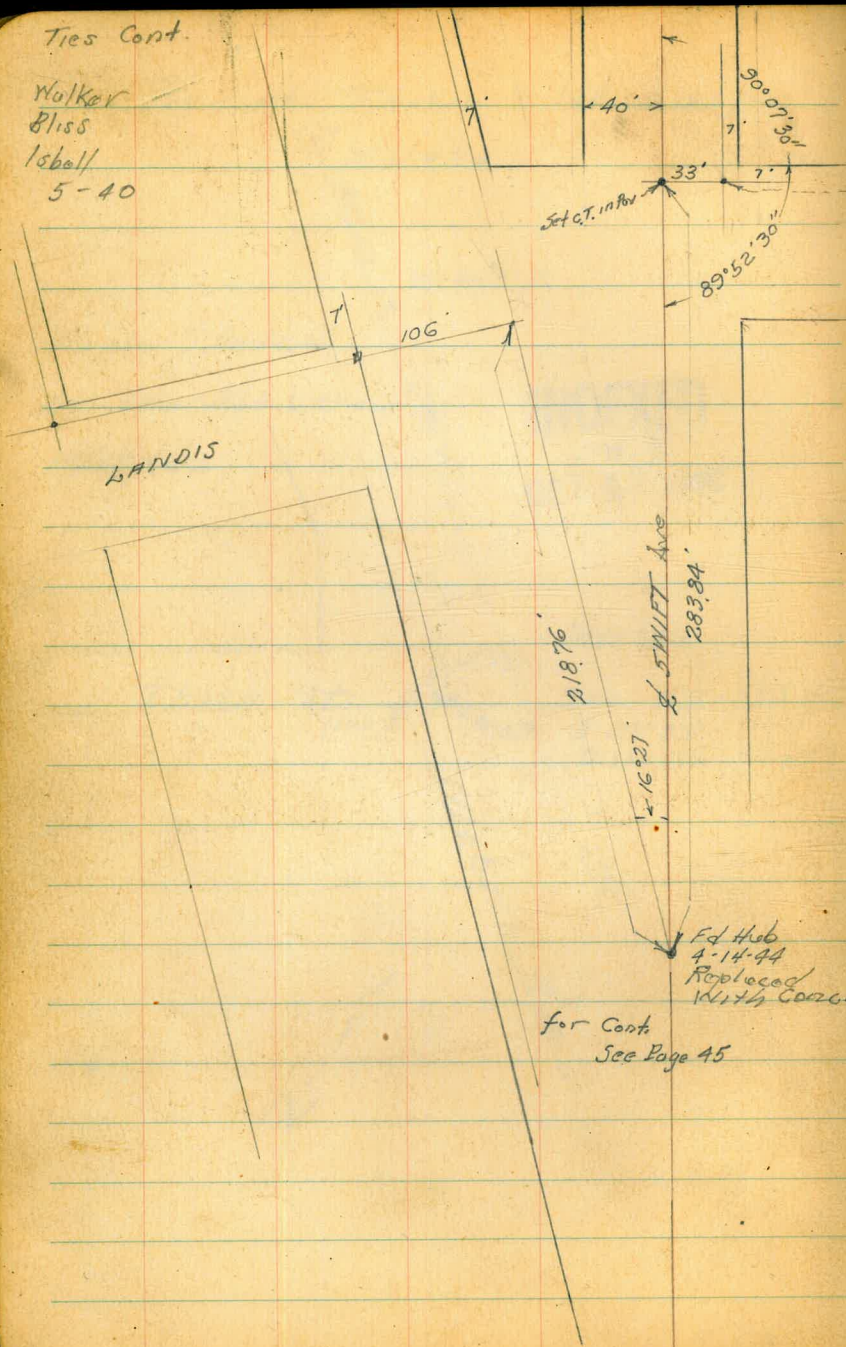
Wabash Ave.

2°19'

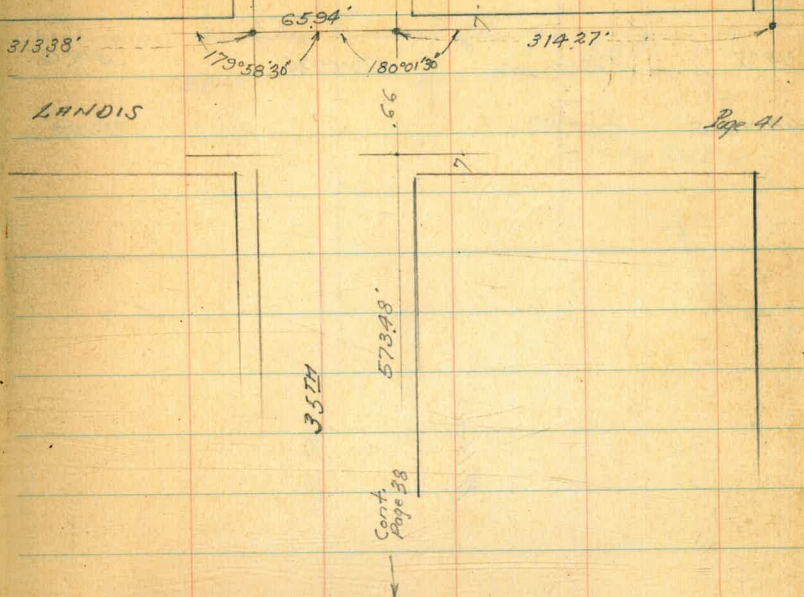


Ties Cont.

Walker
Bliss
Isbell
5-40



Ed. Hub
4-14-94
Replaced
with Conc.
for Cont.
See Page 45



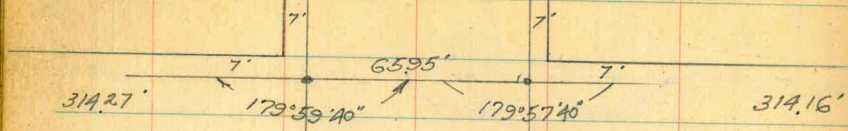
LANDIS

Page 41

Wilson

Cont.
Page 38

Mod.

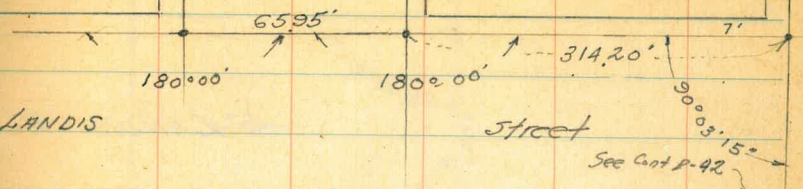


Page 40

LANDIS

Milson

41



LANDIS

street

See Cont. p. 42

36.74

Cherokee

LANDIS

DWIGHT

57.

See P-41

3674

53418

Street

AVE

42

7'

7'

$90^{\circ}03'15''$

6599'

180°

61391

CHEROKEE

$89^{\circ}56'26''$

6595'

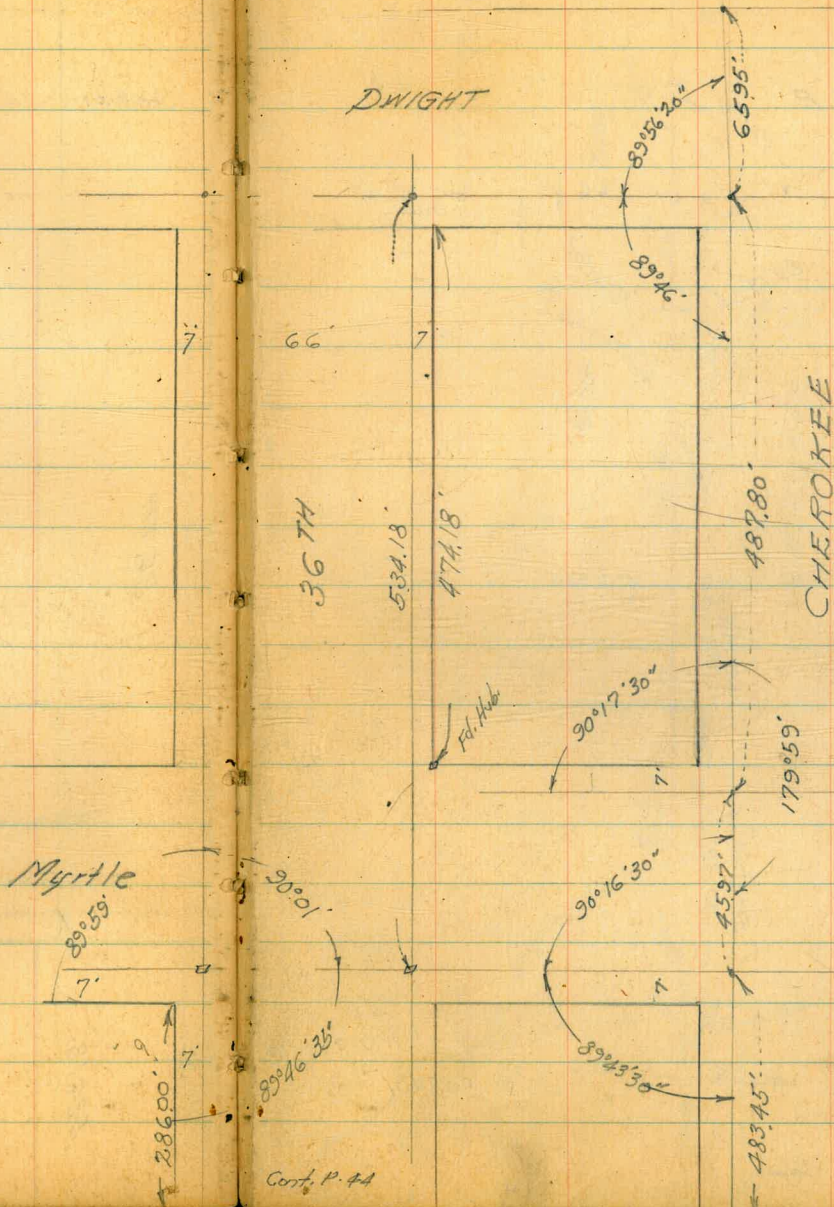
8906'

48780'

Street

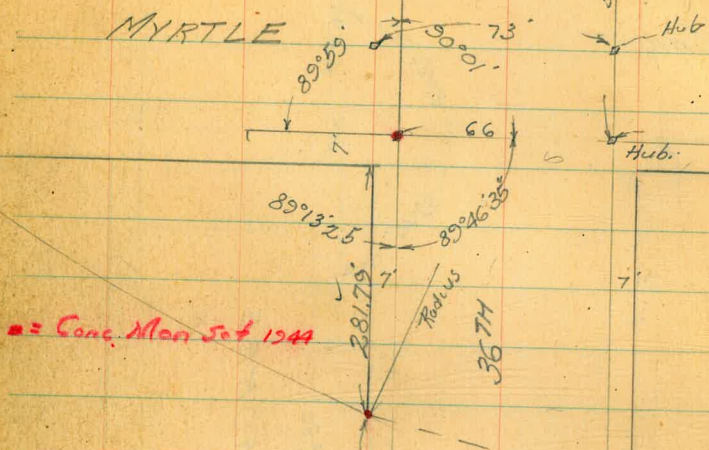
Walker
Bliss
Isbell
5-40

CITY Hts. Ties



Cont. P. 44

MYRTLE

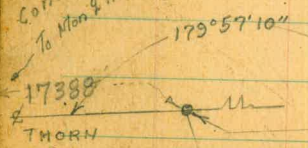


Conc. Mon. Set 1944

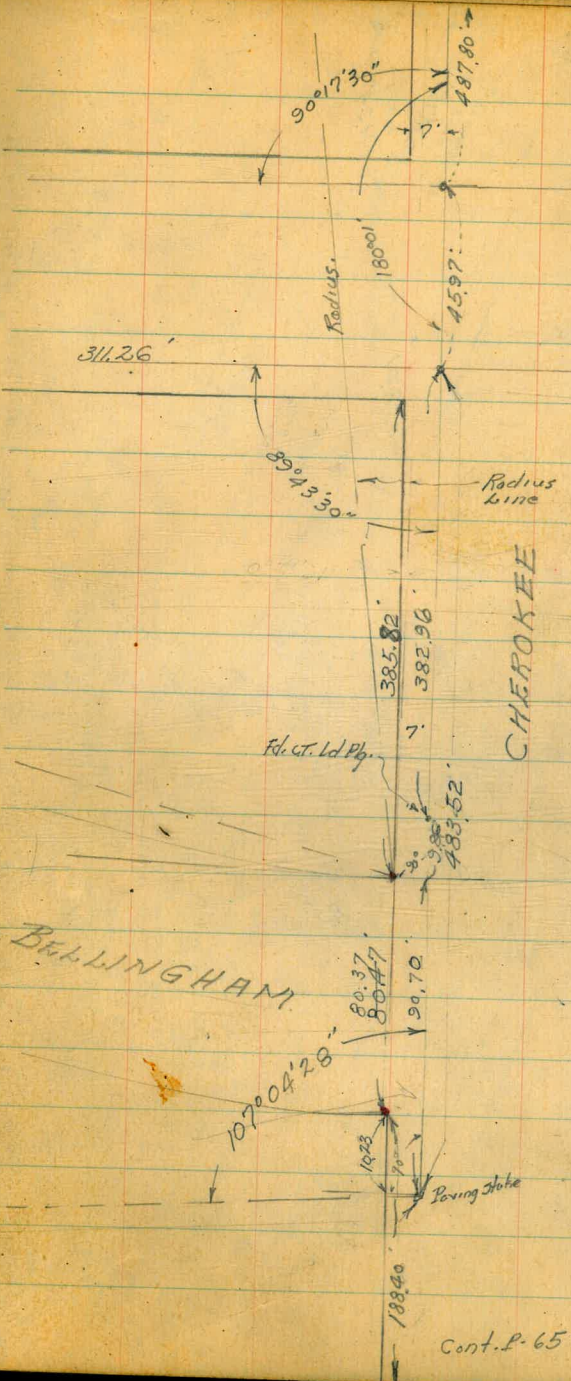
96.56
97.06

(See P-65
180.89)

Cont. P-66
To Mon & Holler st



Tie Line
503.84'



CHEROKEE

St.
Cont. P-65

Cont. P-65

LANDIS

LANDIS

106°39'

50°12'

DWIGHT

895.88

VANDON CREEK

MYRTLE

CONT Pg. 67

533.01

323.76

453.37

29.68

Cont. P. 25

7'

40'

6787.462

66°
218.76
1627'
1125'

Set 1 1/2" x 4" S. Ply. w. 2" Dish.
Set 1 1/2" x 4" S. Ply. w. 2" Dish.
Set 1 1/2" x 4" S. Ply. w. 2" Dish.

South
7' Line DWIGHT

7' Line DWIGHT

o = Conc. Mon. Set 1944

Wilson

50°23'30"

77.88'

Cont. P. 67

MYRTLE

353.30'

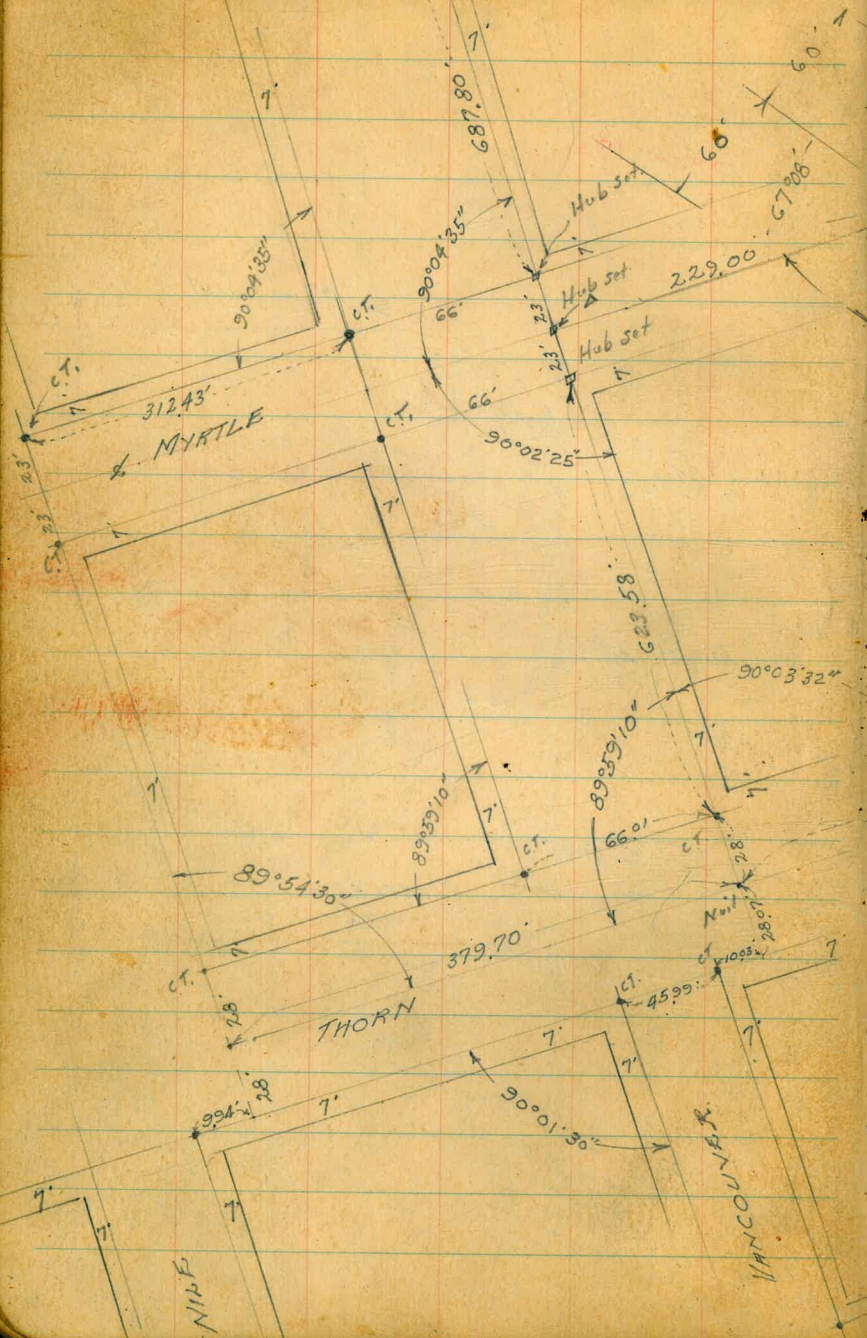
155.24
17.051

6512'

229.00

Set 2 1/2" x 4" Iron Pipe
With Redwood Hub
And Copper Disk

Cont P. 46



Set 2 1/2" X 4" Iron Pipe with Redwood Hub and Copper Disk

Set Mon

65.12 Cont P-47

112°52'

MEERBATH

Cont P-47

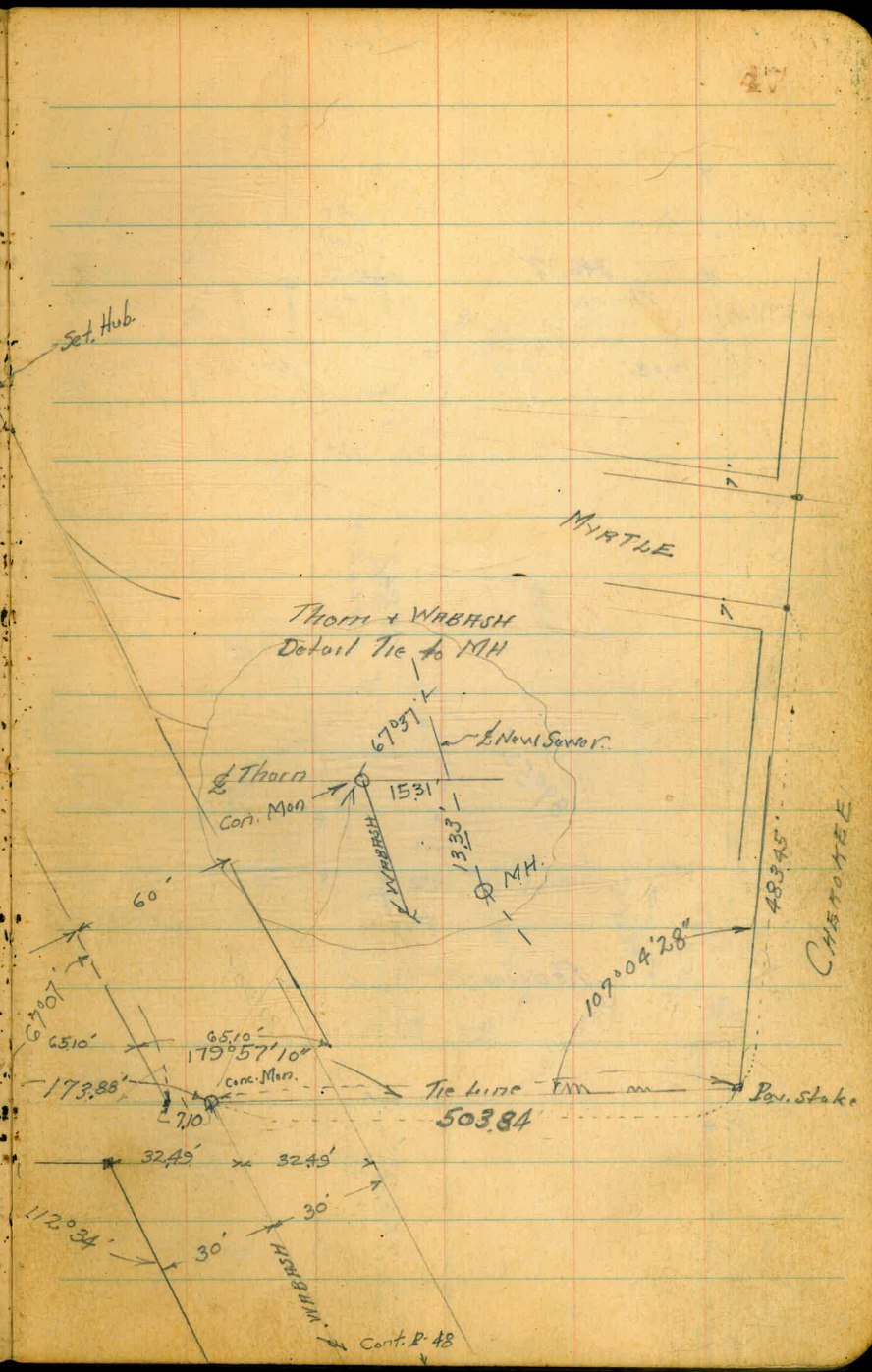
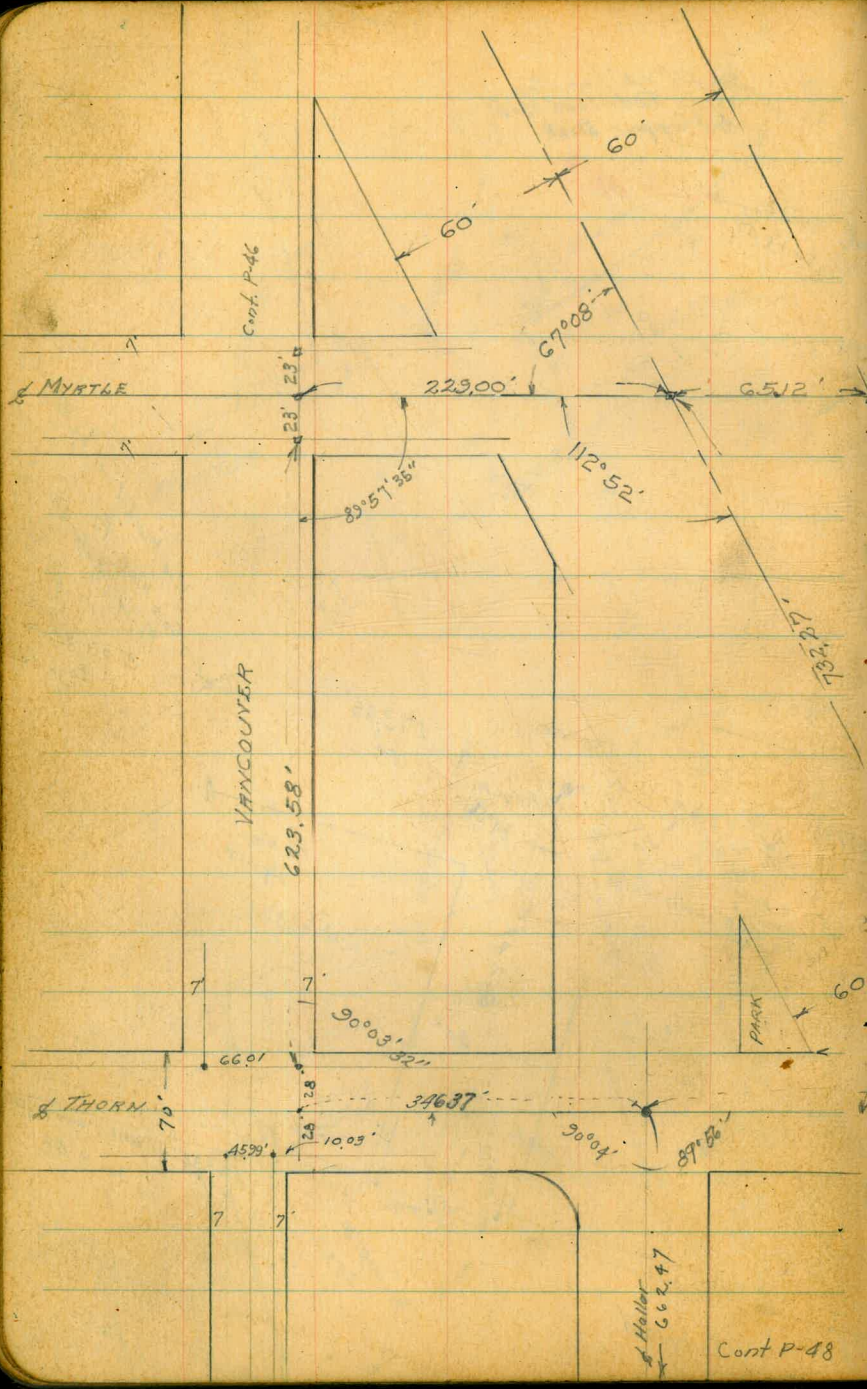
(Was knocked out by Grader)
Cont Mon. Rd
Reset 5-6-40
503.84
Page 44

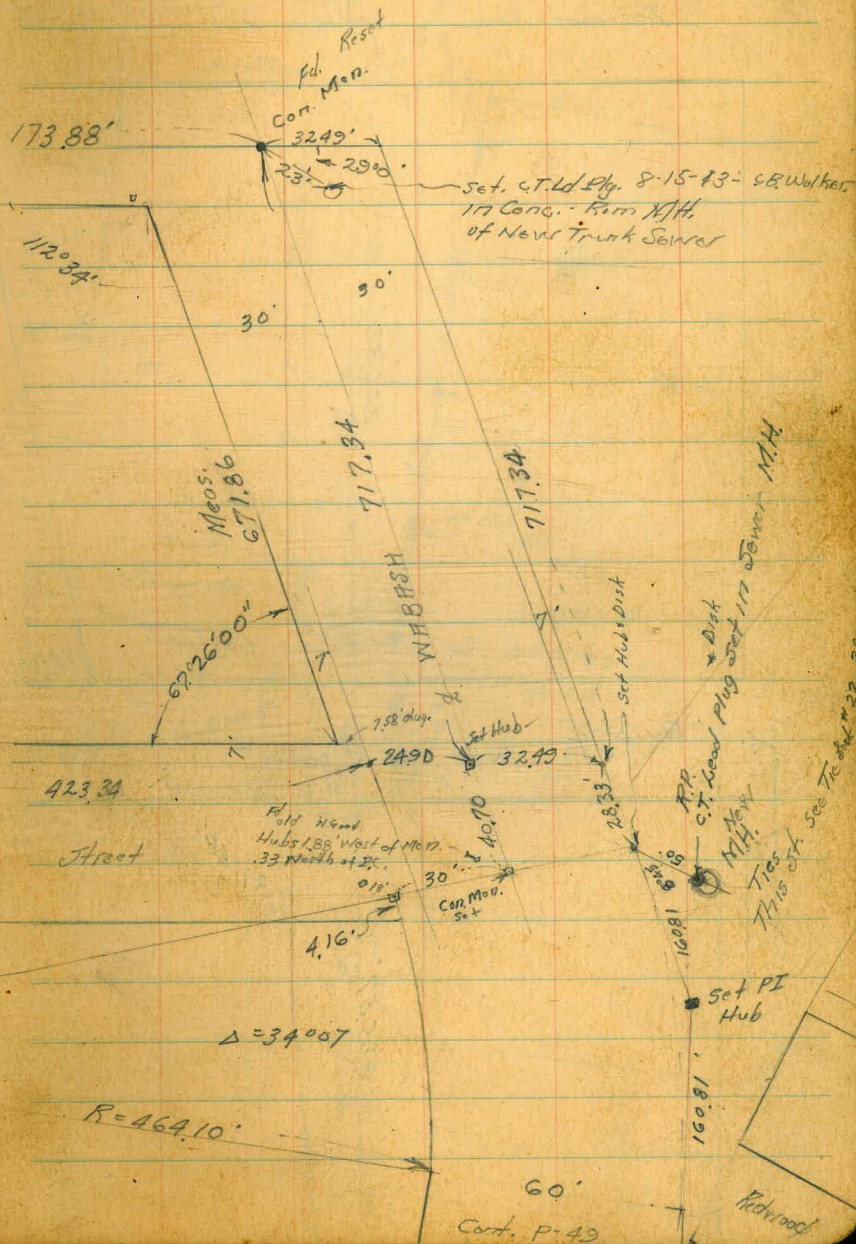
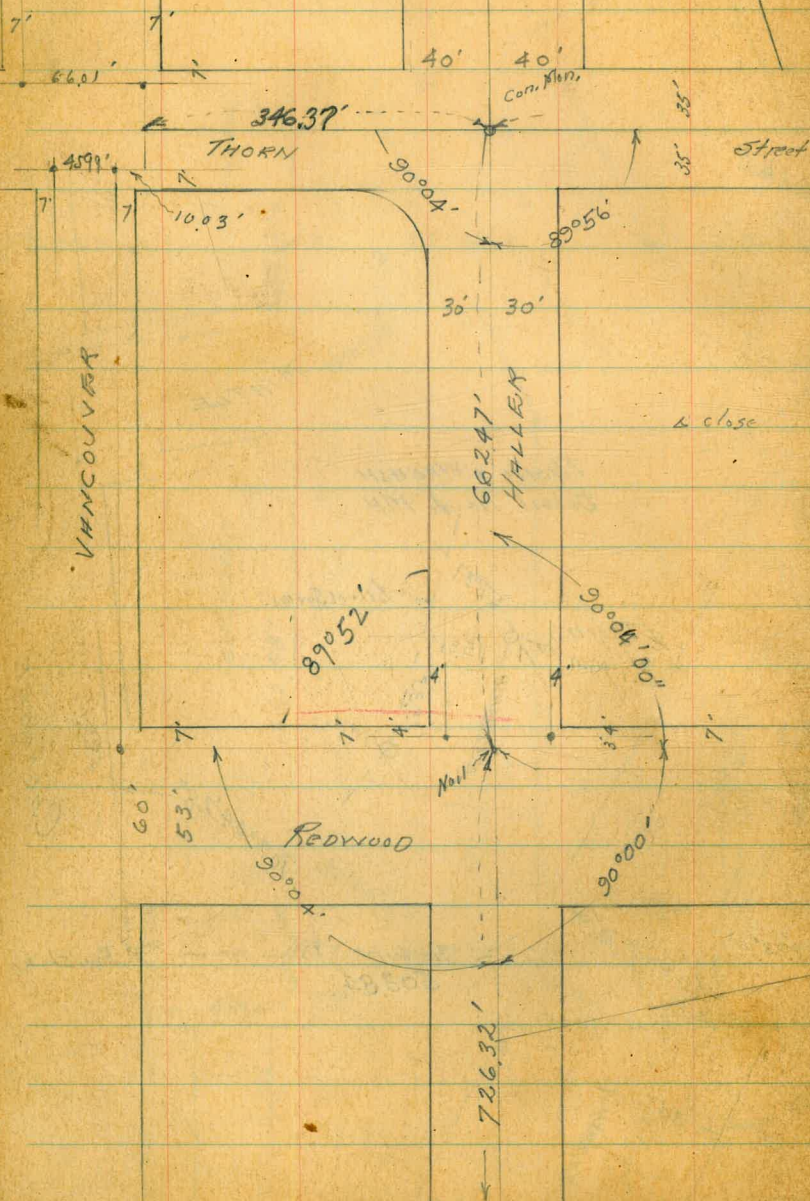
P.O.T. 30. Stake
this line corrected
Stake 4.08 North of Line

Redwood

Fd. Hub off line

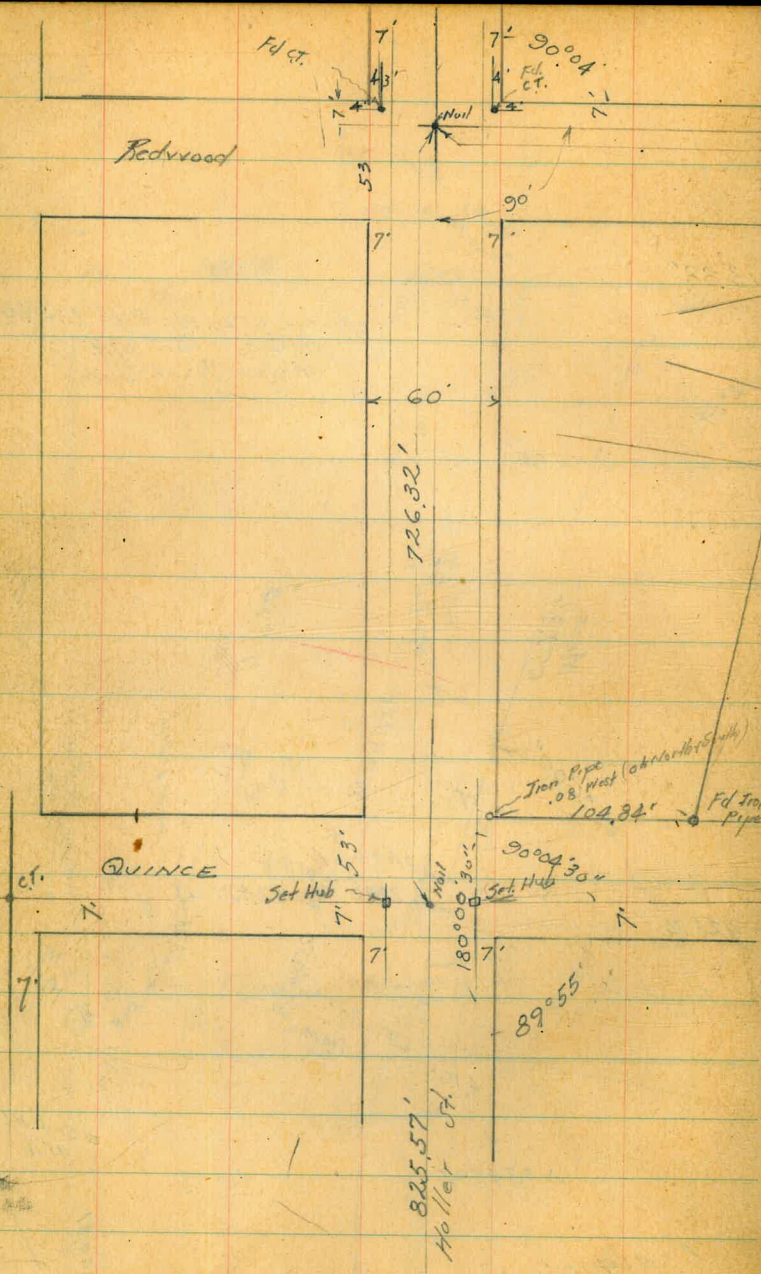
42.334 to West 7' line W. side
See P-48





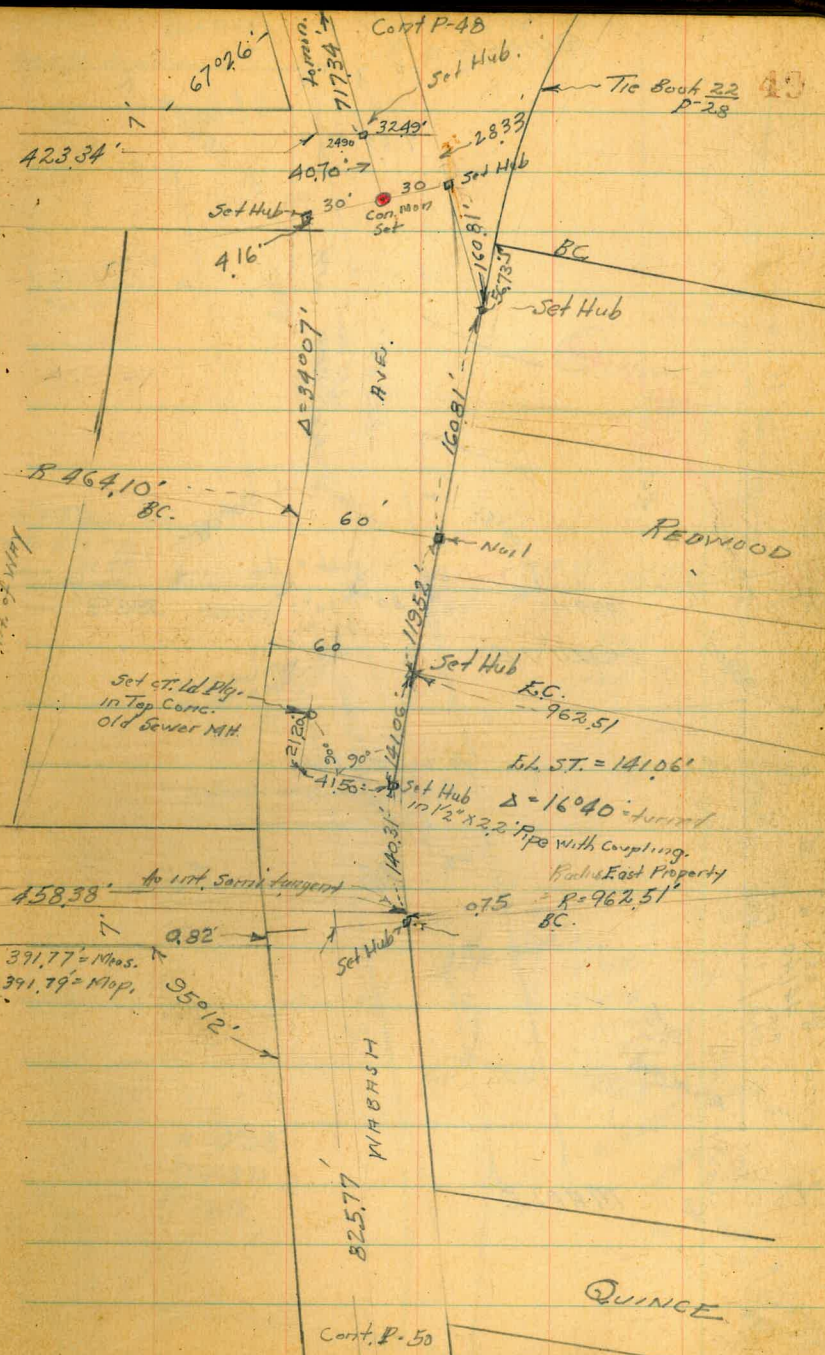
YANCOOVER

Redwood



QUINCE

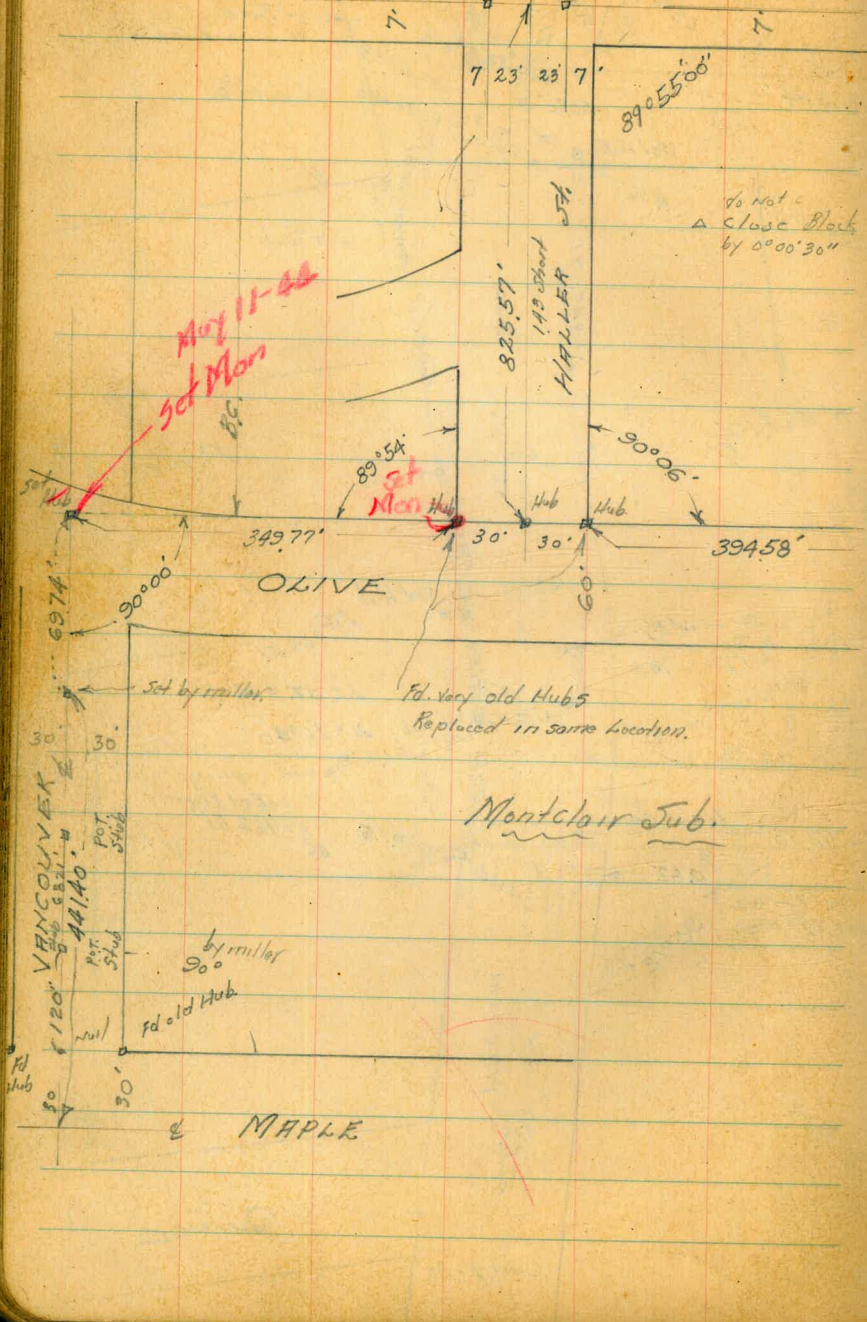
825.57'
Holler Ct.



QUINCE

Cort. P-50

QUINCE

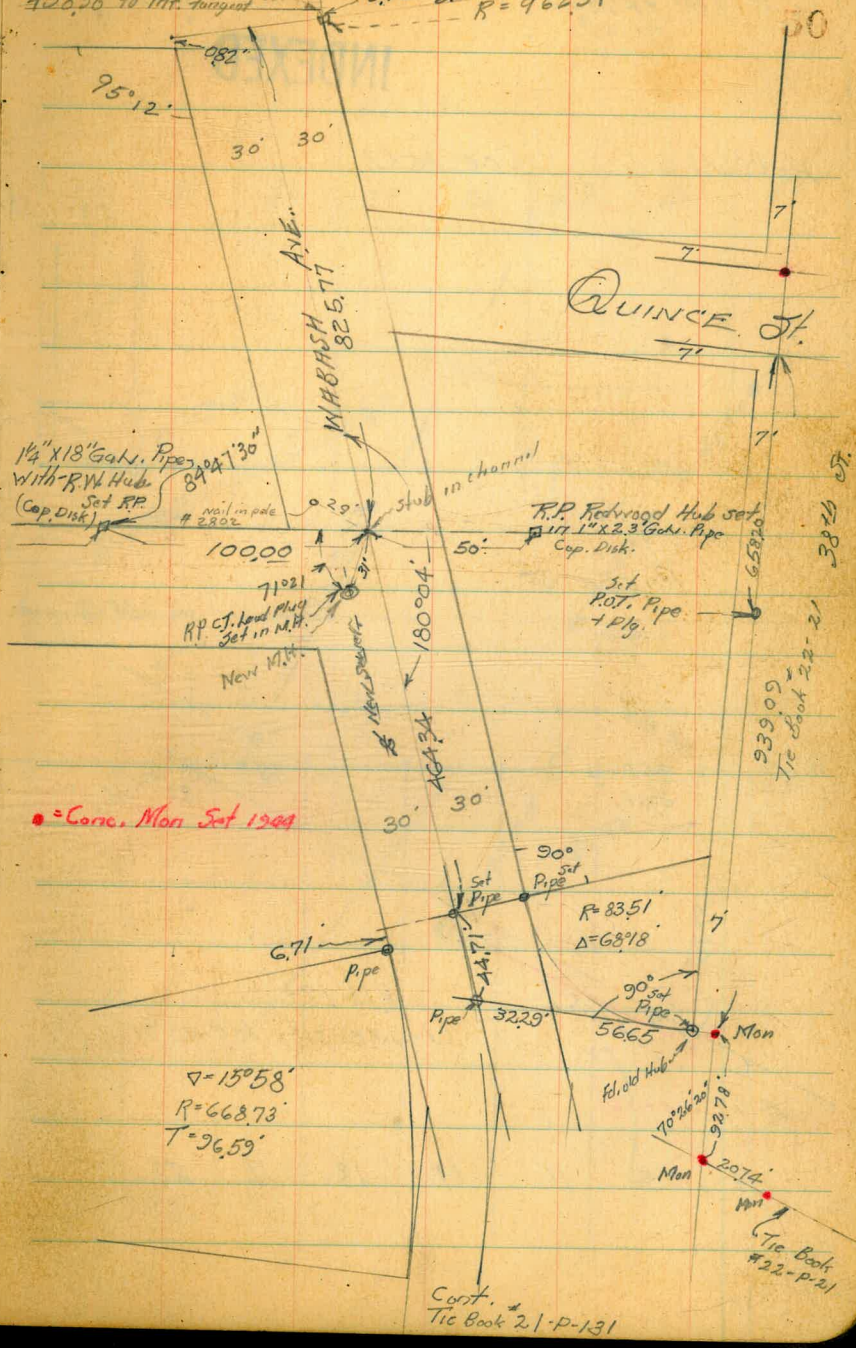


Cont. P-49

$\Delta = 16^{\circ}40' = \text{Tangent}$

458.38' to int. tangent

0.75 86. R=96251



Washington St. Extension
Right of Way

INDEXED

Habs Set B

SCC 1562

34 33

Pasco St.

Fd. Hub

25.0
89° 57' 45"

65.66

5' 55.76
8.67

B/K 183
University Heights

Moore
10-15-111

Set stubs

14 15 16 17 18 19 20

Indexed
C.S.K.

July 28 42
Sutton
Box 110
Hazard

51

B/K 180

32 31 30 29 28 27 26 25

59.0
90° 02' 15"

Washington St. Ext

1979

151.49
50.89

Fd Hub

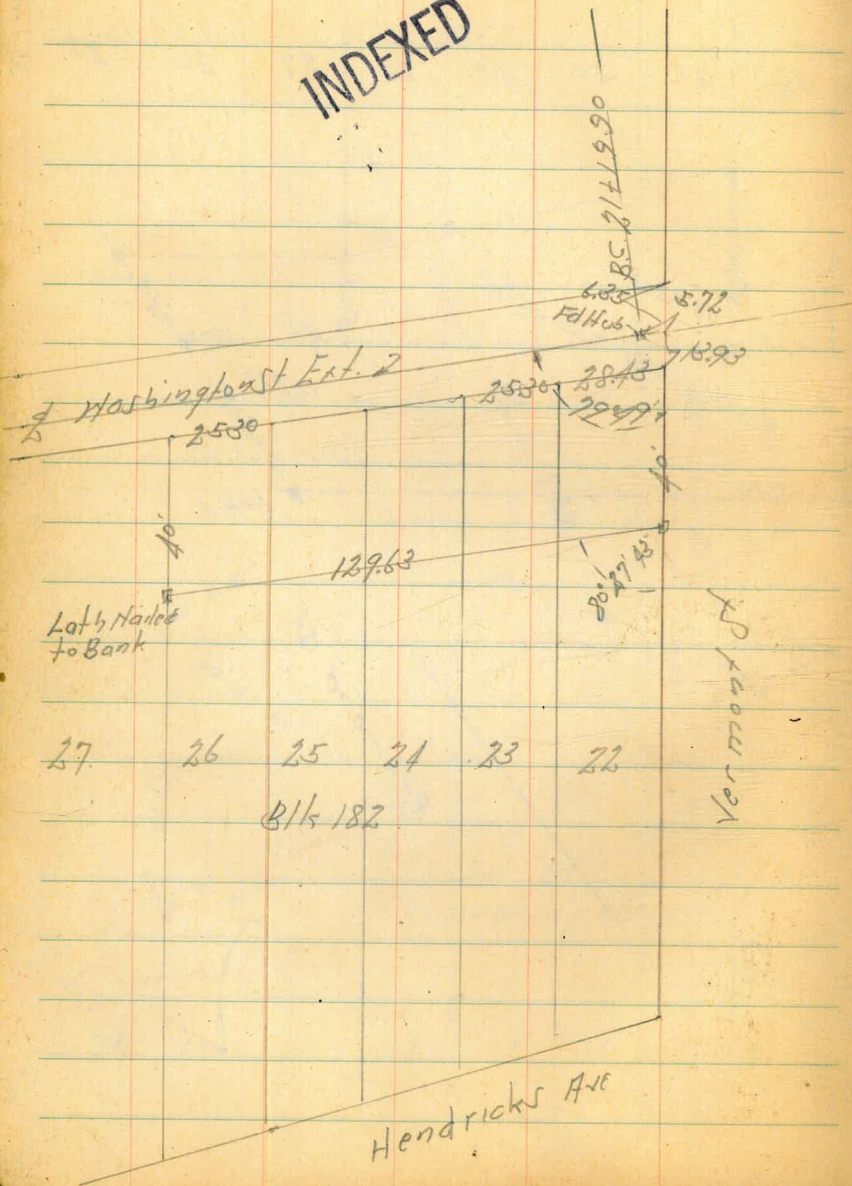
Richmond St.



Washington St Extension
Right of Way

indexed
C.S.K.

INDEXED



27 26 25 24 23 22

Bills 182

Dwight St. Levels For 12" Water Line

E.L. 35th St to E.L. Mile

Ditch 10' South of Dwight

B.M.	276	330.31		327.55	H.P. BP Dwight St 35th St
TP	0.18	322.19	8.30	322.01	
TP	0.67	310.66	12.20	309.99	on 2 Stop 5+34.56

0+0 = 155 E of E.L. 11/1000

INDEXED

5+34.56 = E.L. 35th Prod. 56	0.7			310.0	
+50		6.7		304.0	
+60		10.2		300.5	
TP	0.28	299.92	11.02	299.64	
+76			8.5	291.1	
TP	0.65	288.36	12.21	287.71	
+87			5.5	284.9	
6+0			11.2	277.2	
TP	0.27	276.63	12.00	276.36	
+12			6.0	270.6	
TP	0.65	265.25	12.03	264.60	
+30			2.2	263.0	
+44			5.9	259.3	
+44 20' Hoff Ditch = Bottom of Gulch	6.5			258.7	
+79.4 = A.H. 16' 34"	4.6			260.6	
B.M.		6.27		258.98	R.P. 28' 5" of 61 79.4 A.H.

Indexed
e.s.k.

July 29, 12

51.5509

80.1117

Hazard

53

				265.25	
7+0			5.1	260.1	
+50			8.9	256.3	
+63			10.1	255.1	
+95 = Bot. Gulch			14.2	251.0	
8+0			14.6	250.6	
+50			14.1	251.1	
9+0			15.3	251.9	
+50			10.2	255.0	
TP	11.01	275.74	0.52	264.73	
+80			14.0	261.7	
10+0			4.6	271.1	
TP	11.03	286.17	0.60	275.14	
+25			1.3	284.9	
TP	11.39	296.94	0.62	285.55	
TP	11.17	307.96	0.15	296.79	
+50			5.2	302.8	
TP	11.39	319.25	0.10	307.86	
+76.04 P.O.T			4.21	315.04	outside
11+0			1.8	317.4	
TP	5.25	322.55	1.95	217.30	

322.55

11450

5.0

317.6

1240

6.2

316.4

+28.81 = FL Mile on Par 6.0

316.6

BM

5.41

317.14

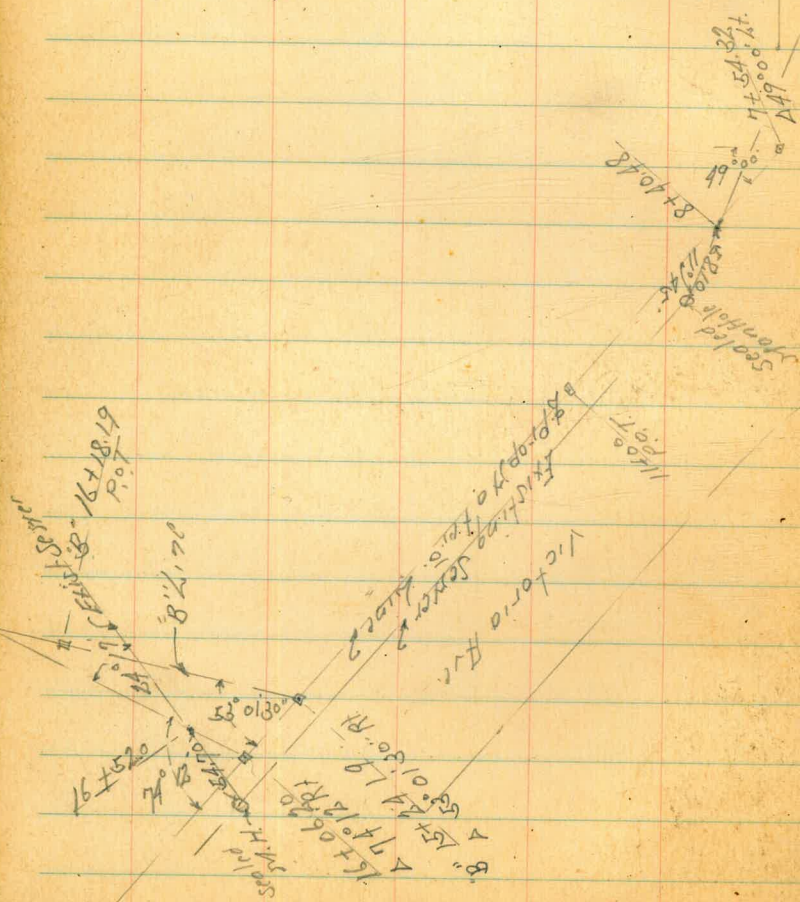
NEBR
DN 944 + Mile
317.15

54

Proposed Water Line From Myrtle + 90th St.
To Thorn + Vancouver

INDEXED

101451



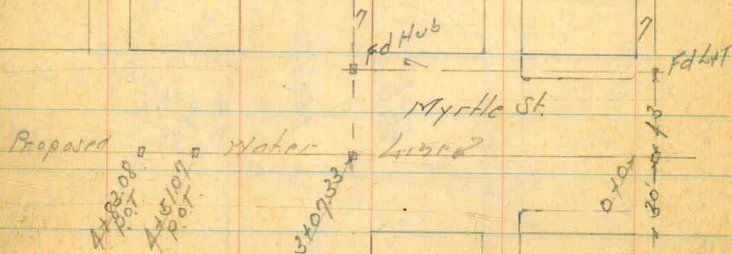
Indexed
c.s.k.

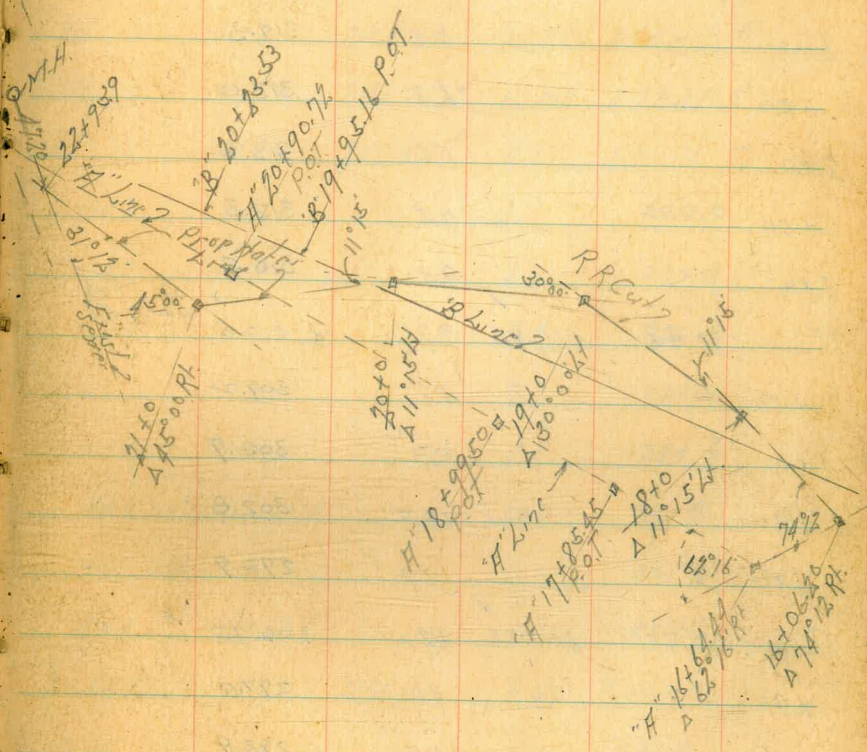
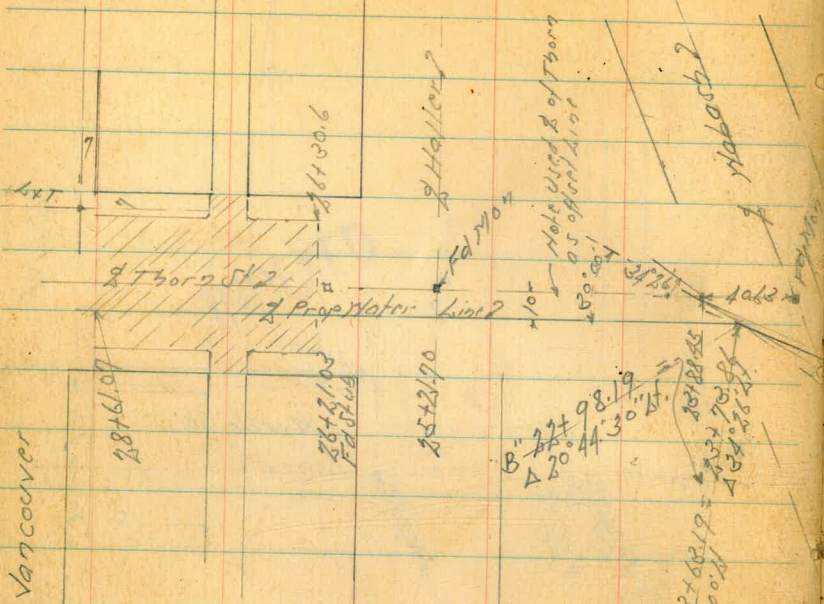
May 21-43
SWS 17
81.55
8099

55

391451

101451





Levels For Proposed Water-Lint From
Myrtle + 40th St to Thorn + Vancouver

BM	1.58	31976	318.18	N.H. BP. Myrtle + 40th St
0+0 = W 40th St		2.6	317.2	
+50		4.0	315.8	
+100		5.5	314.3	
+150		6.8	313.0	
+200		6.6	313.2	
+250		7.5	312.3	
+300		9.3	310.5	
TP	2.75	31280	310.05	on stub 3+07.33
+50		3.6	309.2	
+100		5.9	306.9	
+150		10.0	302.8	
+200		13.9	298.9	
TP	0.85	30158	300.73	
+90		4.6	297.0	
+100		7.7	293.9	
TP	0.36	289.83	289.47	
+50		10.2	279.6	
TP	0.47	278.04	277.57	
+75		7.6	270.7	

		278.04		170426-43 S 1107 B 1111 8099 57
TP	0.34	266.29	12.09	265.95
+70			5.0	261.3
+20			14.4	251.9
TP	0.40	254.44	12.25	254.04
TP	0.63	243.05	12.02	242.42
TP	5.62	242.48	6.19	236.86
+50			2.5	240.0
+57			4.7	237.8
+80			7.0	235.5
+70			7.9	239.6
+36			8.3	239.2
+39 = Fly Boat Wall			10.7	231.8
+46 = W 11th St			11.0	231.5
+49			9.9	232.6
TP				
+54.32 A	3.61	236.66	9.43	233.05
+80			4.0	232.7
+40			5.4	231.3
+70			7.7	229.0
+25			8.6	228.1
+50			8.2	228.5

236.66 ✓

10+10		9.7	227.0	
+50		9.9	226.8	
11+10		8.8	227.9	
TP	136	229.18 ✓	8.84 ✓	227.82 ✓ on stub 11+10 POT
+35		5.2	229.0	
+50		6.0	223.2	
12+10		8.0	221.2	
+50		9.0	220.2	
+80		9.7	219.5	
13+10		11.6	217.6	
+20		12.6	216.6	
TP	0.67	218.31 ✓	11.54	217.64 ✓
+50		2.6	215.7	
14+10		2.5	219.8	
+50		4.4	213.9	
15+10		5.1	213.2	
+50		7.7	210.6	
16+10		5.9	212.8	
+06.2° A 77° 22' R		5.72	212.59	on stub
+16		5.5	212.8	

218.31 ✓

55

16+30		2.8	215.5	
TP	11.00	225.89	3.42	214.89 ✓
+50		10.0	215.9	
+25		7.6	218.3	
17+10		4.8	221.1	
+20		2.0	222.9	
TP	11.43	226.15 ✓	1.17	224.72 ✓
+36		14° E 4 R.R. Cut	8.1	228.1
+50		Bottom R.R. Cut	7.5	228.6
18+10		A 11° 15' 21	5.0	231.2
+50		Bottom R.R. Cut	2.3	233.8
+25		" " "	1.3	239.8
6.95		241.85 ✓	1.25	234.90 ✓
19+10		A 30° 00' 21	3.39	238.96 on stub
+20		Bottom R.R. Cut	3.1	238.8
+50		" " "	4.8	237.0
+25		" " "	7.8	239.0
20+10		A 11° 15' 21	9.05	232.80 on stub
+20			10.9	231.0
TP	2.42	232.65 ✓	11.62	230.23 ✓

232.65 ✓

20470 3.3 229.9

+84 1.6 231.1

2140 145°00' Rt. 5.4 227.2

TP 2.75 223.23 12.17 220.48 ✓

+30 7.7 215.5

+45 10.2 213.0

+74 11.0 212.2

+94 11.1 212.1

2240 10.0 213.2

+53 10.0 213.2

+54 = Fly Wash 12.0 211.2

2340 10.8 212.9

+20 10.3 212.9

+30 8.0 215.2

+30 4° Rt. 1/2 Bot Wash 10.2 213.0

+50 7.9 215.3

+62 9.1 214.1

+73.86 134°26' Lt. 7.5 215.7

TP 10.67 226.39 7.51 215.72 ✓

BM 1134 215.05

on 5/16
23473.86
cont. 11/07
AT 5007
11/06/04

Notes Reduced. 5/26/03

226.39 ✓

59

2440 9.6 216.8

+16 7.0 219.9 ✓

TP 12.05 238.09 0.35 226.04 ✓

+50 7.8 230.3

TP 12.10 249.71 0.48 237.61 ✓

+75 7.9 241.8

TP 12.12 261.14 0.69 249.02 ✓

2540 10.2 250.9

+2170 = 2/2 Haller 7.02 261.3

TP 12.08 273.17 0.05 261.09 ✓

+50 7.05 273.7

TP 12.11 285.11 0.17 273.00 ✓

+75 7.02 285.3

TP 11.65 296.70 0.06 285.05

+95 2.0 299.7

TP 11.69 307.93 0.46 296.24

2640 8.4 299.5

+11 1.1 306.8

TP 8.21 314.15 1.99 305.94 ✓

+306 = Fly of Imp. 5.93 308.22 07 Pav 99

314.15 ✓

264.80 5.60 308.55 07 Pav

2740 5.12 309.03 " "

750 5.09 309.06 " "

2840 5.30 308.85 " "

730 5.46 308.69 " "

761.07: FL Vancouver 5.58 308.57 " "

TP 2.71 310.60 6.26 307.89 ✓

BM 6.97 308.63 ✓

NEBR
T₂ born ✓
N₁₁
308.69

Levels "A" Line Proposed Water Line

See Sketch Page 56

B.M.	10.85	223.44	✓	212.59	✓	05 Stab 16+06.20 Page 58
16+12	= Bottom Wash From	11.2		212.2		
+18		10.6		212.8		
+30		10.7		212.7		
+64.44	Δ 62° 18' Rt	10.70		212.74		02 Stab
+75		10.2		213.22		
+84		8.8		214.6		
+95		6.4		217.0		
17+0		2.7		219.7		
TP	12.84	236.13	✓	223.29	✓	
+20		10.4		225.7		
+46		1.3		239.8		
TP	13.00	248.67	✓	235.67	✓	
+85		3.5		245.2		
18+0		0.5		248.2		
TP	12.73	261.19	✓	248.46	✓	
+18		9.3		251.9		
+40		6.4		254.8		
+70		2.7		258.5		
+99.50	POT	0.72		260.41		07 Stab

515509 No. 129.43
81.55
8099

61

				261.19	✓	
TP	4.31	264.78	✓	0.72	260.47	✓
19+10				4.9	259.9	
+30				10.2	259.6	
+30	16 Rt of 2			2.8	262.0	
+30	16 Lt " "			20.5	244.3	
+47	= Fly Waste Pile			15.6	249.2	
+63				11.5	253.3	
+72				16.4	248.4	
+80				11.4	253.4	
+80	20' Rt of 1/2 - Sky Top Cut			8.3	256.5	
+80	20' Lt of 1/2			25.5	239.3	
TP	1.28	254.01	✓	12.05	252.73	✓
20+0				3.1	250.9	
+12				6.7	247.3	
TP	0.91	242.20	✓	12.72	241.29	✓
+30	= Sky Top Cut			1.0	241.2	
+30	15' Rt of 2			8.8	233.4	
+30	25' Lt of 1/2 - Fly Waste Pile			8.8	233.4	
+50				10.7	231.5	
+58	= 1/2 R.R. Cut			12.6	229.6	

		242.20		
20+68		12.4	229.8	
+85	= 1/4 Top of Cut	3.8	238.9	
+90.72	POT	4.75	237.95	02 Stub
21+0		7.5	239.7	
21+0	15 ft of 2	1.5	240.7	
21+0	25 ft of 2	22.5	219.7	
TP	1.00	230.36	12.84	229.36 ✓
+18		5.5	229.9	
+40		13.3	217.1	
+60		16.2	219.2	
TP	2.24	219.60	13.00	217.36 ✓
+90		6.4	213.2	
22+0		5.8	213.8	
+30		6.1	213.5	
+32	= 1/4 Wash Bottom	8.1	211.5	
+70	in "	7.2	212.9	
23+0		7.9	211.7	
+17		6.4	213.2	
+20		3.6	216.0	
+40		5.6	219.0	

Notes Reduced. 6-1-23

		219.60		62
20+58		5.1	219.5	
+62.19	= 23+73.86	3.84	215.76	02 Stub
TP	3.33	219.09	3.84	215.76 ✓
BM		4.00	215.09	2 Mon 7 bars + Hobs 16 215.05 page 59

4/8/43 Levels "B" line Proposed water Main

See sketch page 55

BM				on stub 16+06 ⁰⁰ p. 58
15+24 ¹⁹	L. Rt 33° of 30	10.86	212.85	
+30	Bottom wash	12.4	211.3	
+35		11.0	212.7	
+67		9.4	219.3	
+83		4.1	219.6	
" "	8' Lt	8.0	215.7	
" "	" Rt	1.4	222.3	
16+00		1.0	222.7	
T.P.	8.50	231.58	0.63	223.08
16+18 ¹⁹	90°	6.37	225.21	
+38		4.5	27.1	
+57	E. Bank R. creek Top	6.8	29.8	
+59	" " " Bottom	12.4	19.0	
+67	" " " "	12.5	19.1	
+72	" " " Top	7.7	23.9	
+92		7.3	29.3	
17+00		4.2	27.9	
+10		1.9	29.7	

231.58

63

+25		2.7	228.9
T.P.	12.85	242.56	1.87
+50		11.6	231.0
" "	8' Lt	10.8	31.8
+80		6.8	35.8
" "	8' Lt	2.5	40.1
" "	" Rt	9.5	33.1
18+00		9.2	238.9
+70		1.5	41.1
" "	8' Lt	+1.8	44.2
" "	" Rt	5.9	36.7
+50		1.6	241.0
" "	8' Lt	+1.4	42.0
" "	" Rt	4.6	38.0
19+00		6.7	35.9
" "	8' Rt	4.8	37.8
" "	8' Lt	4.9	237.7
+30		6.5	36.1
" "	8' Rt	2.6	40.0
" "	" Lt	10.3	232.3

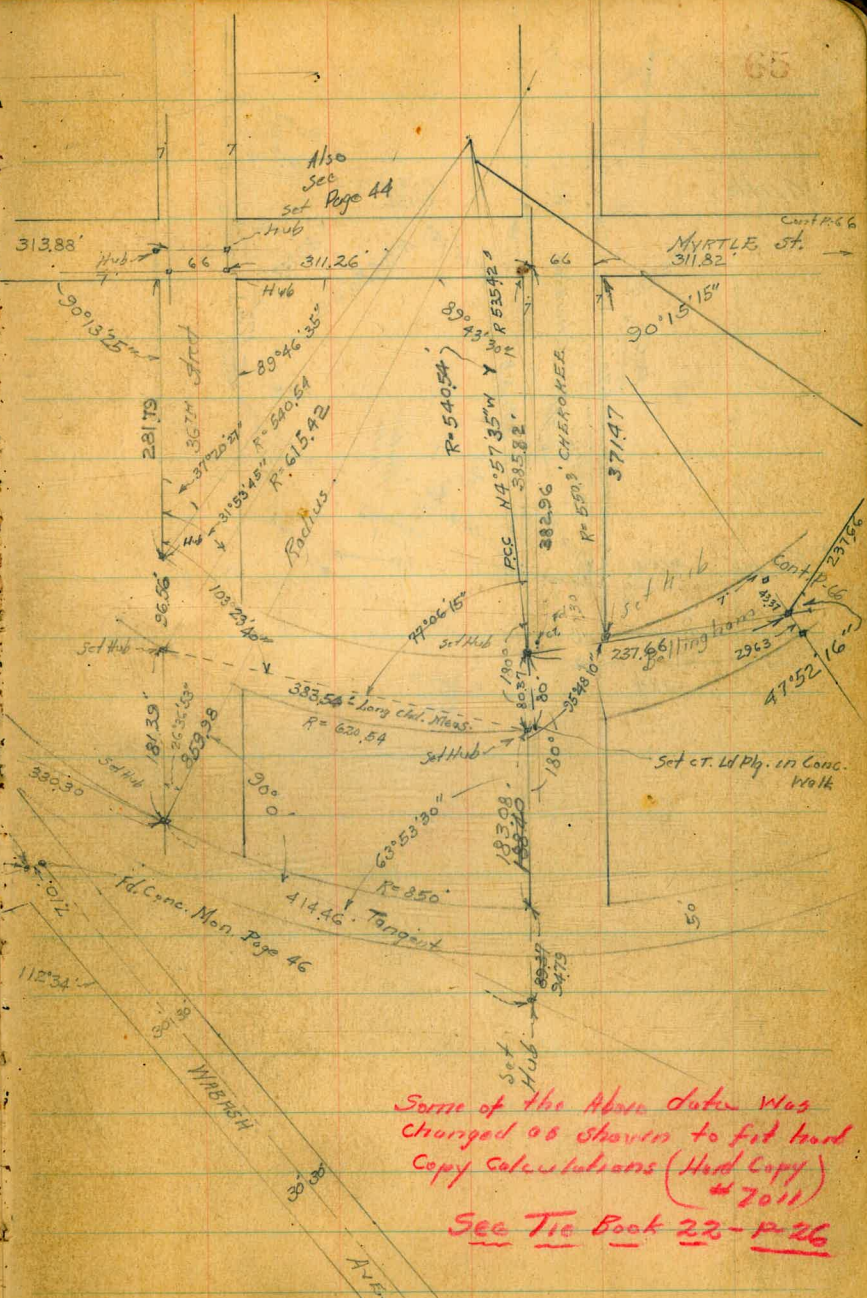
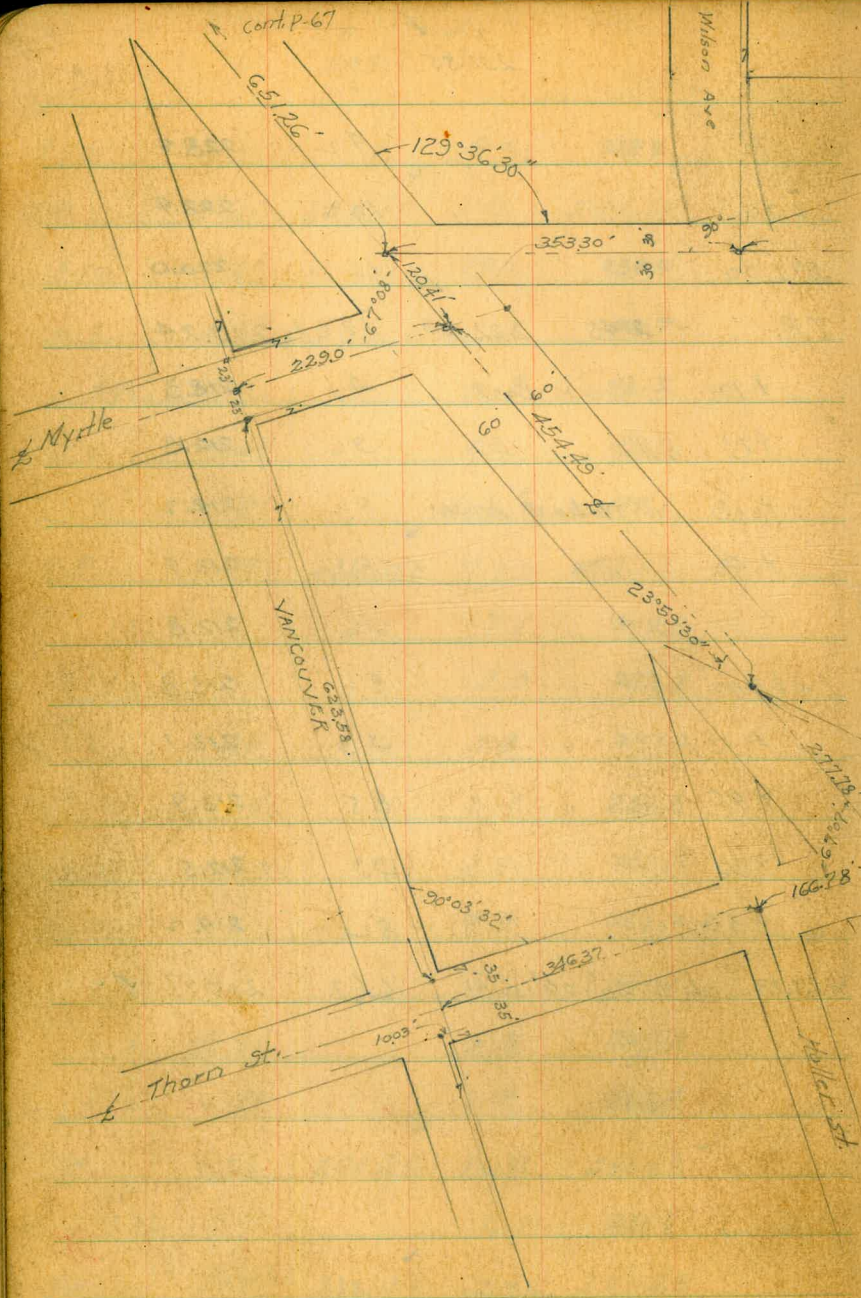
✓
24256

+50			4.2	238.9
TP	11.61	252.74	1.43	241.13
+50	8' Lt		18.3	239.9
" "	" Rt		10.0	42.7
+72			10.9	42.3
"	8' Lt		13.6	39.1
"	" Rt		5.6	47.1
T.P.	7.07	256.59	3.22	249.52
+81			7.1	249.5
+83			2.9	253.7
"	8' Lt		9.4	247.2
"	" Rt		0.1	256.5
19+35 ¹⁶	P.O.T.		2.80	253.8
20+10			4.9	252.2
+33			5.5	251.1
" "	8' Lt		8.8	247.8
" "	" Rt		2.8	253.8
T.P.	0.56	244.24	12.91	243.68
+56			6.9	237.3
TP	1.27	232.55	12.86	231.28

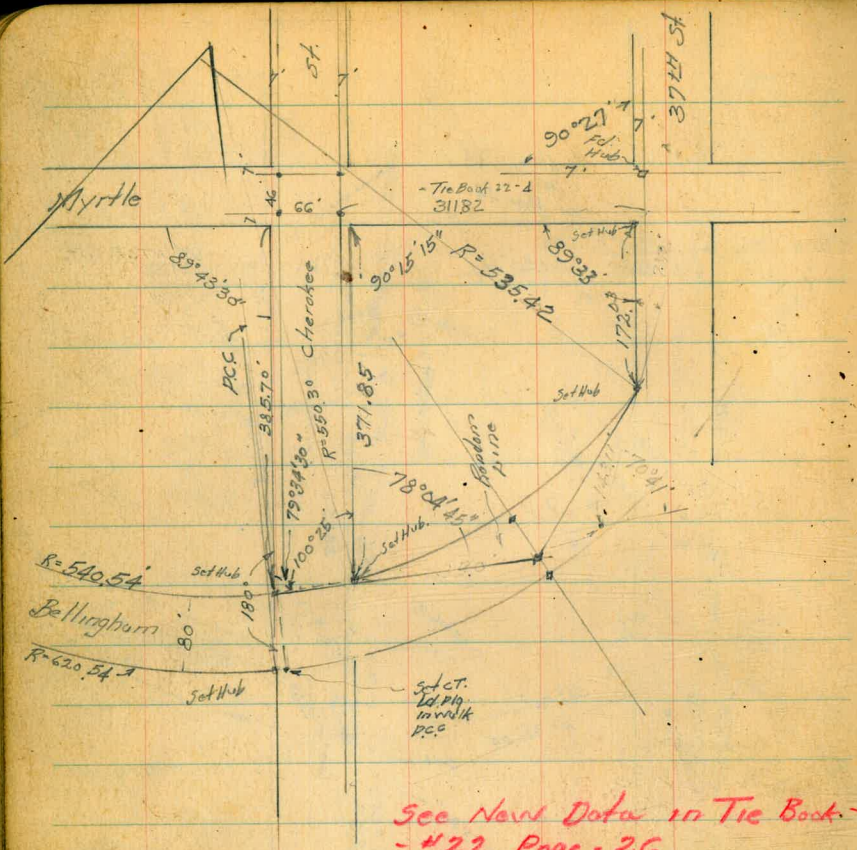
✓
232.55

64

+ 72			4.2	228.9
+90			10.2	222.9
21+00			12.6	220.0
T.P.	2.45	222.39	12.61	219.94
+12	Top creek Bank		4.1	218.3
+13	Bottom " "		9.6	212.8
+18	in Wabash wash		8.2	219.2
+40	" "		8.5	213.9
+50	" "		9.6	212.8
22+00	" "		8.6	213.8
+15	" "		5.3	213.1
+46	" "		8.5	213.9
+50	" "		9.9	212.5
+88			8.2	219.2
22+08 ⁰	L 41 20°-44' 20" Lt		6.63	215.76



Some of the above data was
 changed as shown to fit hand
 copy calculations (Hand Copy
 #7011)
 See Tie Book 22-P-26



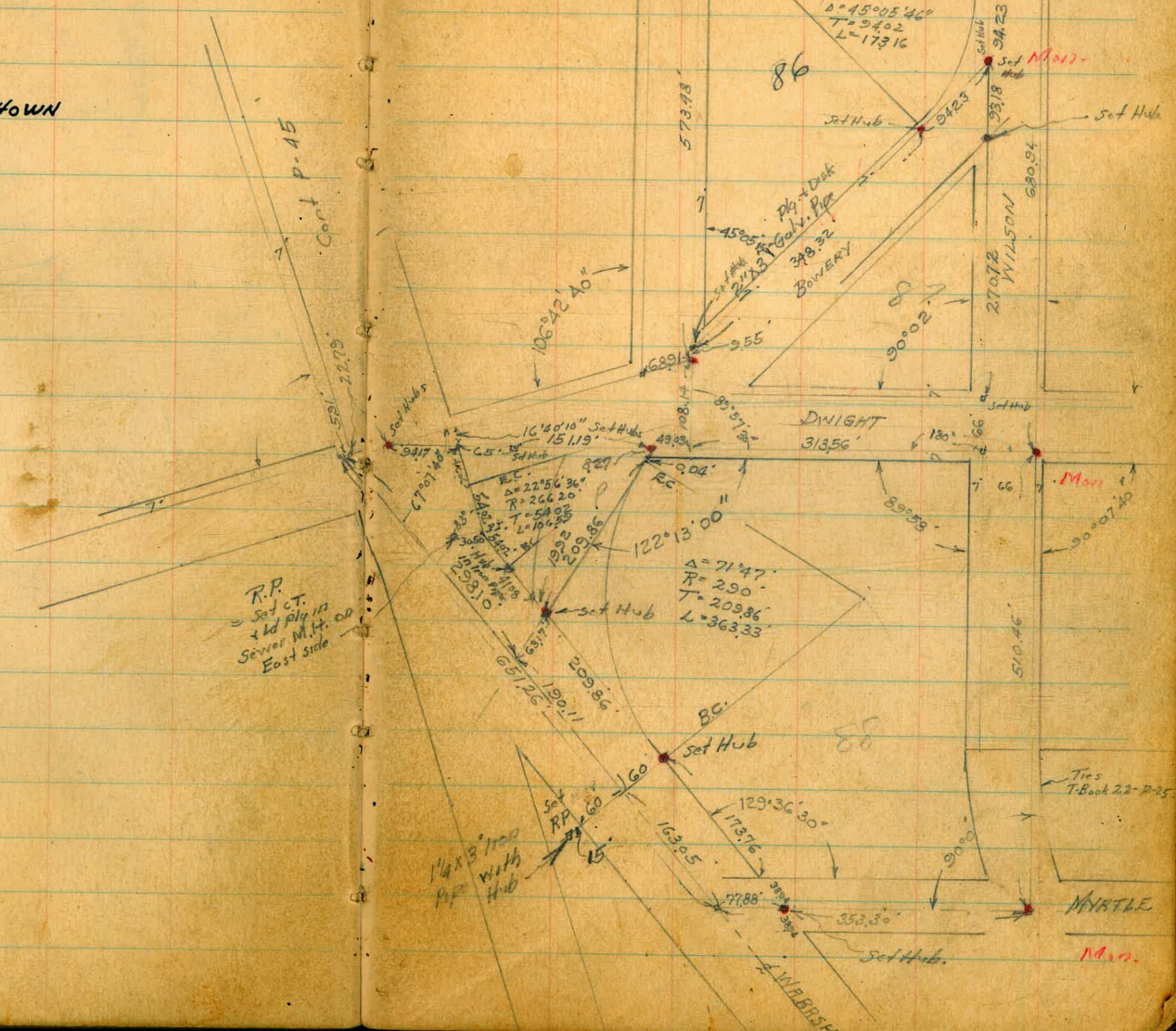
Walker
 Mason
 Bliss
 Hugard
 Bopp 9-3-43

City Hts Ties

Ties this Page ok. per hand
 Copy to town with only minor
 changes (C.B. Walker)

■ = Conc. Man Set in April 1944

Ⓐ DISTANCE INCORRECT AS SHOWN
 314.27 = 313.33 MEAS.
 10-16-84 R. KOSER



R.R.
 Set C.T.
 & 4d Ply in
 Sewer M.H.
 East side

SEE NOTE Ⓐ

Ties
 T-Book 22-P-25

MAN

Cross Section Federal Blvd

Indexed
C.S.K.

Bt Ford. From #1682 Page 79

20+0

INDEXED

TP 5.28 21988 11.76 21460

+50

19+0

+80 35 ft of $\frac{1}{2}$ - Power Pole

+50

18+0

226.36
Bt Ford 1682-79

Lt.

Rt.

Rt.

69

$\frac{215.7}{11.6}$ 65	$\frac{208.9}{11.0}$ 50	$\frac{210.1}{9.8}$ 39	$\frac{215.8}{4.1}$ 30	$\frac{214.2}{5.2}$ 23	$\frac{214.62}{5.26}$ 18	$\frac{214.92}{4.91}$ 18	$\frac{214.6}{5.28}$ 18	$\frac{214.8}{5.1}$ 32	$\frac{213.6}{6.3}$ 50
----------------------------	----------------------------	---------------------------	---------------------------	---------------------------	-----------------------------	-----------------------------	----------------------------	---------------------------	---------------------------

18-SHPOV
219.88

$\frac{215.1}{11.3}$ 50	$\frac{215.2}{11.4}$ 40	$\frac{215.4}{11.0}$ 25	$\frac{214.50}{11.86}$ 18	$\frac{214.84}{11.46}$ 18	$\frac{214.56}{11.80}$ 18	$\frac{214.1}{12.3}$ 31	$\frac{215.4}{11.0}$ 38	$\frac{215.7}{7.7}$ 42	$\frac{214}{7.0}$ 50
----------------------------	----------------------------	----------------------------	------------------------------	------------------------------	------------------------------	----------------------------	----------------------------	---------------------------	-------------------------

$\frac{218.6}{7.8}$ 50	$\frac{217.2}{9.2}$ 38	$\frac{214.9}{11.5}$ 27	$\frac{214.20}{11.56}$ 18	$\frac{215.20}{11.16}$ 18	$\frac{214.92}{11.44}$ 18	$\frac{214.9}{11.5}$ 27	$\frac{216.4}{10.0}$ 32	$\frac{222.7}{8.7}$ 41	$\frac{228}{8.6}$ 50
---------------------------	---------------------------	----------------------------	------------------------------	------------------------------	------------------------------	----------------------------	----------------------------	---------------------------	-------------------------

$\frac{219.5}{6.9}$ 50	$\frac{217.1}{9.3}$ 35	$\frac{215.3}{11.1}$ 25	$\frac{215.35}{11.01}$ 18	$\frac{215.28}{10.58}$ 18	$\frac{215.44}{10.92}$ 18	$\frac{215.4}{11.0}$ 27	$\frac{217.2}{9.2}$ 36	$\frac{223.1}{8.3}$ 40	$\frac{223.2}{8.5}$ 50
---------------------------	---------------------------	----------------------------	------------------------------	------------------------------	------------------------------	----------------------------	---------------------------	---------------------------	---------------------------

$\frac{220.4}{6.4}$ 50	$\frac{217.6}{8.8}$ 35	$\frac{215.9}{10.5}$ 25	$\frac{216.4}{10.32}$ 18	$\frac{216.42}{9.94}$ 18	$\frac{216.3}{10.33}$ 18	$\frac{215.22}{10.9}$ 27	$\frac{217.8}{8.6}$ 36	$\frac{223}{4.1}$ 39	$\frac{223.5}{8.9}$ 50
---------------------------	---------------------------	----------------------------	-----------------------------	-----------------------------	-----------------------------	-----------------------------	---------------------------	-------------------------	---------------------------

18-SHPOV

226.36

+50

+26

2170

20750

21988

47

8

17

70

2067	2025	2072	2169	21669	21200	21655	2163	2029	2005	2003
132	121	120	30	319	288	333	36	170	194	196
75	50	45	30	18		18	29	50	55.70%	80

2037	2052	2052	2162	21634	21650	21625	2152	1982	1974
162	147	147	37	354	308	360	47	317	225
75	50	44	30	18		18	32	55.70%	80

2010	2035	2156	21565	21606	21524	2152	2119	1966	1974
189	164	43	420	382	414	42	180	223	315
75	50	28	18		18	22	50	80	75

2025	2035	2152	21505	21542	21502	2142	2043	2051
164	164	47	483	44	481	32	156	143
75	50	28	18	18	18	32	50	70

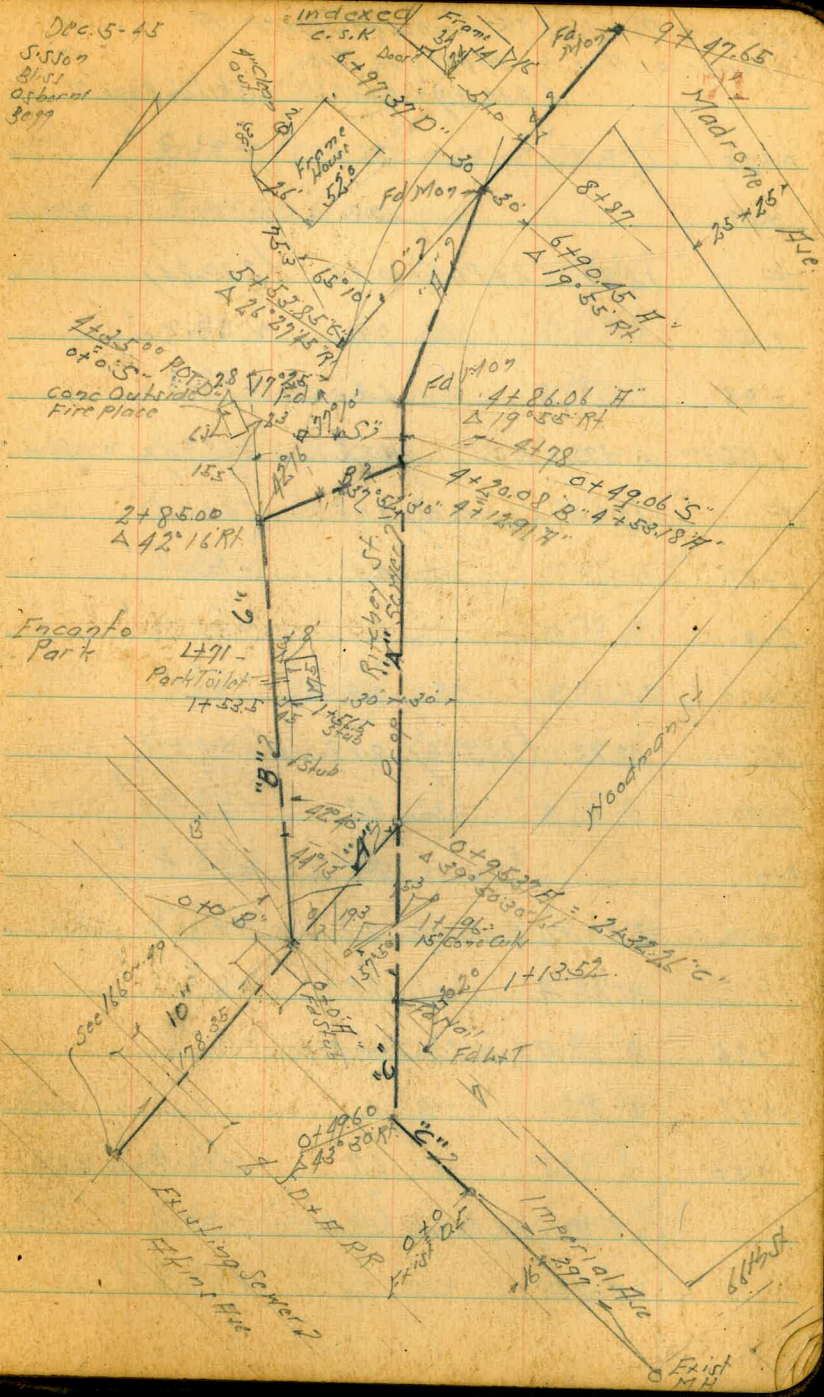
21988

Proposed Senior Ritchey St.
Imperial Ave to Madrone Ave.

Levels Stub to Encanto Park

INDEXED

BM	384	(234.14)	230.30	57.4 Imperial
0+0		14.01	(220.13)	02 Stub
+25		11.0	223.1	
TP	922	(230.89)	12.47	(221.67)
+50	N.Y. Wash		10.2	220.7
+75			87	222.2
+90			46	226.3
+95	1 Rt of 20' Euc Tree			
1+0			42	226.7
+27	5' Lt of 14" Tree			
+56.5	N.E. Cor Toilet		2.80	228.1



Levels Ritchey St. Proposed Sewer "H"
Imperial Ave to Madrone Ave.

(230.89) 8' Lt. Ford Sketch Page 71

0+25		96	221.3	✓
+47		100	220.9	✓
TP	12.84	(243.08)	0.65	(230.24)
+55		79	235.2	✓
+85		43	238.8	✓
+95.37	A 39° 50' 30" Lt	4.18	(238.90)	on Stud
TP	12.05	(255.10)	0.03	(243.05)
+150		11.3	243.8	✓
2+10		5.1	250.0	✓
+50		0.0	255.1	✓
TP	12.13	(267.10)	0.13	(254.97)
+90		8.2	258.9	✓
3+10		8.7	258.4	✓
"	2' Rt. Fly Roadway	7.2	259.9	✓
"	10' Lt	11.9	255.2	✓
+25	8' Lt of 1/2" W 1/4 30' Euc Tree			
+42	5' Lt " " " " " "			
+50		3.7	263.4	✓
"	6' Rt. Fly Road	11	266.0	✓
"	8' Lt	7.5	259.8	✓

		(267.10)		
TP	12.15	(279.52)	0.23	(266.87)
3+97	3' Rt. Fly 36" Euc Tree			
4+0		10.6	268.9	✓
"	10' Lt	15.6	263.9	✓
"	7' Rt. Fly Road	6.9	272.6	✓
+42	2' Lt. 1/4" 10' Euc Tree			
+50		7.3	272.2	✓
"	10' Lt.	10.5	269.0	✓
"	8' Rt. Fly	2.1	277.4	✓
TP	12.03	(290.30)	1.25	(278.27)
+58	36' Rt. Approx. Septic Tank	6.8	283.5	on Ground
+67		14.0	276.3	✓
"	5' Lt. W 1/4 24" Euc Tree			
+86.06	A 19° 55' Rt	10.82	(279.48)	on Man.
"	10' Lt	12.7	277.6	✓
"	5' Rt. Fly Road	8.9	281.6	✓
5+0		7.1	283.2	✓
+50	W 1/4 Road	1.5	288.4	✓
TP	12.85	(302.81)	0.34	(289.96)
+90		10.3	292.5	✓

"H" Line

(302.81)

640		7.9	294.9	✓
+01	1 Lt of 2 - Wly Power Pole			
+35		7.6	295.2	✓
"	71 Lt - Wly House At Bath Room	1.92	288.6	on Floor
+50	on Road	6.8	296.0	✓
+90.45	= A 19° 55' Rt	4.11	298.70	on Max
740		3.1	299.7	✓
TP	12.60	(315.31)	(302.71)	✓
+50		10.8	304.5	✓
840		4.1	311.2	✓
TP	11.54	(326.63)	(315.09)	✓
+50		9.9	316.7	✓
940		5.0	321.6	✓
+07	50 Lt - Wly House	1.84	(321.79)	on Floor
+47.65	= 2 Madrone	3.42	(323.21)	on Max
BM	1.64	324.85	323.21	on Max
8187	85 Lt of 2 = Door to Basement	10.04		on Floor

Proposed Sewer Imperial Ave.
And Ritchey St. "C" Line
Sketch Page 91

73

BM	5.08	(235.38)	230.30	7 1/2 x 1 1/2 Wood max 5 1/2 Imperial
040	= Exist. Dead End	7.2	228.2	on C.I. Pipe
+49.60	= A 43° 30' Rt = Wly H.C. Pav'g	6.7	228.7	✓
+87	on H.C. Pav	6.5	228.9	✓
140	" " "	6.0	229.4	✓
+39	= Fly H.C. Pav	3.1	231.8	✓
+50		0.7	234.7	✓
TP	5.81	(240.04)	1.15	(234.23)
+78		4.7	235.3	✓
+96	= 15" Cast Pipe Culv.	5.2	234.8	✓
"	19.3 Lt = Outlet Culv	16.0	224.0	Flanking
"	25.3 Rt = Inlet "	12.7	226.3	" "
+98		3.8	236.2	✓
2+32.26 C	= 0+95.39 A	1.14	(238.90)	on Stakes

Proposed Sewer Encanto Park And
Ritchey St. 8" Line
Sketch Page 71

BM	11.87	(232.00)	220.13	02 Stake 0+0.77 Page 71
0+0		11.9	220.1	✓
+25		8.5	223.5	✓
+50		11.4	220.6	✓
+75		9.9	222.1	✓
+91		5.4	226.6	✓
+95	2.6 ft of 8" Fly 20" Euc Tree			
1+0		5.1	226.9	✓
+27	2.1 ft of 8" Fly 12" Willow tree			
+50		4.9	227.1	✓
+62	Top 4" C.I. Soil Pipe 5.60 From Toilet			
+80	3.5 ft of 8" Fly 14" Cypress Tree			
2+0		4.5	227.5	✓
+44	8" Lt - 2" E			
+50		3.4	228.6	✓
+70	7.5 ft = Fly 24" Euc Tree			
"	8" Lt = Fly 40" "			
+85.00	= 42° CRT 1.41 230.59 02 Stake			
2+0		0.1	231.9	✓
TP	12.69	(244.31)	0.38	(231.62)

Dec. 6:45
S. 5504
8125
Of bor 71
8099

244.31 ✓

74

2+10	= Fly Dirt Road		9.0	235.3	✓
+24	= Fly " "		9.4	234.9	✓
TP	12.99	(256.83)	0.47	(243.84)	✓
+60			9.2	247.6	✓
+80			3.5	253.3	✓
TP	12.68	(268.86)	0.65	(266.18)	✓
4+0			6.5	262.4	✓
TP	12.61	(281.34)	0.73	(268.73)	✓
+20.088	= 41.2917"		11.20	(270.14)	02 Stake
+31	= Fly Road		6.5	274.8	✓
+54	= Fly " "		4.4	276.9	✓
+58			1.7	279.6	✓
+78	= Approx Septic Tank		+2.2	283.5	02 Ground
For Check			1.84	(279.50)	02 Mon +88.06 ft 279.48

Proposed Sewer Encanto Park + Ritchey St.

"D" Line
Sketch Page 71

BM	12.31	242.90	230.59	on Stub 2+85.8" Page 71
2+93	1.2' of 2" = 7/4" Hyd.			
3+09		11.1	231.8	
+20	= 1 1/4" Dirt Road	8.2	234.7	
+40	= 5/4" " "	8.4	234.5	
+57		2.8	240.1	
TP	12.58	254.60	0.88	242.02
+71	4.5' of 2" = 3" Fuc. Tree			
+90		10.5	244.1	
4+19	6' of 2" = 4" Pine Tree	3.8	250.4	
+35.00	= 0+0.5"	1.68	252.92	on Stub
+40	7' of 2" = 10" Fuc. Tree			
TP	12.93	267.43	0.10	254.50
+82		1.6	265.8	
TP	12.68	279.79	0.32	267.11
5+20		3.5	276.3	
TP	12.34	291.92	0.71	279.08
+53.84	= A	8.32	283.1	on Stub
"	75.3	At of 7" - NEGOT 10.1 Frame House	281.3	on Basement Floor
Clear Out East of House		11.4	280.0	on 4' Clear out top

Feb. 7-46
S. Max
Osborne
3092
Waddel

75

291.42

5+71.2	2" = 1 1/4" 12" Steel Pipe	5.27	286.15	= Flow Line
+73		3.5	288.2	
+85	1.5' of 2" = 5/4" 8" Conc Pipe	4.02	287.4	Flow Line
6+0		1.8	289.6	
TP	10.24	301.23	0.43	290.99
+50		7.8	293.4	
6+99.37 POT		2.54	298.69	on Mon 298.70
6+90.45 H				

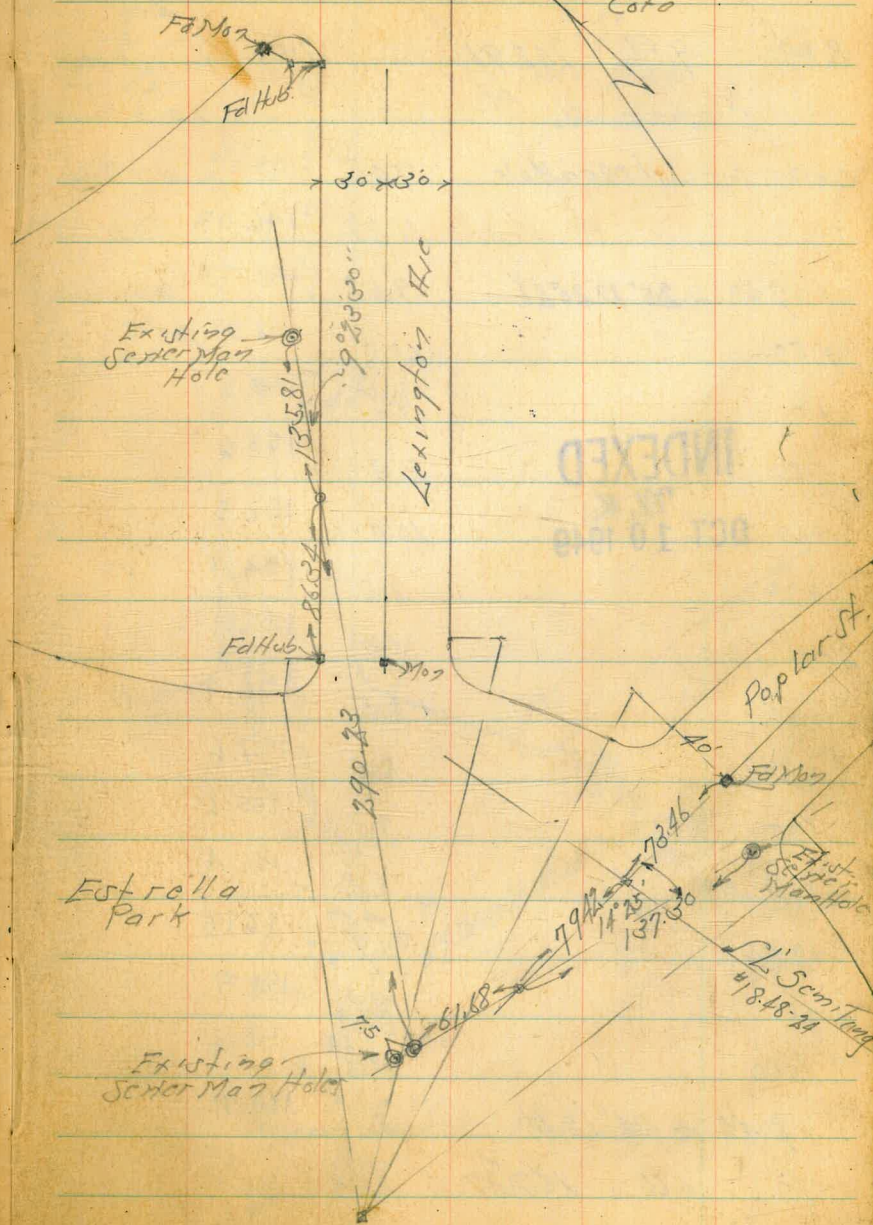
5" Line Levels Sketch Page 71

BM	12.03	264.95	252.92	on Stub 4+35.0
0+0 S-4+35.0		12.0	252.9	
+80		1.6	263.4	
TP	11.91	276.08	0.78	264.17
+49.06	= Ritchey	3.0	273.1	
TP	8.57	282.33	2.32	279.76
+58	= 5/4" Oil Ray	4.5	277.8	
+68.5	= 1 1/4" " "	4.2	278.1	
BM		2.82	279.51	on Mon. 4+86.08 H 279.48

Location of Existing Sinker
Estrella Park Lexington Ave x Poplar St.

INDEXED
W.K.
OCT 10 1949

Sept 26-49
75.5007
Garber
Coto '76

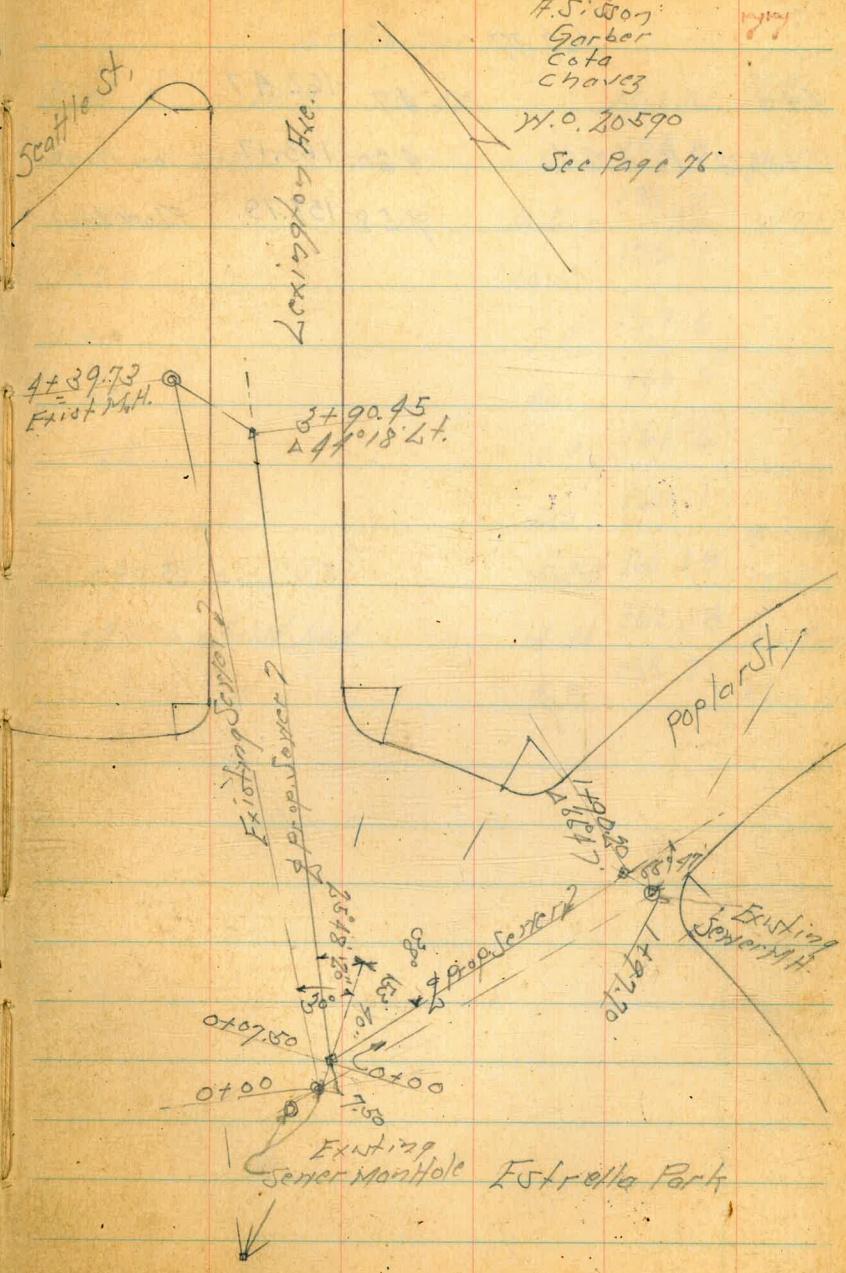


Proposed Sewer Lexington Ave.

Oct. 7-49
 F.S. Don
 Garber
 Cota
 Chavez
 W.O. 20590
 See Page 76

B.M.	9.06	162.91	153.85	2+T 17 MH. 70.44 162+15.4 7844-77 0+0 this survey
0+0 = Exist ManHole	9.06		153.85	on Pins
"	16.88		146.03	Flow line
+07.50 L: 25° 48' 20" Lt	9.08		153.83	on Stake
+50	10.0		152.91	
+10	9.6		153.3	
+50	9.3		153.6	
+60	10.4		152.5	
+70	8.5		154.4	
2+0	6.8		156.1	
+50	6.5		156.4	
+70	5.3		157.6	
+75	7.3		155.6	
+90	6.5		156.4	
+95	1.9		161.0	
3+0	4.4		158.5	
+50	4.4		158.5	
+90.45 L: 44° 18' Lt	2.20		160.71	on Stake
TP	6.66	167.57	2.20	160.71

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Lexington Ave.

167.37

4+0	4.9	162.47	
+39.73 = Exist. M.H.	4.20	163.17	on Rim
" " " "	9.58	157.79	Flow Line

Proposed Sewer Estrella Park + Poplar St

Sketch Page 77

78

BM	11.59	165.44	153.85	2.17 M.H. 79.41 184+65
0+0	= 0+07.50	Lexington Ave 11.6	153.8	on Stubs
+50			155.2	
+70			155.1	
1+0			157.6	
+50			160.9	
+62			161.6	
+70			160.1	
+90.20	A 66°47'		160.19	2.55 M.H. on Stubs
+97.70	= Exist. M.H.		162.08	on Rim
" " " "			155.73	Flow Line

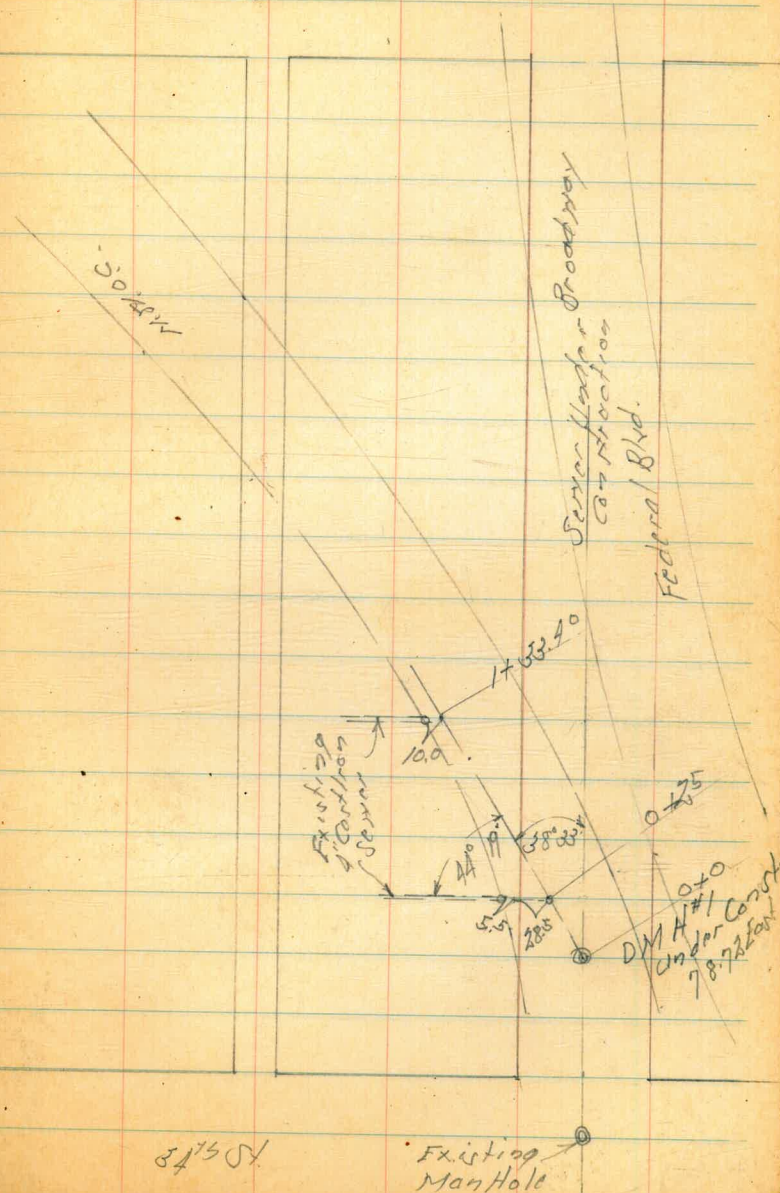
Proposed Sewer Broadway
East of 34th St

How				NE Mon. Broadway + 34th St
BM	0.33	99.22	98.89	
TP	394	90.33	12.83	86.39
0+0 - DMH #1		2.4	87.9	Ground
+25		3.6	86.7	
+25	28.5 N		47	85.6 Near Grade Ground
"	34.0 N - Exist 1" CI Pipe	+38	9.1	
+50		5.1	85.2	
+1+0		9.4	80.9	
+33.4		10.8	79.5	Near Grade
+33.4	10' N - Exist 4" Cast Iron pipe	1.5	88.8	

May 26. 50
F. J. Simon
Rorer
Chavez
Cota

79

35th St



34th St

Existing
Man Hole

INDEXED
OCT 10 1900

Myrtle St

82

38582

38516

Cherokee St

4'

20'6 R

Bellingham

Av.

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11-8-39
Waltham
Bliss
Isbell

WABASH CANYON SEWER

LEVELS
Alternate line, location P-20

Station	Level	Location
5.98	94.15	88.17 117+838 Page 30
117+838 on Flow line	13.98	Existing MH
+835 " Rim	5.98	
117+84	5.7	
118+00	5.2	
+50	7.8	
119+00	10.0	
+25	10.2	
+33	12.2	
+50	10.0	
+50 3' Lt.	11.6	
+75	9.8	
+75 3' Lt.	11.8	
+80	11.3	
120+00	12.8	
+50	12.2	
121+00	11.7	
+25	7.0	
+50	3.5	
+64 4' RH on Rim MH	4.04	
+68.96-Δ Rt. 89037	0.47	on Hub

7
94.15

83

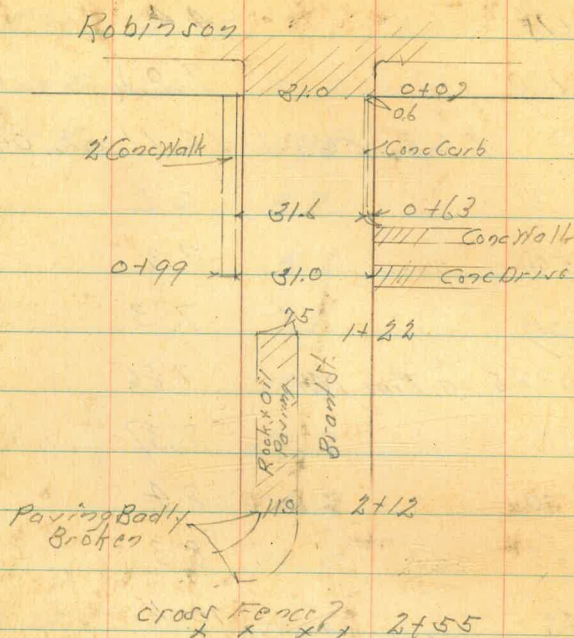
121+75	4.4
122+00	9.0
T.P.	4.63 86.67 12.11 82.04
+20	6.2
+50	7.3
123+00	7.3
+09.25 on Rim MH	7.86
+50	8.37
124+00	8.4
+43	8.3
+45	10.1
+49.3 4.2' Rt. on Rim MH	7.89 78.78 South edge
+55.80 on Hub	9.93 76.74

Ch. Page 30

Brant St. South of Robinson
Prop. Surfacing

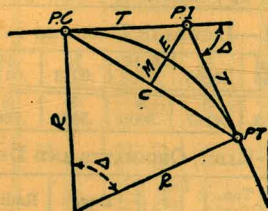
Dec 23-43
Dyson
Burr
Begg

84



DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES

Copyright, 1914, by Eugene Dietzgen Co., New York City



CURVE FORMULAS

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

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

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

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

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

EXPLANATION AND USE OF TABLES

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

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

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

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

TABLE I.—MINUTES IN DECIMALS OF A DEGREE.

Table with 10 columns and 10 rows of numerical data representing minutes in decimals of a degree.

TABLE II.—INCHES IN DECIMALS OF A FOOT.

Table with 10 columns and 2 rows of numerical data representing inches in decimals of a foot.

TABLE III.—RADI, ORDINATES AND DEFLECTIONS.

Large table with 10 columns and 30 rows of numerical data for radii, ordinates, and deflections.

Note. Chord Deflection=2 times tangent deflection.

805392
7.9
804882

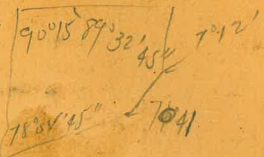
TABLE IV.—TANGENTS AND EXTERNALS TO A 1° CURVE.

Table with 9 columns and 30 rows of numerical data for tangents and externals to a 1-degree curve.

25026
12043

824 47.55
 8056.7 33.57
 MERL WHITMAN SURVEYOR

36
 38
 70



13.95
 598 on R/O

58.17
 74.15
 14.28
 80.17 - Flow
 9401
 8017
 13.89

90°15'
 78°00' 45"
 109 19
 172 48
 19.32 45'

38570
 37596
 974

539 5930

9249
 10266
 1454
 1052
 37625
 14
 31125

47.72
 59.28
 157.00

245
 719
 1014

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

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

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

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