

CIVIC CENTER
SURVEY

#6

1512

ENGINEER

FIELD BOOK

16,4049

X-SECTIONS

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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B.M Tel Pole Robbins Shop 7.03

" S.E. Cor Grape & Atlantic 6.64

" Hub Meander Line 5+47.67 minus 0.24

" " " 2+21.78 3.91

" Tel Pole ALS Boat Shop 7.04

" Top Rail Std. Oil Calif. Office 4.16

" Hub Meander Line 9+96.07 5.69

" " Pier #6 " 11+62.64 0.18

" " Pier 7 " 14+60.65 3.43

ENGINEERING DEPARTMENT,
CITY OF SAN DIEGO,
CALIFORNIA.

①

	+	↑	-	Elev
11462.6A	6.67	6.85		0.18
13750			9.30	-2.5
R01			8.70	-1.9
R11			2.10	4.7
R13			2.70	4.1
L04			10.40	-3.6
L08			11.50	-4.7
13463			8.20	-1.4
R07			2.10	4.7
R09			2.00	4.8
R11			3.00	3.8
R13			3.00	3.8
L04			10.10	-3.3
L10			11.20	-4.4
13475			7.60	-0.8
R06			2.10	4.7
R08			2.00	4.8
R11			3.00	3.8
R13			2.90	3.9
L04			9.50	-2.7
L12			11.40	-4.6
13484			5.80	1.0
R04			2.00	4.8
R08			2.80	4.0
R13			2.70	4.1

Roy Keyes Inst
Baer-Rod
Le Beau Chain
Loring - "

Walter deBerard-Recorder

Aug 29 1934

Contd from Page (59) Book No. 6 5

Water Edge

Water Edge

(2)

↑
6.85

L04	8.50	-1.7	
L16	11.40	-4.6	Water Edge
14+00	3.20	3.6	
R03	2.10	4.7	
R05	2.50	4.3	
R13	2.70	4.1	
L07	8.90	-2.1	
L19	11.30	-4.5	Water Edge
14+13	1.70	5.1	
R02	2.50	4.3	
R05	2.90	3.9	
R13	2.90	3.9	
L05	5.90	0.9	
L11	8.70	-1.9	
L24	11.30	-4.5	Water Edge
14+25	2.60	4.2	
R13	2.60	4.2	
L02	1.60	5.2	
L05	3.80	3.0	
L11	5.10	1.7	
L15	8.30	-1.5	
L28	11.40	-4.6	Water Edge
14+37	2.80	4.0	
R13	2.70	4.1	

3

3

	+	T 6.85	-	Elev
L01			2.50	4.3
L04			1.30	5.5
L13			5.90	.09
L15			8.50	-1.7
L34			11.00	-4.2
14+50			1.70	5.1
R03			1.40	5.4
R05			2.50	4.3
R13			2.80	4.0
L07			3.00	3.8
L15			8.00	-1.2
L29			11.10	-4.3
14+63			3.50	3.3
R03			3.20	3.6
R12A			2.40	4.4
L03			3.60	3.2
L09			4.00	2.8
L21			8.00	-1.2
L32			9.40	-2.6
L45			11.00	-4.2
		6.85		
14+60.65			3.42	3.43 ✓
8.93	12.36		5.72	6.64 ✓

S.W. Cor. MARIANAS Cafe

Water Edge

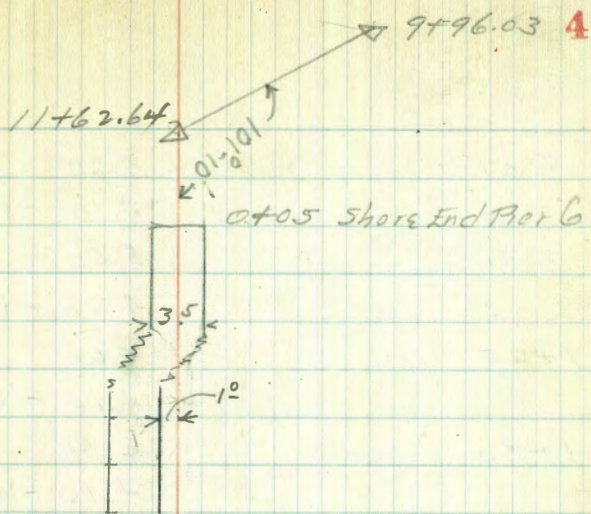
B.M. Hub Pier No 7. Δ

" S.E. Cor Grape-Atlantic

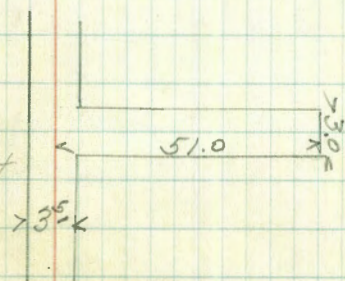
④

	+	π	-	Elev
11+62.64	3.82	4.00		0.18
10+00			3.82	0.2
0+25			4.60	
			10.10	-6.0
0+37			4.60	
			11.10	-7.1
0+50			4.40	0.4
			11.70	-7.7
0+63			4.80	
			12.10	-8.1
0+75			4.50	
			12.50	-8.5
0+87			4.60	
			12.90	-8.9
1+00			4.50	
			13.40	-9.4
1+13			4.30	
			13.50	-9.5
1+20			4.50	
R02			14.90	-10.9
R13			5.00	
			13.80	-9.8
R25			5.10	
			13.80	-9.8

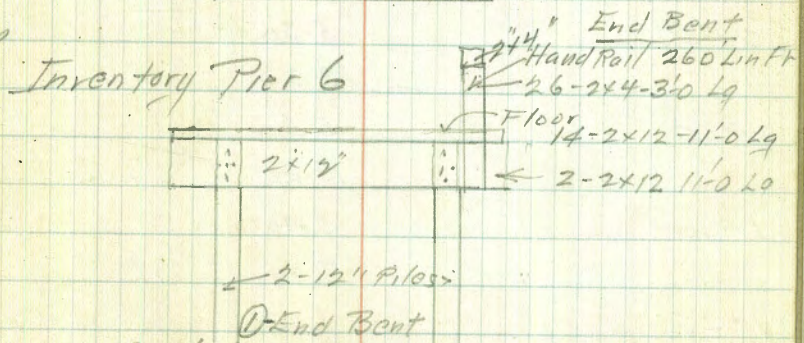
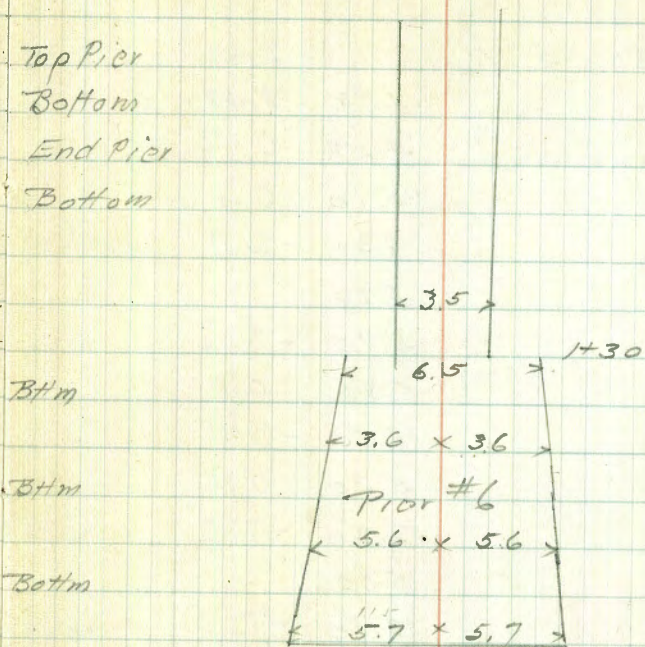
Pier No. 6,
Top Pier
Bottom



Intersectn Pier to Right



R37	5.20	Top Pier
	17.10 - 10.1	Bottom
R51	5.50	End Pier
	14.20 - 10.2	Bottom
1+25	4.60	
	14.10 - 10.1	
1+30	4.30	
	14.10 - 10.1	Btm
1437	4.10	
	14.10 - 10.1	Btm
1+50	3.80	
	14.70 - 10.7	Bottom
1+58.5	3.60	
	14.90 - 10.9	Btm



Inventory Pier 6
 9 Bents. 18 R.R. Iron Piles
 18-2x8'-6'0" Long
 4-2x10'-Floor. 570 lin ft
 4-2x12'-5'0" Long

14+60.65	1.82	5.25	3.43	
0+00		1.82	3.43	
0+18		4.53	0.7	
0+25		5.10	0.1	
		7.30	-2.1	
0+37		5.20		
		8.90	-3.7	
0+50		5.20	0.0	
		10.70	-5.5	
0+63		5.30	0.1	
		12.20	-7.0	
0+75		5.30		
		12.50	-7.3	
0+87		5.30		
		13.20	-8.0	
1+00		5.30		
		13.20	-8.0	
1+13		5.40		
		13.60	-8.4	
1+25		5.45		
		14.20	-9.0	
1+37		5.40		
		14.30	-9.1	

B.M. Top Hub

Floor Pier

Bottom

Btm

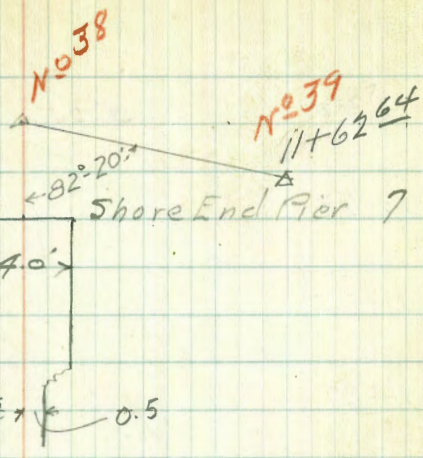
Btm

Btm

Btm

Btm

Btm



⑦

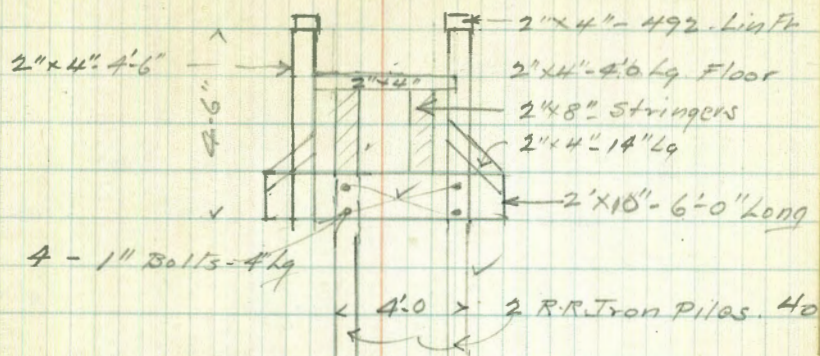
7

	+	π	-	Elev	
1+50		5.25	5.45	-0.20	Floor pier
			14.75	-9.5	Bottom
1+63			5.40		F
			15.10	-9.9	B
1+75			5.40		F
			15.30	-10.1	B
1+87			5.30		F
			13.70	-8.5	B
2+00			5.30		F
			16.00	-10.8	B
2+13			5.30		F
			16.30	-11.1	B
2+25			5.30		F
			16.50	-11.3	B
2+37			5.30		F
			17.20	-12.0	B
2+46			5.30		Floor
			17.40	-12.2	Bottom

<4.0 >

End pier

XSECTION PIER No 7



Inventory Pier No 7.

20 Bents Xsectn Above

80 RR Iron Piles 4' Long

20 - 2' x 10" - 6'0" Long Cap Bracing

40 - 2' x 4" - 1'-2" Long Side Rail Bracing

2 - 2' x 8" - 492' Lin Ft. Stringers

80 - 2' x 4" - 4'6" Long Hand Rail Posts

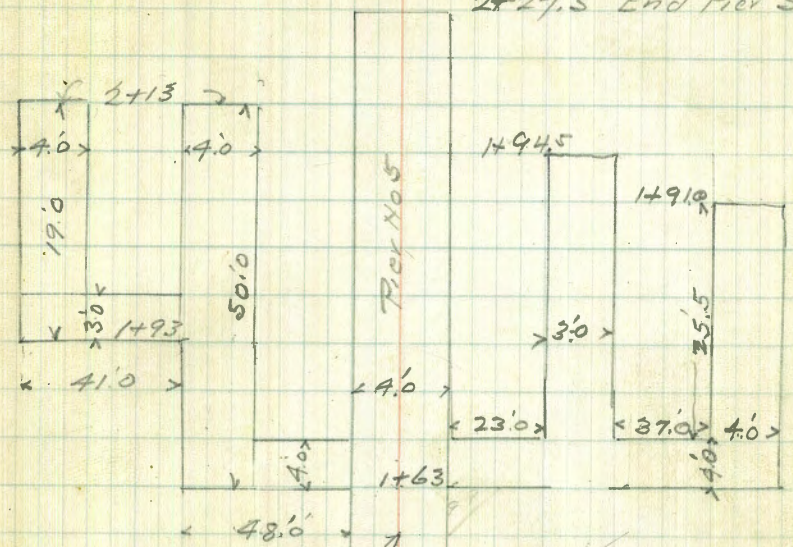
2 - 2' x 4" - 492' Lin Ft. " " "

2' x 4" - 4'0" Floor 246 Lin Ft.

18
7
10
35 Berths 9

Pier No 5.

2+27.5 End Pier 5



+70
0+01 = 10+32³⁴
0+00

To E. edge Locker Room

End of Pier.

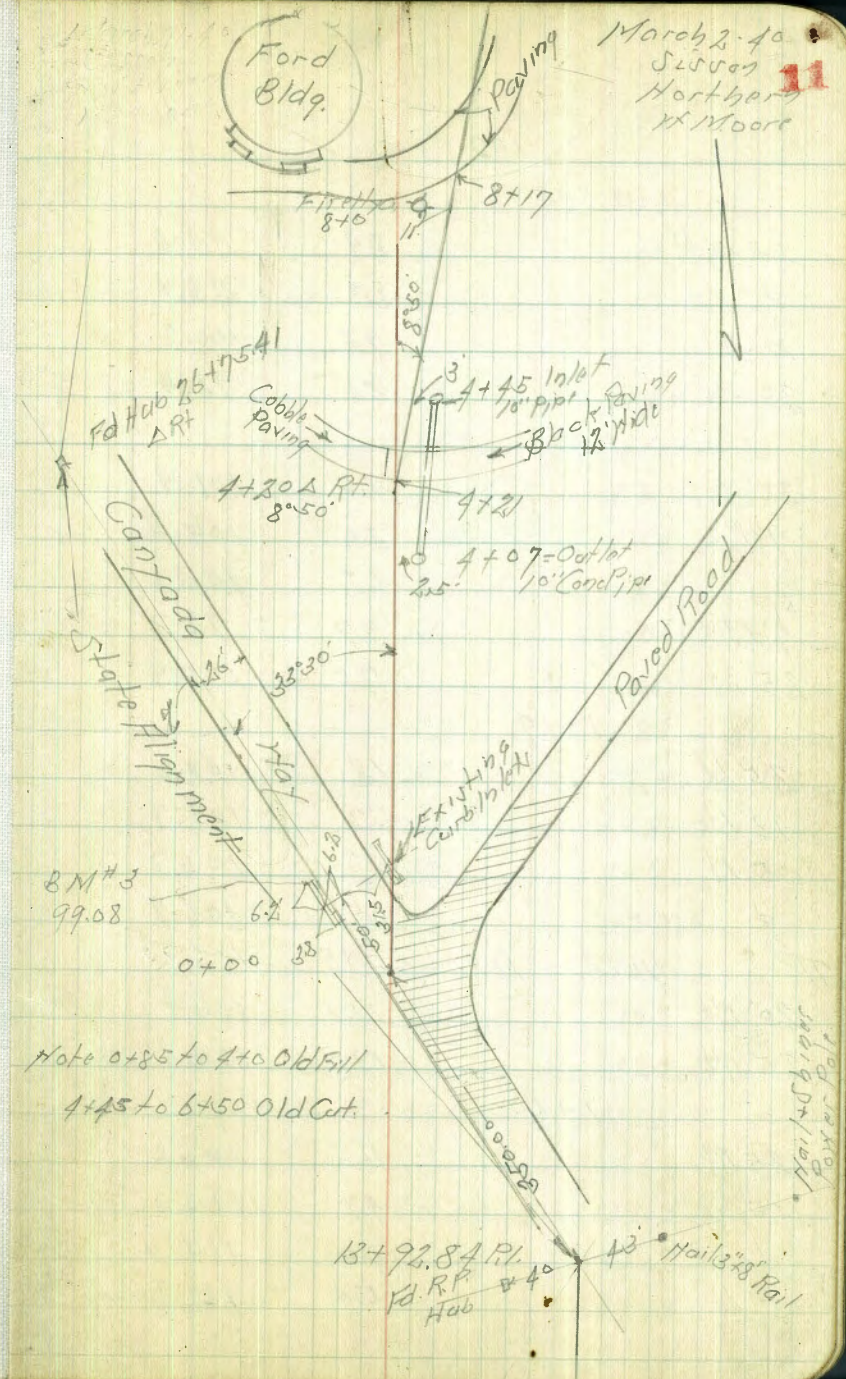
Locker Room
Inventory Pier 5
35-Berths
9+96.07

0+01 = 10+32³⁴
2"x3" 960 Lin Feet Hand Rail
2'x3'-3 1/2" Posts-152
2'x4'-9" Floor 960 Lin
2'x8" Stringers 960 Lin Ft
35-2"x12" Caps 6'-0" Long
96 RR Iron Piles

Balboa Park Proposed Road
 Canyon to Ford Bldg.
 "A" Line

INDEXED
 EFB

BM	7.45	90.41	82.96	N.W. B.P. Asht 10th St
TP	9.12	97.84	1.69	88.72
TP	11.50	107.41	1.93	95.91
Stakes BM #3		8.35	99.06	N End of lot 07th 99.08
0-150				
±	07 Paving	11.42	95.99	
±	28 Rt = E Edge	11.23	96.16	
0-100				
±	07 Paving	11.00	96.41	
±	28 Rt = E Edge	10.82	96.59	
0-50				
±	07 Paving	10.29	97.12	
±	28 Rt = E Edge	10.25	97.16	
0+0:				
±	15 Lt	11.6	95.8	
±	10 Lt	8.9	98.5	
±	07 Paving	9.48	97.93	
±	30 Rt = E Edge	9.60	97.81	
0+48				
±	25 Rt	9.4	98.0	
±	- E Edge Pav	8.76	98.71	
±	33 Lt = W Edge	8.83	98.58	
0+58				
±	Top of Inlet	8.30	99.11	



102.91

0+85

25' Lt	8.4	99.0
♀	8.0	99.4
19' Rt	7.2	100.2
25' Rt	8.5	98.9
25' Rt	5.5	101.9
9' Rt	3.0	104.4
♀	6.2	101.2
7' Lt	7.7	99.7
25' Lt	7.0	100.4

1+17

25' Lt	6.8	100.6
13' Lt	5.7	101.7
5' Lt	3.7	103.7
♀	0.6	106.8
TP	11.12	118.05
20' Rt	0.98	106.93
25' Rt	11.1	106.9
	13.5	104.5

1+60

25' Rt	11.4	106.6
15' Rt	4.7	113.3
♀	4.0	114.0
5' Lt	5.4	112.6

118.05

12' Lt	8.8	109.2
25' Lt	10.2	107.8
TP	11.12	128.70
	0.47	117.58
25' Lt	14.5	114.2
12' Lt	14.3	114.4
3' Lt	8.5	120.2
♀	8.5	120.2
11' Rt	7.6	121.1
25' Rt	14.4	114.3

2+50

25' Rt	5.2	123.5
21' Rt	4.6	124.1
11' Rt	0.0	128.7
7' Rt	2.6	126.1
♀	1.1	127.6
5' Lt	0.5	128.2
13' Lt	5.9	122.8
25' Lt	6.0	122.7
TP	10.94	138.79
	0.85	127.85

3+0

25' Lt	6.3	132.5
14' Lt	6.6	132.2
5' Lt	1.4	137.4
♀	1.4	137.4

138.79

5' RT	4.4	134.4
12' RT	2.3	136.5
19' RT	5.3	133.5
25' RT	5.7	133.1
TP	11.61	150.01
	0.39	138.40

3+50

25' RT	5.3	144.7
9' RT	4.4	145.6
6' RT	5.8	144.2
1' RT	5.4	144.6
1/2	4.2	145.8
4' Lt	4.4	145.6
6' Lt	12.6	137.4
11' Lt	4.8	145.2
25' Lt	5.7	144.3

3+70

25' Lt	0.9	149.1
10' Lt	1.8	148.2
1/2	1.2	148.8
25' RT	1.0	149.0
TP	11.55	161.54
	0.02	149.99

4+0

25' RT	10.0	151.5
11' RT	8.1	153.4
1/2	9.7	151.8

161.54

6' Lt	7.8	153.6
25' Lt	8.5	153.0

4+07

25' RT = Outlet 10" Conc Pipe	8.45	
TP	11.56	172.81
	0.29	161.25

4+20 Δ RT

25' Lt	9.1	163.7
1/2	8.5	164.3
14' RT	7.6	165.2
25' RT	8.8	164.0

4+35

25' RT = 1/2 Black Pav	7.3	165.5
1/2 = H Edge	9.1	163.7
25' Lt = H " Cobble Pav.	9.5	163.3

4+45

25' Lt	7.1	165.7
13' Lt	7.8	165.0
7' Lt	11.5	161.3
1/2	14.3	158.5
3' RT = Inlet 10" Conc Pipe	15.2	157.6
6' RT	14.1	158.7
8' RT	11.8	161.0
20' RT	8.4	164.4
25' RT	7.3	165.5

17281

4+25

25' Rt = Top old cut	1.3	171.5
15' Rt Bot " "	10.3	162.5
♀	11.0	161.8
6' Lt Bot " "	10.5	162.3
19' Lt Top " "	1.8	171.0
25' Lt	2.0	170.8
TP	11.85	184.44
	0.22	172.59

5+0

25' Lt	10.4	174.0
15' Lt Top old cut	11.8	172.6
7' Lt Bot " "	18.8	165.6
♀	18.4	166.0
13' Rt Bot " "	18.0	166.4
25' Rt = Top old cut	9.7	174.7

5+50

25' Rt	4.2	180.2
19' Rt = Top old cut	4.7	179.7
11' Rt = Bot " "	10.9	173.5
♀	11.6	172.8
10' Lt = " " "	11.8	172.6
20' Lt = Top " "	5.6	178.8
25' Lt	5.8	178.6

18444

6+0

25' Lt	11	183.3
19' Lt = Top old cut	11.0	183.4
10' Lt = Bot " "	4.4	180.0
♀	5.7	178.7
8' Rt = Bot " "	5.2	179.2
10' Rt Top " "	0.0	184.4
25' Rt	0.0	184.4
TP	11.86	196.10
	0.20	184.24

6+50

25' Rt	7.3	188.8
10' Rt	7.0	189.1
♀	7.8	188.3
25' Lt	7.6	188.5

7+0

25' Lt	2.6	193.5
10' Lt	2.5	193.6
♀	2.6	193.5
25' Rt	2.6	193.5
TP	11.76	207.49
	0.37	195.73

7+23

25' Rt	12.4	195.1
9' Rt	10.9	196.6
♀	11.9	195.6
6' Lt	11.2	196.3

207.49

19' Lt	11.4	196.1
25' Lt	12.0	195.5
7+38		
25' Lt	11.3	196.2
15' Lt	10.2	197.3
2	10.0	197.5
7' Rt	7.8	199.7
25' Rt	6.7	200.8

7+50

25' Rt	4.8	202.7
9' Rt	6.0	201.5
2	7.8	199.7
15' Lt	7.8	199.7
25' Lt	6.6	200.9

7+65

25' Lt	4.9	202.6
15' Lt	5.3	202.2
2	4.5	203.0
8' Rt	4.2	203.3
25' Rt	2.7	204.8

8+0

25' Rt	2.2	205.3
2	2.7	204.8
11' Lt - Fire Hyd	2.5	205.0
23' Lt = S Edge Paving	2.00	204.5

207.49

8+17 = Sly Edge Paving

25' Lt on Paving	2.97	204.52
2 - S Edge "	2.42	205.07
25' Rt	1.6	205.9

8+50

205' Rt = S Edge Pav	1.00	206.5
2 on Pav	1.57	205.92
20' Lt. " "	2.52	204.97

8+85

2 on Paving	0.24	207.25
-------------	------	--------

BM

0.66

Top Fire Hyd
206.83 11' Lt 8+0
So. Ford Bldg

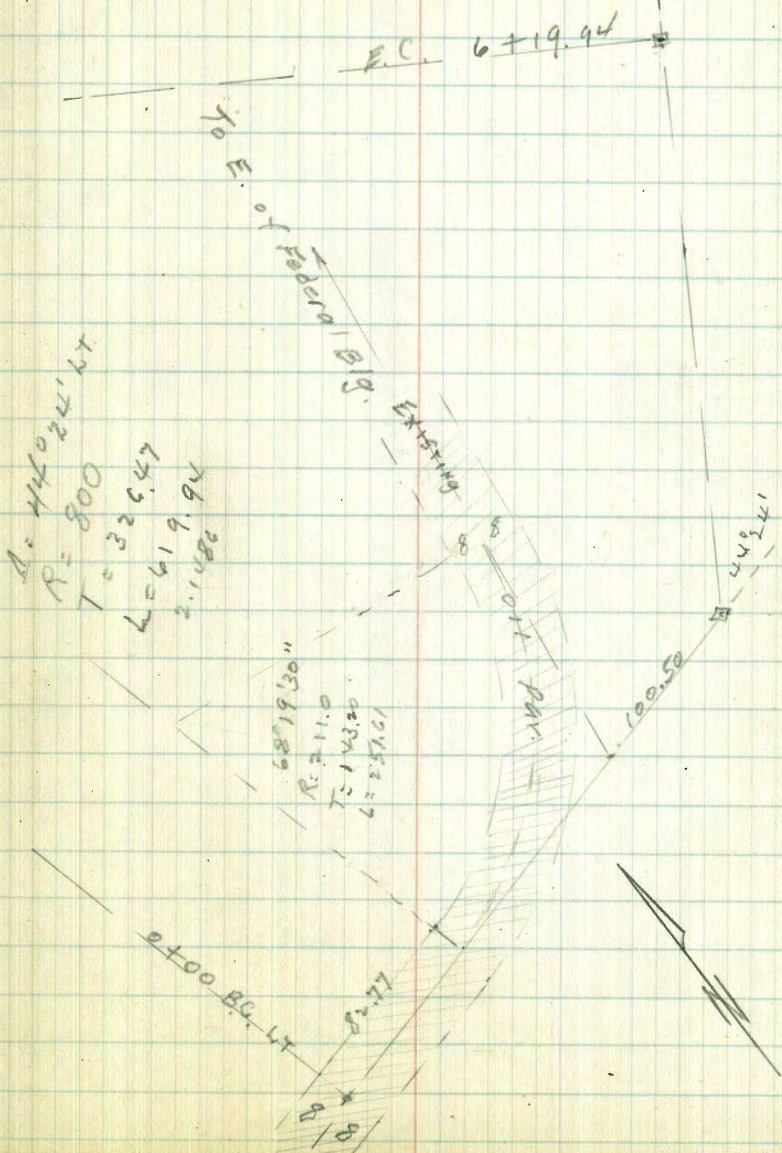
INDEXED
EPB

16

Balboa Park Rd. Proposed.
11th St. (Canyada Way) to E. of Ford Bowl.

"C" line

Not so good



4th Rise 505
 12th Freeds
 Cem. Auto Park
 125

59.80
 21.9
 10+48.57

E.C. 9+39.66

$\Delta = 29^{\circ}08' LT.$

$R = 600$

$T = 155.92$

$L = 305.08$

2.8648

B.C. 6+34.58

E.C. 6+19.94

LT

~~LT~~

RT

18

+50

5° 21.3

 $\frac{8.21}{7.8}$

7.96

 $\frac{7.75}{8.2}$

T.P.

12.57 162.85 0.05 150.33

142.85

1

3° 34.9

 $\frac{0.40}{7}$

0.24

 $\frac{+0.33}{12}$

+50

1° 47.4 LT.

 $\frac{4.90}{2.5}$

4.70

 $\frac{4.30}{9.5}$

0 + 100 B.C. LT.

 $\frac{10.08}{8}$

9.86

 $\frac{9.76}{8}$

0-25

 $\frac{12.62}{8}$

12.52

 $\frac{12.25}{8}$

T.P. Rock

12.00 150.38 0.21 138.38

4.87 138.59

133.72

T.P. bath
w/RT. 5+100
F. Book
583-61

150.38

LT

E

RT

+70 90° culv. 13°15.0

 $\frac{11.3}{45}$

13.5

 $\frac{14.2}{60}$

+50 12°32.0

14.1

3 10°44.6

13.3

+50 8°57.4

$\frac{+0.26}{17}$ $\frac{+1.4}{13}$ 7.6
 S. edge Par.

+13 7°37.6

1.8

2 7°09.7

 $\frac{3.70}{10.7}$

354 S. edge Par.

162.85

 $\frac{162.85}{2}$

T.P. 12.48 199.61 0.34 187.18

6 21° 29.2

0.1

+50 19° 41.7

5.0

5 17° 54.3

11.7

T.P. 13.12 187.49 0.63 174.37

187.49

+50 16° 06.9

8.7

T.P. 12.49 175.00 0.34 162.51

175.00

↓ 14° 19.4

11.5

162.85

162.85

8 7°53.8

T.P. 1284 225.07 0.10 212.25

+50 5°30.6

T.P. 1295 214.35 0.21 199.00

7+00 3°07.4

+50 0°44.1 LT.

6+3458 BC LT.

6+19.94 EC 22°12.0

199.61

LT

2

RT

21

21 215.97

225.07
9

3.4 208.955

212.35
8

0.0 199.61

4.3 193.31

83 191.31

99 189.71

199.61
2

10 + 48.52 A 59°30' RT

10

+ 50

T.P. 7.37 244.16 0.67 230.79

9 + 39.66 E.C. 14°34.0

9 + 100 12°40.3

T.P. 12.79 237.41 0.45 224.62

8 + 50 10°17.1

22507

27

2
5.0 239.16 RT

22

6.2 237.96

11.6 232.56

244.16

6.2 231.21

11.1 226.31

237.41

1.1 223.97

22507

" " F.H. 11' LT 8 ¹⁰⁰ Survey	10.05	204.85	206.83
Check To T.P. Rock.	8.00	208.89	206.90
T.P.	2.48	214.89	11.07 216.21
T.P.	2.60	225.48	11.21 222.82
T.P. ^{Top} F.H. West of Federal Bldg.	0.42	234.03	10.55 233.61

10 + 80.42 Top cent. Auto Park

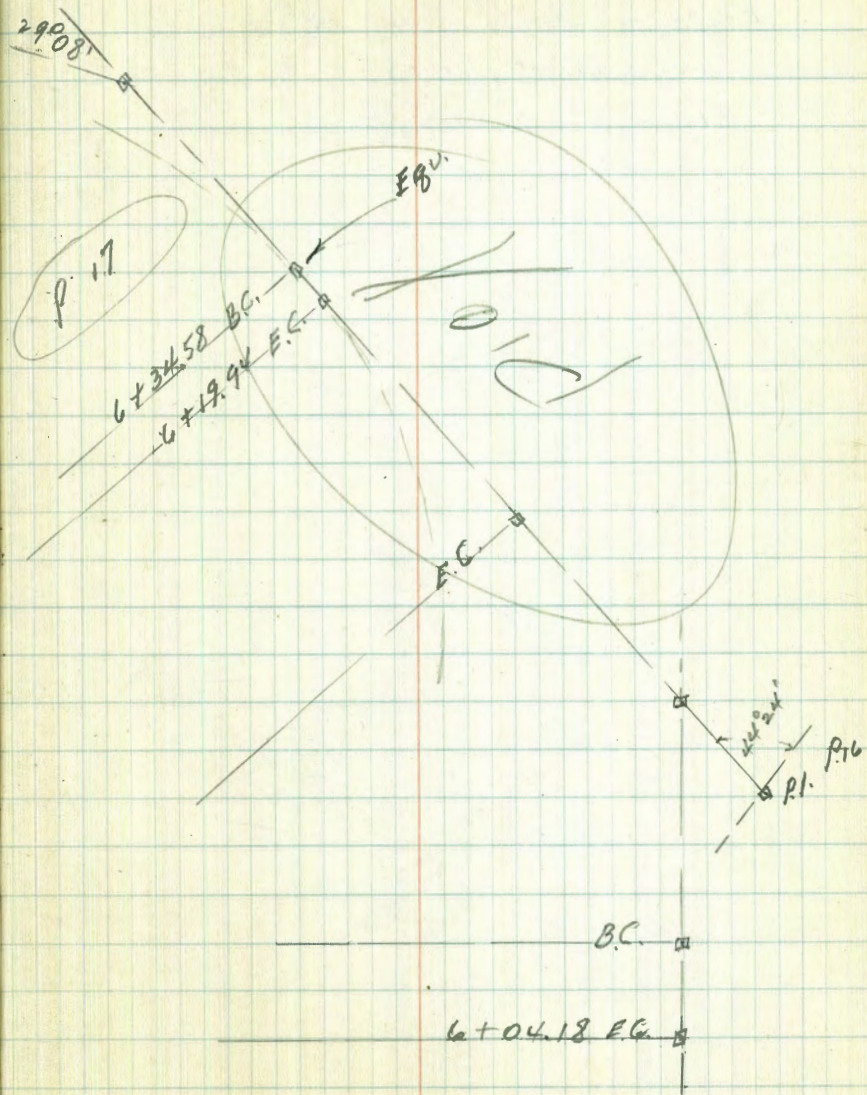
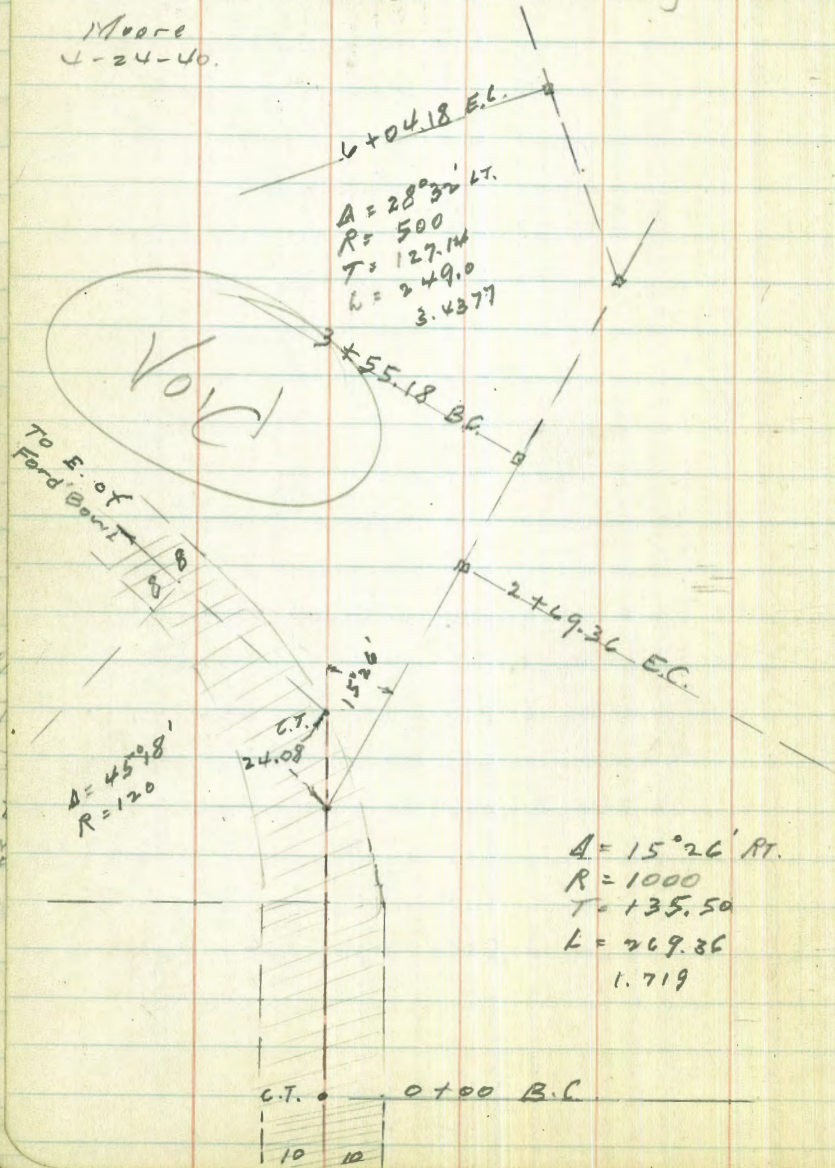
244.14

2427.8
1.38

244.14
2

Proposed Balboa Park Rd.
 "D" hme 11th to Auto Park
 E of Federal Bldg.

Moore
 J-24-40.



"D" wide

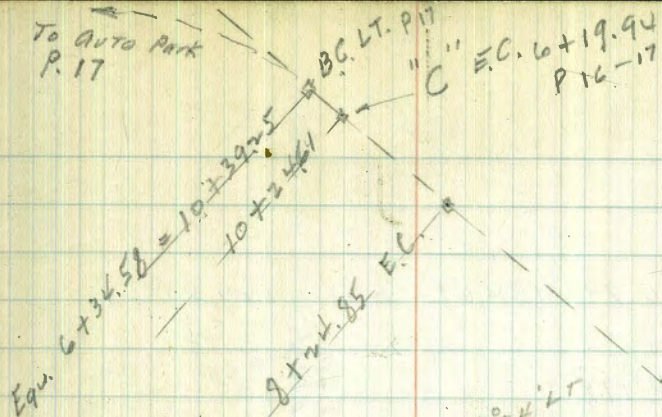
INDEXED

EPB

Proposed Balboa Park Rd

Moore Canyon Way (11th St) to Auto Park
4-25-40 Fly of Federal Bldg.

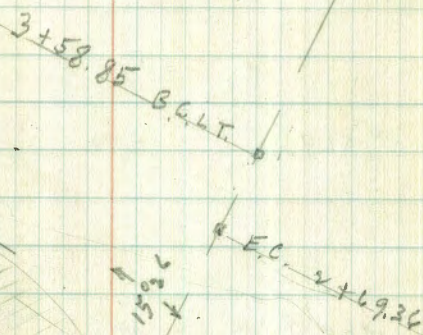
To Auto Park
P. 17



25

$\Delta = 53^{\circ} 24' LT$
 $R = 500$
 $T = 251.47$
 $L = 466.0$
 3.4377

To Point bet. Federal Bldg
 and Municipal Gym.



$\Delta = 15^{\circ} 26' RT$
 $R = 1000$
 $T = 135.50$
 $L = 269.36$
 1.719

NA 11 0+100 BC. RT.

16 10

T.P. 6.89 134.69 0.11 127.80

+50 497.8

Sewer From Ferd-Bont

+42

1 2051.9

+50 1025.9

0+00 - B.C. RT

T.P. 1.91 127.91 1301 126.0
 T.P. Rock 0.63 139.01 138.38
 P18



LT RT

125.60
 231
 29.5
 23
 125.72
 219
 25.5
 238
 1.5
 125.53
 23
 125.61

122.55
 119.98
 336
 23 RIM
 23 F.L. S.M.H.

123.10
 481
 15
 123.23
 468
 123.10
 481
 5 PV

121.01
 6.90
 11
 121.19
 672
 121.01
 6.90
 9 PV

118.84
 9.27
 10
 119.03
 8.88
 118.91
 9.00
 10 PV

127.91

3 + 12.5

3

2 + 69.36 E.C. 7° 43.0

+ 50 7° 09.7

2 5° 43.8

1 + 88.5 EX. 14" CON. PIPE CULV. 5° 24.50

134.69

LT 131.47

RT

27

3.22

FL.

19.4

24

1.8

1.8

23.3

1

4.57

F.L.

130.12

4.57

F.L.

on paved Rd to Ely of Fed. 819.

AWAY

+ 0.17

28

104.95

+ 0.16

29

35.4

+ 0.7

24

132.1

1.6

21

132.9

1.8

133.01

1.68

44

133.00

1.69

33

134.57

2.14

23

131.09

3.20

4

131.59

31

LT. Rods on Pav.

131.29

3.40

40

131.39

3.30

30

131.07

3.62

20

130.42

4.27

43

130.09

4.2

128.18

6.56

29

128.26

6.43

19

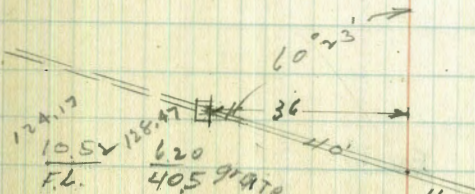
128.08

6.61

9

127.99

6.7



122.90

11.79

11

122.90

11.79

11

122.90

11.79

11

122.90

11.79

11

122.90

11.79

11

122.90

11.79

11

122.90

11.79

11

134.69

7

LT

E

PT

28

6 13° 49.0

4.8 142.72

7 50 10° 57.1

5.1 141.42

5 8° 05.2

6.3 140.22

+ 50 5° 13.4

7.9 138.62

4 2° 21.5 LT

9.8 136.72

3 + 5885 BC LT on STUB

11.2 135.32

T.P. 12.52 146.52 0.39 134.30
134.69146.52
Σ

+50

8 + 4.85 E.C. on STUB 26° 42.0

T.P. 17.93 170.60 0.15 157.67

8 25° 16.6

7 + 50 22° 24.7
CONST. 24" C.V. Radial.

T.P. 11.65 157.82 0.35 146.17

7 19° 32.8

6 + 50 16° 40.9

146.52

LT

8

PT.

29

5.165.51

12.17 158.43

17 0.60
3 1.10
165

170.60

2.1 150.722

149.22	147.62	146.52	144.52	145.22	146.62	145.52	143.02	145.62
8.6	10.2	11.3	13.3	11.6	11.2	12.3	14.0	12.2
50.	25		3	7	25	44	47	50

157.82

1.3 145.22

15 7.82
3 1.12
150

2.7 143.02

146.52

See P 21 for balance of levels.

10 + 39.75 = 6 + 30.58 = B.C. LT C line " " ON STUB

10 + 24.61 = 6 + 19.90 " C " E.C.

10
T.P. 12.21 196.19 0.72 181.98

+ 50

9
T.P. 12.32 182.70 0.22 170.38
170.60

LT

STVB
2.90

RT

30

191.29

4.5189.66

7.5186.69

19419

0.5182.20

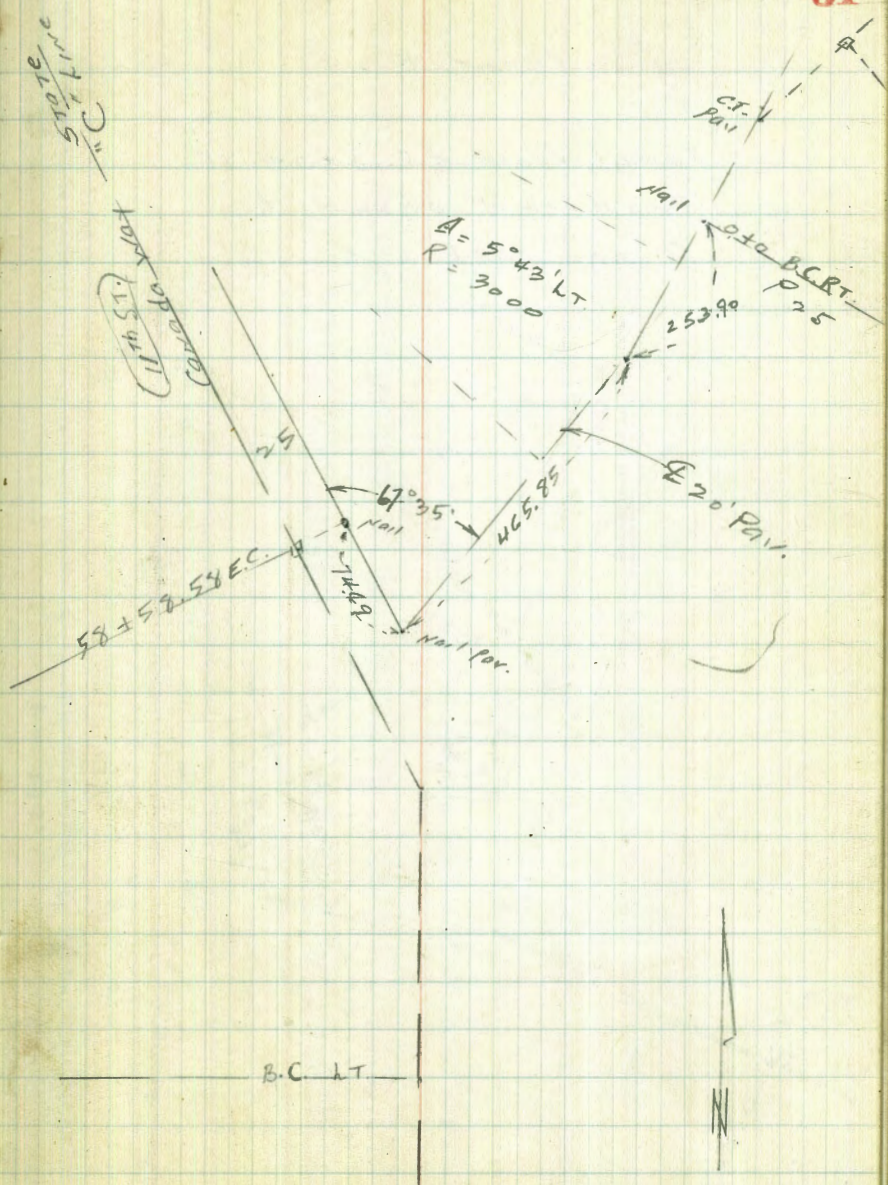
2.6175.40

182.70

Indexed
LM

Tie for "D" line
117th St to B.C. 0+00
See p 25

Moore
Osborne
Covant
6-20-41



"D" from P75

Tang. from EC 8+24.85
Produced ahead to
Auto Park

AUTO 32
Park

8+24.85

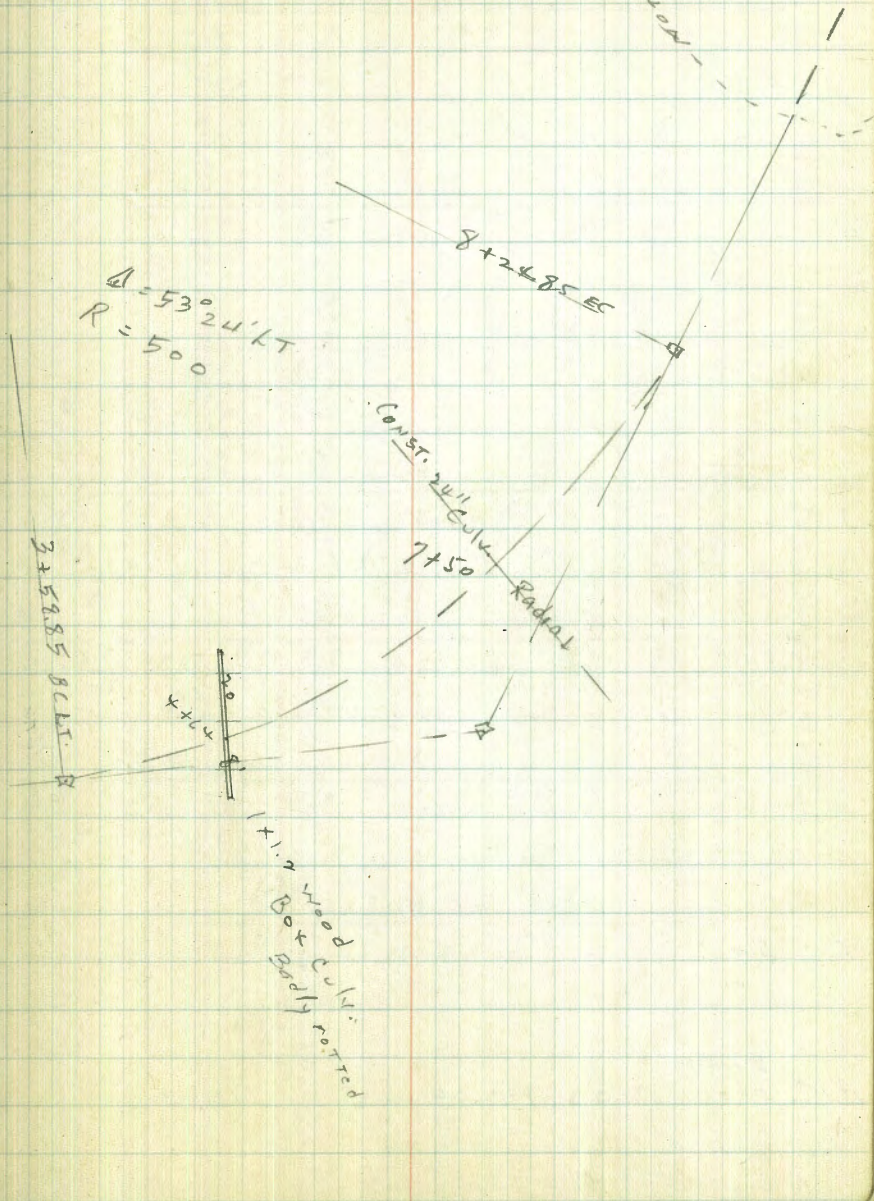
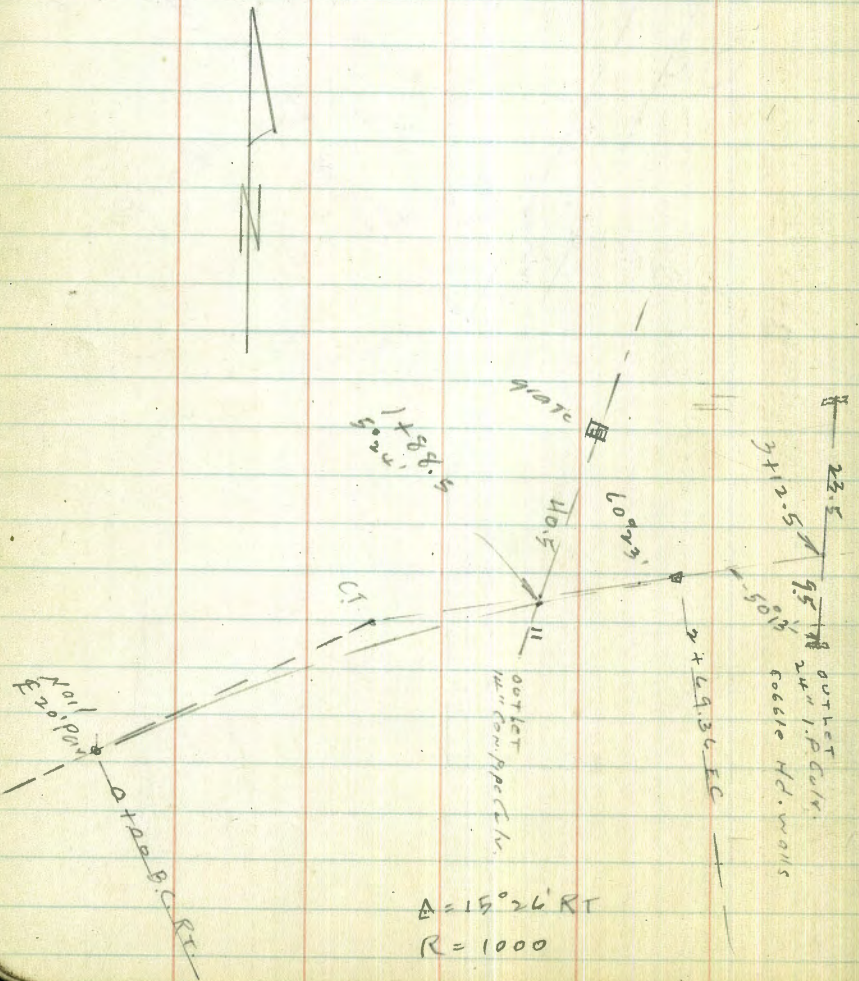
8+24.85 EC

$\Delta = 53^{\circ}24'RT$
 $R = 500$

CONST. 24" CULV. $7+50$ Radial

3+52.85 B.C.T.

1x1.2 Wood CULV.
Box Body rotted



Cross Sec. of
"D" line

Notes Red.
by 7/9/41

LT

RT

33

+ 50

1313	130.3	130.5	129.9	128.0	130.2	132.1
$\frac{0.8}{30}$ Pav	$\frac{1.8}{5}$ Pav	1.6	$\frac{4.2}{7}$	$\frac{4.1}{7}$	$\frac{1.9}{10}$	$\frac{0}{30}$

128.29	128.11	128.0	127.8	124.8	127.2	127.0	130.5
$\frac{3.77}{30}$ Pav	$\frac{3.95}{9.5}$ Pav	4.1	$\frac{5.3}{5}$	$\frac{7.0}{10}$	$\frac{4.9}{7}$	$\frac{5.1}{22}$	$\frac{1.6}{30}$

+ 50

125.73	125.56	125.7	125.2	122.3	125.7	126.0
$\frac{6.33}{30}$ Pav	$\frac{6.50}{1.3}$ Pav	6.4	$\frac{6.9}{9}$	$\frac{9.8}{15}$	$\frac{6.6}{17}$	$\frac{6.1}{30}$

128.0	122.3	123.5	123.6	123.24	123.1	123.1	120.3	122.5	122.3
-------	-------	-------	-------	--------	-------	-------	-------	-------	-------

Sec P 27 for
Culv. levels

4.1	9.8	8.6	8.90	8.82	8.95	9.0	11.8	9.6	9.8
$\frac{4.1}{30}$	$\frac{9.8}{27}$	$\frac{8.6}{25}$	$\frac{8.90}{15.4}$ Pav	8.82	$\frac{8.95}{5.3}$ Pav	$\frac{9.0}{12}$	$\frac{11.8}{17}$	$\frac{9.6}{17}$	$\frac{9.8}{30}$

+ 50

125.9	124.0	120.4	120.9	121.04	121.21	121.02	120.7	118.6	120.0	119.5
$\frac{6.2}{30}$	$\frac{8.1}{25}$	$\frac{11.7}{23}$	$\frac{11.2}{21}$	$\frac{11.07}{11.2}$ Pav	10.85	$\frac{11.04}{9}$ Pav	$\frac{11.4}{16}$	$\frac{13.5}{20}$	$\frac{12.1}{22}$	$\frac{12.6}{30}$

124.6

121.5	118.0	119.1	118.8	119.03	118.77	118.5	116.6	118.1	118.6
$\frac{7.5}{30}$	$\frac{14.1}{20}$	$\frac{13.0}{18}$	$\frac{13.8}{10}$	13.03	$\frac{13.4}{10}$	$\frac{13.6}{15}$	$\frac{15.5}{20}$	$\frac{14.0}{22}$	$\frac{13.5}{30}$

0 + 00

Sec. at 90°

16.91	17.04	16.89
$\frac{15.15}{10}$ Pav	15.02 Pav	$\frac{15.17}{10}$ Pav

0 - 50

2 nail

B.M. 2+00 13.03 132.06

119.03

132.06

L

+50

T.P. 10.24 151.65 1.28 141.43

S

+50

X

2 + 58.85 BC LT

3 + 12.5 Sec 90°

T.P. 11.03 142.71 0.38 131.68

4 + 69.36 E.C.

132.06

144.7	143.6	140.6	142.1	142.8	139.0	141.1	140.9
7.0	8.1	11.1	9.2	8.9	12.7	10.1	10.8
30	26	22	22	22	13	16	40
143.7	143.2	139.4	141.1	141.5	141.3	139.4	139.4
8.0	8.5	12.3	10.6	10.2	10.4	13.3	12.1
30	27	23	18	18	5	11	14
152.7	142.7	136.8	138.4	138.6	138.4	135.2	136.8
+10.0	0.0	5.9	5.3	2.1	5.6	7.5	5.2
40	30	22	19	21	26	10	30
140.6	137.6	135.4	138.9	136.7	133.4	130.1	136.1
2.1	5.1	7.3	5.8	6.0	9.4	10.0	6.0
30	25	23	20	20	20	20	20
139.3	134.5	135.4	135.3	135.3	135.1	131.9	133.7
3.4	8.2	7.3	7.4	7.6	10.8	9.0	9.1
60	22	20	20	20	20	11	20
136.6	133.5	133.4	133.4	133.3	130.5	132.1	133.1
6.1	9.2	9.2	9.2	9.4	12.2	10.5	9.0
30	21	21	21	5	10	13	20
132.7	131.6	131.7	131.7	129.0	131.4	132.6	132.6
+0.6	0.5	0.2	0.5	0.1	0.7	+0.5	
30	2	0.2	2	8	11	30	

S. upper
rd shoulder

S. shoulder
of upper rd.

new sterna
will have to
be made

132.06

9

+50

T.P. 17.66 175.71 0.48 163.05

+24.85 E.C.

T.P. 17.40 163.53 0.52 151.13

8

+50

7

6+50

151.65

	L _T	A	P _T	
	170.4	174.5	174.9	172.7
	$\frac{5.0}{40}$	$\frac{1.2}{20}$	0.8	$\frac{3.0}{20}$
	162.7	165.3	165.4	163.5
	$\frac{13.0}{40}$	$\frac{10.4}{20}$	10.3	$\frac{12.7}{10}$
	150	158.1	175.71	157.1
	$\frac{8.5}{40}$	$\frac{5.4}{20}$	5.1	$\frac{6.4}{15}$
	150.4	151.7	163.53	150.4
	$\frac{1.3}{40}$	0.0	$\frac{1.3}{10}$	$\frac{1.3}{11}$
	148.9	147.8	146.6	144.8
	$\frac{7.8}{40}$	$\frac{3.9}{20}$	5.1	$\frac{6.9}{20}$
	146.7	145.1	145.2	145.4
	$\frac{5.0}{40}$	$\frac{6.6}{14}$	$\frac{8.3}{11}$	$\frac{6.7}{7}$
	143.9	141.8	143.6	143.9
	$\frac{5.9}{40}$	$\frac{7.9}{14}$	$\frac{9.9}{11}$	$\frac{7.9}{7}$
	140.1	140.1	143.5	140.1
	$\frac{7.5}{33}$	$\frac{6.5}{40}$		
	133.3	133.3	143.3	133.3
	$\frac{5.8}{30}$	$\frac{7.9}{20}$	$\frac{9.9}{16}$	$\frac{7.9}{13}$
	128.5	128.5	128.5	128.5
	$\frac{1.3}{40}$	0.0	$\frac{1.3}{10}$	$\frac{1.3}{11}$
	127.2	127.2	127.2	127.2
	$\frac{3.0}{20}$	$\frac{9.4}{40}$		
	124.2	124.2	124.2	124.2
	$\frac{10.4}{20}$	$\frac{16.0}{37}$		
	113.8	113.8	113.8	113.8
	$\frac{12.7}{10}$	$\frac{15.2}{20}$		
	101.1	101.1	101.1	101.1
	$\frac{16.0}{37}$	$\frac{15.2}{20}$		
	85.1	85.1	85.1	85.1
	$\frac{15.2}{40}$	$\frac{15.2}{40}$		
	70.1	70.1	70.1	70.1
	$\frac{15.2}{40}$	$\frac{15.2}{40}$		
	55.1	55.1	55.1	55.1

STONY DITCH

151.65

T.P. 1291 237.03 0.00 224.12

1W

214.6
9.5
30

219.7
4x
11

219.2
7.4
30

T.P. 1242 224.12 0.36 211.70

+50

204.5
2.0
30

207.6
K.5
15

224.12
207.9
2

207.1
5.0
20

205.8
7.0
30

T.P. 12.31 212.06 0.05 199.75

11

+50

193.5
6.3
30

198.3
1.5
17

212.06
192.5
2

198.8
1.0
17

194.1
5.7
30

187.5
12.3
30

191.5
8.2
17

192.5
7.2

192.0
2.8
15

187.8
12.0
30

T.P. 11.29 199.80 0.10 187.91

7 10

9+50

181.9
6.1
30

176.9
11.1
30

185.2
2.8
12

181.3
5.7
12

199.80
16.5
2

181.9
6.1

186.5
1.5
14

181.8
6.7
12

182.9
5.1
30

178.2
9.8
30

T.P. 12.32 188.01 0.02 175.69

175.71

188.01

check BM 1^o. 23 3.04 242.82 242.78

14 + 00

13 + 00

T.P.

11.28 245.88 25.3 234.50

12 + 50

237.03

Cent floor

	237.4	240.9	240.8	240.3	238.9
RIM	7.5 13	5.0 30	5.1	5.6 30	7.0 28 RIM
	235.9	236.2	236.4	236.5	235.9
RIM	10.0 36	9.7 30	9.5	9.4 30	10.5 65 RIM
	226.9	245.88	233.2	232.0	226.3
	10.3 30	3.5 RIM	3.8 24	5.0 30	8.7 45

237.03

Moore
C-20-41

G.R. Hayler
Please Note!

LOCATION OF EXISTING
SEWER M.H.'S THAT WILL HAVE
TO BE RECONSD. BEFORE EILLS
ARE MADE ON RD. SEE P. 31

11.70 143.38 131.68 T.P.
P. 34

M.H. 1+99.5

R.I.M. 9.10 134.28

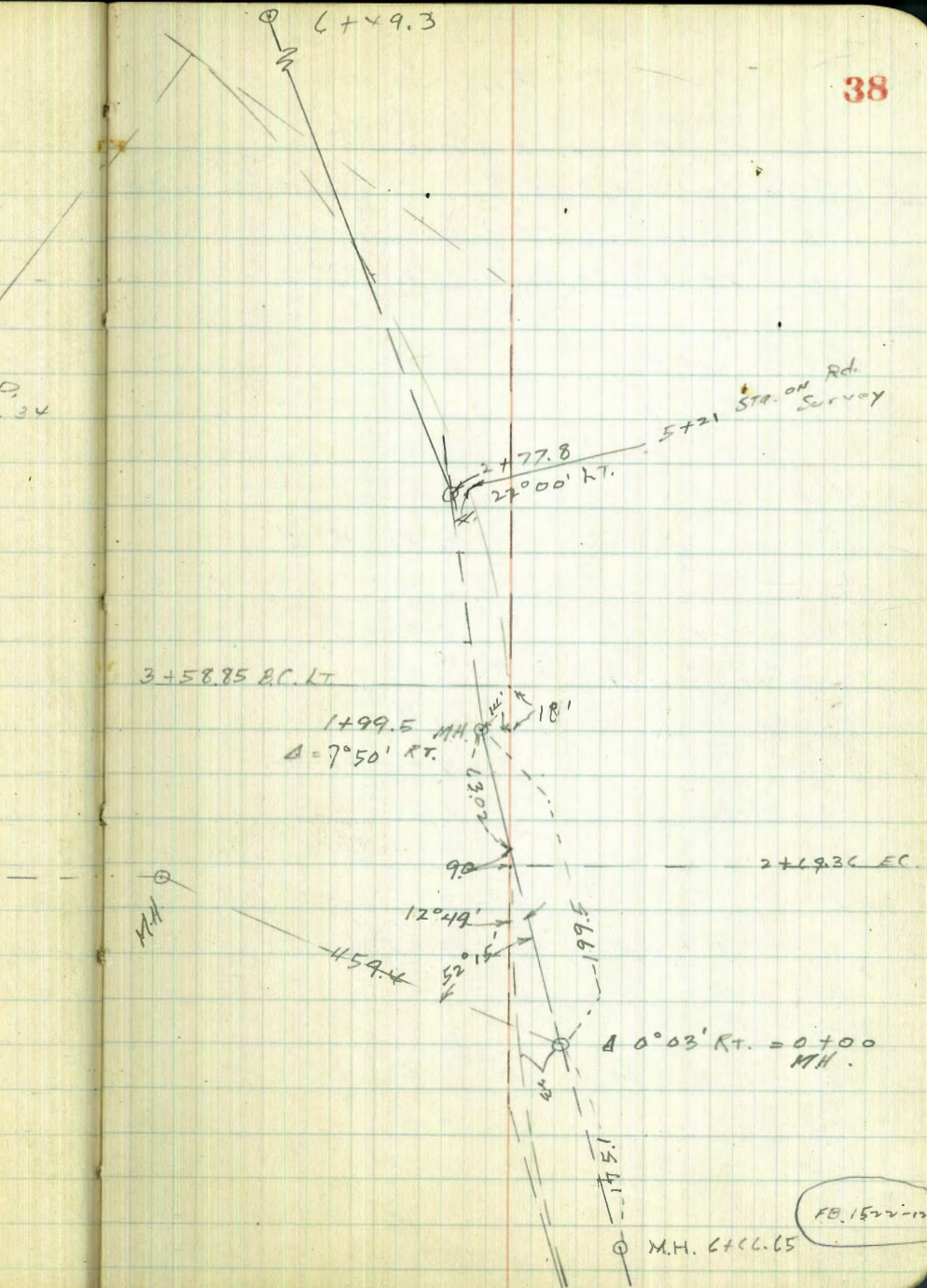
F.L. 14.32 129.06

M.H. 2+77.8

R.I.M. 3.22 140.16

F.L. 8.47 134.91

38



B. Walker
 M.L.
 Hord
 3-4-42

CROSS SECTION

indexed
 C.S.K.

LEXINGTON AVE. 60' wide 10' cbs.
 from 40th St. 10' 1/4s.
 To ESTRELLA PARK

old MH
 90.3' N of E. Man
 Estrella Park.

10.23 164.28

154.05

S. M. 47.11' 1/2
 on line 1843
 FB 1628-62

T.P. 13.08 176.55 0.81 163.47

T.P. 13.04 188.36 1.23 175.32

0+00

N-20' on old Hub. 5.25

N 6.2 182.2

cb. 6.4

N 1/4 6.4

S on Paring stake 6.78 181.58

S 1/4 6.5

S cb. 7.5

+2 - N edge Wash. 8.0

+4 in Wash. 9.1

S.L. 9.1 179.3

+3 S edge " 8.5

+6 2.2

+20 +3.0

0+14.89 = 6+01.89 in FB. 1331-60

-20 +0.4

-7 6.3

S.L. in Wash 10.2 176.2

N cb. 7.2

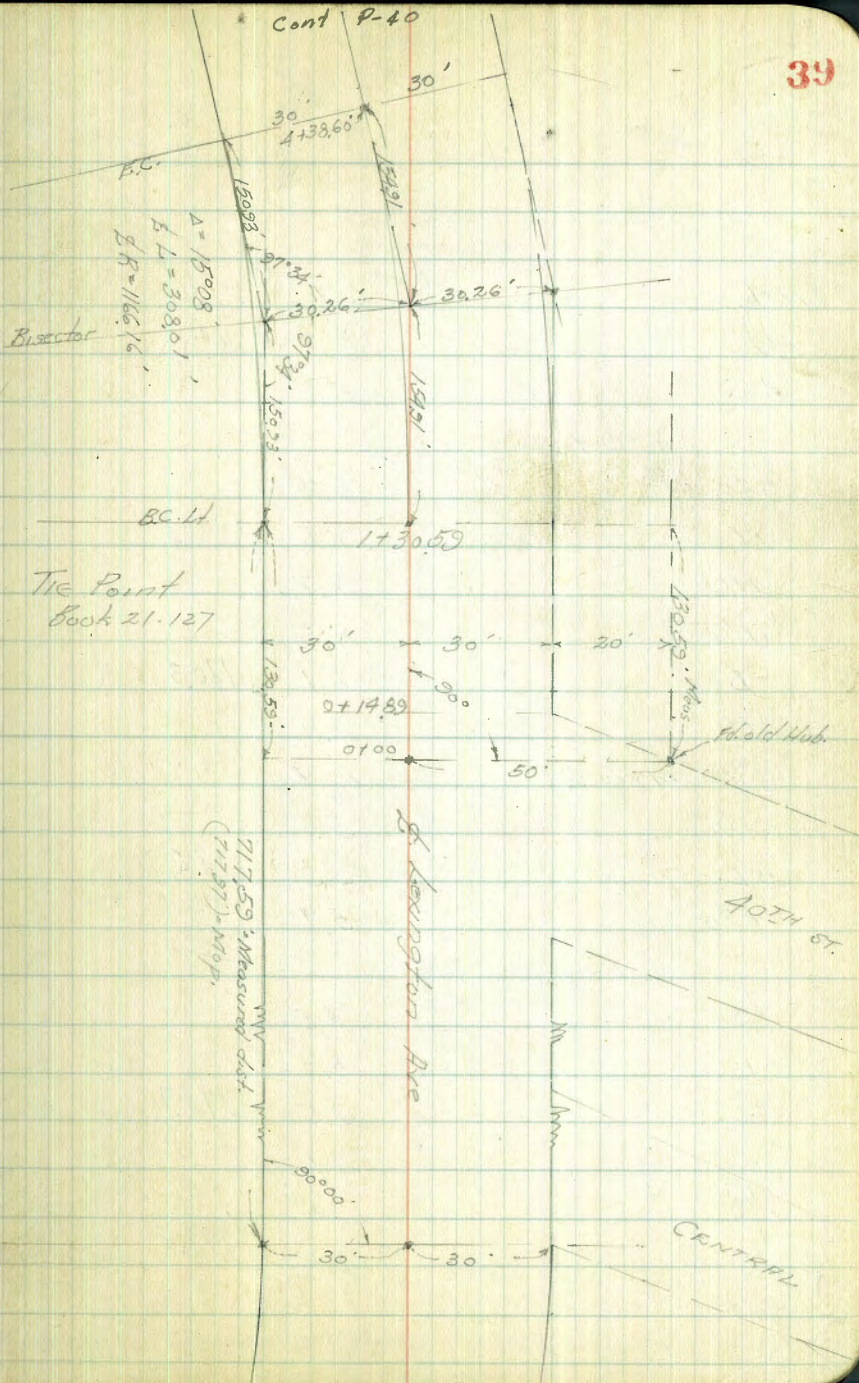
S 1/4 7.0

S 7.0 181.4

N 1/4 6.8

Cont. P-20

39



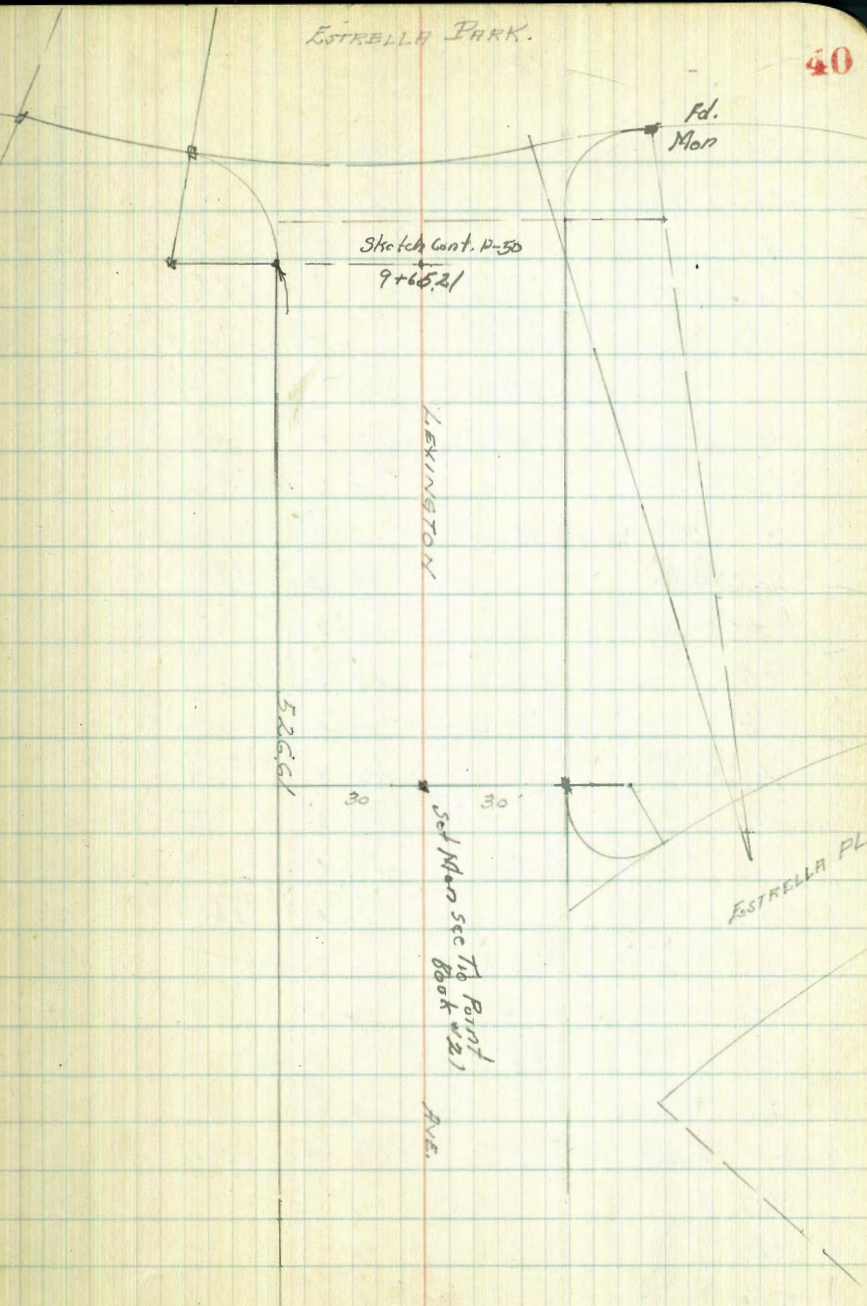
POPLAR ST.

Fd. Man

18836 P. 39

Sketch cont. p. 50
9+65.21

Ncb.	6.7	
NL.	6.7	181.7
+20	5.8	
	0+50	
-20	6.9	
N	7.6	180.8
Ncb.	7.7	
N ^{1/4}	8.3	
L	8.1	180.3
+8	8.9	
5 ^{1/4} in wash	10.4	
scb.	9.6	
SL.	9.9	178.5
+20	5.7	
	1+00	
-20	4.5	
-15	8.3	
SL.	9.5	178.9
scb.	9.1	
5 ^{1/4}	9.9	
L	9.6	178.8
N ^{1/4}	10.4	
+5	10.8	



R.C. R-1136.16
4+38.60
Cont. from P-39

188.36

Lexington Ave

Ncb.	11.6	
+4 = N edge Wash.	11.9	
+7	9.3	
NL.	9.1	179.3
+20	8.5	
1+30.59 = B.C. Lt.		
-20	9.3	
-12	9.6	
-8 = N edge Wash.	12.2	
NL.	11.4	177.0
+6	10.7	
cb.	10.8	
"	10.6	
z	10.8	177.6
S/4	10.6	
sb.	10.1	
SL.	10.1	178.3
+10	10.0	
+20	4.1	
1+50		
-20	5.1	
SL.	8.2	180.1
+5	11.1	
cb.	10.9	
S/4	10.9	

188.36

41

z	11.1	177.3
N/4	11.1	
cb.	11.3	
"	12.2	176.2
+10 = N edge Wash.	12.0	
+12	9.9	
+20	9.5	
2+00		
-20	10.4	
-10	12.0	176.4
N	12.2	176.2
cb.	12.2	
" N edge Wash.	13.0	
z 10 "	14.8	173.6
+1 = S Bank.	11.9	
S/4	11.7	
sb.	11.6	
SL.	10.4	178.0
+20	7.1	
2+50		
-20	11.1	
SL.	13.0	175.4
cb.	12.9	
S/4	13.1	
z	13.2	175.2
N/4	13.6	

18836

Lexington Ave

18071

42

n/cb.		13.3	
N.L.		13.7	174.7
+20 in Wash.		14.3	
+25 " "		13.2	
+30 = Top Bank (N side)		9.9	
TP	5.39	<u>180.71</u>	130.4 175.32
	3+00		

-20		+3.0	
-5		4.8	
n		5.8	173.9
cb.		6.9	
N ¹ / ₄		8.0	
+3 in Wash.		9.2	
d " "		9.1	171.6
+8		7.7	
S ¹ / ₄		7.7	
S cb.		7.0	
SL.		6.9	173.8
+20		7.0	
	3+50	8.3	

-20		6.3	
-15		8.5	
SL. in Wash.		2.6	171.1
cb. " "		10.0	
+3 " "		10.8	
S ¹ / ₄ = N Bank		8.6	

L		9.0	171.7
N ¹ / ₄		9.5	
+3		8.1	
cb.		7.8	
n		5.3	175.4
+20		0.0	
	4+00		

-20		7.1	
-14		7.8	
-6		10.9	
N.L.		10.2	170.5
+1		9.1	
N cb.		8.8	
N ¹ / ₄ = N Bank Wash.		9.1	
+1 in Wash.		11.1	
E " "		11.1	169.6
S ¹ / ₄ " "		10.6	
cb " "		10.2	
SL. " " S edge		10.8	170.1
+20		2.8	

		4+38.60 = E.C.	
-15		14	
SL. -5		7.6	
-3' in Wash.		11.6	
SL. " "		12.3	168.4
S cb. " "		12.2	

18071

Lexington Ave

5'4 = W edge Wash.	11.9		
+3	10.5		
L	10.2	170.5	
N'4	10.3		
Ncb.	9.8		
N.L.	10.2	170.5	
+20	12.2		
TP	10.52	<u>180.37</u>	10.86 169.85
	4+50		
-20	12.0		
N	10.0	170.4	
Ncb.	10.5		
N'4	10.2		
L	10.5	169.9	
5'4 = W edge Wash.	12.1		
cb. in Wash.	13.0		
+8 = E Bank	8.2		
SL	7.8	172.6	
+20	+2.5		
	4+75		
-20	+6.0		
SL	4.9	176.1	
cb.	8.5		
+6 = S Bank	11.0		
+8 = S edge Wash.	13.1		
5'4	13.2		

18037

43

d	13.0	167.4	
N'4	12.7		
Ncb.	11.0		
N.L.	11.1	169.3	
+20	12.1		
	5+00		
-20	13.2		
N.L. - 5 = N Bank	11.7		
-4 = N edge Wash.	14.0		
N.L.	14.0	166.4	
Ncb.	13.0		
N'4	11.9		
L	12.5	167.9	
5'4	9.7		
Scb.	6.6		
SL	3.8	176.8	
+20	+5.2		
	5+50		
-15	+1.5		
SL	5.0	175.4	
cb.	9.0		
5'4	11.9		
L	13.6	166.8	
N'4	13.0		
Ncb.	12.0		
N.L.	12.4	168.0	

Lexington Ave

18037

NL #15 = S. Bank		13.5	
+20 = Edge Wash.		15.0	
	6+00		
-20		14.3	
NL		13.3	167.1
Ncb.		14.4	
N'14		14.6	
L		14.0	166.4
S'14		12.8	
Scb.		10.9	
SL		8.8	171.6
+20		10.3	
	6+50		
-20		8.2	
SL		12.3	168.1
T.P.	1.82	<u>170.13</u>	12.06 168.31
Scb.		3.6	
S'14		5.4	
L		6.4	163.7
N'14		6.2	
Ncb.		6.3	
NL		5.9	164.2
+20		5.1	
	7+00		
-20 = Edge Wash.		7.4	
-15 = Bank		7.2	

17013

44

-18		6.0	
NL		6.5	163.6
Ncb		7.0	
N'14		7.5	
L		7.3	162.8
S'14		7.0	
Scb.		6.8	
SL		5.3	164.8
+20		2.6	
	7+50		
-20		5.6	
SL		8.5	161.6
cb		8.4	
S'14		7.9	
L		7.9	162.2
NL		7.8	
cb		7.2	
NL		6.5	163.6
+20		6.2	
	8+00		
-20		9.0	
NL		8.6	161.5
L		8.4	
cb.		10.2	
N'14		10.2	
L		9.9	160.2

170.13

S ^{1/4}		9.1	
cb.		8.8	
SL.		9.6	160.5
+20		7.8	
	8+50		
-20		10.0	
SL.		10.6	159.5
cb.		10.8	
"		10.3	
E		10.8	159.3
N ^{1/4}		10.7	
Ncb.		10.3	
NL.		10.1	160.0
+20		9.9	
T.P.	5.21	<u>162.73</u>	12.61 157.52
	2x00		
-20	in Wash Wedge	5.5	
N	" "	6.0	156.7
Ncb.	" "	6.3	
N ^{1/4}	" "	6.9	
E		6.4	156.3
+5 = Sedge "		6.4	
S ^{1/4}		4.3	
cb.		4.7	
SL.		5.6	157.1
+20		4.1	

162.73

45

	9+50		
-20		6.2	
SL.		5.7	157.0
cb.		6.0	
+5 = sedge Wash.		7.3	
S ^{1/4} in "		7.3	
+8 " "		7.7	
E. = N Bank		5.1	157.6
N ^{1/4}		5.0	
Ncb.		5.3	
NL.		5.2	157.5
+20		0.8	
	9+65.21		P.C.C. on South see sketch
-20		1.8	
N		6.4	156.3
cb.		5.5	
N ^{1/4}		5.5	
E = N Bank		5.7	157.0
+3 = N edge Wash.		8.2	
S ^{1/4} in "		7.7	
cb. " "		7.6	
SL. on S. Bank		6.5	156.2
+20		6.5	
	10+00		
-20		7.5	
SL.		8.4	154.3

16273

scb.	7.1	
5'10	7.9	
L.	8.1	154.6
N'14	7.5	
N'cb.	8.5	
N.L.	6.7	156.0
+20	1.1	
		10+50
-20	11.6	
-10	9.6	
N	10.6	152.1
N'cb.	9.7	
N'14	9.2	
L.	8.3	154.4
5'14	9.0	
scb.	8.5	
SL.	7.9	154.8
+20	7.0	
		11+00
-20	7.4	
-SL.	8.0	154.7
cb.	8.5	
14	8.9	
L.	8.7	154.0
14	9.2	
cb.	10.3	

16273

Lexington Ave

46

N.L.	10.0	152.7
+20	11.3	
		11+50
-20	14.3	
-19	11.3	
N.L.	10.5	152.2
cb.	10.8	
14	10.2	
L.	9.7	153.0
14	9.0	
cb.	8.6	
SL.	8.0	154.7
		12+00
SL.	7.7	155.0
cb.	8.7	
14	9.5	
L.	10.1	152.6
14	10.5	
cb.	10.8	
N.L.	11.7	151.0
+20	13.3	
		12+50
-20	13.3	
N	12.2	150.5
cb.	11.6	
N'14	11.0	

162.73

℄		10.0	152.7
S'11		10.2	
cb		10.0	
S		9.1	153.6
chk. Studing BM.		8.69	154.04
		2.3	154.05 - BM
			0.01
			13+00
T.P.	1.82	<u>155.89</u>	8.66 154.07 on Rods
		13+00	
S		3.0	152.9
cb.		4.1	
1/4		4.2	
℄		5.5	150.4
N'11		5.2	
cb		4.2	
N.L.		3.5	152.4
+20		6.3	
		13+50	
-15 = S edge Wash.		12.0	
-5 = S Bank.		8.5	
N		7.9	148.0
"cb		8.0	
"11		7.9	
℄		7.9	148.6
S'11		6.0	
S.cb		6.7	
S.L.		5.8	150.1

155.89

47

		13+92.19	
		13+91.89 = P.F.C	
-20'		9.1	
S.L. on Pav. Stake		9.05	146.84
S.cb		9.0	
S'11		9.2	
℄		9.4	146.5
N'11		10.1	
+8 = S Bank		10.6	
N.cb. = S edge Wash.		12.1	
N.L. 10 "		12.4	143.5
+20' "		11.4	
		14+50	
-20 in Wash.		13.7	
N " "		12.1	143.8
cb " "		13.9	
N'11 = S edge "		13.3	
+5 = S Bank		11.0	
℄		10.2	145.7
S'11		10.8	
cb.		11.3	
S.L.		11.3	144.6
+20		10.8	
T.P.	2.55	<u>147.59</u>	10.85 145.04
		15+00	
-20		3.1	
S.L.		3.1	144.5

147.59

Scb.		2.9	
S'1/4		3.6	
L		4.3	143.3
N'1/4 = S edge Wash.		5.7	
Ncb	in	5.1	
N'1/4	"	5.8	141.8
+20		3.3	
	15+50		
-20		3.8	
+15 = N Bank Wash		3.5	
-4 = N edge "		5.2	
N	in	6.0	141.6
cb.	"	6.6	
N'1/4	"	6.8	
L = S Bank "		5.2	142.4
S'1/4		4.6	
Scb.		4.6	
Sl.		4.5	143.1
+20		3.3	
	16+00		
-20		5.0	
Ok.		5.4	142.2
Scb.		5.4	
S'1/4		6.1	
77+57.5 F.B. 1670-14			
chk. S edge Elm M.H.		5.03	142.56
Same relative Error as noted			142.71
in FB 1428			0.15

147.59

48

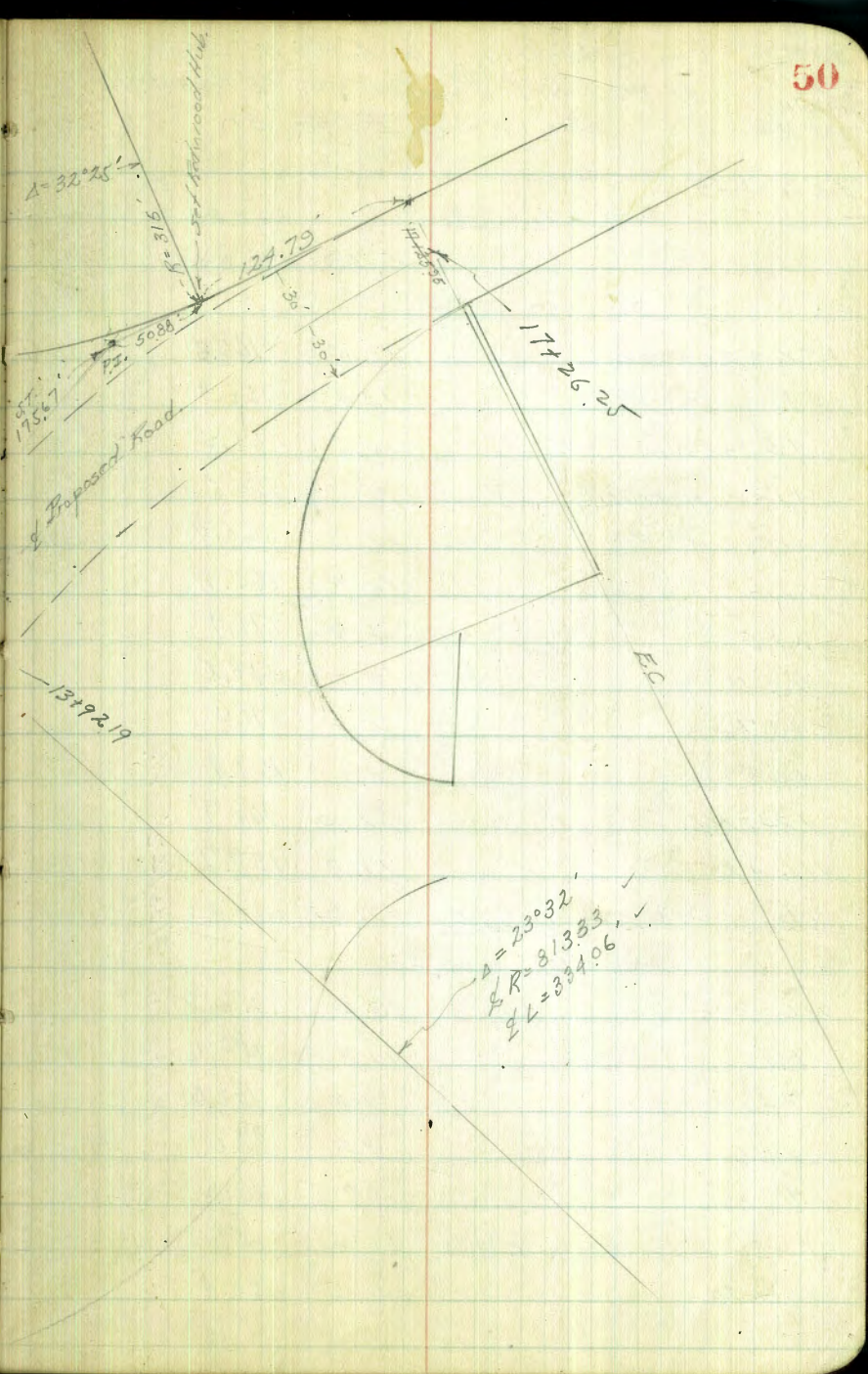
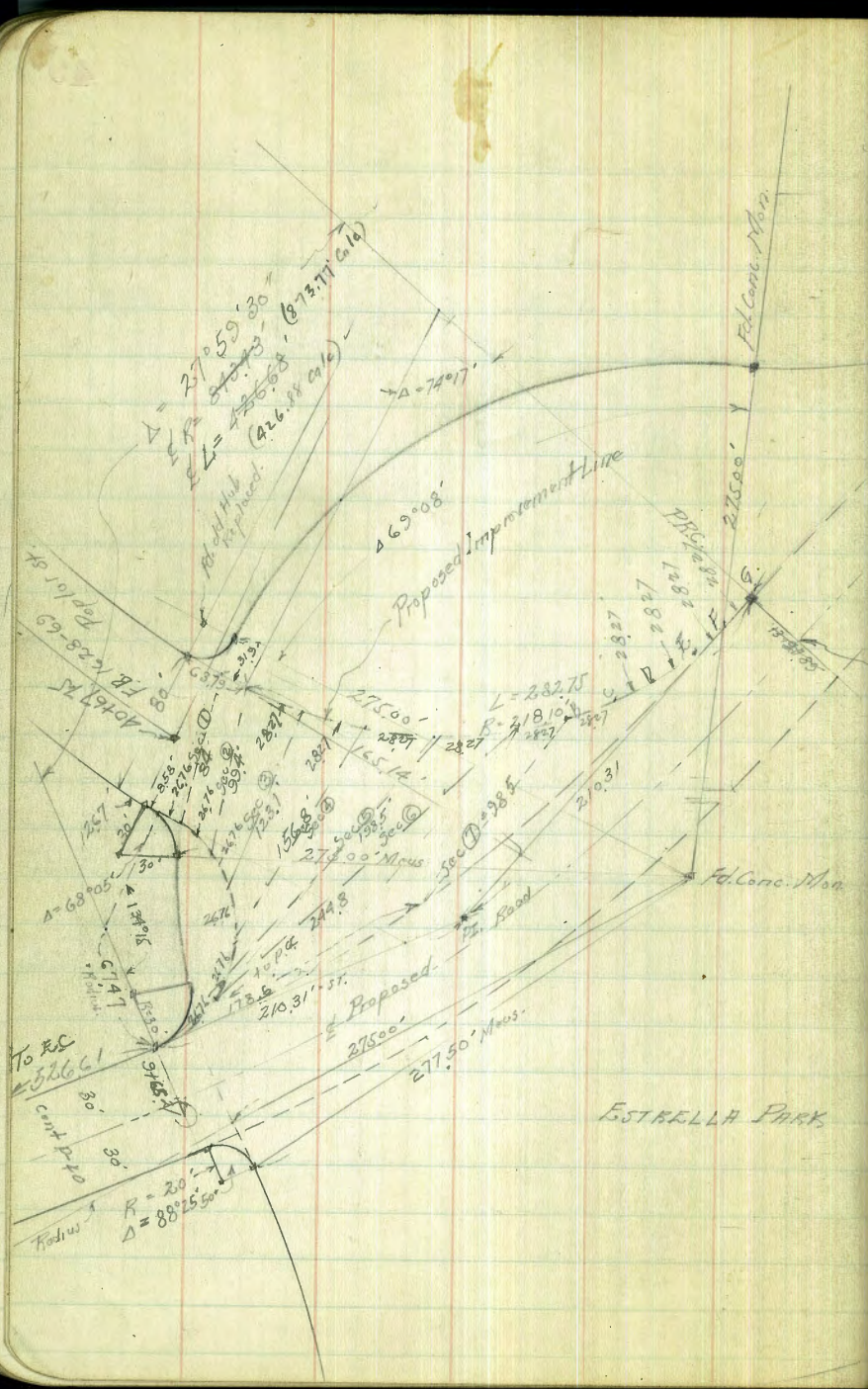
L = S edge Wash	7.1	140.5
+5 10 "	7.8	
N'1/4	7.5	
cb.	6.7	
N	5.9	141.7
+20	5.9	
	16+50	
-20	1.6	
N	5.1	142.5
+4 = N Bank	5.6	
+5 N edge Wash	7.8	
Ncb in "	7.3	
N'1/4 " "	7.4	
L	7.9	139.7
S'1/4	6.9	
Scb.	6.6	
Sl.	5.7	141.9
+20	5.2	
	17+00	
-20	6.2	
Sl.	5.8	141.8
Scb.	6.7	
S'1/4	7.5	
+4 = S. edge Wash.	8.8	
L	8.1	138.9
N'1/4	7.9	

147.59

Livingston Ave

49

N. cb. in Wash. (N edge)	7.7	
+5 = N Bank	6.0	
N.L.	4.6	143.0
+20	4.7	
	$17 + 26.25$	
	$17 + 25.95$	= F.C.
-20	5.0	
N.L.	7.3	140.3
cb. = N edge Wash.	7.9	
" " "	8.1	
" " "	9.1	138.5
5'11"	8.8	
+3 = S edge "	8.9	
+4 = S Bank "	7.7	
2 cb.	7.3	
St. on Paving Stone	6.37	141.22
+20	6.5	



Walker
Wells
Hardin
3-2-42

Cross Sections in Estrella Park.
At WLY end Poplar St. (FB 1828-69)
See sketch Page 50

			Elev. Rock
FB 1828-69	12.84	176.72	163.88 TR "H"
		5.73	170.99
	Sec. (D) = 84'		
SL-20	10.4	166.3	
SL	14.4	162.3	
+5 on Rim E NH.	14.5	162.2	
+10 in Wash	16.2	160.5	
+15 " "	16.3	160.4	
+26	10.8	165.9	
+45	4.8	171.9	
+51	3.2	173.5	
+57	5.3	171.4	
+68	8.8	167.9	
+84 = NL	12.0	164.7	
NL + 20	17.0	159.7	
TR	6.04	169.92	12.84 163.88
	Sec. (E) = 99.4'		
NL-20	18.6	156.3	
NL	11.3	158.6	
+48	7.3	162.6	
+66	7.8	162.1	
+78	9.7	160.2	
+99.4 = SL = 2 Wash. 10' W	10.6	159.3	
SL + 20	5.5	164.4	

RED. & PLOTTED 3/20/42

169.92

51

Sec. (C) = 123.1'

	-20	9.6	160.3
	-8 = 2 Wash 10' wide	11.7	158.2
	SL	10.6	159.3
	78	9.5	160.4
	+30	9.5	160.4
	+72	11.3	158.6
	+123.1 = NL	14.1	155.8
	NL + 20	14.5	155.4
	TR 7.87	165.60	12.19 157.73
	Sec. (A) = 156.8'		
	NL-20 in Wash	11.8	153.8
	NL	10.5	155.1
	+14	9.4	156.2
	+57	9.1	156.5
	+89	7.5	158.1
	+110	6.8	158.8
	+136	6.5	159.1
	+150	6.2	159.4
	+156.8 = SL = N Bank	7.4	158.2
	SL + 2 - N edge Wash	9.1	156.5
	+5 = S " "	9.1	156.5
	+6 = S. Bank	7.8	157.8
	+20	8.3	157.3

Cont on P. 52

165.60

Sec ⑤ = 198.5'

SL-20	9.7	155.9
SL	7.3	158.3
+30	7.2	158.4
+42	8.2	157.4
+52	7.3	158.3
+57	9.7	155.9
+87	9.0	156.6
+105	9.9	155.7
+132	9.1	156.5
+152	9.8	155.8
+157	11.0	154.6
+190	12.3	153.3
+1986-NL	11.6	154.0

Sec ⑥ = 244.8

NL. POC 30'R	9.8	155.8
+20	10.6	155.0
+44	12.1	153.5
+67	11.2	154.4
+70	9.7	155.9
+95	9.2	156.4
+120	10.5	155.1
+144	9.5	156.1
+174	10.0	155.6
+177	8.0	157.6
+195	7.5	158.1

165.60

52

+2.34	9.3	156.3
+244.8=SL	10.3	155.3
SL+7 = N Bank N edge	10.1	155.5
" 18 = Bottom Wash S edge	11.6	154.0
+10 Bottom "	11.6	154.0
+12 = S Bank	10.3	155.3
+20	10.3	155.3

Sec ⑦ = 98.5'

SL-20	9.8	155.8
SL	10.3	155.3
+7	10.4	155.2
+8 17 Wash	12.0	153.6
+10 " "	12.0	153.6
+12	10.1	155.5
+28	10.3	155.3
+30	9.7	155.9
+51	10.7	154.9
+62	11.7	153.9
+68	10.0	155.6
+98.5=N.L.	10.9	154.7
T.R	11.38	154.02

8 M P-47

154.04
0.02

3.29 157.33

154.04 = 8 M

Cont P-53

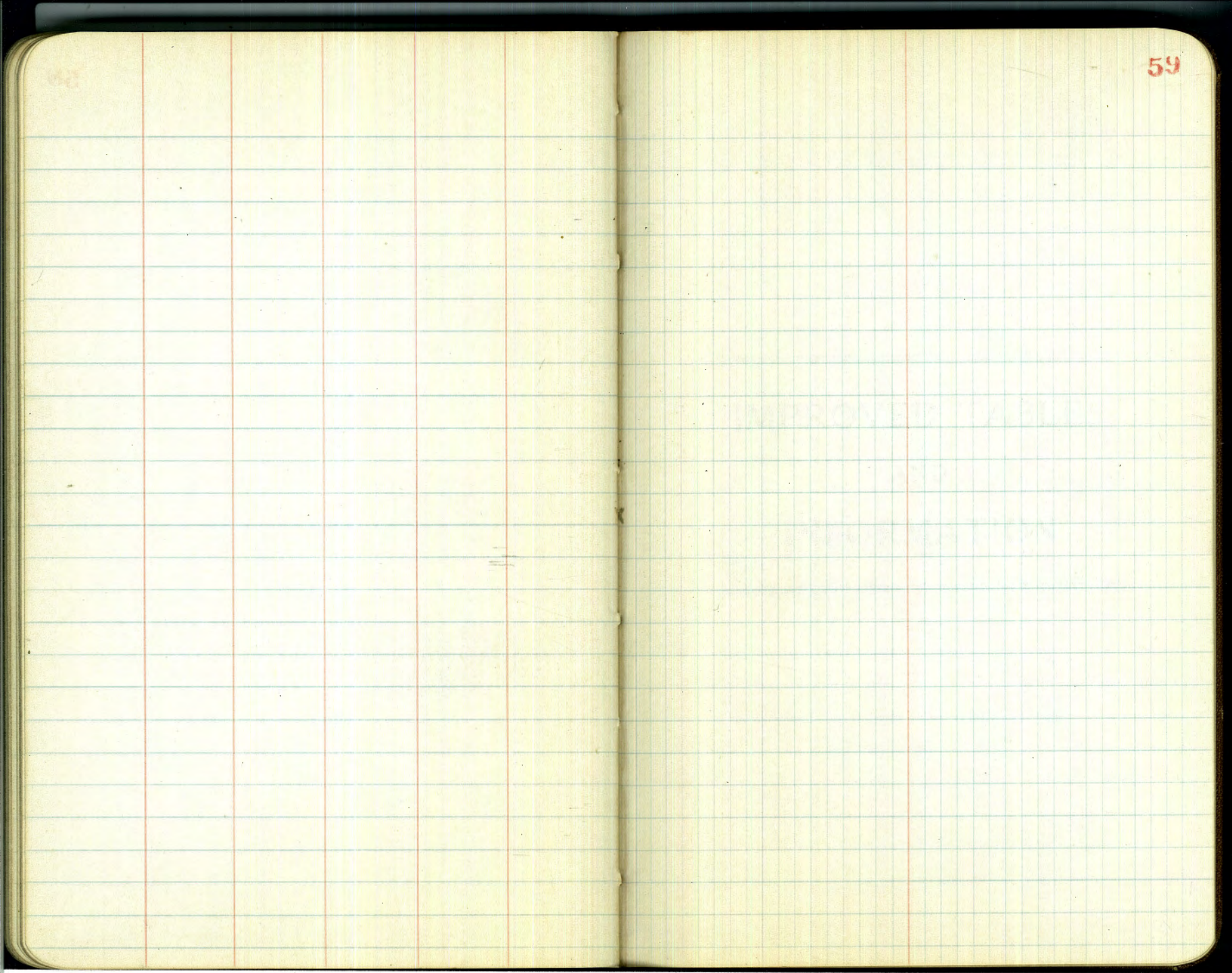
157.33

53

Levels on SL.

C	3.4	153.9
D	4.3	153.0
E	6.2	151.1
F	8.1	149.2
G. on Paving Stake	10.51	146.82
		146.84
		0.02 Error

RED. & PLOT. 3/20/42 (W.)



59

DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder stake for any width roadway, slope $1\frac{1}{2}$ to 1. If ground is nearly level, the cut or fill at side stake is located by the double entry method in left column and top row. The number in body of table in same row and column gives distance from side stake to slope stake. If ground is not level estimate the difference in elevation between the side stake and slope stake, lower target by this amount if cut, elevate if fill. Add this amount to cut or fill and find distance in table. Set up rod at this point, and line of sight should cut target. If it does not make the slight adjustment necessary.

TABLE No. 9.

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

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

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

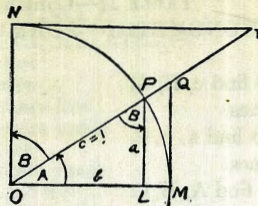


TABLE II

TRIGONOMETRIC FORMULÆ.

$$\begin{aligned} \angle A &= \angle MOP & \angle B &= \angle PON = \angle OPL \\ R &= OB = c = 1 \\ \sin A &= \frac{a}{c} = \frac{a}{1} = a = \cos B = LP \\ \cos A &= \frac{b}{c} = \frac{b}{1} = b = \sin B = OL \\ \tan A &= \frac{a}{b} = \frac{MQ}{OM} = \frac{MQ}{1} = MQ = \cot B = MQ \\ \cot A &= \frac{NT}{ON} = \frac{NT}{1} = NT = \tan B = NT \\ \sec A &= \frac{OQ}{OM} = \frac{OQ}{1} = OQ = \csc B = OQ \\ \csc A &= \frac{OT}{ON} = \frac{OT}{1} = OT = \sec B = OT \\ \text{vers } A &= \frac{LM}{OP} = LM = \text{covers } B \# \\ \text{covers } A &= \frac{OP - LP}{OP} = OP - LP = \text{vers } B \\ \text{exsec } A &= PQ = \text{coexsec } B \\ \text{coexsec } A &= PT = \text{exsec } B \\ \sin \frac{1}{2} A &= \sqrt{\frac{1 - \cos A}{2}} & \cos \frac{1}{2} A &= \sqrt{\frac{1 + \cos A}{2}} \\ \sin 2A &= 2 \sin A \cos A & \cos 2A &= \cos^2 A - \sin^2 A \\ \text{Law of Sines} & \frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c} \\ \text{Law of Cosines} & c^2 = a^2 + b^2 - 2ab \cos C \\ \text{Law of Tangents} & \frac{a+b}{a-b} = \frac{\tan \frac{1}{2}(A+B)}{\tan \frac{1}{2}(A-B)} \end{aligned}$$

105
68
177

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	25.2	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.

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9+96.03

11+62.64

1010 10'

File #6

208.90 = T.P. Rock

206.88 Top F.H. 11' ht. 8700
 So. of Ford Bldg.

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