1796

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)÷2 or 2 ft. added to 30.6 =32.6. For slopes of 1 on 1½ see inside of back cover.

This Field Book is manufactured 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.

INDEX

Page	
	Paving Grades
2 - 3	Altadena St. El Cajon to Trojan
	6" Water Main
4 - 5	Altadena St El Cajon to Trojan
	El Cajon to Trojan
6 - 7	Sidewalk Grades Altadena St.
8 - 12	Curb Levels on 51st St. from Adams to Dick St. and on Dick St. from 51st. to Winona. to Determine Grade for Concrete Gutter
13 -	Curb Levels 50th & Collier
15 - 17	Curb Levels on Adams Ave from 51st St. to Altadena and on Altadena North to 51st St.
18 - 19	Curb Levels on 50th St Collier to Dick
20 - 26 & 55	Conc Gutter Grades on 51st St. from Adams to Dick St. & on Dick St from 51st.
27 - 28	Conc. Gutter Grades on Collier St. from 51st to 50th.
29 - 31	Conc. Gutter Grades on 50th St from Collier to Dick St.
32 -	Conc Gutter Grades Adams Ave 51st to Altadena
33 - 36	Conc. Gutter Grade Altadena St Adams to 51st St.
37	Conc. Gutter Grades Adams Ave. 50th St. West to End Existing Cb.
39 - 40	Conc Gutter Grades on Collier St. from 50th to Winona thence North on Winona to Dick St.
41 - 42	
45 & 59	Grades Subsurface Ditch North Side Adams
	References For Relocating Valve Caps - M.H.
46 - 49	Talmadge Park Manor No 2
50 - 54	Wilson Ave North from El Cajon Blvd
56 - 58	Powder Canyon & Road So. of Upas
61 - 76	Paradise Hills
77	Lucille Dr. & Winona
78	Collier & 50th

Walker
Hendricks
Becker
Johnson

9-29-47

3+07.96

2+82.96

2+57.96

Brk 2+32.96

Brk 2+07.96

Brk 1+82.96

Brk 1+57.96

1+32.96 Brk

1+00

0+66.7

0+33.33

0+00

Trojan

Ave

1/4 1/4 1/4

9' 9' 9' 9' 9'

Altadena Ave

N

INDEXED
WK
JAN 6 1949

ALTADENA ST. PAVING - Trojan to El Cayon. 2

5+82.96

5+57.96 Brk

5+32.96

5+07.96

4+82.96

4+57.96

4+32.96

4+07.96

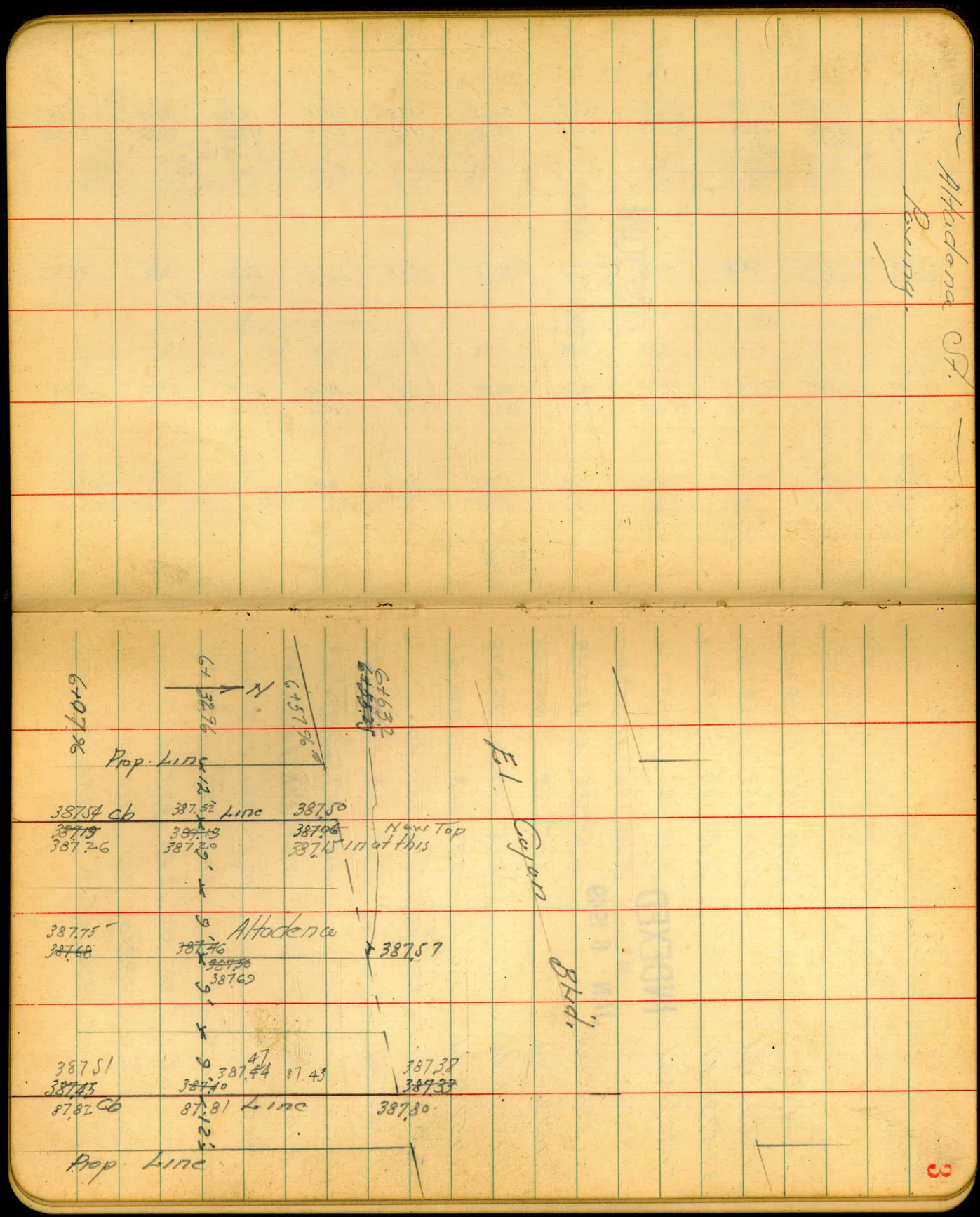
3+82.96

3+57.96

3+32.96 Brk

Altadena Ave

N


Altadena Dr.
Prop. Line
Prop. Line
Line
Line
Attadena
El Cajon
Blvd.
Next Top
at this
387.54 CB
387.52
387.50
387.26
387.20
387.75
387.68
387.46
387.69
387.57
387.51
387.43
87.82 CB
387.44
87.43
87.81
387.38
387.33
387.30
3

Walker Hendricks Becker Johnson 9-29-47

Grades 6" Water Main on Altadena Dr. from Trojan Ave to El Cajon Blvd

			El. Bottom Trench	Cuts	offsets
4+21.63		4.49	387.61	383.69	3.92	6'Lt
3+82.96-Brk		4.72	387.38	383.53	3.85	"
3+57.96-Brk		4.80	387.30	383.36	3.94	"
3+32.96=Brk		5.13	386.97	383.07	3.90	"
2+82.96		5.94	386.16	382.25	3.91	"
2+32.96=Brk		6.63	385.47	381.43	4.04	"
2+07.96-Brk		7.07	385.03	380.95	4.08	"
1+82.96 Brk.		8.15	383.95	379.98	3.97	"
1+57.96 Brk		9.77	382.33	378.51	3.82	"
T.P	11.70 392.10	1.66	380.40			"
1+32.96=Brk		1.66	380.40	376.69	3.71	"
1+0.5		4.42	377.64	374.37	3.27	"
+70		7.68	374.38	371.45	2.93	"
+35		10.19	371.87	368.53	3.34	"
0+00=N.L. Trojan		12.88	369.18	365.61	3.57	"
T.R	6.65 382.06	12.69	375.41			
T.R	0.06 388.10	4.11	388.04			
	6.05 392.15		386.10			

BM. SE Top Hyd. El Cajon + 50 ft

				El. Bottom of Trench	Cuts	offsets
Chk Starting B.M.			5.45			
T.P.	3.95	391.56	4.49	387.61		
6+64.95			4.49	387.61	383.88	3.73 6' Lt
6+07.97 Brk			4.42	387.68	384.00	3.68 "
5+57.97 Brk			4.34	387.76	384.07	3.69 "
5+07.97=Brk			4.31	387.79	384.00	3.79 "
4+66.3			4.39	387.71	383.85	3.86 "
		392.10				

π Cont. from D.4

Walker
Hendricks
Becker
Johnson
10-22-47

Altadena Ct. Grades - Sidewalks

			Rod	El. Stakes	W.L. Elev. East edge Sidewalk	Cuts & Fills
2+82.96			4.78	386.36	386.35	+0.01
2+57.96			5.52	385.62	385.93	-0.31
2+32.96			5.74	385.40	385.51	-0.11
2+07.96			6.74	384.40	384.97	-0.57
1+82.96			7.17	383.97	383.99	-0.02
1+57.96			9.22	381.92	382.54	-0.62
T.P.	9.86	391.14	0.17	381.28		
1+37.97			0.61	380.94	380.97	-0.03
1+32.96					380.62	
1+19.06			2.79	378.66	378.88	-0.22
1+03.96						
1+00			3.67	377.78	378.12	-0.34
0+86.96			4.40	377.05	377.05	0.00
0+70.6						
0+66.7			5.86	375.59	375.59	0.00
0+45.06			8.13	373.32	373.98	-0.66
0+33.7			9.09	372.36	373.07	-0.71
0+00	N.L.		10.92	370.53	370.55	-0.02
T.P.	3.43	381.45	12.41	378.02		
T.P.	2.85	390.43				
0+00 ~~Hub~~ Tree on N.L.			4.31	387.58		
	5.79	391.89		386.10		

	Rod	El. Stakes	East Line Elev. West edge Walk	Cuts & Fills
	4.74	386.40	386.35	+0.05
	5.58	385.56	385.96	-0.40
	5.55	385.59	385.56	+0.03
	6.32	384.82	385.04	-0.22
	7.09	384.05	384.09	-0.04
	8.47	382.67	382.76	-0.09
		391.14		
	0.57	380.88	380.91	-0.03
	3.04	378.41	378.41	0.00
	3.38	378.07	378.07	0.00
	6.10	375.35	375.50 ~~46~~	-0.15
	6.45	375.00	375.17	-0.17
	9.32	372.13	372.27	-0.14
	12.13	369.32	369.37	-0.05
		381.45		

			Rods	Stakes Elev	West. Elev. E. edge Walk	Cuts & Fills	Rods	El. Stakes	E. Line Elev. W. edge Walk	Cuts & Fills
6+57.96					387.54					
+32.96			5.02	387.58	387.56	+0.02				
6+07.96			5.05	387.55	387.58	-0.03				
+82.96			5.04	387.56	387.60	-0.04				
+57.96			~~5.58~~	387.02 (387.22)	387.62	-0.40 -0.60				
5+32.96			5.00	387.60	387.~~57~~ .65	-0.05 ~~+0.03~~				
T.P.	5.05	392.60	3.59	387.55						
5+07.96			3.60	387.54	387.67	-0.13				
4+82.96			3.50	387.64	387.66	-0.02				
4+57.96			3.56	387.58	387.63	-0.05				
4+32.96			3.56	387.58	387.57	+0.01				
4+07.96			3.66	387.48	387.51	-0.03			387.76	
3+82.96			3.60	387.54	387.45	+0.09			387.65	
3+57.96			4.17	386.97	387.36	-0.39			387.54	
3+32.96			3.95	387.19	387.14	+0.05	3.98	387.16	387.14	+0.02
3+07.96			4.42	386.72	386.77	-0.05	4.79	386.35	386.75	-0.40
		391.14					391.14			

Curb Levels - on 51st
from Adams to Dick St.
and on Dick St. from 51st
to Vinona to determine grade
for Concrete Gutters

Stations
are Curb Lines

2+00					
1+00					
T.P. No 2	7.22	396.22	6.81	389.00	NW cb Adams & 51st
0+00 = 16.8' N.N.L. Adams					
P+C +21.21 on cb = N.L. Adams					
PC ~~+21.21~~					
P.C cb Set on Adams & 51					
Left B.M. on Adams B/W E.S. cb Rot N.E. Altadena No 2			5.37	390.44	
T.R. No 1	6.49	395.81	5.68	389.32	N.E. B.M. Adams & Vinona
B.M.	5.64	395.00		389.36	

H.cb.		R.cb.	8
390.64			
5.58			
389.06			
6.23			
388.91	396.22	388.09	
6.90		7.12 Gutter	
389.32			
6.97			
389.25			
6.94			
	395.81		

51st Cont.

7+00

5+60

5+80

6+33 = Approx 5' N Wcnl cb Rt. on Lt.

5+95

=4+64

~~6+64.1~~ = End Sisson's Work on Rt

5+40 = P.C. Rd

T.P. #3	4.63	397.04	3.81	392.41	
5+00					
					3.83
					391.70
4+00					
					4.93
					391.22
3+00					
		396.22			5.00

Wcb.			FCb	
Lt			Rt.	
				5+60
				392.50
4.95				
397.09				5+80
397.66			392.39	392.33
4.38				
392.63		391.89	4.65	
				392.43
		5.15 Cut.	4.61 Cb	
4.42				
392.39		397.04		

10+90

10+45 Beg. Dick St

9+25 on Rt = B.C. Lt.

9+25 T.P. No 4	4.71	397.79	396	393.08	

10+00 = P.C. on Lt.

9+00

B+05 = E.C. cb Rt NW Collier

7+10 on R.

6+61 on Rt = Scb Collier Produced = Low Point

7+24 B.C. cb Ref.

397.04

	5.26	392.53			
	4.15	392.89			
	4.57	392.47			
	4.86	392.18			
	5.11	391.93			

397.79

397.04

Pcb.					
	5.26	392.84			
	4.95	393.08			
	4.71				
	3.96				
	4.78				
	5.00				

Dickst Curb Levels

16+00				
15+80				
T.P. N95	5.80	398.72	4.87	392.92
15+00				
14+80				
14+20				
13+61				
13+28 = E.C. cb Rt. SW 50th				
13+07 opp B.C. cb Rt on South				
12+40 on Rt				
12+37 = B.C. cb Rt NW 50th				
11+80 = E.C. on Lt.				
11+62 = E.C. on Rt				
		397.79		

Hb		Hb
392.97		393.27
5.75		5.45
392.53	398.72	392.92
5.26		4.87
393.37		392.59
5.42		5.20
392.10		392.39
5.69		5.40
392.09		392.50
5.70		
392.26		392.79
5.53		5.00
	397.79	

Dick St. Curb Levels

.001
389.36
Chk. starting BM. 7.46 389.87
2.60 396.83
T.P. on Fire Plug. 4.49 394.23 SE Winona & Collier
18+17 = End Cb Rt on Lt SE Winona & Dick St.

18+62 = End of Curb

17+94 = E.C. Cb Rt NE Winona & Dick

17+85 on Rt

17+67 B.R.C. cb Rt SE Winona
17+20

16+94 BC Rt
16+80 = BC. Rt.
398.72

Rt
6.
393.33
5.39
391.31
7.41
393.52
5.20
393.60
393.48
5.12
393.67
5.24
5.25
393.18
393.60
5.54
5.12
398.72

Collier St. Curb Levels.

10 + 85 = B.C. Ref SE 50th

10 + 70 = B.C. Ref NE 50th

7+64

chk 7+24 P-10 473 391.93 T.R. No 3 P-9

425 396.66 392.41

4/6

390.39

6.27

391.83

4.83

Rcb 13

390.62

6.04

391.97

4.69

Walker
Becker
Johnson
10-29-47

Curb Levels on Adams from 51st to Altadena thence North on Altadena to 51st St. - To determine Grades for Concrete Gutters

Curb Line Stations	2+cb	Rt cb
2+78 E.C. on Rt		390.85 4.12
2+53 PRC on Rt.	390.64 4.33	
2+18 = PRC on Rt		390.67 4.30
2+08 = E.C. Return on Altadena NW Adams	390.44 4.53	
1+98 = E.C.		390.57 4.40
1+48 = B.C. Rot. N.E. Altadena & Adams	390.24 4.73 NW Rot BC. on Adams	390.35 4.62
1+00		389.87 5.10
1-		
0+00 = E.C. cb Return NW 51st & Adams		388.87 6.10
		T.P. No 2
4.53 394.97	390.44	Page 8
	394.97	

Altadena Curb Levels

Cont. from P. 15

T.P.	4.43	397.10	5.09	392.67
8+40				
7+40				
7+00	E.C. on AT			
6+40				
6+20				
5+30				
5+20				
T.P.	6.00	397.76	3.21	391.76
4+50				
4+20				
4				
4+00				
3+50				
3+00				
		394.97		

AC

392.72
5.04

392.38
5.38

392.03
5.73

391.61
6.15

391.32
3.65

390.99
3.98

AC

392.88
4.88

392.52
5.24

392.18
5.58

397.76

391.76
3.21

391.57
3.40

391.30
3.67

394.97

Altadena Curb Levels
Cont. from P-16

446

x Cont P-18

T.P. 7.37 398.29 6.18 390.92

9+10 = 6+33 on 51st = E.C. Rt NW 51st

392.01
5.09

↑ 48' Return

8+62 = E.C.

392.28
4.22

397.10

397.10
2

Walker
Becker
Johnson
10-29-47

50th St. Curb Levels.
from Collier to Dick St.
to determine Grade for
Concrete Gutters WO 60215

Curb Line Stations Cont D-19

14+20 B.C. cb Return SE Cor Dick St.

14+00 = E.C.

13+80

13+10

12+80

12+50 P.C.

12+10 E.C

12+00

11+30 P.R.C.

11+10

398.29
from D-17

Lt. Cb.

391.86
6.43

391.47
6.82

391.38
6.91

391.15
7.14

390.87
7.42

390.85
7.44

398.29

Rt Cb

18

392.03
6.26

391.91
6.38

391.55
6.74

391.38
6.91

391.18
7.11

390.78
7.51

50th St.

Cont. from P. 18

0.01
392.11
392.10 P.11

14+50 = 13+28 P.11

TP	5.78	397.84	6.23	392.06	
		398.29			

392.11
5.73

397.84

Grades - Conc. Gutters

on 51st from Adams to Dick St and on Dick St. from 51st to Winona

Curb Line Stations		Rods	Elev.	West cb Elev. Gutter at cb. Line	Cuts
2+80		5.51	391.12	390.56	0.56
+60		5.61	391.02	390.44	0.58
+40	In Drive	6.15	390.48	390.32	0.16
2+20	" "	6.28	390.35	390.20	0.15
2+00		5.98	390.65	390.09	0.56
1+80		6.09	390.54	389.97	0.57
1+60.		6.24	390.39	389.85	0.54
1+40		6.38	390.25	389.73	0.52
1+20		6.44	390.19	389.61	0.58
1+00 = Brk.		6.63	390.00	389.50	0.50
0+80		6.79	389.84	389.28	0.56
0+60		6.98	389.65	389.06	0.59
0+40		7.15	389.48	388.84	0.64
0+20		7.41	389.22	388.62	0.60
0+00		7.71	388.92	388.40 BM T.P. N23 P-9	0.52
	4.22	396.63	392.41		

Rt cb Sta.	Rods	Elev	Rt. Ed. Gutter Grade at cb Line	Cuts.

51st Gutter Grades

5+90 TP			4.96	392.86	392.33
~~+90~~	5.12	397.82	3.93	392.70	
+80			3.80	392.83	392.29
+70			3.93	392.70	392.25
+60			4.08	392.55	392.20
+50			4.08	392.55	392.15
5+40 - BC. Return			4.01	392.62	392.10
5+20			4.13	392.50	391.98
5+00			4.24	392.39	391.86
4+80	in Drive		4.75	391.88	391.74
+60			4.44	392.19	391.62
+40	in Dr.		4.69	391.94	391.50
4+20			4.69	391.94	391.38
4+00			4.84	391.79	391.27
3+80			4.98	391.65	391.15
+60			5.08	391.55	391.03
3+40	in Drive		5.55	391.08	390.91
+20			5.34	391.29	390.79
3+00			5.40	391.23	390.68
		396.63			

51st St.

Cuts.	Ahead Sta.	Rods	El.	Gutter Grade	Cuts.
				392.00	0.61
0.53	5+40	5.21	392.61	~~391.94~~	~~0.67~~
				392.13	0.47
	5+20	5.22	392.60	~~392.02~~	~~0.58~~
	Apex = High Point of Grade				
				392.04	
0.54	5+00	5.29	392.53	~~391.90~~	~~0.43~~
				392.00	
0.45	4+825 = 4+64 Ahead	5.32	392.50	391.99	0.51
				9195	In Place
0.35	5+69 Back	5.93	391.89	391.89	Concrete Gutter
0.40		397.82			
0.52					
0.52					
0.53					
0.14					
0.57					
0.44					
0.56					
0.52					
0.50					
0.52					
0.17					
0.50					
0.55					

51st St

7+98.1		5.66	392.16	-391.53
7+91.2		5.69	392.13	-391.50
7+84.3		5.74	392.08	-391.47
7+77.4		5.80	392.02	-391.48
7+70.5		5.79	392.03	-391.42
7+64 = NW Return	BC. on Collier	5.85	391.97	-391.40
7+64 = EC. Return	on Collier	5.99	391.83	-391.19
7+54		5.95	391.87	-391.25
7+44		5.95	391.87	-391.31
7+34		5.96	391.86	-391.37
7+24 = BC. Return	OK See check Levels	~~5.81~~	~~392.01~~	~~-391.43~~ -391.29
7+15		5.81	392.01	-391.50
7+00		5.73	392.09	-391.59
+85		5.59	392.23	-391.68
+70		5.50	392.32	-391.77
+50		5.31	392.51	-391.89
6+33 = EC. Altadena	NW	5.16	392.66	-392.00
6+00	SW EC on "	4.95	392.87	-392.38
	397.82			

NW Return

51st St

Station	Rods	Elev.	Gutter Grade	Cuts
	edge Drive			
8+70	5.28	392.82	-392.50	0.32
8+50	5.32	392.78	-392.40	0.38
8+30	5.30	392.80	-392.30	0.50
8+10	5.43	392.67	-392.20	0.47
7+90	5.51	392.59	-392.10	0.49
7+70	5.62	392.48	-392.00	0.48
T.P. 5.58	398.10	5.30	392.52	- T.P.
	edge Drive			
7+50	5.47	392.35	-391.90	0.45
7+30	5.48	392.34	-391.80	0.54
7+10	5.57	392.25	-391.70	0.55
6+90	5.65	392.17	-391.60	0.57
6+70	5.75	392.07	-391.50	0.57
Low Point = Valley Gutter to West				
6+61	5.78	392.04	-391.44	0.60
6+55	5.78	392.04		
6+40	5.75	392.07	-391.52	0.55
6+25	5.63	392.19	-391.59	0.60
6+10	5.52	392.30	-391.66	0.64
5+95	5.43	392.39	-391.72	0.67
5+80	5.38	392.44	-391.78	0.66
5+60	5.21	392.61	-391.86	0.75
	397.82			

51st St.

Stations Lt. cb.		Rods	Elev.	El. Grade Gutter	Cuts.
10+80		5.56	392.54	392.07	0.47
10+70		5.51	392.59	392.14	0.45
+60		5.49	392.61	392.15	0.46
+50		5.47	392.63	392.18	0.45
+40		5.39	392.71	392.22	0.49
+30		5.34	392.76	392.26	0.50
+20		5.31	392.79	392.29	0.50
10+10		5.23	392.87	392.33	0.54
			398.10		
10+00	BC. Lt.	4.95	392.87	392.37	0.50
9+80		5.07	392.75	392.29	0.46
9+60		5.16	392.66	392.21	0.45
9+40		5.24	392.58	392.13	0.45
9+20	In Dinc	5.59	392.23	392.14	0.09
9+00		5.36	392.46	392.06 / 391.96	0.50
8+80		5.38	392.44	391.98	0.46
8+60		5.44	392.38	391.89	0.49
8+40		5.52	392.30	391.81	0.49
8+20		5.59	392.23	391.73	0.50
8+05	NW on 51St. = EC. Return	5.65	392.17	391.67	0.50
			397.82		

51st St.

Rt cb. Cuts.	Station	Rods	El.	El. Gutter	Cuts.
0.37	+85	5.27	392.83	392.41 / 392.31	0.42 / 0.52
0.38	+75	5.25	392.85	392.43 / 392.33	0.42 / 0.52
0.36	+65	5.24	392.86	392.46 / 392.36	0.40 / 0.50
0.35	+55	5.19	392.91	392.48 / 392.38	0.43 / 0.53
0.39	10+45	5.26	392.84	392.51 / 392.41	0.33 / 0.43
0.40	+35	5.23	392.87	392.53 / 392.43	0.34 / 0.44
0.40	+25	5.07	393.03	392.56 / 392.46	0.47 / 0.57
0.44	10+15	5.02	393.08	392.58 / 392.48	0.50 / 0.60
	10+05	5.09	393.01	392.61 / 392.51	0.40 / 0.50
0.40	+25	5.09	393.01	392.63 / 392.53	0.38 / 0.48
0.36	9+85 In Dr.	5.27	392.83	392.66 / 392.56	In Drive 0.17
0.35	+75	5.05	393.05	392.68 / 392.58	0.37 / 0.47
0.35	+65	5.04	393.06	392.71 / 392.61	0.35 / 0.45
0.09	+55	5.06	393.04	392.73 / 392.63	0.31 / 0.41
0.40	+45	5.08	393.02	392.76 / 392.66	0.26 / 0.36
0.46	+35	5.11	392.99	392.78 / 392.68	0.21 / 0.31
0.49	9+25	5.02	393.08	392.81 / 392.71	0.27 / 0.37
0.49	BC. Apor Grade 9+15	5.05	393.05	392.83 / 392.73	0.22 / 0.32
0.50	9+10	5.08	393.02	392.78 / 392.70	0.24 / 0.32
0.50	Sit. 8+90	5.10	393.00	392.60	0.40
			398.10		

Dick St.

Lt Ch. Stations			Rods	El.	El. Gutter
13+80			6.37	392.25	391.75
13+60			6.42	392.20	391.68
T.P.	6.40	398.62	5.88	392.22	~~391.68~~
13+44			5.94	392.16	391.63
13+28	E.S. Rot on ~~St~~ Dick = 14+50 on South		6.01	392.09	391.59
12+37	S.E. Dick & Bank = B.C. Return		6.02	392.08	391.54
12+20			5.95	392.15	391.57
12+00			5.92	392.18	391.63
11+80	= E.C.		5.84	392.26	391.70
+70			5.79	392.31	391.73
+60			5.78	392.32	391.77
+50			5.80	392.30	391.70
11+40			5.80	392.30	391.84
11+30	in Drive		6.02	392.08	391.88
11+20			5.72	392.38	392.01 391.91
+10			5.66	392.44	392.05 391.95
11+00			5.61	392.49	392.09 391.99
10+90			5.57	392.53	392.13

398.10

Rich. Dick St.

24

Cuts	Stations	Rods	El.	Elev. Gutter	Cuts
	13+60	6.07	392.55	392.02 ~~391.92~~	0.53 ~~0.63~~
0.50	+40	6.09	392.53	391.95 ~~391.85~~	~~0.45~~ 0.58 ~~0.68~~
0.52	13+20	6.18	392.44	391.88 ~~391.78~~	0.56 ~~0.66~~
		398.62			
~~0.49~~ 0.53	Low Point in Gutter Grade = valley to South 13+07	5.65	392.45	391.84 ~~391.74~~	0.61 0.71
~~0.40~~ 0.50 ~~0.50~~	13+00	5.68	392.42	391.86 ~~391.76~~	0.56 0.66
	+80	5.72	392.38	391.91 ~~391.81~~	0.47 0.57
0.47 0.57	+60	5.68	392.42	391.95 ~~391.85~~	0.47 0.57
0.48 0.58	+40	5.71	392.39	392.00 ~~391.90~~	0.39 0.49
0.45 0.55	+20	5.69	392.41	392.05 ~~391.95~~	0.36 0.46
0.46 0.56	12+00	5.58	392.52	392.10 ~~392.00~~	0.42 0.52
0.48 0.58	11+81	5.38	392.72	392.15 ~~392.05~~	0.57 ~~0.67~~
0.45 0.55	11+62 = E.C.	5.31	392.79	392.20 ~~392.10~~	0.59 0.69
0.40 0.50	+55	5.31	392.79	392.23 ~~392.13~~	0.56 0.66
0.36 0.46	+45	5.33	392.77	392.25 ~~392.15~~	0.52 0.62
~~0.20~~ 0.10 ~~0.50~~	+35	5.31	392.79	392.28 ~~392.18~~	0.51 0.61
0.37 0.47	+25	5.31	392.79	392.31 ~~392.21~~	0.48 0.58
0.39 0.49	+15	5.29	392.81	392.33 ~~392.23~~	0.48 0.58
0.40 0.50	11+05	5.27	392.83	392.36 ~~392.26~~	0.47 0.57
0.40 0.50	10+95	5.28	392.82	392.38 ~~392.28~~	0.44 0.54

398.10

Dick St.

Lt. cb. Stations		Rods	El.	Elev. Gutter
17+39		5.35	393.27	392.88
17+24		5.43	393.19	392.83
17+09		5.40	393.22	392.79
16+94		5.44	393.18	392.74
+80	in Drive	5.71	392.91	392.70
16+60	in Drive	5.82	392.80	392.64
+40		5.56	393.06	392.58
+20		5.62	393.00	392.51
16+00		5.65	392.97	392.45
15+80		5.73	392.89	392.39
+60	in Drive	6.05	392.57	392.32
+40	in Drive	6.08	392.54	392.26
+20		5.97	392.65	392.20
15+00		6.09	392.53	392.13
+80		6.14	392.48	392.07
+60		6.15	392.47	392.00
+40		6.19	392.43	391.94
+20		6.25	392.37	391.88
14+00	in Drive	6.61	392.01	391.81

398.62

Dick St.

Cuts	Lt. cb. Station	Rods	Elev	Elev. Gutter	Cuts.
	17+40	4.91	393.71	393.22	0.49
0.39	Apex Grade 17+25	4.94	393.68	393.29	0.39
0.36	17+10	4.98	393.64	393.25	0.39
0.43	16+95	5.04	393.58	393.20	0.38
0.44	+80	5.03	393.59	393.15	0.44
0.21	16+60	5.05	393.57	393.08	0.49
0.16	16+40	5.11	393.51	393.01	0.50
0.48	in Drive 16+20	5.31	393.31	392.94	0.37
0.49	16+00	5.31	393.31	392.87	0.44
0.52	15+80	5.37	393.25	392.80	0.45
0.50	+60	5.51	393.11	392.73	0.38
0.25	+40	5.53	393.09	392.66	0.43
0.28	15+20	5.61	393.01	392.59	0.42
0.45	15+00	5.71	392.91	392.52	0.39
0.40	+80	5.71	392.91	392.45	0.46
0.41	+60	5.75	392.87	392.38	0.49
0.47	14+40	5.82	392.80	392.31	0.49
0.49	+20	5.78	392.84	392.24	0.60
0.49	14+00	5.96	392.72	392.17	0.55
0.20	13+80	5.96	392.66	392.09	0.57

398.62

Dick St.

Lt. cb. Station			Rods	Elev	Elev.
18+17 = End Return	on Winona		5.30	393.32	392.84 / 82
18+07			5.23	393.39	392.91 / 392.87
+97			5.18	393.44	392.92
+87			5.22	393.40	392.97
17+77 = Brk = Apex			5.14	393.48	393.01
17+67			5.15	393.47	392.97
17+54		398.62	5.27	393.35	392.93

Dick St.

Rt. cb. Station		Rod	Elev.	El. Gutter	Cuts
19+27.3 = ℄ open Ditch Drain	29.8	Paved		390.37 to East	
Cont. P-55					
19+08	Brk		390.93	390.93	0.00
18+90			391.10	391.09	0.01
18+75			391.20	391.13	0.07
			0.03		cuts
18+62	Brk	7.34	391.31 / 391.28	391.20 / 390.78	0.08 / 0.50 ✓
	in Drive			391.30	0.02
18+55	Brk	7.30	391.32	391.00	0.32 ✓
4.50 Constructed at this 18+35		6.35	392.27	391.74 / 391.64	0.53 / 0.63 ✓
0.52	18+15	5.80	392.82	392.37 / 392.28	0.45 / 0.54 ✓
0.52	17+95	Brk 5.14	393.48	393.01 / 392.91	0.47 / 0.57 ✓
0.43	17+85	5.02	393.60	393.06 / 392.96	0.54 / 0.64 ✓
0.47	+75	4.97	393.65	393.10 / 393.00	0.55 / 0.65 ✓
0.50	+65	4.98	393.64	393.14 / 393.04	0.50 / 0.60 ✓
0.42	17+55	4.21	393.71	393.17 / 393.07	0.54 / 0.64
		398.62			

Gutter Grades
Collier St.
from 51st to 50th

Lt cb. Stations		Rods	El.	Elev Gutter
10+20	in Drive	5.55	390.39	390.11
10+00		5.19	390.75	390.19
+80		5.10	390.84	390.28
+60		5.03	390.91	390.37
9+40		4.94	391.00	390.45
9+20		4.85	391.09	390.54
9+00		4.74	391.20	390.62
8+80	in Drive	4.83	391.11	390.70
+60		4.55	391.39	390.77
+40		4.43	391.51	390.87
8+20		4.23	391.71	390.96
8+00	in Drive	4.47	391.47	391.04
7+82		4.17	391.77	391.12
7+64 = End Return		4.69	391.83	391.19
		3.97	395.94	391.97

BM Elev. cb. 7+64 NW1

Cuts.	Rt cb. Station				
	10+40	5.23	390.71	390.40/30	0.31/41
0.28	+20	5.11	390.83	390.48/36	0.35/45
0.56	10+00	5.04	390.90	390.56/46	0.34/44
0.56	in Drive 9+80	5.09	390.85	390.64/54	0.21/31
0.54	9+60	4.85	391.09	390.72/62	0.37/47
0.55/0.45	9+40	4.77	391.17	390.80/70	0.37/47
0.55	9+20	4.70	391.24	390.88/78	0.36/0.56/0.66 ?
0.58	in Drive 9+00	4.88	391.06	390.96/86	0.10/0.20
0.41	8+80	4.47	391.47	391.04/390.94	0.43/0.53
0.62	8+60	4.43	391.51	391.12/391.02	0.39/0.49
0.64	8+40	4.31	391.63	391.20/391.10	0.43/0.53
0.75	in Drive 8+20	4.51	391.43	391.28/391.18	0.15/0.25
0.43	8+00	4.18	391.76	391.36/391.26	0.40/0.50
0.65	7+82	4.08	391.86	391.43/391.33	0.43/0.53
0.64	7+64 - end Return NW Collier & 51st			391.78/391.50	P.22 on Collier
	Collier P.22				
				395.94	

Collier St
Gutter Grades

Lt. Cb Stations		Rods	Elev	Elev Conc Gutter
	Existing Gutter			
12+05	East side 50th			389.40
100				
	End Return on E side 50th		390.34	
11+05	SL. Collier	5.72	390.22	389.74
11+03		5.57	390.37	389.76
+98		5.60	390.34	389.78
10+93		5.55	390.39	389.80
	#SE 50th			
10+88	BC. Return	5.58	390.36	389.82
+80		5.56	390.38	389.85
+60		5.46	390.48	389.94
10+40		5.51	390.57	390.02
		395.94		

Collier St.
Gutter Grades.

Cuts	Rt. Cb. Stations	Rods.	Elev	Conc. Gutter Elev	Cuts
	Cont. to 50th St				
0.60					
0.48					
	Beg. 50th	Valley to South			
0.61	11+10 PCC	5.20	390.74	390.34	0.40
0.56	11+00	5.23	390.71	390.31	0.40
0.59	10+90	5.32	390.62	390.27	0.35
0.54	10+80	5.32	390.62	390.24	0.38
0.53	10+70	5.33	390.61	390.28	0.33
0.54	10+60	5.27	390.67	390.32	0.35
0.55					
		395.94			

50th St. Gutter Grades from Collier Street to Dick St

Lt cb. Station			Rods	Elev.	Elev. Grade Gutter
12+20			7.26	391.22	390.72
12+10			7.32	391.16	390.68
12+00			7.37	391.11	390.64
11+90 in Dr.			7.61	390.87	390.61
11+80 in Drive			7.63	390.85	390.57
P.C.	7.38	398.48	4.84	391.10	
+70			4.94	391.00	390.53
+60			4.95	390.99	390.49
+50			4.95	390.99	390.45
+40			5.03	390.91	390.42
+30			5.12	390.82	390.38
+20			5.17	390.77	390.34
11+10 - Valley to South			5.14	390.80	390.30
11+00			5.19	390.75	390.30
10+90			5.14	390.80	390.31
10+80			5.18	390.76	390.32
NW 50th 10+70 = BC. Return on Collier			5.19	390.75	390.33

Cont P.37

395.94 ✕ P. 28

Cuts	Rt. cb. Stations	Rods	Elev.	Elev. Gutter Grade	Cuts
	12+40	7.20	391.28	390.86 81 / 390.71	.47 / 0.57
	12+30	7.26	391.22	390.82 77 / 390.67	.45 / 0.55
0.50	12+20	7.32	391.16	390.77 73 / 390.63	.43 / 0.53
0.48	12+10	7.33	391.15	390.74 70 / 390.60	.45 / 0.55
0.47		398.48			
0.26	12+00	4.82	391.12	390.71 67 / 390.57	.45 / 0.55
0.28	11+90	4.87	391.07	390.67 63 / 390.53	.44 / 0.54
	11+80	4.93	391.01	390.63 59 / 390.49	.42 / 0.52
0.47	11+70 Drive edge / in Drive	4.99	390.95	390.60 56 / 390.46	.39 / 0.47
0.50	11+60	5.20	390.74	390.56 52 / 390.42	.22 / 0.32
0.54	+50	5.02	390.92	390.52 48 / 390.38	.44 / 0.54
0.49	11+40	5.05	390.89	390.49 45 / 390.35	.44 / 0.54
0.44	+30	5.14	390.80	390.45 41 / 390.31	.39 / 0.49
0.43	11+20	5.20	390.74	390.41 37 / 390.27	.37 / 0.47
0.50	11+10			p-28= 390.34 / 390.24	390.38 Const. at this Elev.
0.45	11+00				
0.49	10+90				
0.44	10+80				
0.42	10+70				
	10+60				

Pg. 28

395.94

50th St.

Lt. cb Stations			Rods	Elev	Elev Grade Gutter	Cuts
+20			6.42	392.06	391.48	0.58
+10			6.43	392.05	391.48 ~~391.42~~ — constructed at	0.61
14+00			6.55	391.93	391.42 ~~391.40~~	0.53
+90			6.63	391.85	391.36	0.49
+80			6.65	391.83	391.33	0.50
+70			6.68	391.80	391.29	0.51
+60			6.76	391.72	391.25	0.47
+50			6.79	391.69	391.21	0.48
+40			6.80	391.68	391.18	0.50
+30			6.80	391.68	391.14	0.54
+20			6.82	391.66	391.10	0.56
13+10	X	in Drive	7.18	391.30	391.06	0.24
13+00	in Drive		7.20	391.28	391.02	0.26
+90			7.04	391.44	390.98	0.46
+80			7.05	391.43	390.94	0.49
+70			7.05	391.43	390.91	0.52
+60	in	Drive	7.34	391.14	390.87	0.27
12+50			7.13	391.35	390.83	0.52
+40			7.18	391.30	390.79	0.51
12+30			7.22	391.26	390.76	0.50
		398.48				

50th

Lt. cb Stations	Rods	Elev.	Elev. Gutter Grade	Cuts
14+40	6.50	391.98	~~391.43~~ 391.53	0.55
14+30	6.47	392.01 ~~391.01~~	~~391.39~~ 391.49	0.62
+20	6.48	392.00	~~391.36~~ 391.51 ~~const~~ of this Elev.	0.64
14+10	6.57	391.91	~~391.32~~ 391.47	0.59
14+00	6.60	391.88	~~391.28~~ 391.43	0.60
+90	6.65	391.83	~~391.25~~ 391.40	0.48
13+80 in Drive	6.83	391.65	~~391.21~~ 391.36	0.44
13+70 in Drive	7.01	391.47	~~391.18~~ 391.33	0.29
+60	6.80	391.68	~~391.14~~ 391.29	0.54
+50	6.79	391.69	~~391.11~~ 391.26	0.58
+40	6.83	391.65	~~391.07~~ 391.22	0.58
+30	6.91	391.57	~~391.03~~ 391.18	0.54
+20	6.94	391.54	~~390.90~~ 391.15 Uniform Grade	0.54
+10	6.96	391.52	~~390.96~~ 391.11	0.56
13+00 in Drive	7.31	391.17	~~390.93~~ 391.08	0.24
12+90 in Dr. in Drive	7.34	391.14	~~390.87~~ 391.04	0.25
12+80 in Drive	7.34	391.14	~~390.85~~ 391.00	0.29
12+70	7.08	391.40	~~390.82~~ 390.97	0.58
12+60	7.13	391.35	~~390.78~~ 390.93	0.57
12+50	7.13	391.35	~~390.75~~ 390.90	0.60
	398.48			

50th St.

Lt cb Stations		Rods	Elev.	Elev Gutter
= 13+28 on Dick St				
14+50		6.39	392.09	✓391.59
+40		6.43	392.05	✓391.55
14+30		6.43	392.05	✓391.52
	39848			

Cuts	Rt. cb Stations	Rods	Elev.	Elev Gutter	Cuts
0.50				391.60	
	= 12+37 on Dick			~~391.50~~ P-24	048
0.50	14+60	6.40	392.08		0.58
0.53	1450	6.43	392.05	✓391.~~46~~ 56	49 0.59
		39848			

Gutter Grades

Stations Curb line	Adams Ave	51st	to Altadena		Cuts	Stations	Rods	Elev.	El. Gutter	Cuts
1+88		4.39	390.56	389.98	0.58					
Brk 1+79.2 = Int. Prop. Ln. Adams			390.53							
		4.92	390.53	389.95	0.58					
1+68		4.11	390.51	389.89 / 389.93	0.62 / 0.58					
1+58		4.55	390.40	389.84 / 389.90	0.56 / 0.50					
1+48		4.61	390.34	389.79 / 389.79	0.55 / 0.55					
1+40		4.70	390.25	389.71 / 389.71	0.54 / 0.54					
1+20		4.24	390.01	389.51 / 389.51	0.50 / 0.50					
1+00		5.08	389.87	389.33 / 389.33	0.54 / 0.54					
0+80 Dr.		5.53	389.42	389.13 / 389.13	0.29 / 0.29					
0+60		5.51	389.44	388.94 / 388.94	0.50 / 0.50					
0+40 in Dr		6.07	388.88	388.74 / 388.74	0.14 / 0.14					
0+20		5.90	389.05	388.55 / 388.55	0.50 / 0.50					
0+00 = E.C. on Adams		6.07	388.88	388.35	0.53					
0-07.07		6.10	388.85	388.33 / 388.32	0.52 / 0.53					
0-14.14		6.09	388.86	388.32 / 388.30	0.54 / 0.56					
0-21.21		6.08	388.87	388.33 / 388.30	0.54 / 0.57					
0-26.51 = NW. Adams	NW 51st	6.11	388.84	388.34 / 388.30	0.50 / 0.54					
0-35		6.09	388.86	388.35	0.51					
0-43 = 0+00 on 51st		6.02	388.93		388.40	C 0.53				
	4.51	394.25	390.44	BM No 2 P. 8		1+98	4.38	390.57	390.01	0.56
							394.95			

Altadena St. Gutter Grades

from S Adams to 51st

Lt. Ch. Stations		Rods	Elev.	Elev. Gutter	Cuts
3+96		3.84	391.11	390.58	
3+70		3.90	391.05	390.51	
3+50		3.96	390.99	390.44	
3+30		4.06	390.89	390.36	
3+10	in Drive	4.49	390.46	390.28	
2+90	Drive	4.51	390.44	390.22	
2+71		4.31	390.64	390.15	
2+53		4.31	390.64	390.08	
2+38		4.42	390.53	390.01	
2+23		4.45	390.50	389.99	
2+08 = P.C. Rot.	NW Adams	4.51	390.44	389.94	
1+98		4.55	390.40	389.88	
+88		4.57	390.38	389.83	
1+82.7 = NL Adams 17th Beg. Curve Gutter			390.28	389.80	
+78		4.64	390.31	389.78	
+68		4.58	390.37	389.72	75
+58		4.67	390.28	389.61	71
1+48 = BC on Adams	NW Altadena	4.71	390.24	389.68 / 389.07	
Cont P-37	← 6+00 P-37 going West		394.95		

Rt. Ch. Stations	Rods	Elev.	Elev. Gutter	Cuts
0.53	4+80	3.43	391.52	391.02	0.50
0.54	4+60	3.49	391.46	390.95	0.51
0.55	4+40	3.55	391.40	390.88	0.52
0.53	4+20 in Drive	3.60	391.35	390.81	0.54
0.17	4+00 in Dr.	4.03	390.92	390.74	0.18
0.22	3+80	4.10	390.85	390.67	0.18
0.49	3+60	3.80	391.15	390.60	0.55
0.56	3+40	3.89	391.06	390.53	0.49
0.49	3+20	3.99	390.96	390.46	0.50
0.51	3+00	4.03	390.92	390.39	0.53
0.50	2+78 in Dr.	4.10	390.85	390.31	0.54
0.52	2+68	4.56	390.45	390.27	0.18
0.55	2+58	4.12	390.83	390.23	0.60
0.48 / 0.53	2+48	4.16	390.79	390.19	0.60
0.62 / 0.65	2+38	4.20	390.75	390.15	0.60
0.57 / 0.54	2+28	4.24	390.71	390.11	0.60
0.58	2+18	4.27	390.68 OK	390.07	0.61
	1+98 = Same as P-32	4.38	390.57	390.01	0.56
			394.95		

Altadena St. - Gutter Grades

Lt. Cb Stations			Rods	Elev.	Cuts
6+40			5.30	392.00	-391.51
6+30	in Drive		5.66	391.64	-391.47
+20			5.47	391.83	-391.44
6+10	in Drive		5.76	391.54	-391.40
6+00			5.49	391.81	-391.36
+90			5.53	391.77	-391.32
+80			5.58	391.72	-391.28
+70			5.61	391.69	-391.25
+60			5.63	391.67	-391.21
+50			5.66	391.64	-391.17
+40	in Drive		5.66	391.64	-391.14
+30	in Drive		6.11	391.19	-391.10
5+10			5.80	391.50	-391.02
4+90			5.85	391.45	-390.95
T.P.	5.91	397.30	3.56	391.39	
4+70			3.60	391.35	-390.87
4+50			3.64	391.31	-390.80
+30			3.73	391.22	-390.73
4+10	Drive		4.17	390.78	-390.66
		394.95			

Cuts	Rt. Cb Stations	Rods	Elev.	Elev. Gutter	Cuts
0.49	6+40	5.04	392.26	-391.65	0.61
0.17	6+30	5.08	392.22	-391.61	0.61
0.39	6+20	5.15	392.15	-391.57	0.58
0.14	6+10	5.19	392.11	-391.53	0.58
0.45	6+00	5.22	392.08	-391.48	0.60
0.45	5+90	5.27	392.03	-391.44	0.59
0.44	5+80 in Dri	5.71	391.59	-391.40	0.19
0.44	5+70 Drive	5.34	391.96	-391.36	0.60
0.46	+60	5.78	391.52	-391.32	0.20
0.47	+50	5.41	391.86 391.96	391.28	0.58
0.50	+40	5.48	391.82	-391.24	0.58
0.09	5+30 Brk	5.51	391.79	-391.20	0.59
0.48	5+20	5.56	391.74	-391.16	0.58
0.50	5+00	5.73	391.57	-391.09	0.48
			397.30		
0.48					
0.51					
0.49					
0.12					

Altadena St. · Gutter Grades

				Elev Gutter
8+20	In Drive		5.56	392.24 - 392.18
8+10			5.22	392.58 - 392.14
8+00			5.22	392.58 - 392.11
T.P.	5.31	397.80	4.81	392.49 = T.P.
+90			4.77	392.53 - 392.07
+80			4.76	392.54 - 392.03
7+70	Drive		5.12	392.18 - 391.99
7+60	Drive		5.07	392.23 - 391.95
7+50			4.83	392.47 - 391.91
7+40			4.24	392.36 - 391.87
7+30			5.01	392.29 - 391.83
7+20			5.03	392.27 - 391.79
7+10			5.03	392.27 - 391.76
7+00			5.10	392.20 - 391.72
6+90			5.15	392.15 - 391.69
6+80	Drive		5.57	391.73 - 391.66
6+70			5.22	392.08 - 391.62
6+60			5.24	392.06 - 391.59
6+50			5.22	392.08 - 391.55
		397.30		

Cuts	Ft. cb. Stations	Rods	Elev	Elev Gutter	Cuts
0.06 ✓					
0.44 ✓					
= 0.47 ✓	5+90 to 8+00	4.96	392.84 -	392.30 ✓	0.54
	7+90	4.95	392.85 -	392.26 ✓	0.59 -
0.46 ✓	7+80	4.98	392.82 -	392.22 ✓	0.60 ✓
0.51 ✓	7+70	5.05	392.75 -	392.18 ✓	0.57 ✓
0.19 ✓	7+60	5.14	392.66 -	392.14 ✓	0.52 ✓
0.28 ✓	7+50	5.21	392.59 -	392.10 ✓	0.49 ✓
0.56 ✓	7+40	5.26	392.54 -	392.06 ✓	0.48 ✓
0.49 ✓	7+30 In Drive	5.29	392.51 -	392.02 ✓	0.49 ✓
0.46 ✓	7+20 In Drive	5.69	392.11 -	391.98 ✓	0.13 ✓
0.48 ✓	7+10 T.P.	5.74	392.06 -	391.94 ✓	0.12 ✓
0.51 ✓	5.31	397.80	4.81	392.49 = T.P.	
0.48 ✓	7+00	4.93	392.37 -	391.89 ✓	0.48 ✓
0.46 ✓	6+90	5.00	392.30 -	391.85 ✓	0.45 ✓
0.07 ✓	6+80	5.03	392.27 -	391.81 ✓	0.46 -
0.46 ✓	6+70	4.98	392.32 -	391.77 ✓	0.55 ✓
0.47 ✓	6+60	4.98	392.32 -	391.73 ✓	0.59 ✓
0.53 ✓	6+50	5.01	392.29 -	391.69 ✓	0.60 ✓
		397.30			

Altadena St. Gutter Grades Cont'd.

			Gutter Elev.	Cuts
= 6+33.3 St. St. Lt. Side				
			.002	
			392.66	
9+08.6	5.16	392.64	392.00	C 0.64
				P22 this Book
9+00	5.12	392.68	392.05	0.63
8+90	5.15	392.65	392.11	0.54
8+80	5.10	392.70	392.18	0.52
8+70	4.99	392.81	392.31 / 392.25	0.56 → This is per Construction 6-7-48 = G.B.W.
8+60 = Blk	4.99	392.81	392.36 / 392.31	0.45 / 0.50
8+50 ?	5.14	392.66	392.29 / 392.27	C 0.37 / 0.39 — This change made in order to fit Exist. Conc. Gut at 8+70
8+40	5.13	392.67	392.24	0.43
8+30 In Drive	5.58	392.22	392.21	0.01
	397.80			

Walker
Hendricks
Becker
Johnson
10-31-47

Adams Ave. Gutter Grades on North Side Street from 58th to End existing Cb.

N Cb. Line Stations					Cuts
1+05 = End Cb			5.89	389.30 / 388.80	0.50
1+00			5.86	389.33 - 388.84	.049
0+80			5.63	389.56 - 389.01 / 388.99	0.55 / 0.57
0+60			5.84	389.35 - 389.18 / 389.14	017 / 0.21
0+40			5.26	389.93 - 389.34 / 389.29	059 / 0.64
0+20			5.11	390.08 - 389.51 / 389.44	057 / 0.64
=0.+00					
1+48 P-33			4.96	390.23 - 389.68 / 389.59	055 / 0.64
Cont'd.	4.75	395.19		390.44 BM P-32	

Adams Ave - Gutter Grades
on North

Collier St. Gutter Grades

Ech Station			from 30th to Winona thence		
2+80			5.50	392.43	391.90
2+70			5.54	392.39	391.85
2+60	ok		5.54	392.39	391.79
2+50			5.63	392.30	391.73
2+40			5.75	392.18	391.67
2+20			5.87	392.06 ~~392.05~~	391.56
2+00			6.00	391.93	391.45
1+80			6.15	391.78	391.33
1+60			6.32	391.61	391.20
1+40			6.44	391.49	391.09
1+20			6.54	391.39	390.98
1+00			6.69	391.24	390.87
0+80			6.79	391.14	390.75
0+60			6.90	391.03	390.64
0+40			7.14	390.79	390.52
0+20 = 0+00			7.11	390.82	390.41
10+70 P-29			7.20	390.73	390.30 Fire Hydt
T.P	3.73	397.93	1.69	394.20	BM. NE Ed. Adams & Winona
	6.53	395.89		389.36	
0-24.6					390.16

North on Winona to Dick St.

Cuts	Station	Dir	Westcb		
0.53	4+50		4.65	393.28	393.24
0.54	+40		4.44	393.49	393.00
0.60	4+30	Drive	4.65	393.28	392.96
0.57	+20		4.49	393.44	392.92
0.51	+10		4.52	393.41	392.88
0.50	4+00	Blk	4.59	393.34	392.84
0.48	+90		4.66	393.27	392.77
0.45	+80		4.72	393.21	392.70
0.41	3+70	Drive	5.03	392.90	392.63
0.40	+60		4.86	393.07	392.57
0.41	+50		4.97	392.96	392.50
0.37	+40		5.08	392.85	392.43
0.39	+30		5.17	392.76	392.36
0.39	3+20	Dr.	5.43	392.50	392.29 ~~0.21~~ 0.31
0.27	+10		5.24	392.69	392.22
0.41	3+00		5.34	392.59	392.15
0.43	2+90		5.39	392.54	392.06
	+79		5.47	392.46	392.01
	+67		5.55	392.38	391.93
	Sag. Sh. 2+60.7				391.89
	2+55		5.58	392.35	391.85
	2+36				391.70
	2+17				391.54
			392.93		

Collier & Winona

Gutter Grades Cont. from P-39

F.cb Stations

= 18717 on Dick St

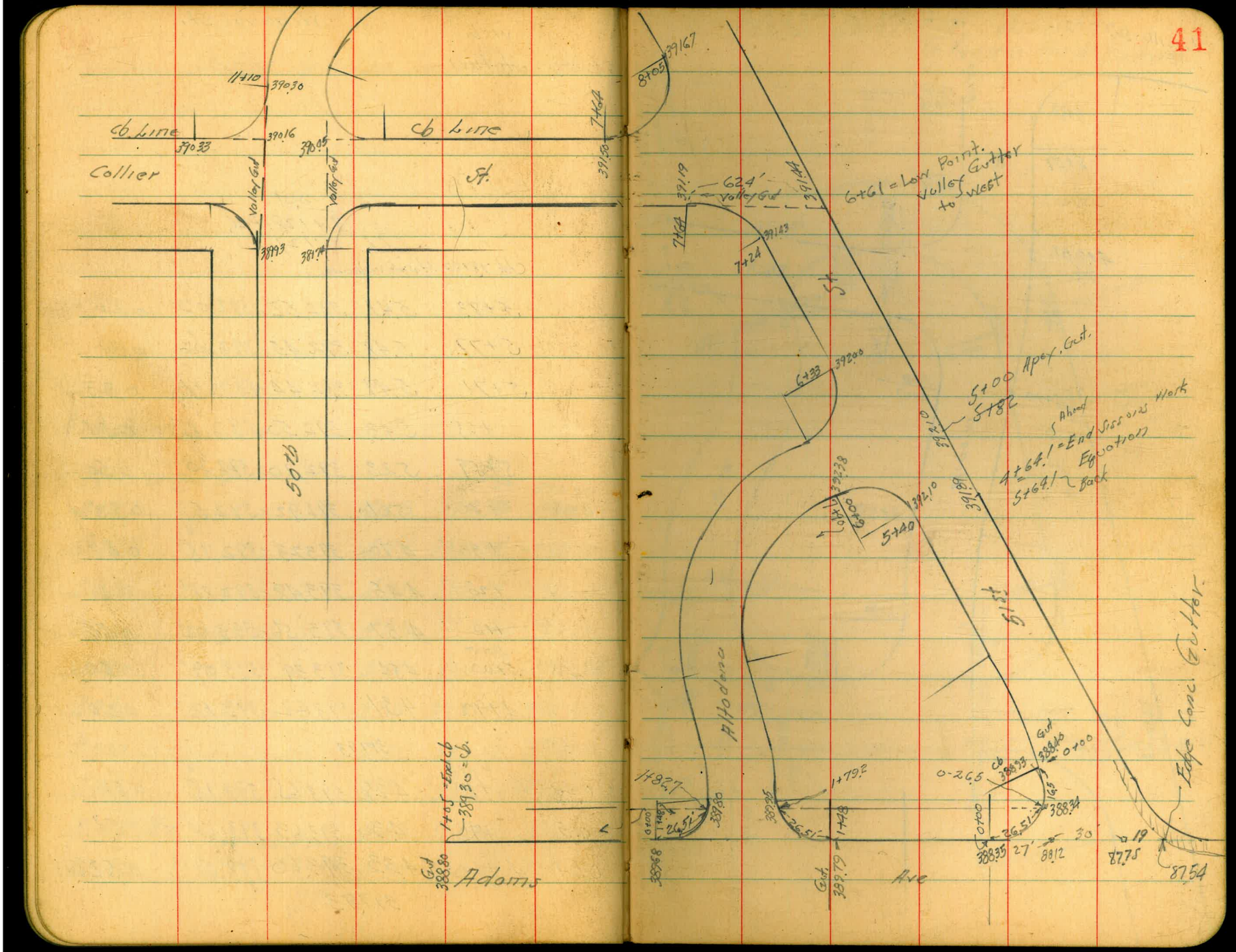
4+07	4.63	393.30	0.02 393.32	392.84 ~~392.82~~
3+93	4.71	393.22		392.71
3+80	4.81	393.12		392.61
3+60	4.95	392.98		392.46
3+40	5.04	392.89		392.31
3+30	5.34	392.59		392.23
3+20	5.32	392.61		392.16
3+10	5.37	392.56		392.08
3+00 Fik	5.42	392.51		392.00
2+90 X	~~5.54~~	~~392.39~~ 392.49		391.95

OK check Levels Gd. 232-34

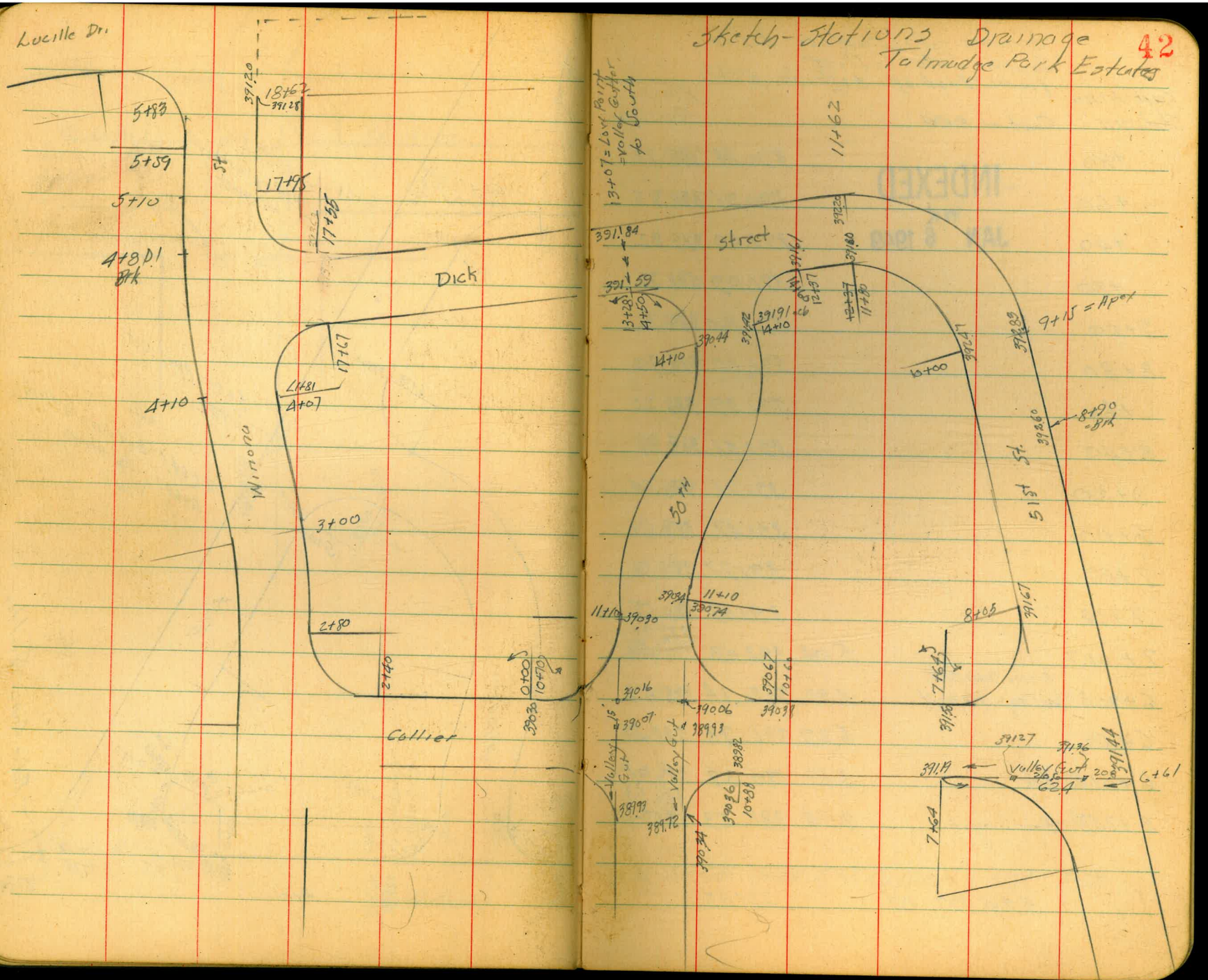
397.93

Winona St.

Cuts.	v/cb. Station			
			0.01 391.28 - P-26	
		6.66	391.27	
	Chk 18762 At S/c Winona			
	5+83	5.41	392.52	392.02 0.50
	5+77	5.48	392.45	392.06 0.39
	5+71	5.49	392.44	392.11 0.33
	+65	5.43	392.50	392.15 0.35
	5+59	5.23	392.70	392.20 0.50
~~0.48~~	+40	5.01	392.92	392.57 0.35
0.51	+30	4.70	393.23	392.75 0.48
0.51	+20	4.45	393.48	392.88 0.60
0.52	+10	4.37	393.56	393.02 0.54
0.58	Drive 5+00	4.54	393.39	393.09 0.30
0.36	4+90	4.31	393.62	393.12 0.50
0.45			397.93	
0.48	4 +80 = Blk	4.28	393.65	393.15 0.50
0.51	+70	4.30	393.63	393.12 0.51
0.54	4+60	4.33	393.60	393.08 0.52
			397.93	


11+10
39030
cb Line
39033
39016
39005
cb Line
7+64
39150
Collier
St.
Valley Gut
Valley Gut
38893
38874
50 ft
8+05
39167
391.19
624'
Valley Gut
391.44
6+61 = Low Point. Valley Gutter to West
7+64
39183
7+24
St.
6+33
392.00
5+00 Apex. Gut.
5+82
392.10
4+64.1 = End Sissors Work Ahead Equations
5+64.1 ~ Back
39238
392.10
39189
5+40
61 ft
Hoddard
1+82.7
1+79.2
1+48
26.51'
38980
38965
38958
0+00
1+48
1+05 = End cb
389.30 = Gut.
Gut
388.80
Adams
Ave
Gut
389.79
0-26.5
cb
388.93
Gut
388.46
0+00
16.5'
388.34
0+00
26.51'
388.35
27'
30
8812
19
8775
8754
Edge Conc. Gutter

Sketch - Stations Drainage
Talmudge Park Estates



Grades - Subsurface Ditch
South Side Collier
from East of 51st to 50th

Curb Line Stations				Elev. Flow Line	
	Cont. on P-44				
+80			390.84	388.88	1.96
+60			390.91	388.85	2.06
+40			391.00	388.82	2.18
+20			391.09	388.79	2.30
9+00			391.20	388.76	2.44
8+80			391.11	388.73	2.38
+60			391.39	388.70	2.69
8+40			391.51	388.67	2.84
8+20			391.71	388.64	3.07
8+00			391.47	388.61	2.86
7+82			391.77	388.58	3.19
7+64			391.83	388.55	3.28
7+01.7		5.04	392.03	388.46 ~~388.46~~	3.57
6+90.8	E Side Coll. 51st = East edge Side Walk	4.93	392.14	388.44	3.70
6+50		5.29	391.78	388.38	3.40
6+01.59	Brk	6.69	390.38	388.31	2.07
5+75.09	= Bore Canyon	8.54	388.53	386.53 ~~388.47~~	2.00
		5.24	397.07	391.83	

BM on Cb 7+64 S.W. Collier & 51st P-22

Grades - Subsurface Ditch
South Side Collier
Cont. from P. 43

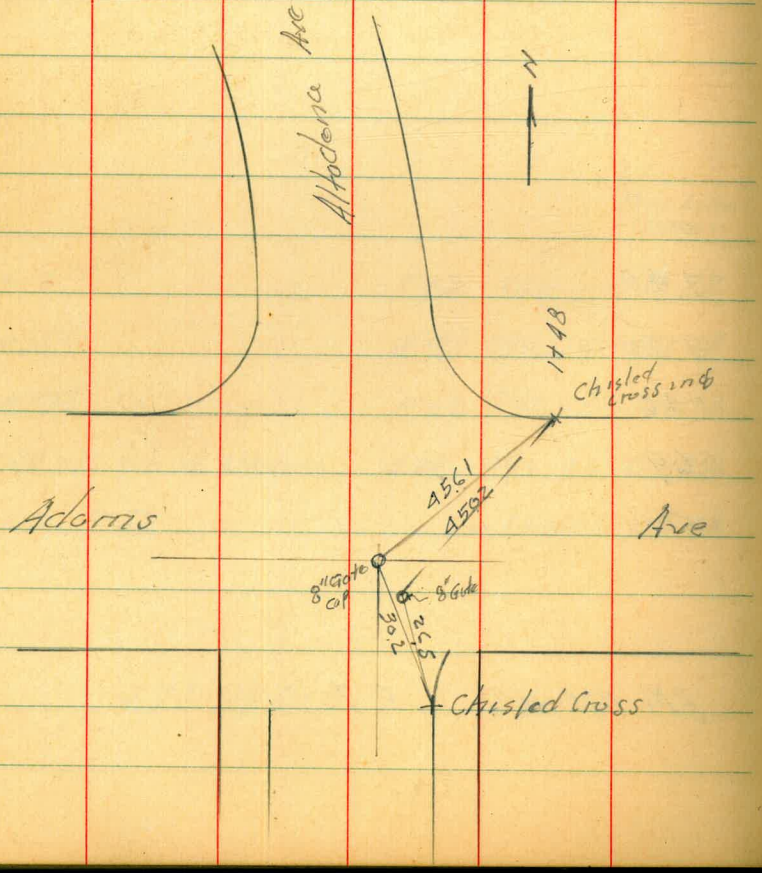
Cb Line Stations			El. Flow line	
11+65.7	= Int cbs NW 4 58th = Collier W 4 cb 58th		390.16	389.16	1.00
11+80.7	= ℄ Collier	6.99	390.08	389.14	0.94 + 0.12 = Gutter.
11+38.7	= Int. W cb 50th S.E. Cor 58th	6.93	390.14	389.11	1.03 Gut = 390.00
10+88	= BC. cb Return		390.36	389.04	1.32
+80			390.38	389.03	1.35
+60			390.48	389.00	1.48
+40			390.57	388.97	1.60
+20			390.39	388.94	1.45
10+00			390.75	388.91	1.84
		397.07 ✕ from P. 43			

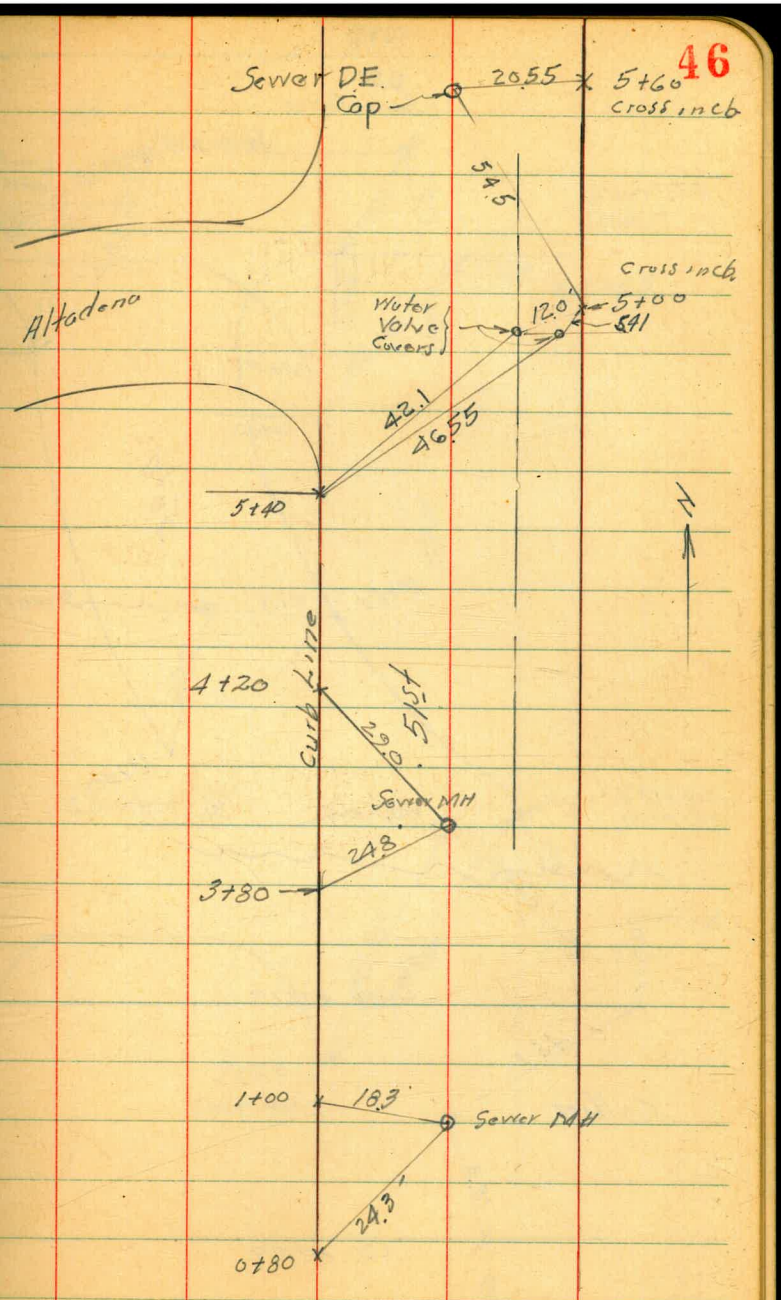
Walker
Hendricks
Booker
11-13-47

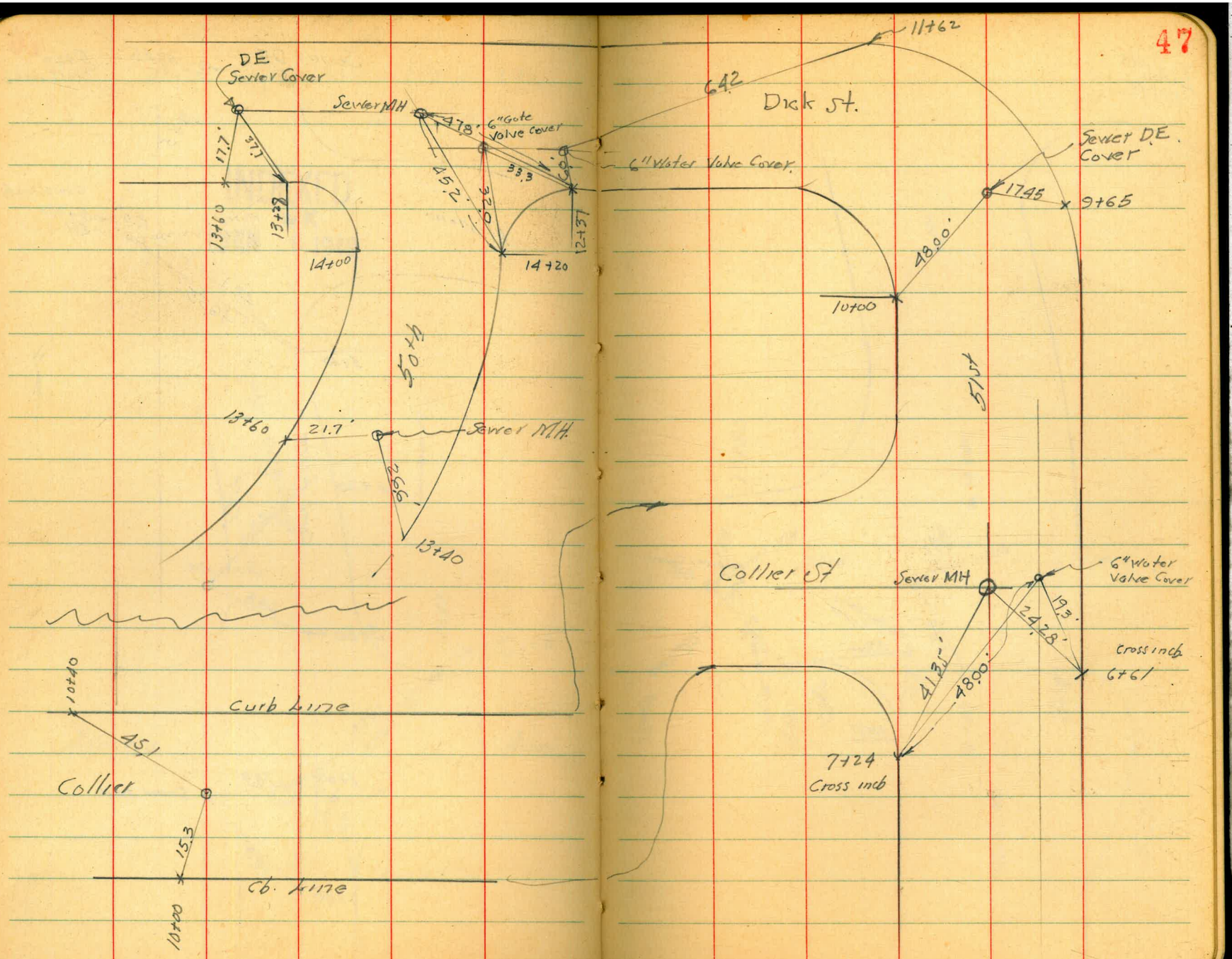
Grades Subsurface Ditch.
North Side Adams

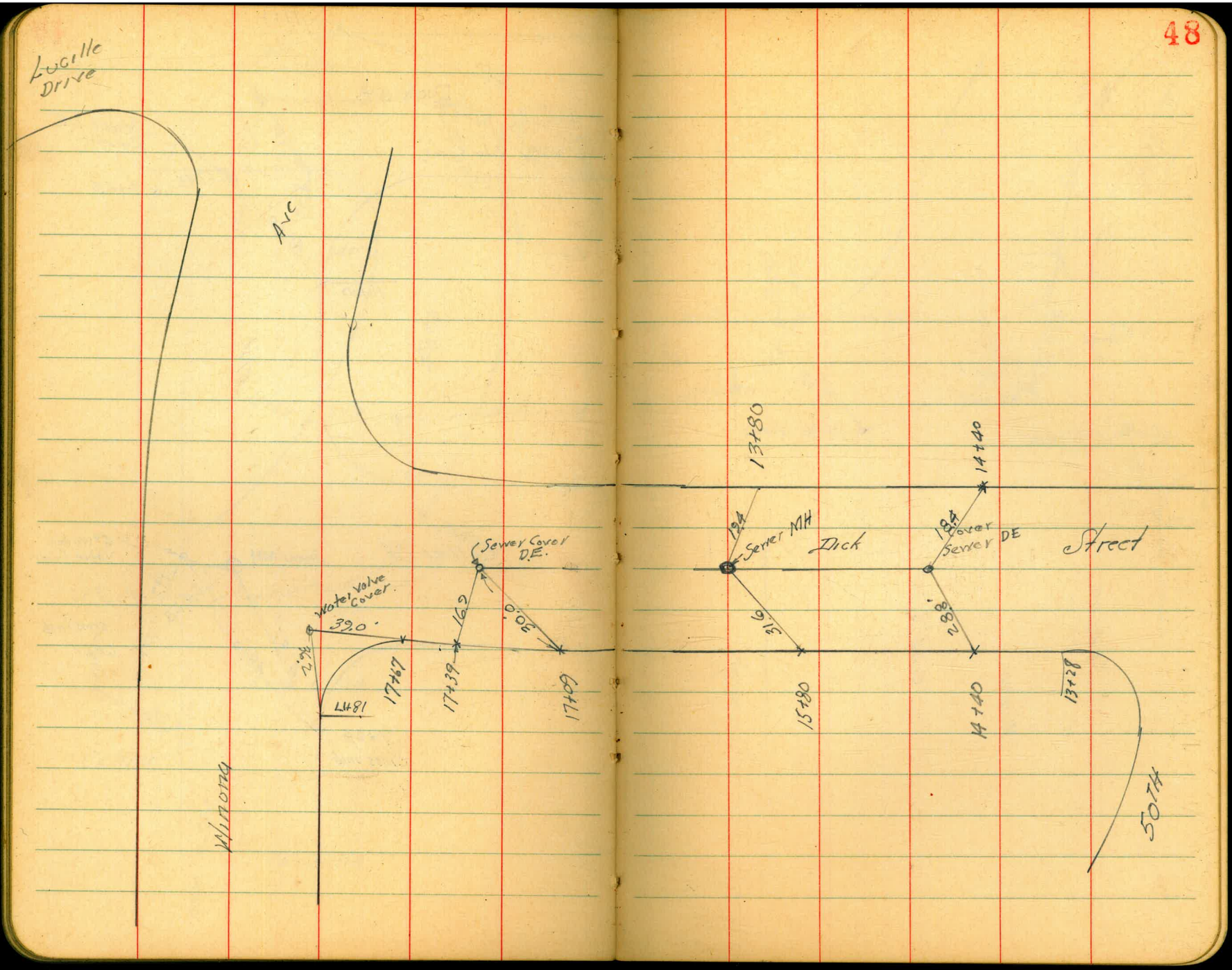
			El. Flow Line Ditch.	
2+12		5.02	390.17	388.77	1.40
1+95		4.95	390.24	388.74	1.50
1+77.5		5.02	390.17	388.71	1.46
1+48 - B.C. Rd. NE Altadena		4.84	390.35	388.66	1.69
1+20 P-32	→		390.01	388.51	1.50
	4.75	395.19	390.44		B.M. No 2 on ℄ P-8

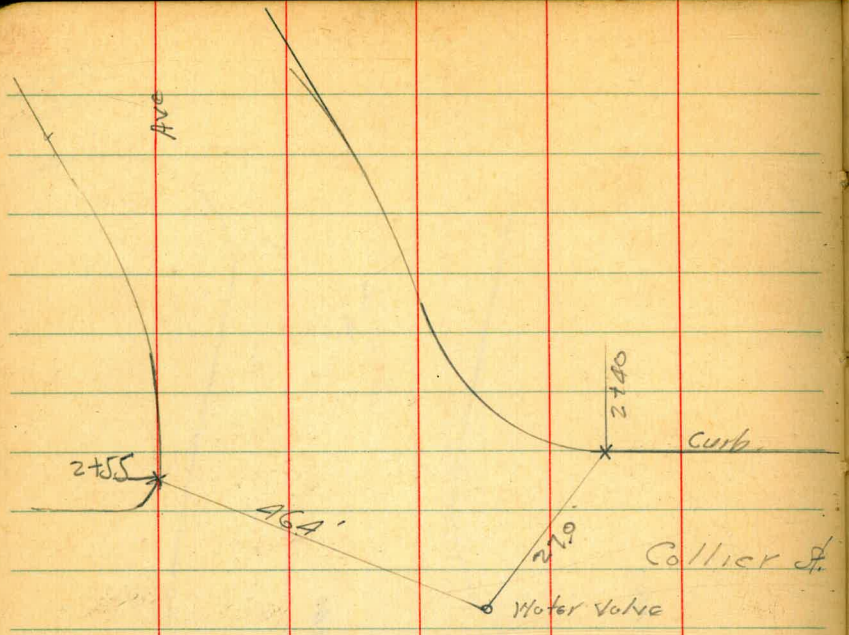
References for Relocation
Valve Caps - Sewer MH.S. etc.
Talmadge Park Manor N&E

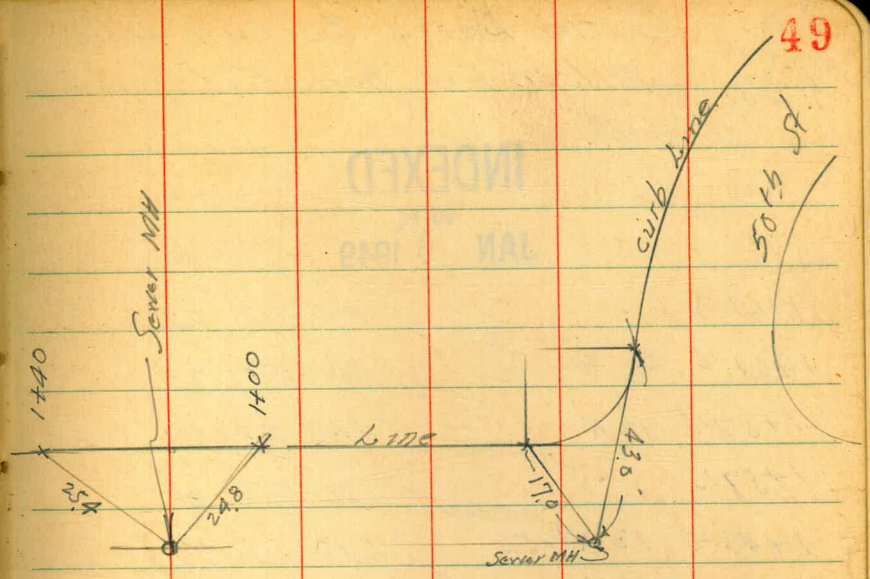


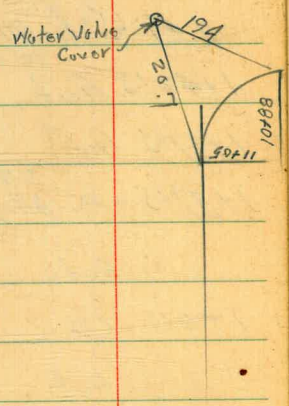



DE
Sewer Cover
Sewer MH
478'
6" Gate Valve Cover
17.7'
37.1'
13+60
13+38
14+00
45.2'
33.3'
12+37
14+20
51+15
13+60
21.7'
Sewer M.H.
39.2'
13+40
Curb Line
10+40
45.1'
Collier
15.3'
Cb. Line
10+00
11+62
64.2'
Dick St.
6" Water Valve Cover.
Sewer DE. Cover
17.45'
9+65
48.00'
10+00
51+15
Collier St
Sewer MH
6" Water Valve Cover
19.3'
24.28'
41.31'
48.00'
Cross inch
6+61
7+24
Cross inch


Lucille Drive
Ave
Sewer Cover D.E.
Water Valve Cover
39.0
20.2
L1481
L1471
17+69
17+91
13+80
14+40
Sewer MH
19.4
Dick
Street
Cover Sewer DE
19.4
31.6
28.2
15+80
14+40
13+28
South


Ave
2+55
464'
2+40
Curb
27.9
Water Valve
Collier St.
Cl Line
Wilcox
Curb Line


1+40
Sewer MH
1+00
Line
25.4
24.8
curb Line
50th St.
43.0'
17.9
Sewer MH


Water Valve Cover
194
20.7
50 F 11
10888


Alley

Walker Hendricks Beckett 11-14-47

Gutter Levels East Curb Line Wilson Ave from E/ Cajon Blvd North.

1+61.5	Gut	5.21	382.22
1+61.5	= EC. Alley on cb Ret	4.50	387.93
1+57.5	12' R	4.76	387.67
1+57.5		5.37	382.06
1+49.5	12' Rt = EL. E Alley	5.10	382.33
+49.5	= L Alley 12' Rt	5.45	381.98
1+43.5	Gut	4.84	382.59
		5.37	382.06
1+37.5	Gut	5.36	382.07
1+37.5	= PC. Alley on cb Ret	4.50	387.93
	Gut.	5.32	387.11
1+00	cb	4.86	387.57
	Gut.	6.25	381.18
0+50	cb	3.67	381.76
	Gut.	6.88	380.55
0+00 = W.L. E/ Cajon	cb	6.40	381.03
	7.35	387.43	380.08

B.M. SW. B.P. E/ Cajon & Wilson.

Wilson Ave Cont from p. 50

3+50 Cut.			4.76	384.38
3+50 Cb.			4.50	384.62
3+25 Cut			5.03	384.09
3+25 Cb			4.77	384.35
3+00 Cut			5.19	383.93
3+00 Cb			4.99	384.13
2+75 Cut			5.39	383.73
2+75 Cb			5.19	383.93
2+50 Cut.			5.62	383.50
2+50 Cb.			5.42	383.70
2+25 Cut.			5.83	383.29
JP				
~~2+25 Cut~~	5.71	389.12	4.02	383.41
2+25 Cb			3.91	383.52
2+00 Cut.			4.37	383.06
2+00 Cb			4.17	383.26
1+72 Cut.			4.68	387.75
1+72 Cb			4.43	383.00
1+67.5 Cb Cut			5.23	387.20
1+67.5 ~~Cut.~~ Cb			4.48	387.95
		387.43		

Wilson Ave Cont.
from D-51

(1+57.15)	25' Rt.		5.51	382.72
(1+57.15)	21' Rt		5.54	382.69
(1+49.65) ℄ Alley	25' Rt		5.47	382.76
(1+49.65)	21' Rt		5.50	382.73
(1+42.15)	25' Rt		5.35	382.88
(1+42.15)	21' Rt		5.39	382.84
	8.16	388.23		380.07 Elev
				001
				380.08
Ctr Starting Bkt			6.94	380.07
T.R	3.95	386.51	6.56	382.56
4+17 in ℄ Drive			4.04	385.08
4+00 Gut			4.20	384.92
4+00 Ch			3.90	385.22
~~4+01~~ 3+75 Gut.			4.17	384.65
3+75 Ch.			4.20	384.92
(3+61.5) 11' Rt on Walk			3.91	385.21
3+61.2 = ℄ Drive N side Coca Cola			4.59	384.53
		389.12		

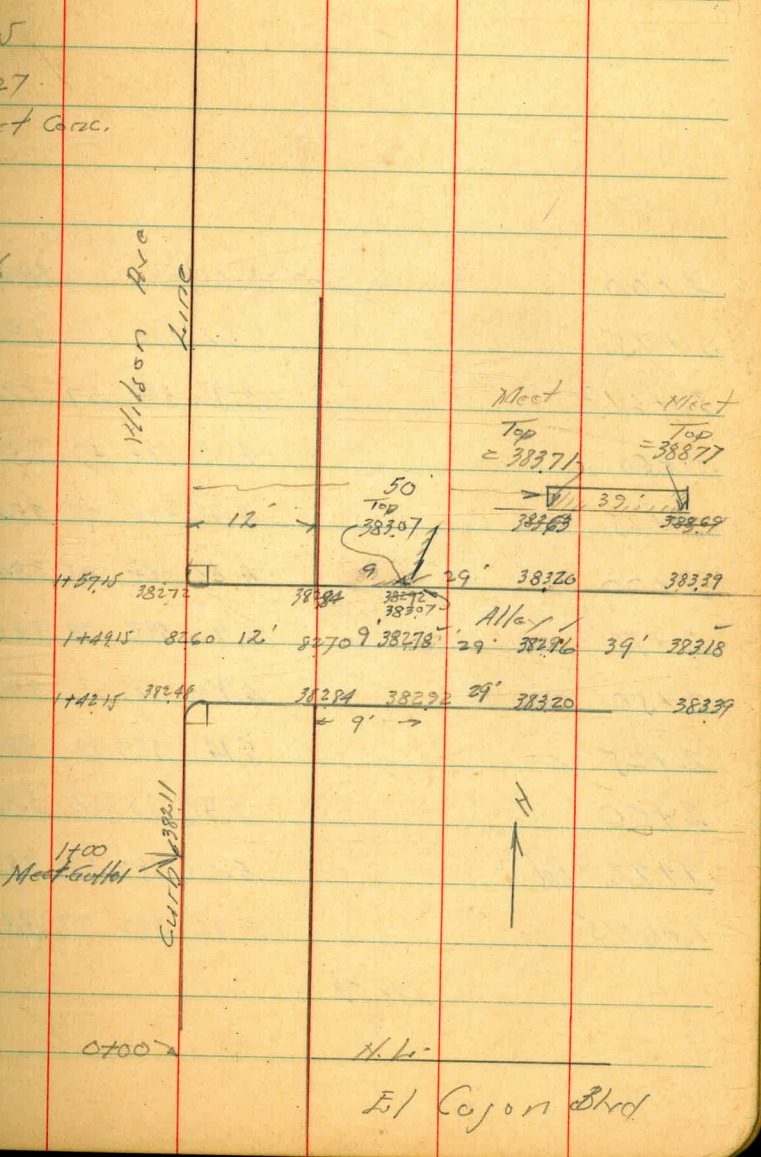
80' Rt S.L. Alley	4.90	383.33	
80' Rt Ramp	4.48	383.75	
80' Rt ℄ Alley	5.05	383.18	
(1+57.15) 12' Rt on Ch	5.39	382.84	
(1+42.15) 12' Rt. on Ch	5.23	383.00	
(1+57.15)	5.19	383.04	
℄ Alley	5.27	382.96	
Ramp	4.55	383.68	
	388.23		

Walker Hendricks Becket 11-18-47

Gutter Grades - Wilson Ave

North of El Cajon - East Side

℄ Line Station			El. Gutter
(1+57.15) 89' Rt	5.38	383.14	383.39
1+57.15 50 Rt	5.60	382.93	383.20
(1+57.15) 21 Rt	5.46	383.07	383.07
	5.61	382.92	382.92
(1+57.15) 12 Rt	5.69	382.84	382.84
1+57.15 = NL Alley	6.47	382.06	382.72
(1+49.65) 89' Rt	5.33	383.18	383.18
(1+49.65) 50 Rt	5.59	382.94	382.96
(1+49.65) 21 Rt	5.76	382.77	382.78
(1+49.65) 12' Rt	6.15	382.38	382.70
1+49.65 = ℄ Alley			382.60
(1+42.15) 89' Rt	5.14		383.34
(1+42.15) 50 Rt	5.33	383.20	383.20
(1+42.15) 21 Rt	5.61	382.92	382.92
(1+42.15) 12' Rt	5.69	382.84	382.84
1+42.15	6.48	382.05	382.48
1+37.15	6.09	382.44	382.44
1+00	6.42	382.11	382.11
0+00 = N.L. El Cajon Blvd.			
	8.45	388.52	380.07



Wilson Ave Cont.
from P. 53

4+00		3.60	384.93
3+75		3.82	384.71
3+61.2		3.96	384.57
3+50		4.03	384.49
3+25		4.26	384.27
3+00		4.48	384.05
2+75		4.70	383.83
2+50		4.92	383.61
2+25		5.14	383.39
2+00		5.36	383.17
1+72 - BM		5.61	382.92
1+61.15		5.76	382.77
	388.53		

Meet Existing Gutter at this point.

N. end Winona

Cont. from P-26

6" Subsurface Drain

0+46		6.15	390.16	388.42	1.74
0+05		4.68	391.58	389.42	2.16
0+00 = East edge Gutter					
	Levels Drain				
19+29.8	& open Drain to End	5.60	390.66	390.60 / ~~390.37~~	+0.06
19+08 = Bk		5.27	390.99	390.93	+0.06
18+90		5.18	391.08	391.09	-0.01
18+75		5.06	391.20	391.13	+0.07
18+62 = End c6		4.98			
	4.98	396.26		391.28	

this set run 11-25-97

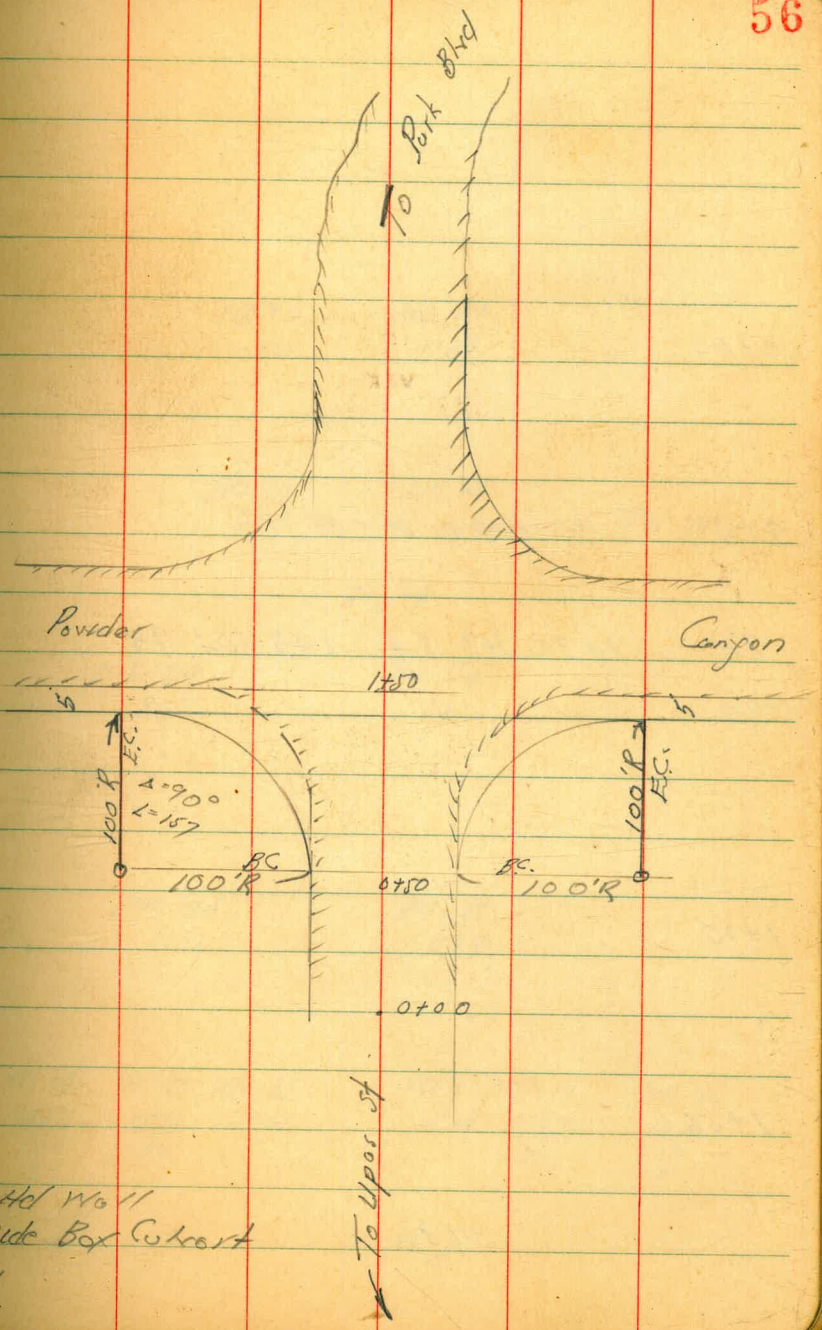
8.17 Top c6 18+62 P-26

Walker
Hendricks
Becker
Johnson
11-26-47

Grades - ~~Upas~~ Rocks S. of Upas & Powder Canyon
for Daylighting N.E. & S.E. Cors.

B.M. = Assumed Elevation

Cut Slopes = 1:1½ See P-58



11.36 311.36

South end Hd Wall
300.0 on East side Box Culvert
Elev. Assumed

4 RT.

0+00

318.92 318.17
0.32 1.07

0+50 = B.C. 100' Radius LT & RT.

310.59 310.05
8.65 9.19

TP 14.31 319.24 6.43 304.93

319.24

1+00

302.74 302.54
8.62 8.82

1+25

300.04 300.18
11.32 11.18

1+55

297.04 297.83 298.35 298.92 299.99 300.96
14.32 13.53 13.01 12.49 11.37 10.4
100 50 100 50 100
E.C E.C

311.36

311.36

Powder Canyon

Cont. from P-57

Cut slopes 1½ : 1

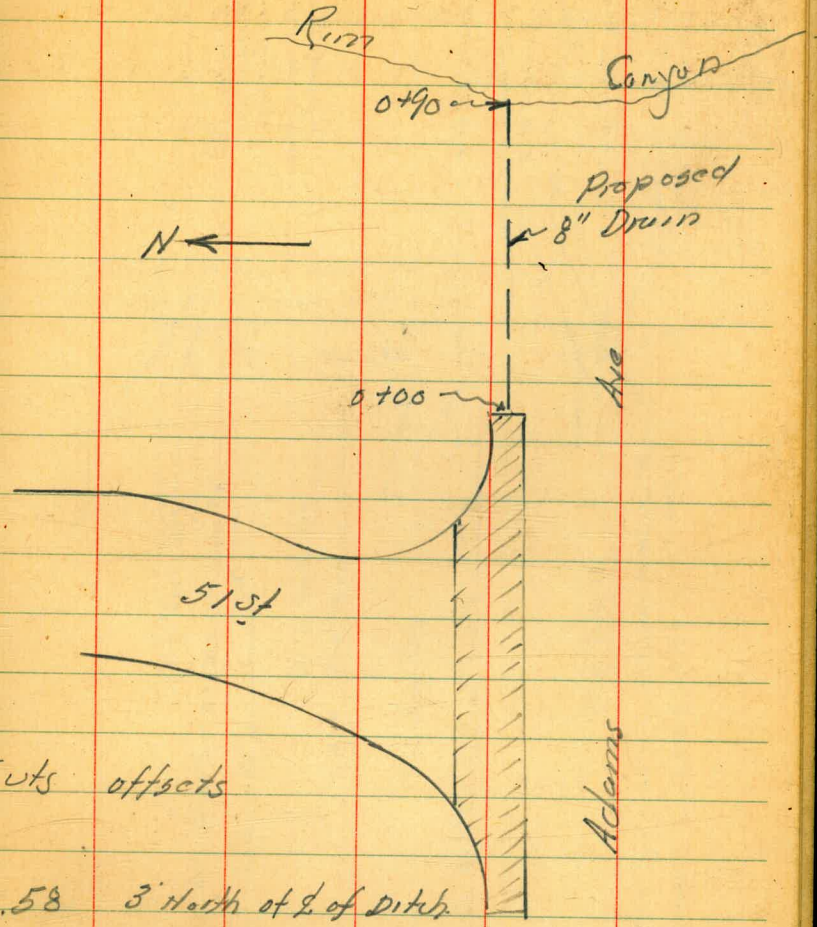
Sketch P-56

EC. #11	C 6.9 / 10.4	297.00
EC. #10	C 4.7 / 7.1	297.25
#9	C 4.0 / 6.0	297.50
#8	C 0.0 / 0.0	297.80
#7	C 6.1 / 9.3	298.10
#6	C 6.1 / 9.2	298.75
#5	C 7.5 / 11.3	300.15
#4	C 7.2 / 10.8	302.85
#3	C 6.3 / 9.5	305.35
#2	C 5.9 / 8.8	307.85
#1	C 5.7 / 8.5	310.60
BC. on Upper Extension		
S.East Return 100' Radius		

EC #11	301.00	C 3.3 / 4.9
#10	300.65	C 0.6 / 0.9
#9	300.35	C 0.6 / 0.9
#8	300.35	C 1.6 / 2.4
#7	300.52	C 1.6 / 2.4
#6	301.05	C 6.3 / 9.5
#5	302.00	C 6.8 / 10.4
#4	303.20	C 7.6 / 11.4
#3	305.20	C 7.2 / 10.8
#2	307.40	C 7.6 / 11.4
BC #1	310.05	C 8.4 / 12.2
N.East Return		
12.68	312.68	
	300.00	BM. P-56

Walker
Hendricks
Becket
Johnson
12-30-47

Grade 8" drain Tile on North Side Adams Ave from End cb Return NE 515f. to Canyon



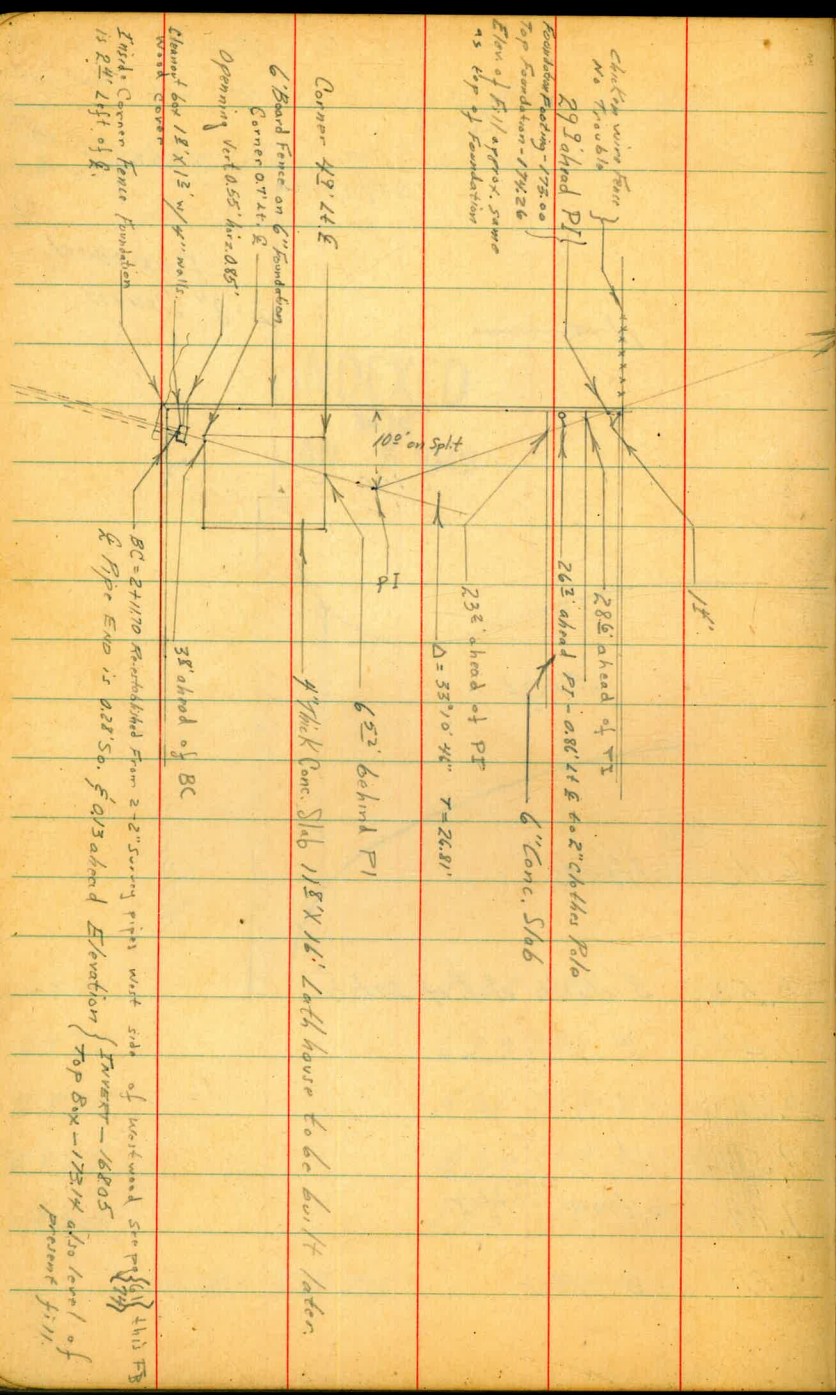
			F.I. Flow Line	Cuts	offsets
0+90		7.25	386.00 385.42	0.58	3' North of ℄ of Ditch
0+75		6.29	386.96 385.50	1.46	"
0+50		5.84	387.41 385.63	1.78	"
0+25		5.93	387.32 385.76	1.56	"
0+00		6.20	387.05 385.88	1.17	→ from Conc. Gutter.
	Z 81 393.25		39044		

8M N&Z P-8

Location of Improvements in Storm Drain Easement Lot 8 BLK 16 Paradise Hills (See next Page)

Roberts
Cota
Moore
Pullen
5-17-51
W.O. 20530

ahead is a chicken wire fence about 1½' Lt. ℄
Fence in bad shape & hung on 1"x4" posts.
Should cause no trouble



PARADISE HILLS

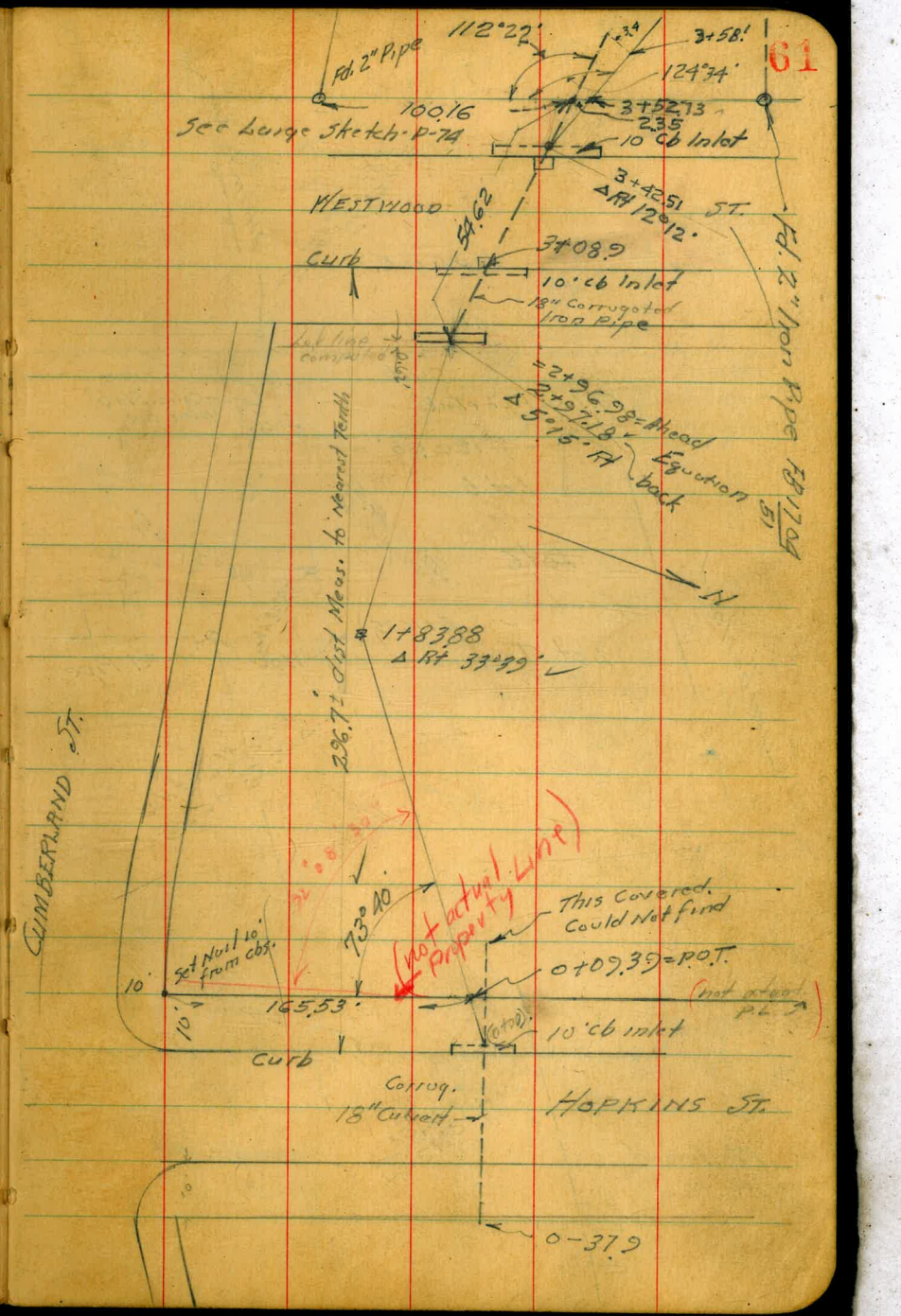
Walker
Hendricks
Secker
Williams
4-20-48

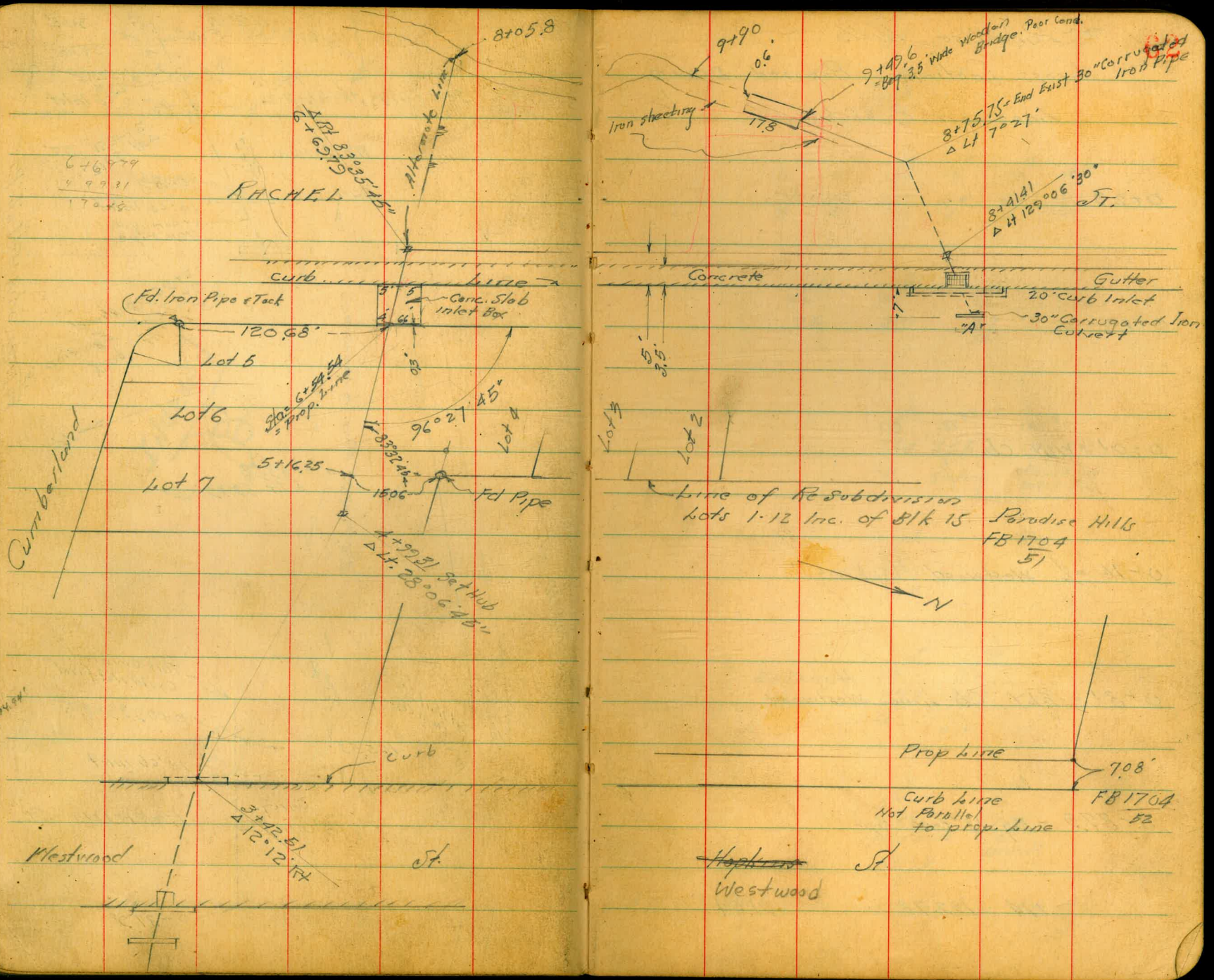
SURVEY PROPOSED DRAIN

IN Blocks 15, 16 W.O. 800 ~~99~~ 98

Indexed

For re-alignment Proposed Drain
See 7234-L




8+05.8
6+67.79
Δ Rt 83°35'45"
RACHEL
curb
line
Fd. Iron Pipe & Tack
Conc. Slab
Inlet Box
120.68'
Lot 6
Lot 6
Lot 7
Lot 4
96°27'45"
5+16.25
1506
Fd Pipe
Cumberland
4+99.31 Set Hub
Δ Lt. 28°06'45"
curb
3+42.51
Δ 12°12' Rt
Westwood
St.
9+90
0.6'
9+49.6
=BM 3.5' Wide Wooden Bridge. Poor Cond.
Iron sheeting
17.8
8+75.75 = End Exist 30" Corrugated Iron Pipe
Δ Lt 7°27'
8+41.41
Δ Lt 129°06'30"
T.
Concrete
Gutter
20' Curb Inlet
30" Corrugated Iron Culvert
"A"
Lot 4
Lot 2
Line of Resubdivision
Lots 1-12 Inc. of Blk 15 Paradise Hills
FB 1704
51
N
Prop Line
7.08'
FB 1704
52
Curb Line
Not Parallel
to prop. line
Westwood
St.

Paradise Hills

Cross Sections Proposed Drain

Location P. 61. 62

0+23

0+10

0-01 = ~~WLY~~ Cb.

0-16 = ℄ ~~Westwood~~ Hopkins

0-31 = ELY Cb Line ~~Westwood~~ Hopkins

0-37.9 - Beg 18" Conc Pipe.

1.14 192.78 191.64

4 8 14

Revised 4-21-48 (CH)

182 3 — 10.5 — 18

181 4 — 11.4 — 6

180 8 — 12.0

181 4 — 11.4 — 4

184 3 — 8.5 — 14

184 6 — 8.2 — 20

185 4 — 7.6

184 8 — 8.0

185 1 — 7.7 — 10

185 24 — 7.54 — Cb

184 23 — 8.55 — ○ Grating

180 10 — 12.68 — Flow Line Inlet Box

185 08 — 7.70 — on Pav

180 01 — 6.73 — Cb

185 36 — 7.42 — ○ Cut.

182 26 — 10.52 — Flow Line

185 33 — 7.45 — ○ Hdwall

192.78

B.M. S.W.BP Cumberland & Hopkins FB 1692 31

Paradise Hills Drain Blks. 15, 16

1+83.88 & Rt 33°39'		Sec. on Split		
1+54				
1+48				
1+25				
1+00				
T.P.	113	181.57	12.34	180.44
0+50				
		192.78		

Actual 4-21-48 (CJB)

A	B	C	D	E
174.4	172.43	178.8	175.0	179.0
7.2	9.14 on H.B.	7.8	6.6	2.6
20		8	14	21
174.3	173.6	174.1	174.8	175.4	179.4	179.8
7.3	8.0	7.5	6.8	6.2	2.2	1.8
21	19	15		4	11	20
174.5	174.0	174.3	175.3	176.3	178.2
7.1	7.6	7.3	6.3	5.3	3.4
20	18	14		8	20
175.9	175.7	175.1	176.0	177.2	178.6
5.7	5.9	6.5	5.6	4.4	3.0
20	8	5		8	20
178.2	177.2	176.6	178.0	178.6
3.4	4.4	5.0	3.6	3.0
20	4		15	19
		181.57		
		5		
180.6	179.6	179.4	180.4	183.5
12.2	13.2	13.4	12.4	9.3
20	10		10	20
		192.78		
		5		

~ Paradise Hills ~ Blk. 15, 16

Drain Cross Sections

T.P. 0.52 168.96 1313 168.44

Δ Rt 5°15'

2+37.18 = Face of Hd. wall Sec. Parallel to Hd. wall

2+76

2+50

2+30

2+24

2+00

18157

4 Z Rt.

Reduced 4-21-48 CSB

170.4	169.7	169.2	168.40	165.44	169.27
11.2	11.9	12.4	13.17	16.13	12.4
20	13	8	on Hd wall	0	17
				Flow line	

171.4	170.7	168.1	168.1	169.4	173.1	173.6
10.2	10.9	13.5	13.5	12.2	8.5	8.0
20	11	8	3		10	20

172.3	171.6	169.9	170.9	170.8	171.5	176.1	176.5
9.3	10.0	11.7	10.7	10.8	10.1	5.5	5.1
20	13	6	3		3	13	20
		Ditch					

172.8	171.7	171.2	172.6	173.0	178.0	178.6
8.8	9.9	10.4	9.0	8.6	3.6	3.0
20	9	1		3	19	ZJ
		Ditch				

173.0	172.3	171.2	172.8	174.0	178.3
8.6	9.3	10.4	8.8	7.6	3.3
20	8	Ditch	2	8	20

173.6	172.8	172.3	172.3	174.0	175.3	178.8	178.9
8.0	8.8	9.3	9.3	7.6	6.3	2.8	2.7
20	5		4	6	12	19	ZJ

18157

Revised 4-21-18

4+00

3+65

3+58.1 opp end Exist 18" Pipe

3+53 Sec Parallel to cb

3+42.5 ± ⌀ RH

3+41.5 = HLY cb

3+25.5 ± ℄ Paving

~~3+08.9~~
~~3+09.2~~
~~3+99~~ = ELY cb

165.6	160.8	159.6	160.9	162.1	163.1
3.4	8.2	9.1	8.1	6.9	5.9
20	3	2		6	20

167.0	162.0	162.7	163.0	165.1
2.0	7.0	6.8	6.0	3.9
20	7	4		1.9

169.8	166.3	162.8	163.9	163.5	167.6
+0.8	2.7	6.2	5.17	5.5	1.4
23	15	5	3.4		10

168.0	167.6	167.6
1.0	1.4	1.4
20		20

167.66	166.63	164.22
1.30	2.33	4.74
on cb	0	0
	Grading	Flow Inlet Box

167.96
1.00
Paving

167.94	164.75	167.43
1.92	4.21	1.53
cb	0	
	Flow inlet Box	

168.96

Paradise Hills - Drain

5+05				
5+04				
T.P.	1.27	157.61	12.62	156.34
4+99.31 = Δ Lt 28°06'45" See on Split				
4+89				
4+86				
4+70				
4+50				

Revised 4-21-48 CWH

153.8
3.8

156.0
1.6

157.61
3

159.7	155.8	154.7	155.9	156.34	158.4
9.3	13.2	14.8	13.1	12.62	10.6
25	6	4 Ditch	3	on Hub	20

156.8
12.2

155.7
13.3
Ditch

162.7	158.2	157.5	156.6	158.2	159.3	
6.3	10.8	11.5	12.4	10.9	9.7	
25		2	3	5	20	

163.3	162.0	159.8	159.1	157.9	159.2	160.6
5.7	7.0	9.2	9.9	11.1	9.8	8.4
18	8		3	4 Ditch	6	20

168.96
3

Paradise Hills - Drain Blocks 15.16

Cross Sections

6+54.84 = Conc Slab Inlet 4" Curbing

T.P.	1.84	146.88	12.57	145.04
6+47				
6+28				
6+00				
5+68				
5+25				

157.61

4   4   87

Reduced 4-21-48 (CWB)

147 47 147 74 144 26
3.41 2.14 2.62
Flow 0 Cb inlet 0 on slab

146.88

148 5 148 5 147 1 145 1 147 0 147 3
9.1 9.1 10.5 12.5 10.6 10.3
20 10 2 20

157 7 150 7 149 7 148 4 149 6 149 7
5.9 6.9 7.9 9.2 8.0 7.9
20 13 8 6 20

154 5 151 4 150 1 150 8 151 2 151 4
3.1 6.2 7.5 6.8 6.4 6.1
20 6 4 4 20

156 0 152 9 151 5 151 9 153 1 153 1
1.6 4.7 6.1 5.7 4.5 4.5
20 5 3 6

158 9 157 9 154 2 152 7 152 7 154 9 155 8
+1.3 +0.3 0.4 4.9 4.9 2.7 1.8
26 18 2 3 4 20

157.61

~Paradise Hills ~ Blocks 15, 16

Drain Cross Sections

8+00

7+50

7+16

7+00

6+69.79 = Δ Rt 83°35'45"

6+68.79

6+64.8 = ELY cb Line Rashd

146.88

Lt | ℄ | Rt

Revised 4-21-48

69

Lt	℄	Rt		
140.0	139.8	139.70	139.53	140.29
6.9	7.1	7.18	7.35	6.59
10		1.5	5	5
		Lip	Gut.	cb.
140.8	140.5	140.31	139.98	140.68
6.1	6.4	6.57	6.90	6.20
10		1.5	5 Conc.	5
		Conc.	Gutt.	cb.
141.8	141.7	141.06	140.67	141.37
5.1	5.7	5.82	6.26	5.51
10		1.5 on Conc.	5 Conc.	5
		Lip	Gut.	cb
142.5	141.9	141.69	141.32	142.03
4.4	5.0	5.19	5.56	4.85
10		1.5	5 Gut	5 cb
		143.33		
		3.35		
		on Hub		
		143.55		
		3.33		
143.72	144.42	144.00	143.28	143.60	142.89
3.16	3.46	2.88	3.60	3.28	3.99
5	5	cb	0	5	5
Gut Flow	cb		Flow	cb	Flow
		146.88			

Paradise Hills - Drain

9+67.4 = End Bridge

9+49.6 = Δ Lt = NLY end Bridge

9+35

8+75.75 = Δ Lt 7°27' = End 30" Pipe

8+60

on Hd Wall at "A"

8+14.41 = Δ Lt 129°06'30

146.88

Lt

Rt

Reduced 4-21-48

30

139.9	139.9	135.0	135.0	135.0	139.9	139.9
7.0	7.0	11.9	11.9	11.9	7.0	7.0
10	3	2.9		0.6	0.7	10

140.2	139.9	135.2	135.4	135.2	139.9	140.2
6.7	7.0	11.7	11.5	11.7	7.0	6.7
10	3	2		2	3	10
					Bridge Floor	

136.8	138.0	136.2	136.2	136.2	138.0	138.5
10.1	8.9	10.7	10.7	10.7	8.9	8.4
10	2	1.3		1.3	2	10

139.5	136.3	134.66 / ~~135.5~~	138.1	139.0
7.4	10.6	12.23	8.8	7.9
10	0	Flow 30" Pipe	2	10
	Ditch Partly Filled			

139.7	139.6	139.7
7.2	7.3	7.2
10		10

139.90	135.40
6.98	11.98
on Hd Wall "A"	Flow line 30" Pipe "A"

139.48	139.27	140.04	139.00	135.08
7.40	7.66	6.84	7.88	11.80
	Lip	~~Cut~~ C6	Cut Grating	Flow In-1 Box

146.88

Paradise Hills - Drain

71

Rt

Reduced 4-21-48 CWB

135 3	136 9	134 9	134 9	138 4	140 9
11.6	10.0	12.0	12.0	8.5	6.0
15	3	2.3 Flow	Flow	1	10
		Ditch	Ditch		
		E edge	Way edge		
			146.88		

9+90

146.88

Paradise Hills

Levels - Alternate Line Sketch P-62

from 6+69.79 to 8+058

	L	E	R
			Reduced 4-21-48 (CVB)
8+03	135.3	135.4	135.2
	11.6	11.5	11.7
	10		10
7+62	136.0	135.5	135.5
	10.9	11.4	11.4
	10		
7+50	139.4	139.4	139.2
	7.5	7.5	7.7
	10		10
7+20	138.9	139.0	139.1
	8.0	7.9	7.8
	20		10
7+17	141.1	141.3	141.5
	4.8	4.6	5.4
	10		10
6+90	144.0	143.4	142.9
	2.9	3.5	4.0
	10		10

6+69.79 = P.O.T. this Line

146.88

146.88

Paradise Hills - Drain
Cross Sections

Cont. from P-71

73

Reduced 4-21-48

Rachel & Cumberland

				152.31	FB 1692 30
Chk. S.E. RR			1.97	152.32	
T.R.	9.25	154.29	1.84	145.04	

8+05.8

146.88 / 5

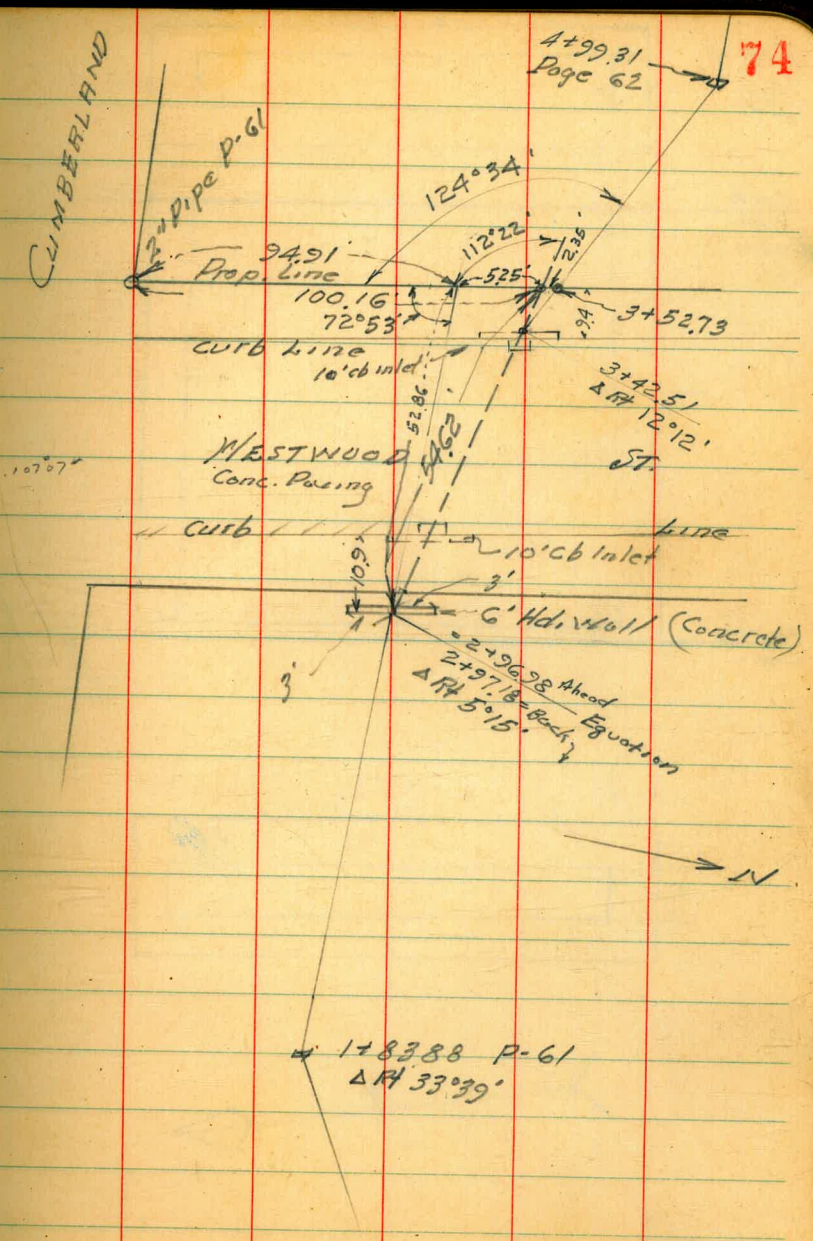
134.3 12.6 10 in Ditch

134.2 12.7 in Ditch

134.3 12.6 10 Ditch

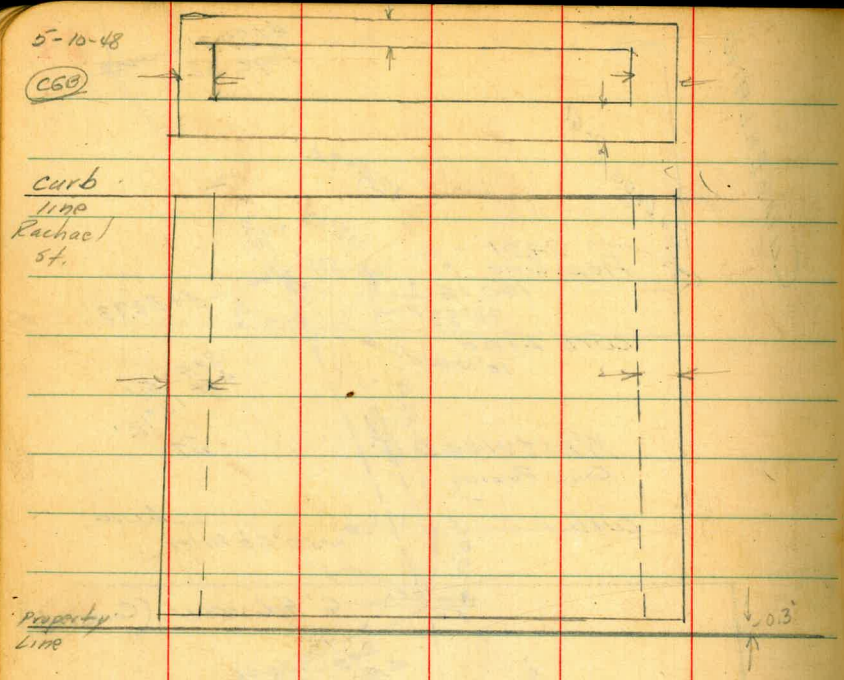
146.88 / 5

Paradise Hills Drain



5-10-48

(C68)

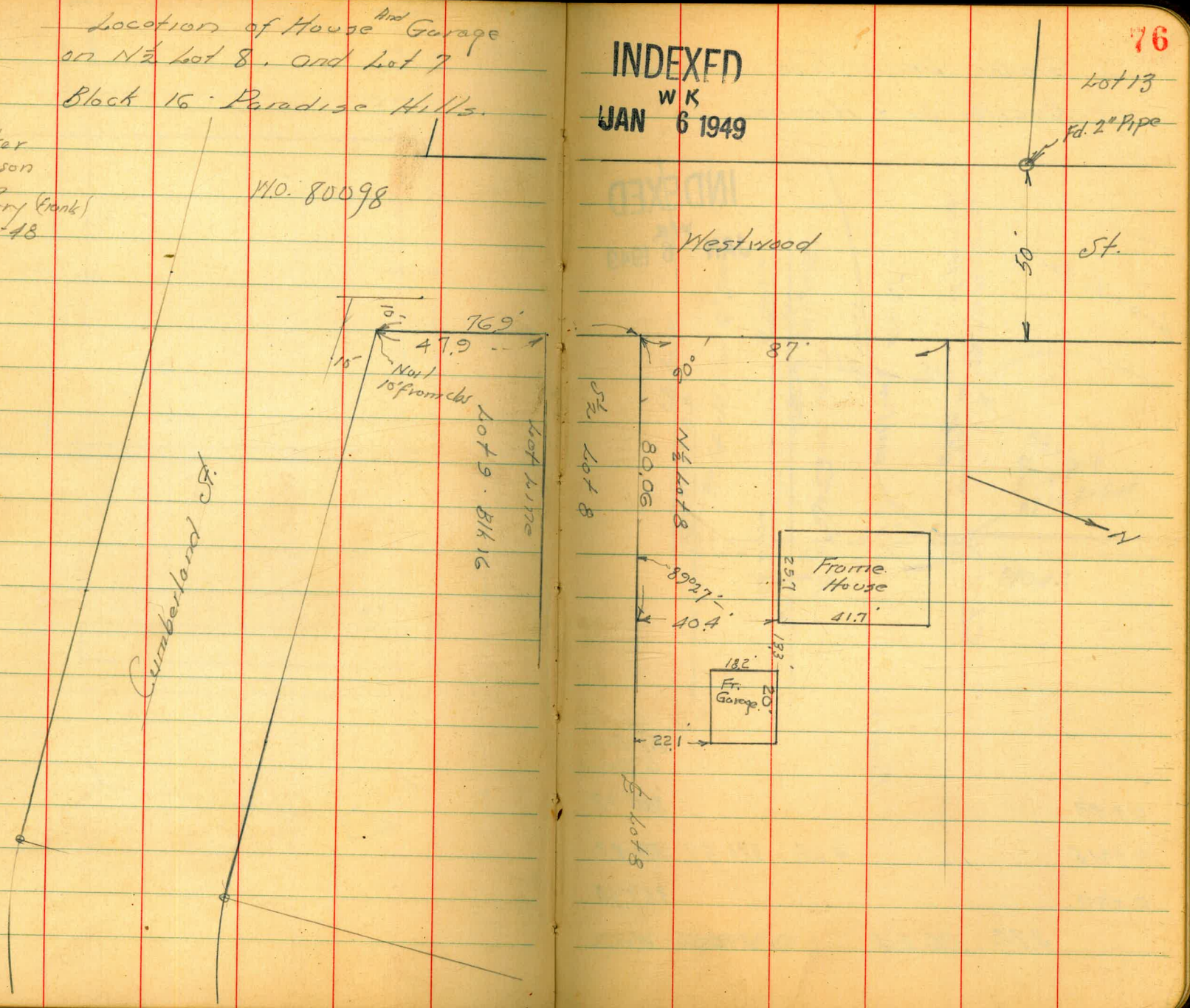


INDEXED
WK
JAN 6 1949

Location of House and Garage
on N½ Lot 8. and Lot 7
Block 16. Paradise Hills.

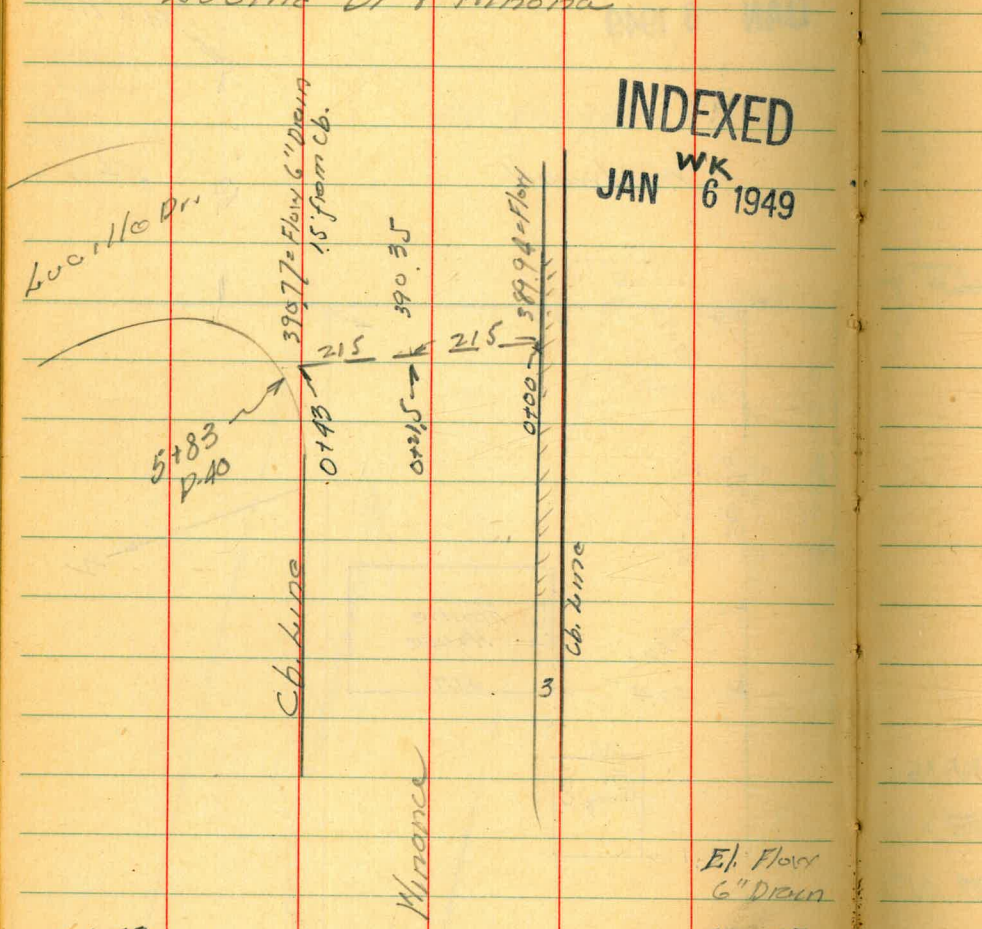
Walker
Johnson
Allen
Gregory (Frank)
6-30-48

W.O. 80098

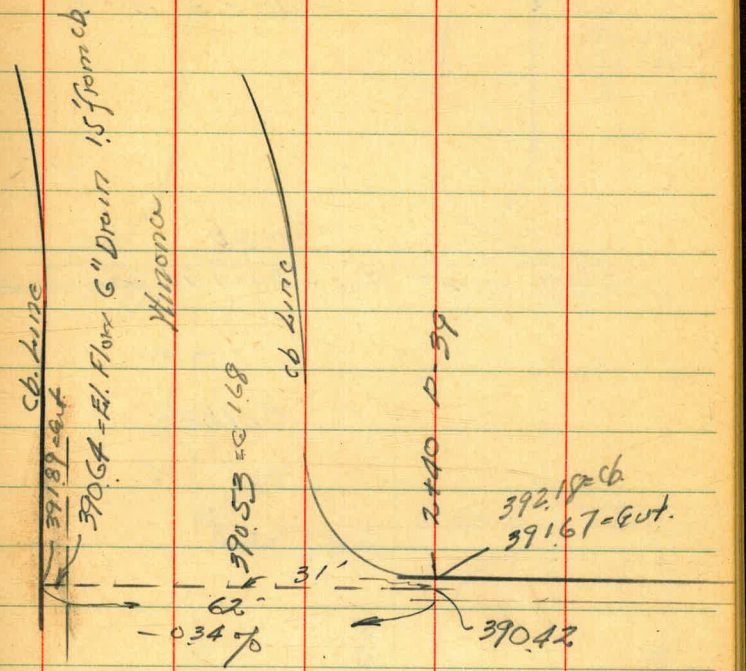


Grades - Drain Tile

Lucille Dr & Winona



				E.l. Flow 6" Drain
0+93				390.77
0+215		4.67	391.57	390.35
0+00				389.94
	3.72	396.24	392.52	8.10



C 1.22

Top cb 5+83 P.40

Winona St.

Cb.

Grades Drain Tile

Collier & 50th

N Cb.

—0.34 % → Flow 6 Drain 1.25 below Gutter —

Collier

Cb.

1+20.5			390.41	389.16
1+00.5		1.81	390.30	389.10
0+82		1.69	390.42	389.05
0+55 ~ Δ Rt 90°		1.93	390.18	388.97
0+27.5		5.04	390.07	388.89
0+00	on Flow Exist Pipe	6.30	388.81	388.81
	1.75	395.11	390.36	B.M.

50th

Walker
Johnson
Gregory
Bramson
6-8-48

1+20 P.I. 39

1+20.5

6" Drain 0.29 %

0+82

1.5'

2.7'

0.29 %

0+55

Collier St.

6" Drain

= 0.29 %

3'

1.5'

0+27.5

Tile

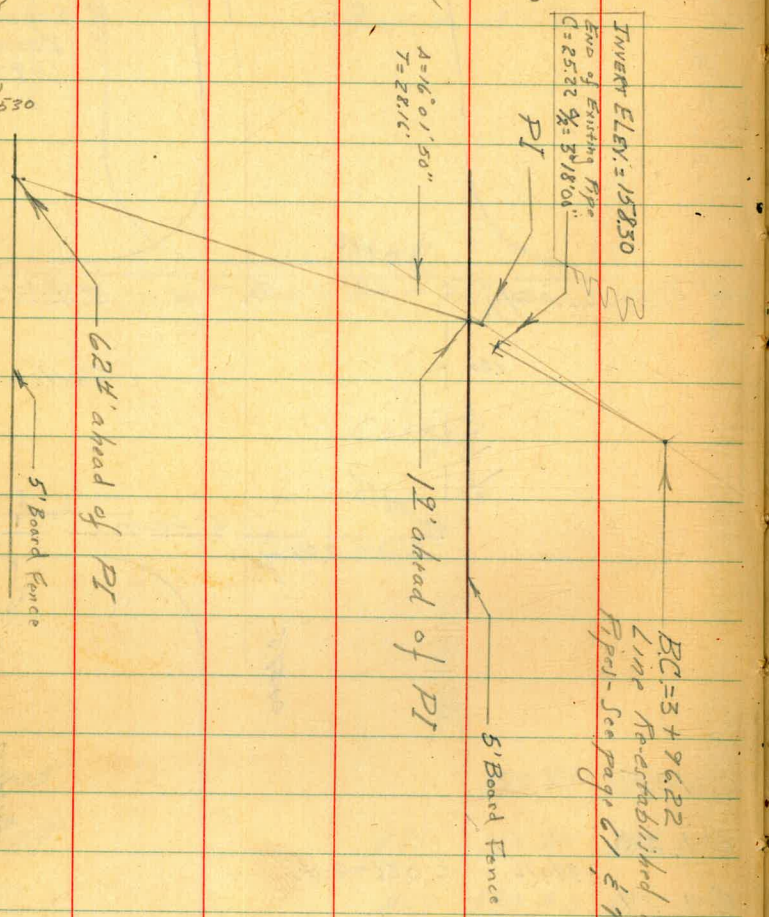
End Existing Tile 0+00

C 1.25	
C 1.20	
C 1.37	390.16 = C 0.26 = Gut.
C 1.21	
C 1.18	

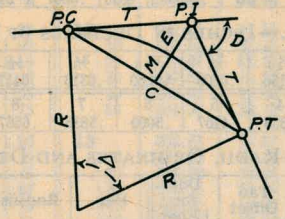
on cb 10+88 P-2.8

Location of Improvements in Storm Drain Easements Lots 8 & 9 Block 15 Paradise Hills (See page 61 this FB.)

Roberts
Cota
Moore
Pullen
5-17-51
W.O. 20530



DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES



CURVE FORMULAS

Radius=R=$\frac{50}{\text{sin. } D/2}$ (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 vers $\frac{\Delta}{2}$ (6)

External=E=T tan $\frac{\Delta}{4}$ (7)=R ÷ cos. $\frac{\Delta}{2}$—R (8)=R exsec $\frac{\Delta}{2}$ (9)

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

EXPLANATION AND USE OF TABLES

Stations.—Given P. I.=Sta. 161+60.35 to find Sta. of P. C. and P. T. Δ=62° 10′ D=8° 20′. From Table IV for 1° curve T=3454.1 and ÷8⅓=414.49 ft. From Table V correction=.36 or T=414.85 ft. P. C.=Sta. P.I.—T=157 +45.50. Also from (4) L=746.00 and P. T.=Sta. P. C.+L=164+91.50.

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

Deflections.—Deflection angle=½ D for 100 ft., ¼ D for 50 ft., etc. For c ft.=(in minutes) .3 x C x D° or=defl. for 1 ft. from Table III x C. For Sta. 158 of above curve=.3 x 54.5 x 8⅓=136.2′ or 2° 16.2′, or=2.50 x 54.5=136.2′ from Table III. For Sta. 159 deflection angle=2° 16.2′ +8° 20′ ÷2=6° 26.2′, etc.

Externals.—May be found in similar manner to tangents. Thus E for curve above is 115.37. For from Table IV for 1° curve E=960.6 for 8° 20′=960.6 ÷8⅓=115.27 and from Table V correction=.10 or E=115.37 ft. Or suppose Δ=32° and E is measured and found to be 42 ft. What is D? From Table IV E=230.9 and ÷42=5.5 or D=5° 30′.

Table I.—Minutes in Decimals of a Degree.

1′	.0167	11′	.1833	21′	.3500	31′	.5167	41′	.6833	51′	.8500
2	.0333	12	.2000	22	.3667	32	.5333	42	.7000	52	.8667
3	.0500	13	.2167	23	.3833	33	.5500	43	.7167	53	.8833
4	.0667	14	.2333	24	.4000	34	.5667	44	.7333	54	.9000
5	.0833	15	.2500	25	.4167	35	.5833	45	.7500	55	.9167
6	.1000	16	.2667	26	.4333	36	.6000	46	.7667	56	.9333
7	.1167	17	.2833	27	.4500	37	.6167	47	.7833	57	.9500
8	.1333	18	.3000	28	.4667	38	.6333	48	.8000	58	.9667
9	.1500	19	.3167	29	.4833	39	.6500	49	.8167	59	.9833
10	.1667	20	.3333	30	.5000	40	.6667	50	.8333	60	1.0000

Table II.—Inches in Decimals of a Foot.

1/16	3/32	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	7/8
.0052	.0078	.0104	.0156	.0208	.0260	.0313	.0417	.0521	.0625	.0729

1	2	3	4	5	6	7	8	9	10	11
.0833	.1667	.2500	.3333	.4167	.5000	.5833	.6667	.7500	.8333	.9167

Table III.—Radii, Ordinates and Deflections.

Deg.	Radius	Mid. Ord.	Tan Offset	Def. for 1 Foot	Deg.	Radius	Mid. Ord.	Tan Offset	Def. for 1 Foot
0° 10′	34377.5	.036	.145	0.05′	7°	819.02	1.528	6.105	2.10′
20	17188.8	.073	.291	0.10	20	781.84	1.600	6.395	2.20
30	11459.2	.109	.436	0.15	30	764.49	1.637	6.540	2.25
40	8594.42	.145	.582	0.20	40	747.89	1.673	6.685	2.30
50	6875.55	.182	.727	0.25					
					8	716.78	1.746	6.976	2.40
1	5729.65	.218	.873	0.30	20	688.16	1.819	7.266	2.50
10	4911.15	.255	1.018	0.35	30	674.69	1.855	7.411	2.55
20	4297.28	.291	1.164	0.40	40	661.74	1.892	7.556	2.60
30	3819.83	.327	1.309	0.45					
40	3437.87	.364	1.454	0.50	9	637.28	1.965	7.846	2.70
50	3125.36	.400	1.600	0.55	20	614.56	2.037	8.136	2.80
					30	603.80	2.074	8.281	2.85
2	2864.93	.436	1.745	0.60	40	593.42	2.110	8.426	2.90
10	2644.58	.473	1.891	0.65					
20	2455.70	.509	2.036	0.70	10	573.69	2.183	8.716	3.00
30	2292.01	.545	2.181	0.75	30	546.44	2.292	9.150	3.15
40	2148.79	.582	2.327	0.80	11	521.67	2.402	9.585	3.30
50	2022.41	.618	2.472	0.85	30	499.06	2.511	10.02	3.45
					12	478.34	2.620	10.45	3.60
3	1910.08	.655	2.618	0.90	30	459.28	2.730	10.89	3.75
10	1809.57	.691	2.763	0.95	13	441.68	2.839	11.32	3.90
20	1719.12	.727	2.908	1.00	30	425.40	2.949	11.75	4.05
30	1637.28	.764	3.054	1.05	14	410.28	3.058	12.18	4.20
40	1562.88	.800	3.199	1.10	30	396.20	3.168	12.62	4.35
50	1494.95	.836	3.345	1.15					
					15	383.07	3.277	13.05	4.50
4	1432.69	.873	3.490	1.20	30	370.78	3.387	13.49	4.65
10	1375.40	.909	3.635	1.25	16	359.27	3.496	13.92	4.80
20	1322.53	.945	3.718	1.30	30	348.45	3.606	14.35	4.95
30	1273.57	.982	3.926	1.35	17	338.27	3.716	14.78	5.10
40	1228.11	1.018	4.071	1.40	18	319.62	3.935	15.64	5.40
50	1185.78	1.055	4.217	1.45	19	302.94	4.155	16.51	5.70
					20	287.94	4.374	17.37	6.00
5	1146.28	1.091	4.362	1.50	21	274.37	4.594	18.22	6.30
10	1109.33	1.127	4.507	1.55	22	262.04	4.814	19.08	6.60
20	1074.68	1.164	4.653	1.60	23	250.79	5.035	19.94	6.90
30	1042.14	1.200	4.798	1.65	24	240.49	5.255	20.79	7.20
40	1011.51	1.237	4.943	1.70					
50	982.64	1.273	5.088	1.75	25	231.01	5.476	21.64	7.50
					26	222.27	5.697	22.50	7.80
6	955.37	1.309	5.234	1.80	27	214.18	5.918	23.35	8.10
10	929.57	1.346	5.379	1.85	28	206.68	6.139	24.19	8.40
20	905.13	1.382	5.524	1.90	29	199.70	6.360	25.04	8.70
30	881.95	1.418	5.669	1.95	30	193.18	6.583	25.88	9.00
40	859.92	1.455	5.814	2.00					

Note. Chord Deflection=2 times tangent deflection.

Table IV.—Tangents and Externals to a 1° Curve.

Central Angle	Tangent	External	Central Angle	Tangent	External	Central Angle	Tangent	External
1°	50.00	.22	11°	551.70	26.50	21°	1061.9	97.57
10′	58.34	.30	10′	560.11	27.31	10′	1070.6	99.16
20	66.67	.39	20	568.53	28.14	20	1079.2	100.75
30	75.01	.49	30	576.95	28.97	30	1087.8	102.35
40	83.34	.61	40	585.36	29.82	40	1096.4	103.97
50	91.68	.73	50	593.79	30.68	50	1105.1	105.60
2	100.01	.87	12	602.21	31.56	22	1113.7	107.24
10	108.35	1.02	10	610.64	32.45	10	1122.4	108.90
20	116.68	1.19	20	619.07	33.35	20	1131.0	110.57
30	125.02	1.36	30	627.50	34.26	30	1139.7	112.25
40	133.36	1.55	40	635.93	35.18	40	1148.4	113.95
50	141.70	1.75	50	644.37	36.12	50	1157.0	115.66
3	150.04	1.96	13	652.81	37.07	23	1165.7	117.38
10	158.38	2.19	10	661.25	38.03	10	1174.4	119.12
20	166.72	2.43	20	669.70	39.01	20	1183.1	120.87
30	175.06	2.67	30	678.15	39.99	30	1191.8	122.63
40	183.40	2.93	40	686.60	40.99	40	1200.5	124.41
50	191.74	3.21	50	695.06	42.00	50	1209.2	126.20
4	200.08	3.49	14	703.51	43.03	24	1217.9	128.00
10	208.43	3.79	10	711.97	44.07	10	1226.6	129.82
20	216.77	4.10	20	720.44	45.12	20	1235.3	131.65
30	225.12	4.42	30	728.90	46.18	30	1244.0	133.50
40	233.47	4.76	40	737.37	47.25	40	1252.8	135.35
50	241.81	5.10	50	745.85	48.34	50	1261.5	137.23
5	250.16	5.46	15	754.32	49.44	25	1270.2	139.11
10	258.51	5.83	10	762.80	50.55	10	1279.0	141.01
20	266.86	6.21	20	771.29	51.68	20	1287.7	142.93
30	275.21	6.61	30	779.77	52.89	30	1296.5	144.85
40	283.57	7.01	40	788.26	53.97	40	1305.3	146.79
50	291.92	7.43	50	796.75	55.13	50	1314.0	148.75
6	300.28	7.86	16	805.25	56.31	26	1322.8	150.71
10	308.64	8.31	10	813.75	57.50	10	1331.6	152.69
20	316.99	8.76	20	822.25	58.70	20	1340.4	154.69
30	325.35	9.23	30	830.76	59.91	30	1349.2	156.70
40	333.71	9.71	40	839.27	61.14	40	1358.0	158.72
50	342.08	10.20	50	847.78	62.38	50	1366.8	160.76
7	350.44	10.71	17	856.30	63.63	27	1375.6	162.81
10	358.81	11.22	10	864.82	64.90	10	1384.4	164.86
20	367.17	11.75	20	873.35	66.18	20	1393.2	166.95
30	375.54	12.29	30	881.88	67.47	30	1402.0	169.04
40	383.91	12.85	40	890.41	68.77	40	1410.9	171.15
50	392.28	13.41	50	898.95	70.09	50	1419.7	173.27
8	400.66	13.99	18	907.49	71.42	28	1428.6	175.41
10	409.03	14.58	10	916.03	72.76	10	1437.4	177.55
20	417.41	15.18	20	924.58	74.12	20	1446.3	179.72
30	425.79	15.80	30	933.13	75.49	30	1455.1	181.89
40	434.17	16.43	40	941.69	76.86	40	1464.0	184.08
50	442.55	17.07	50	950.25	78.26	50	1472.9	186.29
9	450.93	17.72	19	958.81	79.67	29	1481.8	188.51
10	459.32	18.38	10	967.38	81.09	10	1490.7	190.74
20	467.71	19.06	20	975.96	82.53	20	1499.6	192.99
30	476.10	19.75	30	984.53	83.97	30	1508.5	195.25
40	484.49	20.45	40	993.12	85.43	40	1517.4	197.53
50	492.88	21.16	50	1001.7	86.90	50	1526.3	199.82
10	501.28	21.89	20	1010.3	88.39	30	1535.3	202.12
10	509.68	22.62	10	1018.9	89.89	10	1544.2	204.44
20	518.08	23.38	20	1027.5	91.40	20	1553.1	206.77
30	526.48	24.14	30	1036.1	92.92	30	1562.1	209.12
40	534.89	24.91	40	1044.7	94.46	40	1571.0	211.48
50	543.29	25.70	50	1053.3	96.01	50	1580.0	213.86

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1½

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.

MADE IN U.S.A.