

1403
Schools

BRIDGES

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LEVEL BOOK

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CITY OF CALIFORNIA.

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IRVING PARK STATION
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7-18-30

X See Herbert Hoover High School
Athletic FieldMellen
McHugh
J.C. Bliss
KehagyS.W. Norwood
& Chamounc

BM B.P. 9.18 362.30 353.12

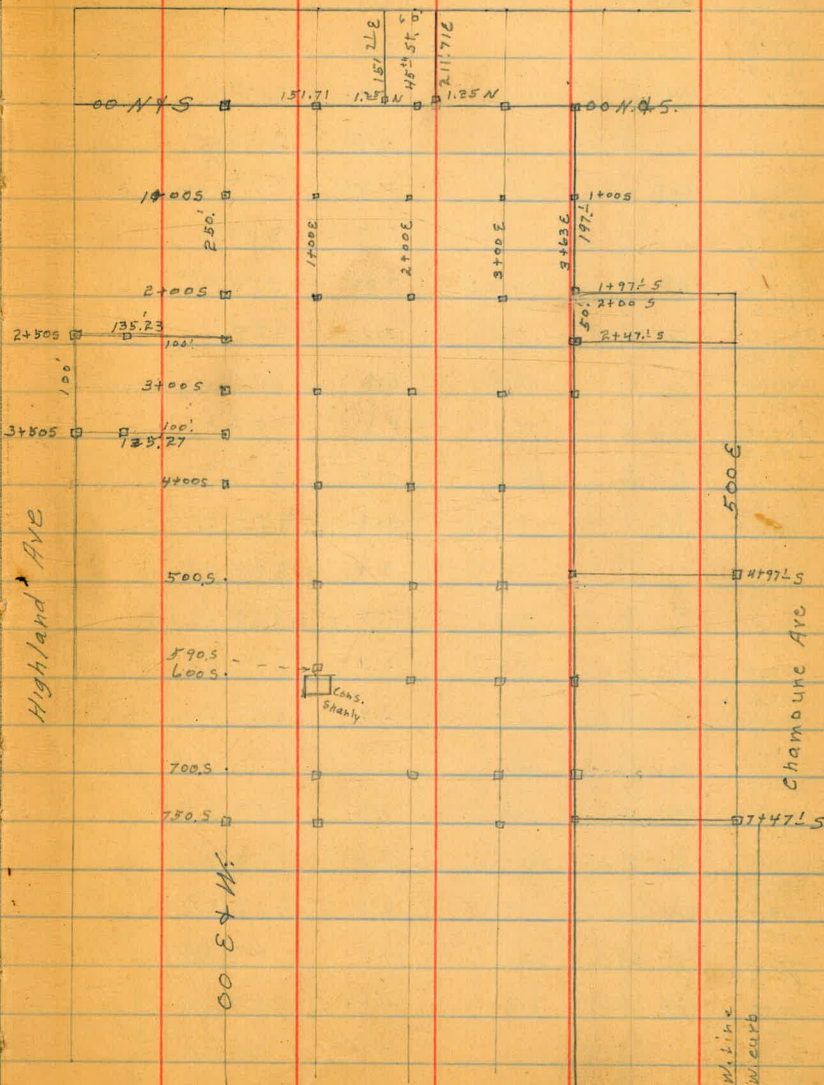
00 N + S = N Boundary School Property 10125 S of Monroe

00 E + W = W " " 13525 E. of Highland

00 N + S			
0.0 E + W on Hub	4.35	357.95	
00 N + S			
50. E	4.5	357.80	
00 N + S			
100. E on Hub	3.78	358.52	
145. E - 0 + 0.25 N -	3.52	358.78	on Hub
155. E - 0 + 0.25 N -	3.53	358.77	on Hub
00 N + S			
150. E	3.5	358.80	
00 N + S			
200. E Hub	4.08	358.22	
3.5			
200 E	3.4	358.90	
00 N + S			
250. E	3.4	358.90	
00 N + S			
300. E Hub	3.70	358.60	
00 N + S			
353. E	5.5	356.80	
00 N + S			
363. E Hub	6.60	355.70	
50. S			
363. E	6.8	355.50	
50. S			
353. E	6.2	356.10	
50. S			
300. E	4.4	357.50	
50. S			
250. E	4.0	358.30	
50. S			
200. E	3.7	358.60	
50. S			
150. E	3.6	358.70	
50. S			
100. E	3.6	358.70	
50. S			
50. E	3.9	358.40	
50. S			
00 E + W.	3.8	358.50	

S.E. Cor Lot 517
Talmadge Park #3S.W. Cor Lot 514
Talmadge Park #3

Monroe Ave



		362.30		
100.S				
60 E & W	Hub	2.97	359.33	
100.S				
50.E		3.3	359.00	
100.S				
100.E	Hub	3.41	358.89	
100.S				
150.E		3.5	358.80	
100.S				
200.	Hub	3.63	358.67	
100.S				
250.E		4.3	358.00	
100.S				
300.E	Hub	4.86	357.44	
100.S				
353.E		6.9	355.40	
100.S				
363.E	Hub	7.33	354.97	
150.S				
363.E		7.1	355.20	
150.S				
353.S		6.7	355.60	
150.S				
300.E		5.3	357.00	
150.S				
250.E		4.6	357.70	
150.S				
200.E		4.2	358.10	
150.S				
150.E		3.8	358.50	
150.S				
100.E		3.5	358.80	
150.S				
50.E		3.1	359.20	
159S				
00 E & W		2.9	359.40	
200 S				
00 E & W	Hub	3.02	359.28	
200.S				
50.E		3.5	358.80	
200.S				
100.E	Hub	3.73	358.57	
200.S				
150.E		4.5	357.80	
200.S				
200.E	Hub	4.69	357.61	
200.S				
250.E		5.0	357.30	
200.S				
300.E	Hub	5.62	356.68	

		362.30		Herbert Hoover Athletic Field
200.S				
353.E				
197.5				
363.E				
247.5				
363.E				
250.S				
353.E				
250.S				
300.E				
250.S				
250.E				
250.S				
200.E				
250.S				
150.E				
250.S				
100.E				
250.S				
50.E				
250.S				
00 E & W	Hub NE Cor. Lot 30 Orchard Villa	3.59	358.71	
250.S				
50.W		3.5	358.80	
250.S				
100.W	Hub	3.48	358.82	
250.S				
135.23 W	Hub NW Cor Lot 30 Orchard Villa	3.50	358.80	
300				
300.S				
135.25 E	Line Highland	3.5	358.80	
300.S				
100.W		3.2	359.10	
300.S				
50.W		3.3	359.00	
300.S				
00 E & W	Hub	3.66	358.64	
300.S				
50.E		4.3	358.00	
300.S				
100.E	Hub	4.56	357.74	
300.S				
150.E		5.1	357.20	
300.S				
200.E	Hub	5.45	356.85	
300.S				
250.E		5.8	356.58	
300.S				
300.E	Hub	5.53	356.77	
300.S				
363.E	Hub	5.06	357.24	

362.30

350.5			
363.8		3.9	358.40
350.5			
300.2		5.4	356.90
350.5			
250.2		5.9	356.40
350.5			
200.2		5.7	356.60
350.5			
150.2		5.2	357.10
350.5			
100.2		4.8	357.50
350.5			
50.2		4.4	357.90
350.5			
00.2+W	Hub S.E. Bldg Cor Lot 31 Orchard Villa	3.59	358.71
350.5			
50.2		3.2	359.10
350.5			
100.2	Hub	3.21	359.09
350.5			
135.27	SW. Bldg Hub Lot 31 Orchard Villa	3.64	358.66
400.5			
00.2+W	Hub	3.10	359.20
400.5			
50.2		3.7	358.60
400.5			
100.2	Hub	4.52	357.78
400.5			
150.2		5.1	357.20
400.5			
200.2	Hub	5.57	356.73
400.5			
250.2		5.7	356.60
400.5			
300.2	Hub	5.30	357.00
400.5			
363.8	Hub	3.87	358.43
450.5			
363.8		3.9	358.40
450.5			
300.2		4.6	357.70
450.5			
250.2		5.6	356.70
450.5			
200.2		5.6	356.70
450.5			
150.2		4.8	357.50

362.30

Herbert Hoover Athletic Field				
450.5				
100.2		3.9	358.40	
450.5				
50.2		3.5	358.80	
450.5				
00.2+W		3.1	359.20	
500.5				
00.2+W	Hub	2.90	359.40	
500.5				
50.2		3.4	358.90	
500.5				
100.2	Hub	3.55	358.75	
500.5				
150.2		4.2	358.10	
500.5				
200.2	Hub	5.10	357.20	
500.5				
250.2		5.1	357.20	
500.5				
300.2	Hub	4.03	358.27	
497.15				
363.8	Hub W. line of Lot 7 Edgemont.	4.11	358.19	
550.5				
363.8		4.1	358.20	
550.5				
300.2		3.9	358.40	
550.5				
250.2		4.0	358.30	
550.5				
200.2		4.4	357.90	
550.5				
150.2		4.0	358.30	
550.5				
100.2		3.6	358.70	
550.5				
60.2	E. side Bldg.	3.4	358.90	
T.P.	5.97	363.44	4.83	357.47
600.5				
60.2	E. side Bldg	4.6	358.84	
590.5				
100.2	Hub N. side Cons. Shanty	4.60	358.84	
600.5				
150.2		4.8	358.64	
600.5				
200.2	Hub	5.27	358.17	
600.5				
250.2		5.2	358.24	

3

		363.44					363.44			
600'S										
300.E	Hub		5.00	358.44		T.P.	5.08	363.02	5.50	357.94
600.S										
363.E	Hub		4.70	358.74		chk. B.M. B.P.			6.91	356.11 = 356.14
1										
650.S										
363.E			4.2	359.24						
650.S										
300.E			4.6	358.84						
650.S										
250.E			4.5	358.94						
650.S										
200.E			4.7	358.74						
650.S										
150.E			4.5	358.94						
650.S										
100.E			4.2	359.24						
650.S										
60'E	E. side Bldg.		4.3	359.14						
700'S										
60'E	E. side Bldg.		4.4	359.04						
700'S										
100'E	Hub of dirt	average ground is 7.0 Below	3.23	360.21						
700.S										
150.E			4.5	358.94						
700.S										
200.E	Hub		4.53	358.91						
700.S										
250.E			4.1	359.34						
700.S										
300.E	Hub		3.93	359.51						
700.S										
363.E			3.93	359.51						
747.5										
363.E	sw. lot Hub Lot 5 Edgement.		3.31	360.13						
750.S										
300.E			4.4	359.04						
750.S										
250.E			4.3	359.14						
750.S										
208.E	E side Bldg.		4.6	358.84						
750.S										
164.E	W side Bldg		4.4	359.04						
750.S										
100.E	Hub		4.42	359.02						
750.S										
50.E			4.4	359.04						

4

SW. El Cajon
+ Highland

Curb levels W side Chamounne
N. line El Cajon North

60' wide
10' chs
40' Rdw. From Monroe South to N. line Herbert Hoover School Property
45th St X Sec
Herbert Hoover Athletic Field
5

S.W. El Cajon
& Highland

200' E Page
00N+5 #1.

Page 4.

BM B.P.	6.76	362.87		356.11	BM Hub.	4.07	362.29	358.22
T.P.	3.63	362.32	4.18	358.69				
W. ch. Chamounne 00= P.I. N. line El Cajon Top ch.			3.64	358.64				
0+00 gutter pavnt.			4.04	358.24	5' W. of W. line on P.C. 15' ch. Ret Top ch.	5.79		356.50
0+50 Top ch			3.78	358.54	" " " " " " " " gutter pavnt	6.37		355.92
1+00			3.93	358.39	W. ch. line	6.44		355.85
1+50			4.02	358.30	"	6.53		355.76
1+87			4.10	358.22	"	6.61		355.68
2+10			4.50	357.82	"	6.76		355.53
2+50			4.57	357.75	E. ch. line	6.92		355.37
3+00			4.93	357.39	5' E. of E. line on P.C. 15' ch Ret gutter pavnt	7.05		355.24
3+51			5.16	357.16	" " " " " " " " ch. Ret	6.26		356.03
4+00			5.19	357.13	5' S. of S. line Monroe = P.C. 15' Rad. ch. Ret.			
4+08 ⁸ S. line Edgemont.			5.15	357.17	E. ch. line	5.92		356.37
					gutter pavnt	6.56		355.73
					"	6.23		356.06
					"	6.02		356.27
					"	5.99		356.30
					gutter	6.27		356.02
					W. ch. line	5.65		356.64
					50' S. of S. line Monroe			
					W. ch. line	4.68		357.61
					gutter pavnt.	5.26		357.03
					"	5.00		357.29
					"	4.96		357.33
					"	5.13		357.16
					gutter	5.59		356.70
					E. ch. line	4.91		357.38

362.29
100' s. of S. Line Monroe = S. end. cmt. cl. s. Walks + pavmt.

X Sec Lots 5-6 + S. 1/2 of 7, Edgemont
Herbert Hoover Athletic Field

6

4+97's, Page 3
3+63E.

E. cmt. cl.	3.84	358.45	B.M. Hub	2.76	360.95	358.19
			497.5			
gutter pavmt.	4.37	357.92	400 E.			3.4 357.55
1/4 "	4.09	358.20	497.5			4.2 356.75
1/4 "	3.93	358.36	450 E.			
			497.5	{ 4 Lot 7		
1/4 "	4.01	358.28	501 E Hub	{ W. line chamoune		5.32 355.63
			550.5			
gutter "	4.31	357.98	501 E W. line chamoune			4.9 356.05
w. cmt. cl.	3.78	358.51	550.5			
			459 E E side Bldg			4.0 356.95
			600 S			
			501 E W. line chamoune			4.1 356.85
			600 S			
			450 E			3.1 357.85
			563 S			
			450 E S. side Bldg			3.6 357.35
			T.P.	5.85	363.03	3.77 357.18
			600 S			
			400 E			4.5 358.53
			479.5			
			511 E W. curb chamoune			7.74 355.29
			600 S			
			511 E W. curb chamoune			6.78 356.25
			563 S			
			400 E S. side Bldg			4.8 358.23
			650 S			
			400 E			4.0 359.03
			550 S			
			2 W. side Bldg			4.4 358.23
			700 S			
			387.3 W. side Bldg			4.8 358.23
			688.5			
			400 E N. side Bldg			3.7 359.33
			650 S			
			450 E			4.7 358.33
			688.5			
			450 E N. side Bldg			4.0 359.03
			650 S			
			501 E W. line chamoune			5.4 357.63
			650 S			
			511 E W. cl. chamoune			6.35 356.68
			700 S			
			511 E " " "			6.12 356.91
			700 S			
			501 E W. line "			5.1 357.93
			700 S			
			481 E E. side Bldg			4.9 358.13
			T.P.	5.89	362.99	5.73 357.10

362.99

747 ¹ / ₅			
511.E	W. of Chamoune	5.82	357.17
747 ¹ / ₅	SE. cor lot 5		
501.E	W. line " Hub Edgemont	5.52	357.47
747 ¹ / ₅			
450.E		4.2	358.79
747 ¹ / ₅			
400.E		3.0	359.99
747 ¹ / ₅			
362.E	chk on Hub	2.86	360.13 = 360.13 P ² / ₄
728.S			
450.E	S. side bldg.	3.5	359.49
728.S			
460.E	" " "	3.5	359.49

Herbert Hoover Athletic Field

7

Herbert Hoover High School

X section

8-20-30
Miller
312 High
3000
Osborn
S.W. El Cajon
& Highland

B.M. BP. 6.30 362.41 356.11

0+00 N+S. and. E+W. = cmt. Mon S.E. Cor.

School Property + N. line El Cajon Ave

0+00 E+W. Mon

0+00 N+S = Mon N. line El Cajon Ave	4.2	358.2
50' N	4.2	358.2
100' N	3.4	359.0
125' N	2.9	359.5

4.5 N. of 0+00

0 98' N. = Pepper Tree 18" Diam
19' W.

~ 2.3 N. = Gum Tree 16" Diam
40' W

3 1.1 S. of 0+00 Acacia 14" Diam
40.5 W

4 64' N Pepper Tree 12" Diam
50' W.

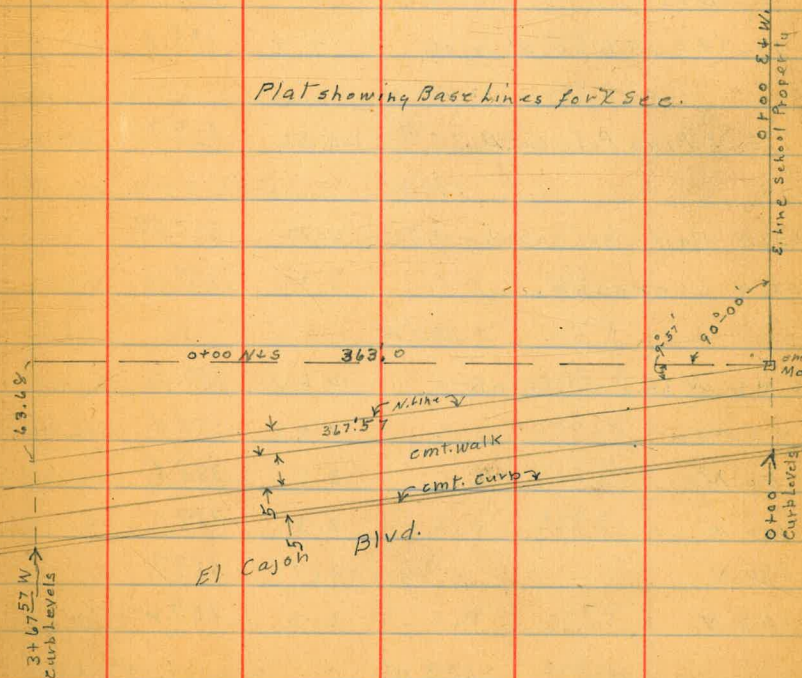
123.4 N Front of Bldg	3.2	359.2
100 N	3.4	359.0
50' N	3.8	358.6
00 N+S	4.5	357.9
8.77 S = N. line El Cajon	4.5	357.9

11.5 W

5 5' S. Acacia Tree 20" Diam

8

Plat showing Base lines for X Sec.



	362.41		
	82.8 W.		
123.4 N.	3.4	359.0	
153. N ground	3.2	359.2	
153. N Bottom Step	2.70	359.7	
	100. W.		
169. N	3.2	359.2	
150 N	3.2	359.2	
100. N	3.5	358.9	
50 N	3.6	358.8	
00. N + s	4.4	358.0	
17.54 S = N. line El Cajon	4.4	358.0	
	124.7 W		
115. N Flag Pole emb. Base. ^{6.6 Diam}	2.56	359.95	on base
	140. W		
153.3 N. Main steps on Bottom Step	2.82	359.59	
153. N ground.	3.2	359.2	
	150. W.		
26.31 S. = N. line El Cajon	4.4	359.8	
00 N + s	4.0	358.4	
50 N	3.6	358.8	
100 N	3.3	359.1	
130 N	2.7	359.7	
153 N	3.2	359.2	
	153. W.		
169 N.	3.0	359.4	
	190. W		
141. N. Pepper Tree 24" Diam			

	362.41		
	194. W.		
156. N Pepper Tree 30" Diam			
109. N " " 26" "			
	195. W.		
81. N Pepper Tree 20" Diam			
	200. W.		
169 N	3.2	359.2	
150. N	3.3	359.1	
100 N	3.8	358.6	
50. N	3.9	358.5	
00 N + s	4.2	358.2	
35.08 S = N. line El Cajon Ave	4.1	358.3	
	205.5 W		
92.5 N Elec Pole			
	233.6 W.		
169. N ground	3.3	359.1	
152.2 N "	3.5	358.9	
152.2 N Bottom Step	3.13	359.28	
130.3 N " "	3.16	359.25	
130.3 N ground	3.6	358.8	
100 N	3.6	358.8	
	247.4 W		
126.5 N	3.5	358.9	
93.9 N Bottom Step	3.29	359.12	
93.9 N ground	3.6	358.8	
	256.1 W.		
93.9 N	3.6	358.8	
78.9	3.5	358.9	

	362.41	250' W.	
50' N	3.6	358.8	
0+00	3.7	358.7	
43.85 S = N. line El Cajon	4.2	358.2	
		274.8 W.	
78.9 N.	3.6	358.8	
52.4 N	3.7	358.7	
		300. W.	
52.62 S = N. Line El Cajon	4.0	358.4	
0+00 N+S	4.0	358.4	
52.4 N. ground	3.8	358.6	
52.4 N Bottom step	3.42	358.99	
		316.7 N	
78.9 N	4.2	358.2	
52.4 N	4.1	358.3	
		350' W	
100' N	4.2	358.2	
50' N	4.7	357.7	
0+0 N+S	4.5	357.9	
50' S	4.4	358.0	
61.38 S = N. line El Cajon	4.8	357.6	
		363' W = W. line School Property	
63.67 S. = N line El Cajon	4.7	357.7	
50' S	4.1	358.3	
00 N+S	4.6	357.8	
50' N	4.8	357.6	
100' N	4.2	358.2	

		362.41		H. Hayer School	
T.P.	4.89	362.77	4.53	357.88	10
		342.1 W.			
93.9 N ground			4.3	358.5	
93.9 N. Bottom step			3.82	358.95	
T.P.	2.07	360.96	3.88	358.89	
CHK BM			4.85	356.11 = 356.11	

Curb + Gutter levels N. side
El Cajon Ave in front of H. Hoover school
Plat Page 8

π 360.96 Page 10.

5+00 W = P.C. Return into Highland	4.93	356.06	Top eb.
" " " " " "	5.58	355.38	gutter
" " " " " "	5.28	355.68	7'.s
4+50 W Top eb.	4.77	356.19	
" " gutter	5.22	355.74	
" " 7'.s	5.06	355.90	
4+00 W Top eb.	4.58	354.38	
" " gutter	5.20	355.76	
" " 7'.s	4.88	356.08	
3+71.5 W = Meter Box 2.5 N. of eb.			
3+70.5 Tel. Pole 2'. N. of eb.			
3+68.5 W Top eb.	4.42	356.54	
" " gutter	5.05	355.91	
" " 7'.s.	4.79	356.17	
3+67.5 W = W. Line School Property Produced			
3+67 W E. End emt walk			
3+66 W dropped curb for drive	4.94		
3+58 W " " " "	4.91		
3+56.5 W Top eb.	4.37		
" " gutter	5.02		
" " 7'.s	4.70		
3+47.5 Fire Plug 1.6 N. of eb.			
3+00 W Top eb.	4.09		
" " gutter	4.73		
" " 7'.s	4.44		

11

360.96			
3+67 W = E. 2nd. emt walk			
10' N. of eb. = N. walk	4.17	356.79	
5' " " " = S. walk	4.26	356.70	
emt. eb. dipped for drive			
gutter	5.03	355.93	
7'.s. of eb.	4.78	356.18	
3+66. curb dropped for drive			
emt. eb.	4.94	356.02	
gutter	5.03	355.93	
3+58. eb. dropped for drive			
emt. eb.	4.91	356.05	
gutter	5.02	355.94	
3+56.5			
10' N. of eb.	4.11	356.9	
emt. eb.	4.37	356.59	
gutter	5.02	355.94	
7'.s. of eb.	4.70	356.26	
3+47.5			
1.6 N. of eb. Fire Hydr.			
3+00 W.			
10' N. of eb.	4.0	357.0	
emt. eb.	4.09	356.87	
gutter	4.73	356.23	
7'.s. of eb.	4.48	356.48	

360.96
 2+73.5 W = w. end emt. walk

10' N of el = N. walk	3.82	357.14
5' " " " = S. " "	3.95	357.01
emt. el	4.00	356.96
gutter	4.66	356.30
7' S. of el	4.45	356.51

2+26 W. edge drive

10' N. of el. N walk	3.59	357.39
5' " " " S. " "	3.74	357.20
emt. el	3.82	357.14
gutter	4.51	356.45
7' S. of el	4.31	356.65

2+24 el. dropped for drive

el	4.36	356.60
gutter	4.50	356.46

2+08 el. dropped for drive

el	4.21	356.75
gutter	4.44	356.52

2+06 E. Edge drive

10' N. of el N. walk	3.46	357.50
5' " " " S. " "	3.63	357.33
emt. el	3.72	357.24
gutter	4.40	356.56
7' S. of el	4.25	356.71

2+04
 2' N of el. Tel Pole

360.96
 1+60 W

10' N of el = N. walk	3.44	357.52
5' " " " = S. " "	3.38	357.58
el	3.57	357.39
gutter	4.24	356.72
7' S. of el	4.07	356.89

T.P. 4.89 362.90 2.95 358.01

1+27 W = w. edge drive

10' N. of el = N walk	5.23	357.67
5' " " " = S " "	5.28	357.62
el	5.40	357.50
gutter	5.96	356.94
7' S. of el	5.88	357.02

1+25 dipped el

el	5.96	356.94
----	------	--------

1+18. dipped el.

el	5.90	357.00
----	------	--------

1+16 E. edge drive

10' N of el = N. walk	5.16	357.74
5' " " " = S. " "	5.22	357.68
el	5.32	357.58
gutter	5.94	356.96
7' S. of el	5.81	357.09

0+97
 1.5 N of el. Meter Box
 0+63
 2' N of el. Tel Pole

H. Hover School
 12

362.90
0+62 1/2 W. end cmt Meter Box

10' N of N. cl = N. walk	4.89	356.01
6. 1/2 " " " = NW. cor Meter Box	4.98	355.92
5' " " " S. walk	5.00	357.90
cl	5.06	357.84
gutter	5.72	357.18
7' S. of cl	5.61	357.29

0+55 3/4 E. Meter Box
0+12 1/2 W. of drive

10' N of cl = N. walk	4.78	358.12
5' " " " = S. "	4.83	358.07
cl	4.94	357.92
gutter	5.55	357.35
7' S. of cl	5.37	357.53

0+00 = E. Line School Property Produced

10' N of cl = N. walk	4.78	358.12
5' " " " = S. "	4.79	358.11
cl	4.87	358.03
gutter	5.45	357.45
7' S. of cl	5.29	357.61

0+04 E.
2' N of cl Fire Hydr

0+50 E.

10' N of N. cl = N. walk	4.38	358.52
5' " " " = S. "	4.48	358.42
cl.	4.61	358.29
gutter	5.27	357.63
7' S. of cl.	5.10	357.80

362.90 H. Hoover School
0+66 E

13

2' N of N. cl Tel Pole
0+69 7/8 E

14' N. of N. cl = N edge walk toe	3.84	359.06
10' " " " " = 4' " " to W	4.18	358.62
5' " " " " = 5' " " to W	4.30	358.60
cl	4.52	358.38
gutter	5.14	357.76
7' S. of cl	5.00	357.90

1+00 E

14' N of cl = N edge walk	3.30	359.60
10' " " "	4.03	358.87
5' " " " S. edge walk	4.10	358.80
cl.	4.28	358.62
gutter	4.96	357.94
7' S. of cl	4.94	357.96
1+40 5/8 E = P.C. Return into Chamounix		
cl	4.07	358.83
gutter	4.80	358.10
7' S. of cl.	4.84	358.06
chk. B.M.	6.80	356.10 ✓

Wulker
Harding
Hardley
11-6-45

CROSS SECTIONS CHOLLAS CREEK

on National Ave
Between 33rd and 34th St.

INDEXED
e.s.k.

14

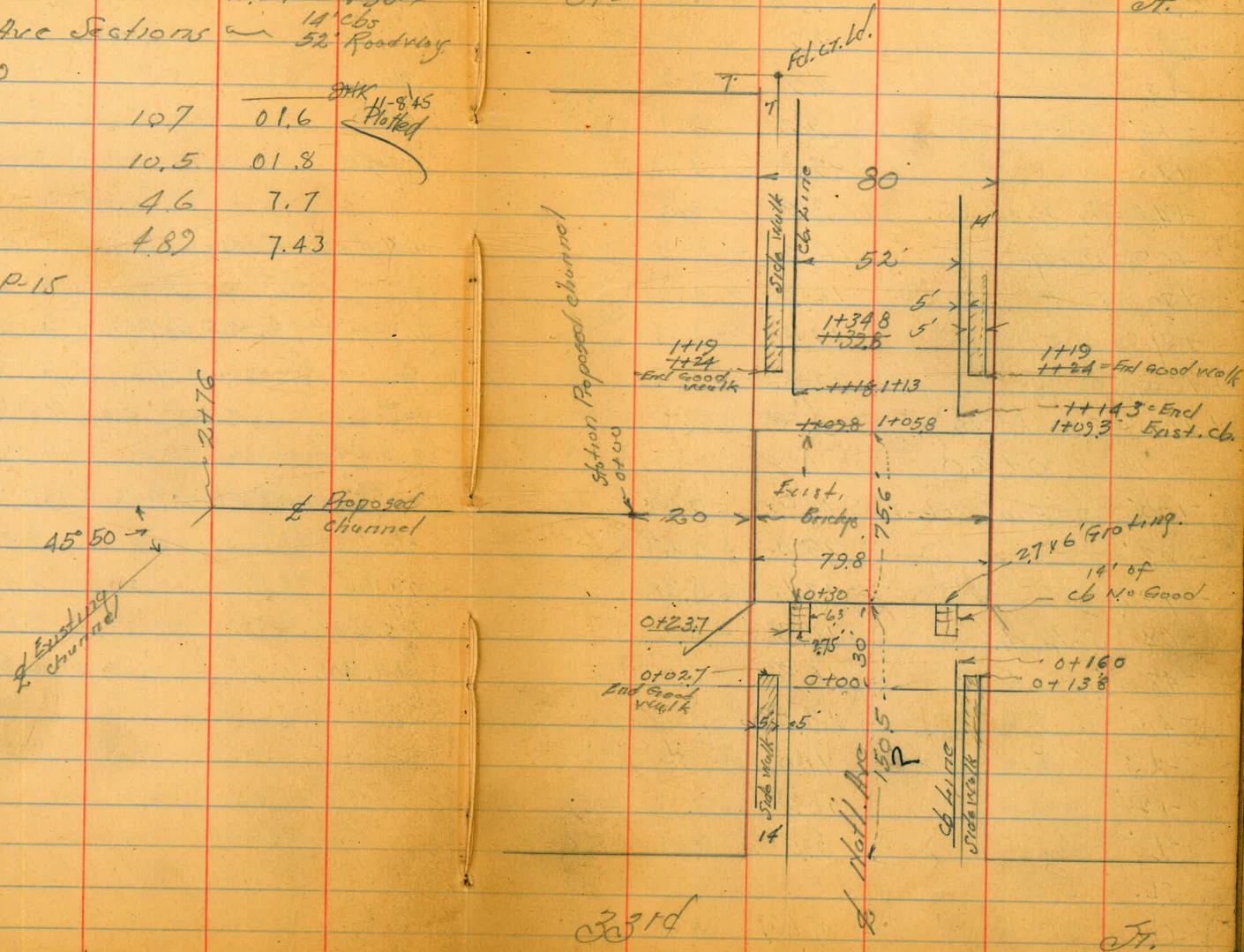
+	HI	-	Elev	BN. SW. B.P.
0.68	12.32		11.64	Natl. Ave + 33rd
Natl. Ave Sections				
0 + 0.0				

14' cbs
52' Roadway

SWK 11-8-45
Plotted

N.L.-20'	10.7	01.6
N.L.-14	10.5	01.8
N.L.	4.6	7.7
cb.	4.89	7.43

Cont P-15



33rd

Jr.

1232
0+00 Cont. from P-14

N Gut, on Paving	5.52	6.8
S. Natl	4.76	7.56
S. Gut	5.67	6.65
cb.	4.98	7.34
Shine	4.9	7.4
+3'	4.9	7.4
+13'	9.2	3.1
+20	9.3	3.0
+43 = N Bank ch.	8.4	3.9
+69 N edge "	16.3	-4.0
+80 S " "	16.3	-4.0
+89	13.4	-2.9
+100	12.8	-1.5
+110 = S Bank ch.	9.8	2.5
0+20		
-100' S. Bank ch.	11.0	0.32
-83'	13.0	-0.68
-73	13.1	-0.78
-64 S edge ch.	16.3	-4.0
-48 N " "	16.3	-4.0
-40	13.3	-1.
-26'	11.0	+1.3
-12	10.2	2.1
-6	5.5	6.8
SL.	5.9	7.0
cb.	5.43	6.9

Plotted 11-8-45
JHX

1232 Natl. Ave **15**

S. Gut.	6.28	6.04
S.	5.00	7.32
N Gut.	6.06	6.26
N cb.	5.28	7.04
N	5.2	7.1
+6	5.9	6.4
+16	10.5	1.8
+20	10.5	1.8
0+29.5		
-20	9.0	3.3
-12	10.1	2.2
N Ground	9.7	2.6
N Deck Walk	5.32	7.00
N cb.	4.74	
Gut Pav.	5.09	7.23
S. "	5.86	7.26
S. cb. Gut	5.52	6.80
SL Deck Walk	5.50	6.82
SL.	12.3	0.0
+15'	14.2	-1.9
+20' = N edge ch.	15.6	-3.3
+48 = S " "	16.6	-4.3
+50	14.7	-2.4
+57	14.0	-1.7
+61	13.0	-0.7
+69	12.8	-0.5
+71	10.7	1.6

Plotted 11-8-45
JHX

0+29.5 cont. 12.32 Nat'l. Ave

11.40 Nat'l. Ave

+90		10.0	2.3
	0+30	10.0	2.3
	all Rods same as 0+29.5 except as Noted		
S.L.		14.3	-2.0
cb		14.3	-2.
L		14.3	-2.
L +25'		14.3	-2.0
L +30'		10.4	1.9
	0+67.8 = L		Exist. Bridge
-20		11.6	0.7
N		12.5	-0.2
+4		13.3	-1.0
L		13.0	-0.7
b		13.3	-1.0
S.L.		13.0	-0.7
+20		13.9	-1.6
+26		13.9	-1.6
+34		12.0	0.3
+42		6.8	5.5
+70		7.8	4.5
+80		8.4	3.9
+85	Top Dyke	4.7	7.6
+95	"	4.7	7.6
TD	4.20 11.40	5.12	7.20

Plotted 11-8-45 J.H.K.

wait on pole S.E. Cor Bridge

0+85			
-70	on Dyke	3.6	7.8
-63	Top "	6.6	4.9
-33	"	5.2	6.2
-20		11.6	-0.2
-14		13.8	-1.6
S.L.		11.7	-0.3
+5		12.8	-1.4
L		12.8	-1.4
N.L.		13.5	-2.1
+5		13.5	-2.1
+6		11.2	00.2
+20		11.4	00.0
	1+00		
-20	in ch. in hole	14.5	-3.1
N	" " " "	14.5	-3.1
L		12.6	-1.2
		10.4	+1.0
	710.6 = L		Exist 10" Water Main
L +10		11.0	0.4
S.L.		11.4	00.0
+3'		11.4	00.0
+18		14.4	-3.0
+20		7.1	4.3
+42		6.6	4.8
+52	Top Dyke	3.6	7.8

Plotted 11-8-45 J.H.K.

11.90

Notl. Ave

+x09 1405

-41 = Top Dyke	3.6	7.8
-29 = Toe Dyke	8.0	3.4
-20	7.9	3.5
S.L.	7.4	4.0
+16.5 = ϕ 16" Culvert ^{Flow}	9.2	2.2
" Ground	11.2	0.2
+29.4 = ϕ 16" Water	9.0	2.4
+30 ^{or} Ground	10.0	1.4
Lo	9.6	1.8
N.L.	10.6	0.8
+20	10.6	0.8
17058		
4409.8		
-20	9.3	2.1
N-1	8.7	2.7
N.L. on Deck Bridge	4.69	6.7
Gut. Post.	4.90	6.5
Lo Post	4.86	6.54
S Gut "	5.14	6.26
S.L. Deck Bridge	4.92	6.48
S.L.	6.5	4.9
+20	7.9	3.5
+29	8.0	3.4
+41	3.6	6.8

Plotted 11-8-45 GHK

11.90

Notl. Ave

17

0+02.7 - End of Good Walk on North.

N.L.	4.0	7.4
+4' on N. edge Walk	3.93	7.47
+2' " S. " "	4.05	7.35
cb.	4.03	7.37
Gut. Post.	4.65	6.75
0+29.0 on N		
N cb.	4.37	7.03
^{inlet} Grating (Higher than cb.)	4.26	7.14
Flow Line Post	9.26	2.14
0+138 on South		
S. Gut	5.06	6.34
cb.	4.43	7.00
+5' = N. edge Walk	4.31	7.1
+10 = S. " "	4.23	7.17
S.L.	4.1	7.3
0+16 on South		
S Top cb.	4.47	6.93
0+29		
S. Grating Inlet	4.6	6.80
Flow " Post	9.7	1.7
1718		
+178 = End Good cb. on North.		
Top cb.	5.16	6.24
Gut.	5.59	5.8

Plotted 11-8-45 GHK

1140 Nutt. Ave

1719

1724 = End of Good Walk North and South

-20 on Dyke	3.7	6.7
-10'	6.5	4.9
-5'	6.5	4.9
SL	5.2	6.2
+5 on S edge walk	5.09	6.3
+10' "N" "	5.19	6.2
cb	5.43	5.97
Gut.	5.90	5.50
+13'	5.39	6.0
S	5.23	6.17
+15'	5.32	6.1
+19'	5.53	5.9
N Gut.	5.86	5.54
N cb	5.22	6.2
+5' - S edge walk	5.05	6.35
+10' N " "	4.98	6.4
N	5.0	6.4
+10	8.6	2.8
+20	8.7	2.7
-20	8.6	2.8
-10	8.6	2.8
-3	5.1	6.3
N	5.1	6.3
+5 = N edge walk	5.09	6.31

1734.8
1739.8

Plotted 11-8-45 G.M.K.

1140 Nutt. Ave

18

N+10' = S edge walk	5.20	6.20
cb	5.35	6.05
Gut.	6.12	5.28
+4'	5.82	5.6
+13	5.58	5.8
S	5.51	5.9
+13'	5.85	5.55
Gut.	6.25	5.15
cb	5.56	5.84
+5 = N edge walk	5.34	6.06
+10' S " "	5.18	6.22
SL	4.2	7.2
+10'	4.6	6.8
+20'	8.3	3.1
+12.1' = Elec. Pole on South 12.2' in st. V		
Additional Sections West of East Bridge		
0 - 30		
-108 = 16' channel	15.0	-3.6
-100'	13.7	-2.3
-90	12.0	-0.6
-71	5.7	5.7
-60'	7.4	4.0
-20'	8.1	3.3
SL - 7'	7.7	3.7
SLine	3.6	7.8
+5' = S edge walk	3.53	7.87
+10' N " "	3.65	7.75

Plotted 11-8-45 G.M.K.

1140
0-30' Cont. from P-18

North. Arc

S. cb.	3.69	7.7
S. Gut. Pav.	4.43	7.0
+3 "	4.16	7.2
+13' "	3.78	7.6
2 "	3.55	7.8
+13' "	3.79	7.6
+23	4.06	7.34
N Gut.	4.22	7.20
N cb.	3.59	7.8
+5' on S. edge walk	3.51	7.9
+10' N " "	3.41	8.0
N	3.5	7.9
+11	3.5	2.9
+20	2.3	2.1

Plotted 11 B 45 gms

0-60'

-20	8.2	3.2
-11'	8.3	3.1
N	3.3	8.1
+5' N. edge walk.	3.17	8.2
+10' S " "	3.34	8.06
cb	3.37	8.03
Gut. Pav.	3.93	7.47
+3' "	3.70	7.7
+13' "	3.40	8.0
2 "	3.17	8.23
+13 "	3.58	7.82

1140

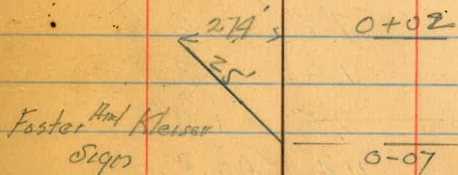
19

2 +23' Pav.	3.90	7.50
Gut. "	4.14	7.26
cb.	3.51	7.9
+5' on walk	3.44	7.96
+10 " "	3.24	8.16
S Line	3.2	8.2
+8'	7.5	3.9
+20'	7.7	3.7
+59	8.1	3.3
+95	9.3	2.1
+100'	10.7	0.7
+111'	19.4	-3.6
+120' = 15' channel	16.6	-5.2

Plotted gms

(in hole)
2' deep

0-25' Eloc. Pole on South 12.2' in st.



11.40

Proposed
Cross Section Stream Bed

(P14) - 0+00 = 20' N.M.M. Nat'l. Ave

60' Rt. Opp & Exist Br. N7	9.4	2.0
40' Rt.	8.3	3.1
32' Rt.	11.3	0.1
27' Rt.	13.3	-1.9
25' Rt = 1/2 ch.	15.3	-3.9
17' "	12.8	-1.4
2	10.9	0.5
31' Lt.	9.8	1.6
7.1	4.2	7.2
57' Lt.	10.0	1.4
100' Lt.	9.3	2.1
130' Lt.	8.2	3.2

Plotted

0+15

130' Lt.	8.1	3.3
100' Lt.	8.3	3.1
60' Lt.	7.8	3.6
40' Lt.	1.6	9.8
30' Lt.	9.5	1.9
2	11.4	00.0
20' Rt.	13.3	-1.9
23' " = 1/2 ch. 6' wide	14.6	-3.2
27' "	13.3	-1.9
32' "	12.2	-0.8

11.40

20

46' Rt.	1.3	10.1
58'	8.2	3.2
0+50		
51' Rt.	7.0	4.4
12' "	4.0	7.4
30' Rt.	9.9	1.5
21' Rt.	13.1	-1.7
11' Rt & 7' ch.	13.6	-2.2
2	12.5	-1.1
29' Lt.	9.1	2.3
38' Lt.	3.2	8.2
50' Lt.	7.7	3.7
100' Lt.	7.3	4.1
130' Lt.	8.0	3.4

Plotted 11.8-45 gpx

0+70

130' Lt.	7.7	3.7
100' Lt.	6.8	4.6
50' Lt.	7.9	3.5
40' Lt.	4.1	7.3
35' Lt.	6.0	5.4
22' Lt.	2.3	9.1
18' Lt.	9.1	2.3
2	11.2	0.2
14' Rt.	11.4	0.00
20' Rt.	13.3	-1.9
25' Rt ch.	14.4	-3.0

1140 Proposed Channel

32' Rt 13.0 -1.6
 58' Rt 11.7 -0.3
 68' Rt = E Bank 6.8 4.6
 80 7.0 4.4

0+90' = $\frac{1}{2}$ Elec Pole 30' Lt. ✓

1+00

100' Rt 7.3 4.1
 91' Rt = E Bank ch. 7.3 4.1
 85' Rt = $\frac{1}{2}$ ch. 12.5 -1.1
 50' Rt 9.2 2.2
 35' Rt 8.7 2.7
 22' Rt 6.8 4.6
 10' Rt 10.6 0.8
 2 11.0 0.4
 10' Lt 10.1 1.3
 24' Lt 1.6 9.8
 31' Lt 5.6 5.8
 40' Lt 3.9 7.5
 49' Lt 7.4 4.0
 100' Lt 6.3 5.1
 130' Lt 6.7 4.7

1+20

130' Lt 6.3 5.1
 100' Lt 6.1 5.3
 60' Lt 6.5 4.9
 40' Lt 7.3 4.1

1140

15' Lt 7.3 4.1
 10' 10.4 1.0
 2 11.8 -0.4
 6' Rt 11.8 -0.4
 17' Rt 10.1 1.3
 28' Rt 3.3 8.1
 42' Rt 9.4 2.0
 70' Rt 10.9 1.0
 75' Rt 11.5 -0.1
 75' Rt = $\frac{1}{2}$ ch. 13.0 -1.6
 100' Rt = E Bank 7.5 3.9
 110' R 7.5 3.9

1+30 = $\frac{1}{2}$ Exst. Cast Iron Sewer

100' Rt on Top Sewer 9.7 1.43
 2 " " " 10.22 1.18
 TP 10.94 12.28 10.06 1.34

1+40 18' Lt = $\frac{1}{2}$ Tel Pole

1+40 ✓

125' Rt 7.1 5.2
 115' Rt = E Bank 7.1 5.2
 118' Rt 12.8 ±0.00
 95' Rt = $\frac{1}{2}$ ch. 12.3 -1.7
 89' Rt 11.1 1.2
 77' Rt 9.5 2.8
 24' Rt 8.6 3.7
 10' Rt 12.6 -0.3
 12.3

12.28 Proposed channel

12.28

1+40			
2		11.3	1.0
20' Lt.		8.6	3.7
31.3 Lt. = Lath Fence		8.6	3.7
78 Lt. " "		7.0	5.3
100 Lt.		7.0	5.3
180 Lt.		7.2	5.1
1+70			
130 Lt.		6.7	5.6
100 Lt.		7.1	5.2
78 Lt. = Lath Fence		7.1	5.2
60 Lt.		7.7	4.6
34 Lt.		8.5	3.8
21 Lt.		2.5	9.8
10 Lt.		2.3	3.0
2		10.7	1.6
15' Rt.		11.6	0.7
36 "		8.7	3.6
88 "		9.9	2.4
100 "		13.0	-0.7
103' Lt. & ch.		13.3	-2.0
116' "		11.7	0.6
118' " E Bank		7.8	4.5
130		7.8	4.5

Plotted 11-8-45 G.H.K.

2+00			
120' Rt.		8.3	4.0
112' Rt. = E. Bank		8.3	4.0
106' " & ch.		13.7	-1.4
95' Rt.		11.1	1.2
60' Rt.		9.1	3.2
57' Rt.		9.8	2.5
22' Rt.		11.1	1.2
2		10.0	2.3
12' Lt.		9.5	2.8
T.P. 8.05	<u>11.57</u>	8.76	3.52
23' Lt.		3.8	7.8
31' Lt.		7.9	3.7
58' Lt.		6.9	4.7
100' Lt.		6.2	5.4
121' Lt. = East side House		6.0	5.6
2+50			
130' Lt.		5.9	5.7
100' Lt.		6.1	5.5
65' Lt.		6.6	5.0
45' Lt.		8.0	3.6
2		9.1	2.5
20' Lt. & ch.		11.1	0.5
35' Lt.		9.1	2.5
50' Lt. = E Bank		7.0	4.6
60		7.0	4.6

Plotted 11-8-45 G.H.K.

11.57 Proposed Channel

245° 50' Lt, 2+76 Section Rt A to Back Turn

25' Rt, E Bank	6.6	5.0
18' Rt	10.5	1.1
∅	11.0	0.6
20' Lt.	8.6	3.0
50' Lt.	7.9	3.7
90' Lt.	6.0	5.6
100' Lt.	5.8	5.8
130' Lt.	5.9	5.7

3+50 Section Rt A to E

50' Lt.	7.2	4.4
40' Lt.	7.3	4.3
35' Lt.	9.6	2.0
25' Lt.	6.7	4.9
20' Lt.	8.8	2.8
10' Lt.	8.6	3.0
∅	10.4	1.2
10' Rt = ∅ chan.	11.0	0.6
23' Rt	2.2	2.4
29' Rt = E Bank	5.9	5.7
45' Rt	5.9	5.7
50' Rt	4.4	7.2
60' Rt	4.4	7.2

Plotted 11-8-45 G.M.K.

11.57

4+00

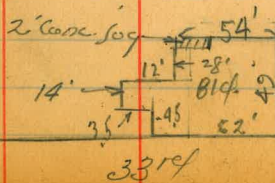
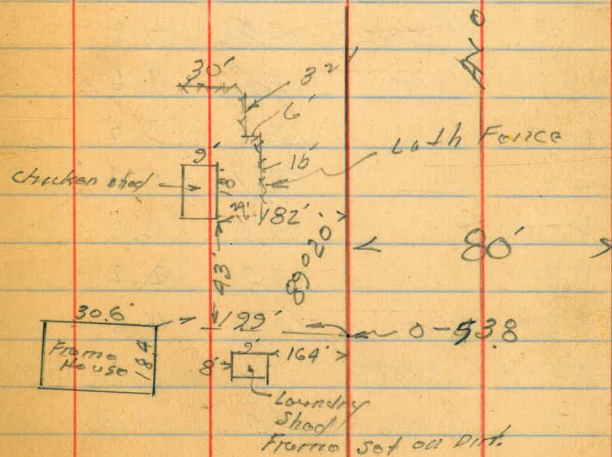
50' Rt	4.2	7.4
28' Rt N Bank	3.3	8.3
20' Rt	9.0	2.6
5' R = ∅ ch.	11.2	0.4
∅	10.4	1.2
16' Lt.	10.3	1.3
23' Lt.	7.5	4.1
50' Lt.	6.2	4.4

T.P. 9.38 14.78 6.17 5.40

chk starting B.M. P-14 3.13 11.65

11.62 = B.M.
0.01

Plotted 11-8-45 G.M.K.



Nad 11

Additional Topography
for Detour Road
Bridge Site 33rd + Natl. Ave
B.M. 87
P-14

3.86 15.50

11.64

W.L. 33rd

S.L. Natl. 4.0 11.50

+30 8.9 6.6

+40 12.1 3.4

+100 16.0 -0.5

Wcb 33rd

-100 in Hole 18.3 -2.8

-60 16.3 -0.8

-35 6.1 9.4

S.L. Pav. 4.82 10.7

E. 33rd

S.L. Pav. 5.90 10.2

+37 5.9 9.6

+52 12.0 3.5

+67 16.1 -0.6

+82 15.5 0.0

+110 13.3 2.2

+140 10.7 4.8

E. cb 33rd

-140 14.5 1.0

-110 12.7 2.8

-82 14.6 1.9

-67 15.7 -0.2

-43 11.4 4.1

15.50
E. cb 33rd Cont.

-30 6.0 9.5

-16 5.4 10.1

S.L. Pav 6.81 8.7

E.L. 33rd

S.L. 5.9 9.6

+10 7.4 8.1

+30 10.4 5.1

+60 13.1 2.4

+82 16.1 -0.6

+110 15.1 0.4

+140 15.2 0.3

T.P. 4.57 13.07 7.00 8.50

20' E E.L. 33rd

S.L. 4.3 10.7 8.77

+11 9.7 3.37

+83 11.2 1.87

+193 14.0 -0.9

+197 Hedge Ch 18.1 -5.0

+170 S " " 18.1 -5.0

+172 S Bank 19.0 -0.9

+180 on Dyke 10.0 3.1

13.07

0+00 P-14

SL+193	9.3	3.77
7166 on Dyke	5.6	7.5
+151	9.9	4.17
+140	9.6	3.47
(+140) 4' West = Tel Pole		
+110	10.5	2.52

0+30

SL+161	9.7	3.37
+215	9.7	3.37
4678		
SL-215	9.9	3.17
SL-128'	9.7	3.37

1+00

SL+60	9.4	3.67
+100	9.4	3.67
+140	10.9	2.17
+200	10.1	2.97

1+39.6

SL-200	10.4	2.67
-140	9.5	3.57
13' E = Tel Pole		
-72	9.5	3.57

chk Starting BM

1.42	11.65
	11.64
	<u>0.01</u>

120

13.07

25

2+00 - E Elec. on South 12' in st.

-4	7.7	5.37
SL	6.0	7.07
+5	6.0	7.07
+11	9.5	3.57
+50	10.0	3.07
+140	9.7	3.37
+200	9.9	3.17

2+50

-210	10.0	3.07
-140	10.2	2.87
-10	10.0	3.07
-5	5.9	7.17
SL	5.9	7.17
4' N	7.5	5.57

3+00

4' N	7.3	5.77
SL	6.0	7.07
+5	6.0	7.07
+15	9.7	3.37
+75	10.0	3.1

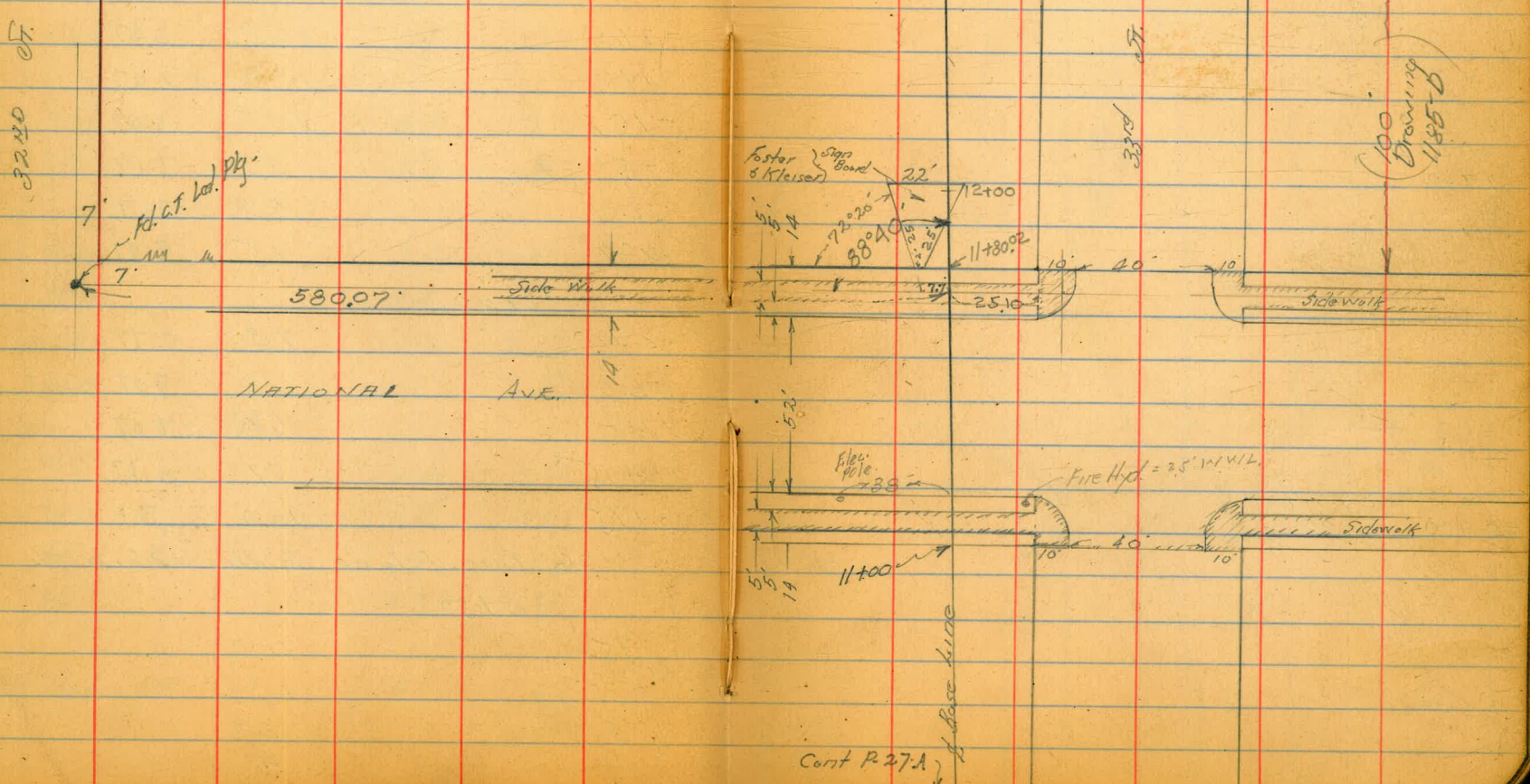
3+26 = Elec. Pole on South 12' in st.

3+50

-75	11.0
-15	10.0
-5	5.8
SL	5.8
+4' N	7.0

Walker
 Hardin
 Hunley
 2-26-46

Topography - Proposed Channel
 West of 33rd St -
 from a point South of Natl. Ave
 to North of Logan Ave
 Note: Base Line = Proposed Channel
 Cross Sections Page 32



Cont P. 27.A

Page
27-A

& Proposed Channel South
of Nat'l. Ave. Near 33rd St.
Ties to Nat'l Ave P-26

2+50 Cont. on R't Page

2+100

25

offset line

Cholly Creek

1+05.2
1+00

25

Base Line

1100' South of Nat'l. Ave
= 0+00

0+50

27

Sensor & Alley & = Baseline
51695 50'

Cont P-28

5+50

5+00

4+00

3+35

71

3+21.4 = Int Conc Wall

8"

Corb. Yr. 11 =
Trunk Sensor Support

42" Corq. Drain

31

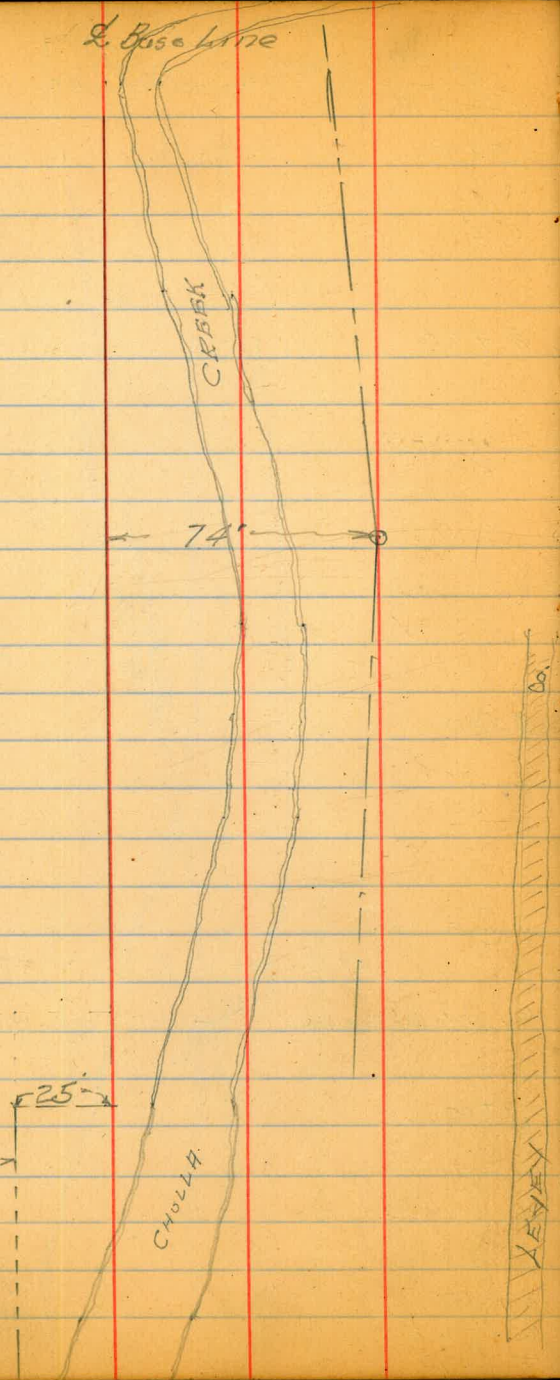
8'x75'
Wood inlet
Box

3+00

2+50
Cont. from
Lt Page

E Base Line

750
8700
771.7 MH.
750
7700
750
6723
6700



E Base Line

28

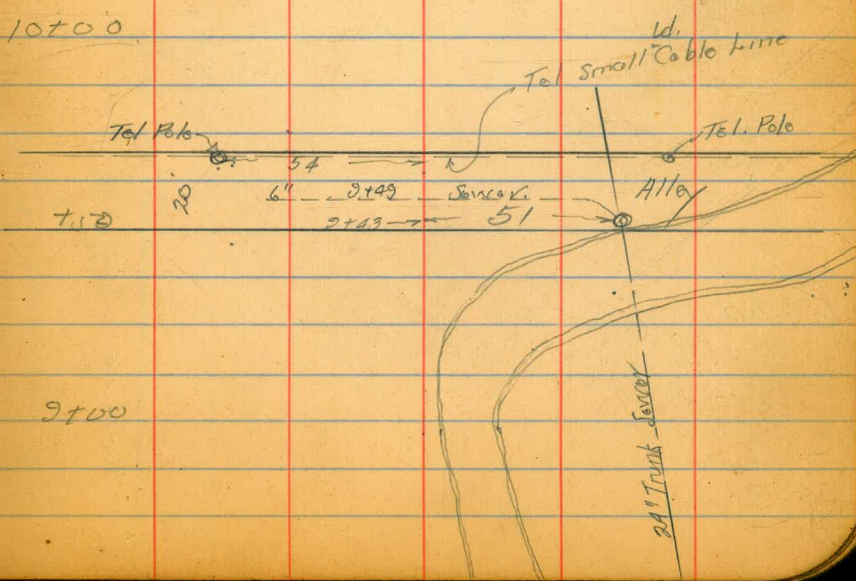
Cont. P-26
1173.02 = POT. = North 7' line Nat'l Ave

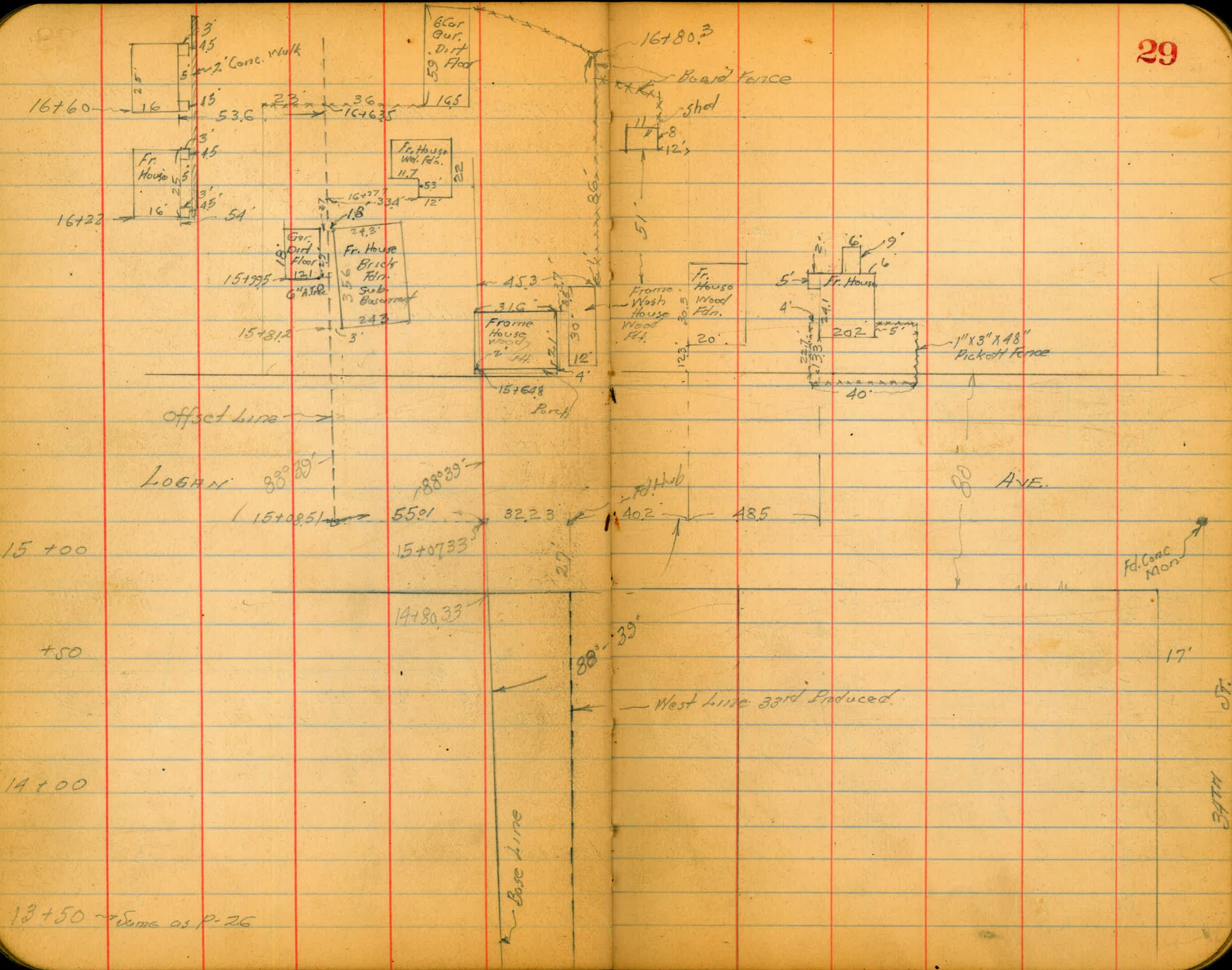
(Set chisled cross
in Side Walk)

11700 = S.L. Nat'l Ave P-26

750
10722 24" Pepper Tree 51'

10700





13+50 - Same as P. 26

14+00

15+00

LOGAN

80 AVE.

West Line 33rd Produced.

Base Line

BATH

ST.

Fd. Conc Mon

1" x 3" x 48" Pickett Fence

Frome Wash House Wood Fl.

Fr. House Brkly Flr. Subr. Basement

Fr. House

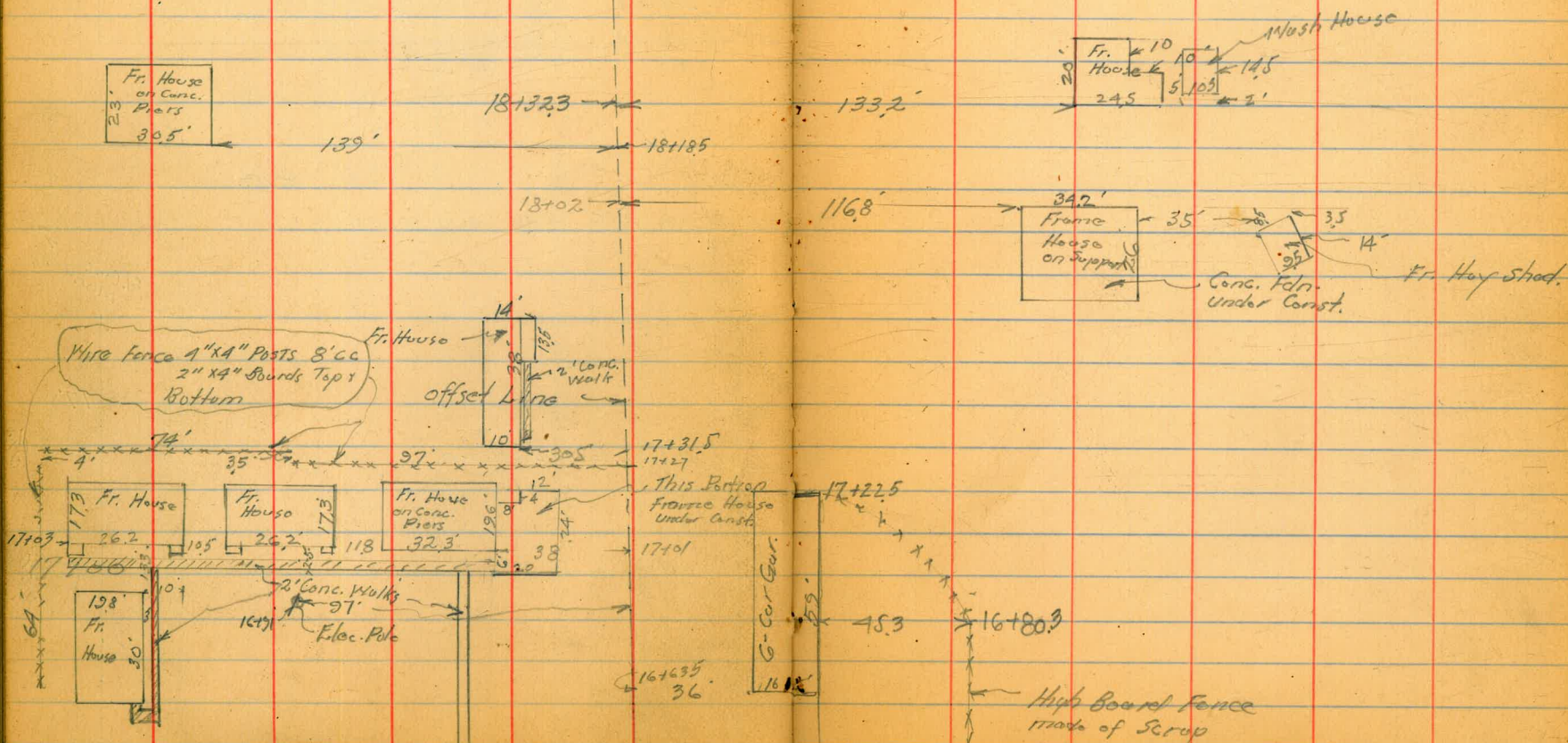
Fr. House Wd. Fl.

shed

Board Fence

6 Car Out. Dirt Floor

55' offset line
 18+80.58
 Elev. 753



31

Walker
Hurdin
Hurley
8499
2-27-46

Cross Sections - Proposed Channel
And Bridge Site 33rd & Nat'l. Ave
Locations Page 26-30

B.M. SWRP
33rd & Nat'l.
P-14

	1.26	12.60	11.64	
TP	4.18	6.70	11.08	2.52
Distances out Lt or Rt are from -				
25' West of	Pass line to station 6723			
	0+00	= 1100 551. Nat'l. Ave		
35' Lt.		1.8	4.9	
25' Lt.		5.6	1.1	
15' Lt.		7.2	-0.5	
2'-offset line		6.7	-0.00	
12' Rt. W. Bk. ch.		6.4	0.3	
18' Rt. W. edge "		12.2	-5.5	
50' Rt. E " "		12.2	-5.5	
53' " " Bk "		5.7	1.0	
71' Rt. = Top Level		6.4	0.3	
80' " Top "		10.2	6.9	
	0+50			
82' Rt. = Top Level		0.2	6.5	
74' " toe "		5.8	0.9	
55' Rt. E Bk ch.		6.0	0.7	
47' " E edge "		11.8	-5.1	
14' " W " "		12.5	-5.8	
10' "		6.2	0.5	
2'-offset line		6.4	0.3	
20' Lt.		6.5	0.2	

6.70

35' Lt.	4.4	2.3
45' Lt.	0.4	6.3
(1+05.2) 39' Lt. of offset line	3.43	3.27
	1+00	
51' Lt.	0.2	6.5
44' Lt.	3.9	2.8
22'	6.7	0.3
2'-offset	6.0	0.7
12' Rt. W. Bk. ch.	6.2	0.5
15' Rt. W. edge "	12.2	-5.5
49' " E " "	11.6	-4.9
56' Rt. E Bk "	5.5	1.2
80' Rt. Top Level	5.7	1.0
	2+00	
96' Rt. on Level	0.2	6.5
89' Rt. Toe "	4.6	2.1
68' Rt. E Bk ch.	4.9	1.8
65' " Edge "	11.5	-4.8
28' Rt. " "	11.5	-4.8
23' " Bk "	6.0	0.7
2'-offset	5.8	0.9
21' Lt.	5.7	1.0
34' Lt.	3.5	3.2
40' Lt.	1.4	5.3
	2+50	
37' Lt.	1.3	5.4

32

Rim MH
Trunk Sewer

2+50		670	
22' Lt.		4.5	2.2
∠ offset		5.8	0.9
25' Rt. = True E		5.2	1.5
35' Rt. = W. Bk ch.		5.6	1.1
40' Rt. W edge " in Hole		12.8	-6.1
65' Rt.		11.5	-5.8
80' Rt. E " ch.		10.0	3.3
83' Rt. E Bk "		5.5	1.2
93' " Too Low		5.4	1.3
3+00			
101' Rt. on Low		0.7	6.0
90 " "		7.1	0.4
74' E Bk ch.		2.0	-2.3
63' Rt. " Edge "		14.6	-7.9
37' Rt. W. " "		13.2	-6.5
32' Rt. W Bk "		6.1	0.6
25' Rt. = True ∠		5.3	1.4
315' Rt. = ∠ East. 24" ^{on top} True S. Sewer	670		0.00
∠ offset		5.3	1.4
20' Lt.		4.0	2.7
36' Lt.		0.0	6.7
8" Conc. Well 3+21.4			
East end		8.7	-2.0
W "		7.5	-0.8
3+50			
33' Lt.		0.6	6.1

3+50		670	
17' Lt.		5.0	1.7
∠ offset		6.0	0.7
11' Rt. W. Bk ch.		6.6	0.1
16' Rt. W edge "		12.0	-5.5
40' Rt. " "		12.9	-6.2
52' Rt. E edge "		10.3	-3.6
55' Rt. E Bk "		7.1	-0.4
100' Rt.		4.7	2.0
4+00			
100' Rt. = Toe Low		9.1	2.6
47' Rt.		5.6	1.1
40' Rt. = Bk ch.		7.5	-0.8
38' Rt. E edge ch.		12.2	-5.5
13' Rt. W " "		12.1	-5.4
8' Rt.		7.1	-0.4
∠ offset		7.6	-0.9
33' Lt.		4.1	2.6
38' Lt.		1.8	4.9
5+00			
16' Lt.		1.2	5.5
39' Lt.		5.7	1.0
∠ offset		5.3	1.4
8' Rt.		5.7	1.0
17' Rt. = W Bk ch.		8.2	-1.2
21' Rt. W edge "		11.8	-5.1
38' Rt. E " ch.		12.3	-5.6

		670	
42' Rt.	E. Bk ch.	7.3	-0.6
53' Rt.		4.6	2.1
100' Rt.		4.3	2.4
5469.5± section over East 6" Sewer			
100' Rt.		4.1	2.6
70' Rt.	of MH. on Rim	2.50	4.20
54' Rt.		5.1	1.6
46' Rt.	on 6" ^{Top} Sewer	7.48	-0.78
44' Rt.	E edge ch.	11.8	-5.1
22' Rt.	on top ^{Pipe} of 4" wide Bk	8.51	-1.81
19.5' Rt.	= 1/2 12" Cur. Bk		
14' Rt.	= W edge ch.	12.0	-5.3
13'		8.0	-1.3
5' Rt.		5.3	1.4
of offset		5.2	1.5
25' Lt.		4.7	2.0
53' Lt.		1.0	5.7
T.P.	7.54 10.10	4.14	2.56
6+2.3 outs are from Base Line			
70' Lt.		6.5	3.6
38' Lt.		8.6	1.5
18' Lt.		7.9	2.2
of = Base Line		8.8	1.3
9' Rt.	W Bk ch.	11.6	-1.5
11' Rt.	W edge ch.	15.3	-4.2
28' Rt.	E " "	16.3	-6.2

		10.10		34
36' Rt.		8.1	2.0	
90' Rt.	= Too Low	7.0	3.1	
7+100				
95' Rt.	Too Low	7.1	3.0	
58' Rt.	E. Bk ch.	7.8	2.3	
50' Rt.		11.8	-1.7	
48' Rt.	E edge "	15.6	-4.5	
30' Rt.	W " "	15.0	-3.9	
26' Rt.	W Bk "	10.3	-0.2	
of Base Line		8.3	1.8	
54' Lt.		7.8	2.3	
80' Lt.		5.5	4.6	
7+50				
80' Rt.		4.9	5.2	
50' Rt.		7.4	2.7	
of Base Line		8.0	2.1	
26' Rt.		9.1	1.0	
33' Rt.	W Bk ch.	10.6	-0.5	
35' Rt.	W edge ch.	19.5	-4.4	
51' Rt.	E " "	14.9	-4.8	
60' Rt.	E Bk "	10.9	-0.8	
66		7.6	2.5	
100' Rt.	= Too Low	7.3	2.8	
110' Rt.		3.2	6.9	
7+71.7 Sewer MH				
74' Rt.	on Rim Trunk	5.63	5.47	

1010

8+35 = Δ in Lacey

119' Top Lacey	3.2	6.9
110' Rt = Top	7.6	2.5
56' Rt	7.0	3.1
37' Rt E Bk ch.	9.8	0.3
34' R E edge "	14.8	-4.7
14' Rt W "	14.8	-4.7
13' Rt W Bk "	11.0	-0.9
8' Rt	9.0	1.1
£	8.0	2.1
63' Lt.	6.8	3.3
102' Lt.	3.1	7.0

8+90

110' Lt.	2.8	7.3
48' Lt.	7.1	3.0
5' Lt.	8.0	2.1
£ = W Bk ch.	11.3	-1.2
4' Rt W edge ch.	15.0	-4.9
18' Rt E " "	14.9	-4.8
27' Rt E Bk "	10.4	-0.3
50' Rt	7.8	2.3
100' Rt.	7.1	3.0

2+25

112' Rt E Bk ch.	6.7	3.4
106' Rt " edge ch.	14.3	-4.2
55' Rt = Trunk Sewer on top	8.9 ^v	1.18

1010

15' Rt = W edge ch.	14.9	-4.8
10' Rt = W Bk "	10.0	0.1
£	9.9	0.2
14' Lt.	6.6	3.5
48' Lt.	6.6	3.5
100' Lt.	3.6	6.5

2+43

51' Rt. on Rim Trunk MH	5.39	4.71
" " " ^{TOP} 24" Sewer	8.79	1.31

2+49

8' Lt. on Top 6" Steel Sewer pipe	9.61	0.49
30' R " " " "	9.92	0.18

10+15

£	6.7	3.4
25' Lt.	7.7	2.4
90' Lt.	5.0	5.1
T.P.	9.61 15.90	3.81 6.29

10+84

10' Rt.	11.3	4.6
£	12.0	3.9
46' Lt.	10.7	5.2
51' Lt.	11.4	4.5
97' Lt.	8.7	7.2

chk. starting B.M.

4.22	11.68
	11.64 = B.M.
	0.04
7.38 19.02	11.64 = B.M.

35

1902

Note: All sections on Nat'l. Ave are Parallel thereto

11+00 = S.W. Nat'l. Ave

75' H.	15	17.5
" " 4' N on Judge Walk	119	17.83
59' H. " " "	249	16.53
52.6 " " " "	320	15.8
50' H.	45	14.5
(46.5 H) 4' N " "	328	15.74
25' H.	55	13.5
4' N " "	480	14.2
L	72	11.8
4' N " "	619	12.8
W.L. 33rd on Walk	748	11.54
4' N on Walk	735	11.67
W cb.	777	11.2
Gut.	830	10.7
W 1/4	842	10.6
L. 33rd	884	10.18
E 1/4	948	9.54
E Gut.	1032	8.70
" cb.	996	9.06
E.L. on Walk	942	9.60
11+14		
E.L. cb.	984	9.18
Gut.	1060	8.4
E cb Gut.	1030	8.7
E 1/4	989	9.1

1902

36

Q	945	9.57
W 1/4	904	10
W cb.	864	10.4
W.L. on cb.	744	11.6
" " Gut.	819	10.8
L on cb.	636	12.68
" " Gut.	714	11.9
25' H. on cb.	498	14.0
" " Gut.	670	12.3
50' H. on cb.	328	15.7
" " Gut.	406	14.96
75' H. on cb.	139	17.63
" " Gut.	217	16.8
11+27 = S 1/4 Nat'l		
75' H.	140	17.6
50 "	331	15.7
25' H.	497	14.05
L	659	12.4
W.L. 33rd	761	11.4
W cb.	800	11.0
W 1/4	842	10.6
Q "	880	10.2
E 1/4	921	9.8
E cb "	955	9.5
E.L.	985	9.2

1902

11+40 = 2' Net / Avg

E.L. 3314	9.48	9.54
E. cb	2.22	9.8
" 1/4	8.90	10.1
2	8.52	10.5
W 1/2	8.15	10.87
W cb.	7.70	11.3
W.L. 3314	7.31	11.7
2	6.23	12.79
25' W	4.69	14.33
50' W	3.02	16.0
75 "	0.97	18.05

11+53

75' H.	1.33	17.7
50' H.	3.26	15.76
25' H.	4.87	14.15
2	6.41	12.61
W.L. 3314	7.58	11.5
cb.	8.02	11.0
1/2	8.42	10.6
2	8.80	10.2
E. 1/4	9.14	9.9
E. cb	9.44	9.6
E.L. 3314	9.68	9.3

11+66

E.L. 3314 on cb	9.58	9.4
" " out.	10.32	8.7

1902

E. cb. out.	10.08	8.94
E 1/4	9.74	9.28
2	9.28	9.74
W 1/2	8.91	10.1
W cb. out.	8.48	10.5
W.L. "	8.20	10.8
" on cb	7.45	11.57
2 on cb	6.21	12.81
" " out	7.03	12.0
25' W cb	4.85	14.17
" " out	5.60	13.4
50' W on cb	3.19	15.83
" " out	3.90	15.1
75' H "	1.86	17.16
" on cb.	1.08	17.94

11+80.02

75' H.	0.8	18.2
4' S on N edge wall	0.79	18.2
65.0' H.	2.0	17.0
4' S on " " "	1.70	17.3
50' H.	3.2	15.8
4' S on " " "	2.93	16.7
25' H.	4.8	14.2
4' S " " " "	4.54	14.5
2	6.5	12.52
4' S " " " "	6.14	12.9

37

1902

11+80.02 = 111. Not 1/1. A.C.			
W.L. 33rd	4' S on 12 on W 7.22	11.8	
" "	N edge Ref Walk	7.51	11.5 settled
Web on sb.		7.76	11.36
" "	Gut,	8.24	10.8
W 1/4		8.37	10.65
2		8.70	10.3
E 1/4		9.38	9.6
E Gut		10.44	8.6
E Top 1/4 (Sunken)		10.25	8.77
E.L. on Walk		9.22	9.8
11+96			
E.L. 33rd		9.7	9.3
2 33rd		10.1	8.9
10' W		9.8	9.22
20' Rt. of Base Line		15.1	3.92
2 Base Line		14.8	4.2
TP	529 12.06	12.25	6.77
55' Lt.		8.5	3.56
100' Lt.		4.0	8.06
12+37			
100' Lt.		3.6	8.7
55' Lt.		8.4	3.66
2		9.1	2.96
48' Rt.		8.4	3.66
54"		6.6	5.46

1206

38

70' Rt.		6.8	5.26
85' Rt.		3.8	8.26
12+55			
		8.3	
100' Rt.		8.3	3.76
54' Rt.		7.1	4.96
48' Rt.		8.3	3.76
2		9.1	2.9
50' Lt.		8.3	3.76
100' Lt.		3.3	8.76
13+00			
100' Lt.		2.6	9.46
50' Lt.		7.7	4.36
2		8.6	3.46
45' Rt.		7.8	4.26
50' Rt.		7.2	4.86
65' Rt.		7.2	4.86
100' Rt.		7.7	4.36
150' Rt.		7.5	4.56
200' Rt.		6.8	5.26
14+00			
170' Rt.		6.3	5.8
120' Rt.		7.3	4.8
100' Rt.		7.1	5.0
80' Rt.		6.7	5.4
67' Rt.		6.6	5.5
60' Rt.		7.5	4.6

14+00 1206

50' Rt	71	5.0
L	74	4.7
50' Lt	62	5.9
100' Lt	05	11.6

14+50

100' Lt	+6.2	18.26
82' Lt	0.0	12.06
64' Lt	4.7	7.4
40' Lt	6.6	5.5
L	7.3	4.76
60' Rt	7.0	5.06
80' "	7.0	
100' Rt	7.3	4.76
150' "	6.2	5.86

TR 5.13 14.37 2.82 9.24

14+80.33 = Lt. Logan

150' Rt	8.3	3.76
25' Rt	8.6	3.46
80' Rt	2.3	2.76
50' Rt	2.1	3.0
L	8.9	3.16
50' Lt	7.3	4.76
80'	2.1	10.
100' Rt	+3.0	15.1

15+07.33

100' Lt. Base	+3.5	11.1
---------------	------	------

1437

39

55' Lt on Hub	5.13	9.24
L on Hub	7.80	6.57
50' Rt	8.9	5.5
100' Rt	9.0	5.4
150' Rt	8.3	6.1

15+20.33 = Lt Logan

150' Rt	8.9	5.5
100' Rt	8.7	5.7
50' Rt	8.0	6.4
L Base	7.4	7.0
50' Lt	4.8	9.6
100' Lt	+4.0	10.4

15+60.33 Nt. Logan

100' Lt	+2.4	16.77
85' Lt	+2.2	16.57
78' Lt	2.3	12.1

55' Lt = offset Line	5.3	9.1
L Base	7.5	6.9
50' Rt	8.5	5.9
100' Rt	9.0	5.4
150' Rt	8.9	5.5
TR 3.55 13.34	4.58	9.79

16+20

90' Rt	7.8	5.54
40' Rt	7.7	5.64
L Base	6.3	7.04

on Hub
15+08.51
offset
Sections for this
Int. Basella with the
Logan Ave

2' N
= 2' Lower

1334

55' Lt. 5.3 8.0

100' Lt. 3.4 10

16+22

42' Lt. on Walk 3.99 9.85

127' Lt. 3.8 9.5

T.P. 6.88 14.41 5.81 7.53

on stake
187.8053
55' offset

17+00

226' Lt. 3.2 10.13

200' Lt. 4.3 9.04

136' Lt. 5.7 7.64

3' N Floor House 3.15 10.2

20' South 7.0 6.34

40' South 7.0 6.34

(16+80) 160' Lt. 7.0 6.34

" 120' Lt. 7.0 6.34

" 110' Lt. 6.0 7.34

17+00 Cont.

55' Lt. 6.3 7.0

20' Lt. Ground in Front Gar. 7.1 6.24

10' Lt. 7.6 5.74

L 7.7 5.64

Additional Topog. by Stadia P-41

T.P. 82.9 17.34 5.36 9.05

5.65 11.59

chk starting B.M. 11.64

0.05

40

Stadia Topog. N.Y. Portiers
Proposed Channel

41

Readings from offset June 18 + 80.58

Azimuths from forward Ten Clockwise

Elev. 7.5 HI = 5.3 12.8

Station	Az.	Stadia	V.A.	Horiz.	Diff Elev.	True Elev.
W.B.K. ch.	144°16'	350'	0° 06.7			
W.B.K. ch.	158°35'	164'	0° 17.7			
edge "	141°	352'	-2.0			10' wide
E.B.K. ch.	137°30'	348'	on 7.3		El.	
	156°40'	160'	-2°	5.6	0.9	
W Edge ch.	154°20'	156'	-4°		-3.4	
Edge "	149°	150'	-4°30'		-4.3	
E.B.K. ch.	143°40'	141'	-1°30'		3.8	
on 24" Searver	145°20'	220'	-2°30'		-1.85	
on 2" Pitt 144"	141°20'	201'	-0°30'		5.8	
24" Searver	131°45'	212'	-1°		3.8	
	122°15'	122'	0°		7.5	
	131°40'	305'	on 7.3		7.3	
	111°40'	196'	0°		7.5	
	95°45'	180'	-0°30'		5.9	
	96°20'	102'	0°		7.5	
	99°16'	75'	-2°30'		4.2	
	99°10'	49'	0°		7.5	
	62°10'	169'	+1°		10.4	
	32°30'	152'	+1°		10.1	
	41°	214'	+1°15'		12.0	

Cont. from P-41

Ranching from 18+8058 E175 HI 5.3

42

Station	Az.	Stadia	VA	Horiz.	Diff. Elev.	True Elev.
	359°20'	164'	+1°		10.4	
	10°	245'	+1°0'		11.8	
E.Bk.	353°	168'	+1°20'		11.4	
ch.	345°15'	169'	+2°		13.4	
	2°0'	261'	0°		7.5	
in ch.	337°45'	180'	-2° on 7.3		1.4	
	359°	258'	+0°24'		9.25	
W.Bk.	331°15'	184'	+2°45'		16.35	
ch.	353°15'	271'	+1°		12.25	
E.Bk.	351°20'	272'	+2°		17.0	
ch.	349°10'	272'	+0°15' on 2.3	6°	15.3	
E ch.	346°10'	276'	-0°30' on 2.3		-2.7	
W.Bk.	342°10'	272'	+2°		17.0	
ch.	340°30'	278'	+1°		12.3	
	331°40'	290'	+0°30'		10.0	
W.Bk.	315°30'	138'	+1°15'		10.5	
ch.	129°40'	93'	0°		7.5	
Elec. Pole	180°	145'	+0°30'		8.75	
	176°30'	140'	-2°		2.6	
	179°30'	104'	-2°30'		2.95	
W edge	176°30'	95'	-5°30'		-1.6	
ch.	157°40'	200'	+2° on 8.3		8.3	
Elec. Pole	162°20'	71'	-7°		-1.15	
ch.						

Cont. P-43

	Stadia	V.A	Horiz. D	Diff. Elev	True E.
W/Bk	158°15	68'	-2°	5.2	
ch.	183°	111'	+2°30	12.35	
W/Bk	208°30	152'	+4°	18.1	
ch.	228°40'	80'	+4°	13.1	
	222°40'	181'	+3°30	18.6	
			+1°40		
	205°	155'	+1°	10.2	
	264°45'		+1°50'		
W/Bk	263°45	80'	+1°10	9.1	
ch.	264°	70'	0°	11.2	
W/Bk	264°	70'	0°	11.2	
ch.	264	36'	0°	7.5	
E/Bk ch.	316°30	75'	+2°20	10.55	
	338°30	66'	+0°40		

25' Wide on Curve.

READINGS FROM 15+07.33 - Base 1.376

	Elev.	H.I.		
Elev	657 ⁹⁴	H.I. = 50		
Pole PP	157°44	240'		
Elev.				
Tel Pole	151°40'	192'	-0°20'	
Elev. P.P.				
Pole	167°	194'	-0°25'	
Tel.				
Pole	179°50'	167'	-0°41'	
Elev				
P.P. Pole	223°14'	217'	+1°20'	
	205°	100'	-0°15'	6.14
	159°20'	95'	-0°34'	5.63
	217°10'	35'	-1°03'	5.90
	160°08'	118'	-0°40'	

30" Popper

"

42" "

Guy Pole.

Cont. p. 44

Readings from 15707.33
Elev. 657 HJ 5.0

44

Station	Az.	Stadia	VA
	338°20'	57'	+1°20'
	56°20'	113	+0°10'

30" Popper
24" AC Tree

45

11+10 = W. bank of slough

10+90 = W. bank of slough

10+50 = P.O.T. stub.

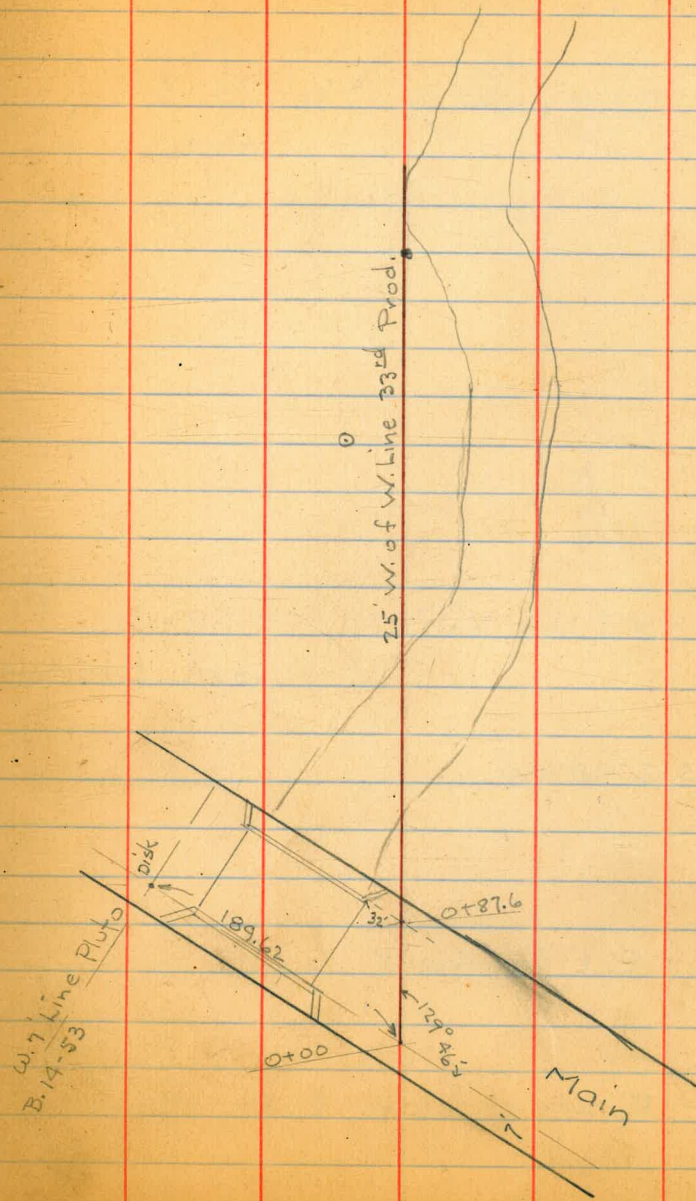
8+17.58 = M.H. 6.4' Lt.

5+00 W. bank of Slough

1+25 = Top of bank of slough

0+87.6 = 32' Rt. of face of Bridge produced.

0+00 = Cross on S. 1/4 Line Main



22+72.53 = N.L. Logan

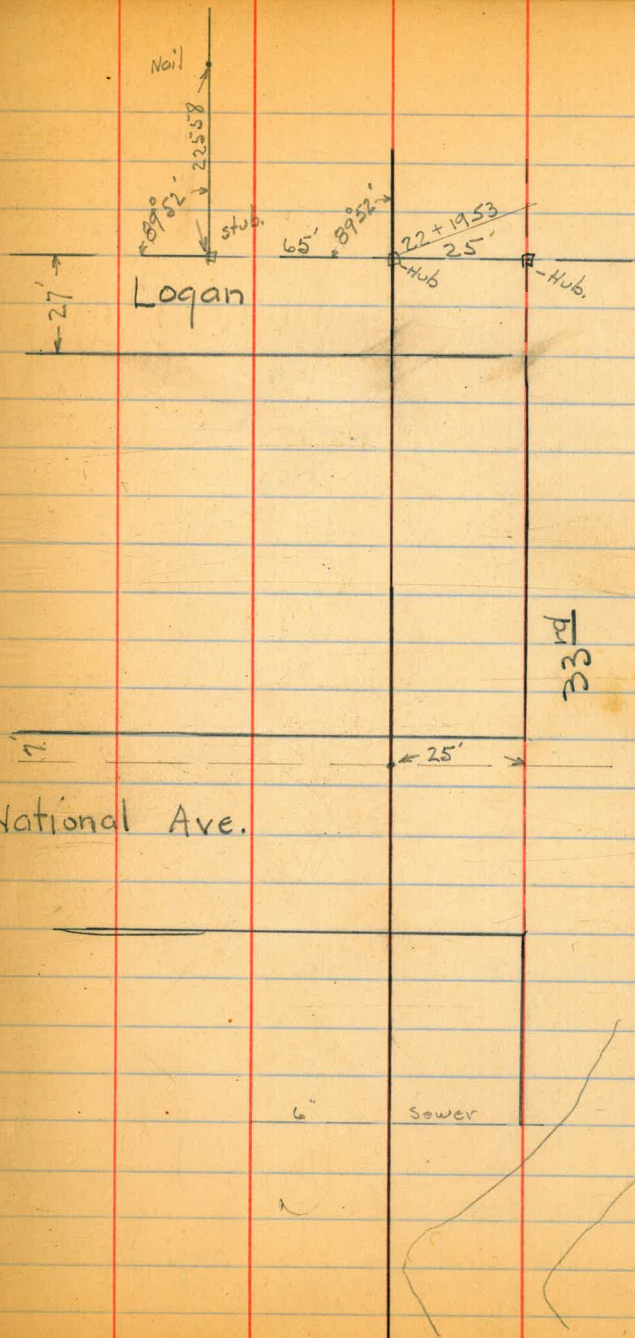
22+19.53 = 13' Line Logan

18+85.30 = N. 7' Line Nat.

18+26.2 = S. cb. National

16+61.8 = Φ 6" Gal. sewer

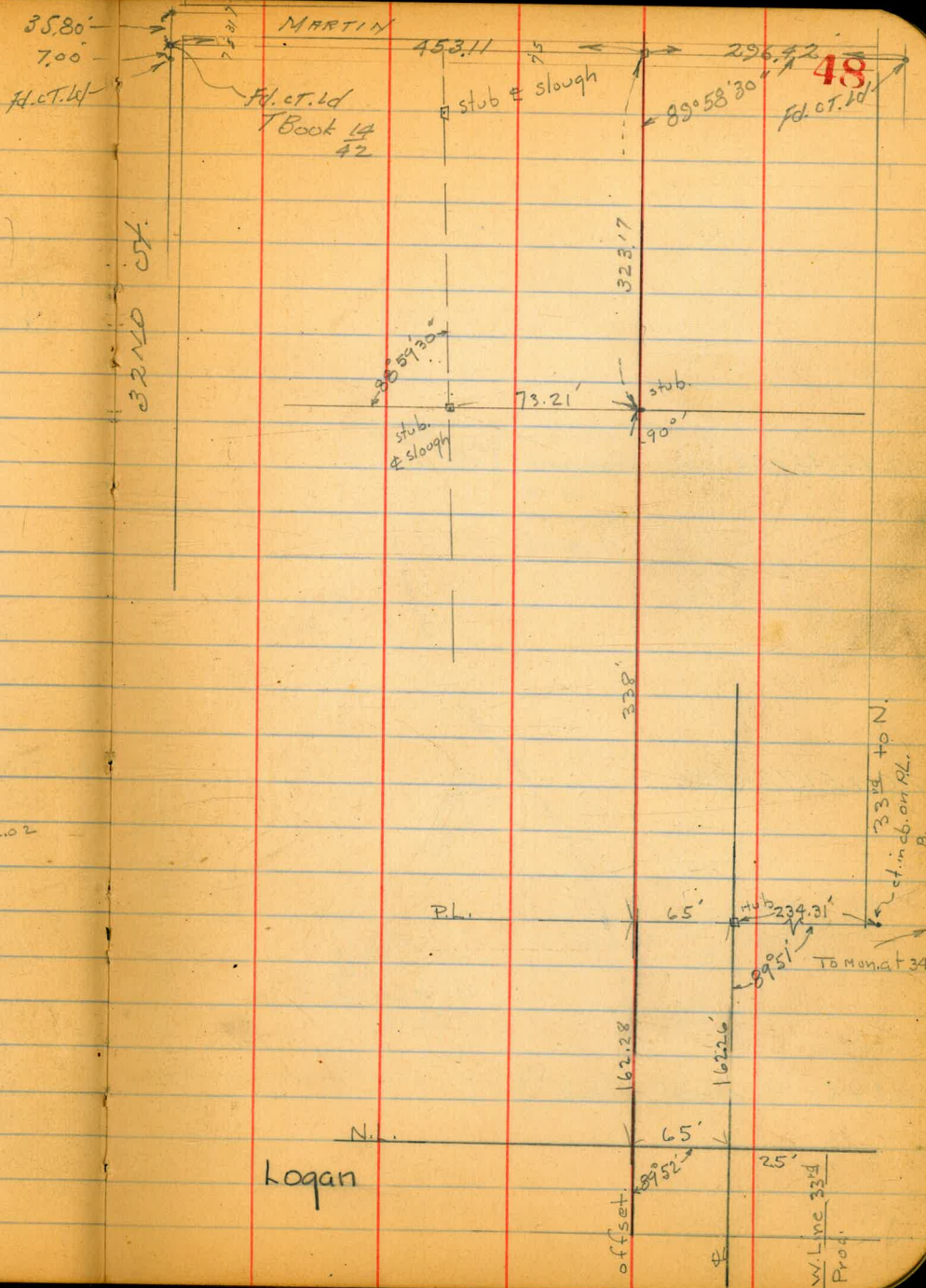
16+00 = W. bank of Slough 5' Rt.



Use ST of approx 100'

24+34.79 = Hub. on P.L.

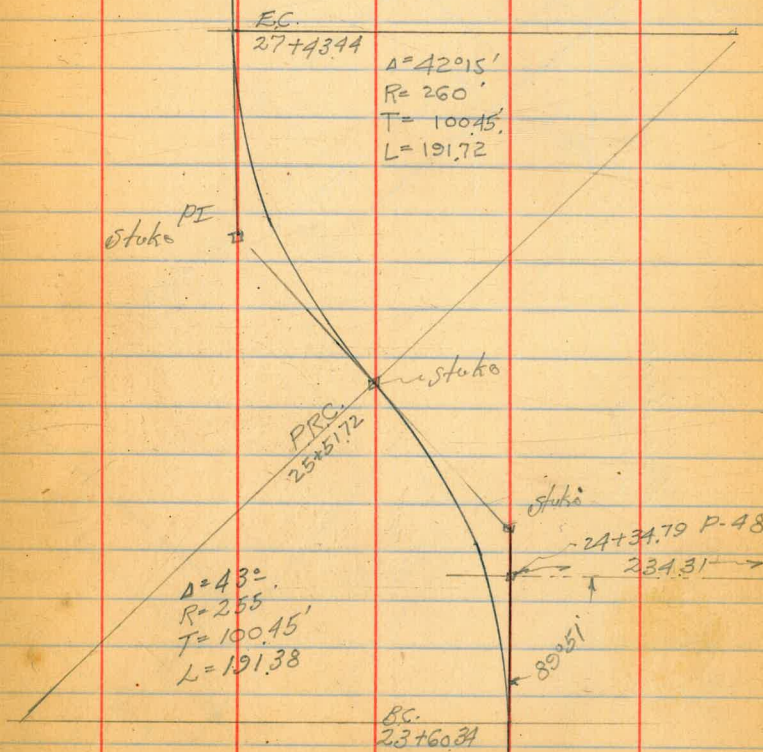
22+72.53 = N.L. Logan



27+43.44 = E.C. in channel (Not set)

25+51.72 = PRC

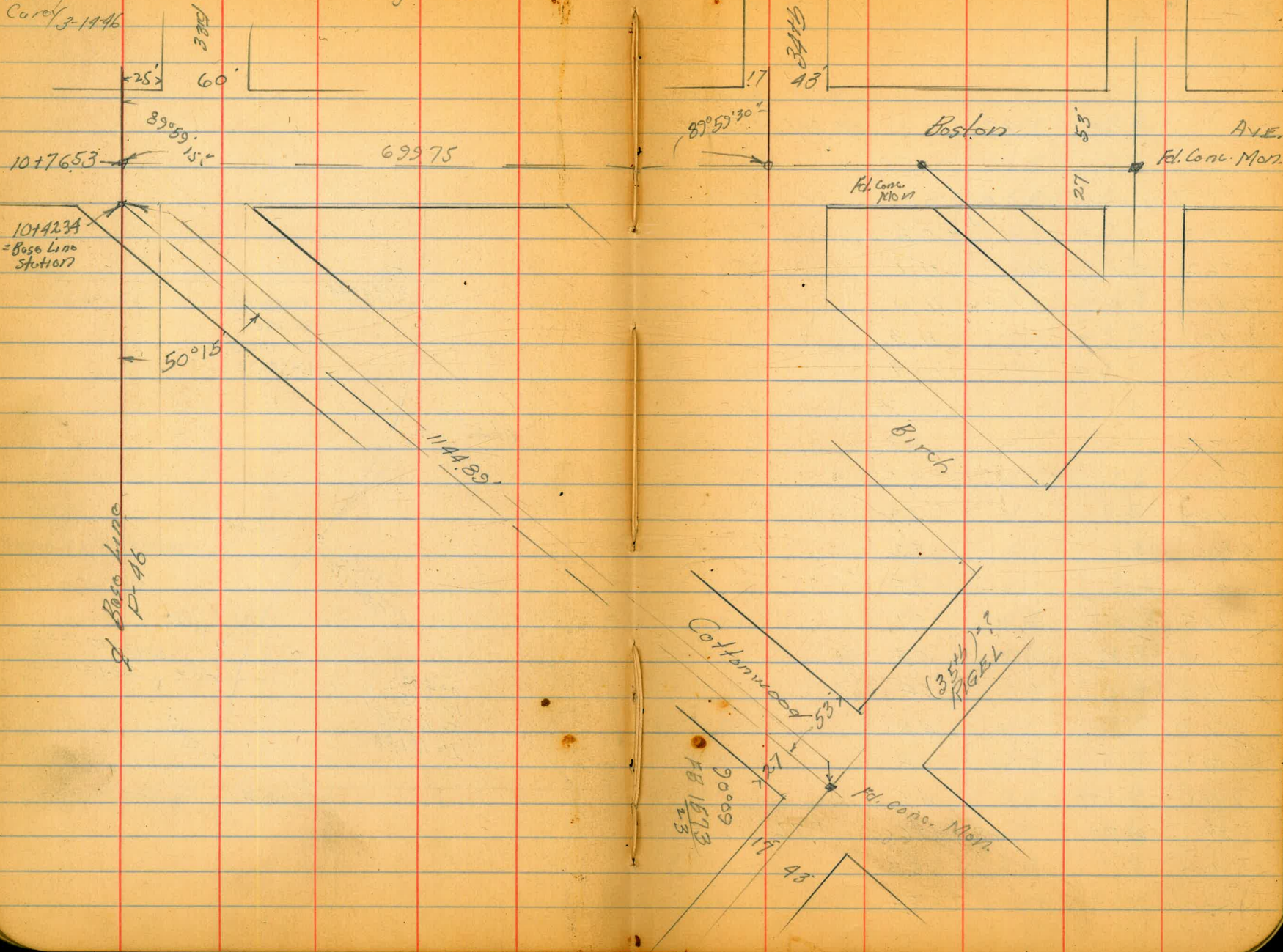
23+60.34 = B.C. (Not set)



Walker
Handricks
Harley
Carey 3-1446

Ties To Base Line of Proposed Channel
as per location Page 46

50



Walker
Hendricks
Hardin
Huntley
3-11-46

E-levels Proposed Channel
per Location Page 46-49

	2.15	5.92	3.27	
1+00			+1.00	
	8 Ch. Under N-side Bridge 10.6			
1+25			+0.6	
+62	= East edge ch			
2+10			11.1	
+50			11.0	
3+60			11.3	
4+00			10.7	
+62			10.3	
5+00			9.8	
+40			8.1	
6+00			4.9	
+25			5.2	
+45			7.5	
7+00			5.7	
+50			5.4	
8+00			5.4	
+50			4.8	
9+00			4.4	
TR	4.72	6.48	3.66	1.76
+50			4.5	
10+00			5.3	
			5.4	

BNL Rm
NH
P-32

10+50			5.2	1.3
+75			6.5	0.0
11+00	= W Bk ch.		7.1	-0.6
"	3' Rt. Edge ch		11.5	-5.0
11+50			6.5	0.0
12+00			6.4	0.1
+50			6.6	-0.1
+70			7.7	-1.2
+71			12.0	-5.5
+81			12.0	-5.5
+82			7.5	-1.0
+90			5.3	1.2
13+50			4.5	2.0
14+00			4.2	2.3
+50			4.0	2.5
15+00			4.1	2.4
+50			4.1	2.4
+66			4.2	2.3
16+00			3.0	3.5
+15			2.6	3.9
16+20			4.5	2.0
+40			5.3	1.2
+50			7.5	-1.0
+75			5.9	0.6
17+00			4.8	1.2
TR	9.21	14.22	1.47	5.01

6.48

51

17+50		11.2	3.0
+95		10.4	3.8
18+12.3	Sl. Hat'.	2.0	13.2
+26.2	5cb.	1.98	12.74
+26.2	8 Guts'	2.26	11.96
+52.2	L "	1.46	12.62
+78.3	N "	2.20	12.02
"	Ncb	1.38	12.84
18+92.3	=NL. Nat'l. Ave	1.5	12.7
19+07		10.3	3.9
+50		11.3	2.9
20+00		10.8	3.4
+50		10.8	3.9
21+00		9.8	4.4
+50		9.4	4.8
22+00		8.6	5.6
+12.53	=27' N of Sl. Logans	7.69	6.53
T.P.	8.38 14.91	7.69	6.53
22+72.53	=NL. Logans	8.3	6.6
23+37		9.0	5.9
+60.3	=80.4	9.0	5.9
(23+36)	5" Av. Tree 1' Lt.		
(23+28)	3" " " 2' Lt		
(23+00)	17' Lt. = 6" Peach Tree.		
	31' " 4" Lemon Tree		
23+14	17' Lt. 6" Peach "		
23+30	20' Lt. 6" "		

23+30	27' Lt. = 3" Peach.		
23+18	30' Lt 1 1/2" "		
	6 Small Av. Trees 1" dia. in this yd.		
23+08	9' Lt 3" Av. Tree		
+32	11' Lt. 3" Apr "		
+39	3' Lt 2" Quince Tree		
+50	3' Lt 2" Peach.		
+51	13' Lt 8" Fig Tree		
+60	31' Rt 6" Walnut		
23+30	31' Rt 5" Av. Tree		
+12	20' Rt 2" Grape Fruit		
23+39	20' " 4" Fig Tree.		
+60	3' Lt. 2" Orange		
+81	2' 4" Log. Tree		
	14.91		
T.P.	6.33 16.26	4.98	9.93
24+33		8.3	8.0
+55		10.6	5.7
+70	ch.	14.0	2.3
25+00	2' ch.	13.8	2.5
+53	ridge ch	14.0	2.3
+90		10.9	5.4
	E. Bk. ch.		
26+00	on Spool Bk.	8.0	8.3
+50	E Bk ch.	7.5	8.8
+75	" " "	7.5	8.8
+90		12.6	3.7
27+15		14.1	2.2

16.26

27 + 43.44 = F.C. 14.1

28 + 50 14.1

55 M.S.L. Martin 11.4

chk old E Hub 18 + 80.58 8.72

$$\begin{array}{r}
 7.54 \quad 10.40 \\
 \underline{7.53} \\
 0.01
 \end{array}$$

55

56

The image shows an open notebook with two facing pages. Both pages are cream-colored and feature light blue horizontal ruling. Vertical red lines create margins on both pages. The right page has the number '60' printed in red in the top right corner. The notebook is placed on a white surface, and the background is black.

64

65

66

68

69

70

73

75

77

78

79

TABLE II—Continued
TRIGONOMETRIC FORMULAE (continued)

In any triangle:

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

Use Law of Tangents.

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

Use Law of Sines.

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

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

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

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

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

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

Area of a triangle:

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

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

PRISMOIDAL FORMULA.

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

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

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

	0	1	2	3	4	5	6	7	8	9	10	11
$\frac{1}{16}$	.0052	.0885	.1719	.2552	.3385	.4219	.5052	.5885	.6719	.7552	.8385	.9219
$\frac{1}{8}$	.0104	.0938	.1771	.2604	.3438	.4271	.5104	.5938	.6771	.7604	.8438	.9271
$\frac{3}{16}$	.0156	.0990	.1823	.2656	.3490	.4323	.5156	.5990	.6823	.7656	.8490	.9323
$\frac{1}{4}$	.0208	.1042	.1875	.2708	.3542	.4375	.5208	.6042	.6875	.7708	.8542	.9375
$\frac{5}{16}$	.0260	.1094	.1927	.2760	.3594	.4427	.5260	.6094	.6927	.7760	.8594	.9427
$\frac{3}{8}$	.0313	.1146	.1979	.2813	.3646	.4479	.5313	.6146	.6979	.7813	.8646	.9479
$\frac{7}{16}$	.0365	.1198	.2031	.2865	.3698	.4531	.5365	.6198	.7031	.7865	.8698	.9531
$\frac{1}{2}$	.0417	.1250	.2083	.2917	.3750	.4583	.5417	.6250	.7083	.7917	.8750	.9583
$\frac{9}{16}$	.0469	.1302	.2135	.2969	.3803	.4635	.5469	.6302	.7135	.7969	.8803	.9635
$\frac{5}{8}$	.0521	.1354	.2188	.3021	.3854	.4688	.5521	.6354	.7188	.8021	.8854	.9688
$\frac{11}{16}$	.0573	.1406	.2240	.3073	.3906	.4740	.5573	.6406	.7240	.8073	.8906	.9740
$\frac{3}{4}$	.0625	.1458	.2292	.3125	.3958	.4792	.5625	.6458	.7292	.8125	.8958	.9792
$\frac{7}{8}$	.0677	.1510	.2344	.3177	.4010	.4844	.5677	.6510	.7344	.8177	.9010	.9844
$\frac{15}{16}$	.0729	.1563	.2396	.3229	.4063	.4896	.5729	.6563	.7396	.8229	.9063	.9896
$\frac{1}{1}$	.0781	.1615	.2448	.3281	.4115	.4948	.5781	.6615	.7448	.8281	.9115	.9948
	.0833	.1667	.2500	.3333	.4167	.5000	.5833	.6667	.7500	.8333	.9167	1.000
	0	1	2	3	4	5	6	7	8	9	10	11

TABLE IV
USEFUL RELATIONS.

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

360° = 21600' = 1296000"
Radius = arc of 57.2957790°

Arc of 1° (radius = 1) = .017453292

Arc of 1' (radius = 1) = .000290888

Arc of 1" (radius = 1) = .000004848

$$\pi = 3.141592654 \quad \sqrt{\frac{1}{4}} = 0.564190$$

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

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

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

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

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

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

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

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

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

Error in chaining of 0.01 feet in 100 feet:

Due to—

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

STADIA REDUCTION FORMULAE.

Horizontal Distance = R - R sin² a + C cos a

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

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

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

a = angle of elevation for mid Reading

150.5
73.8
76.7

363	8.45	197.1
137	47.8	50
500	47.8	247.1
	47.66	500.
	151.71	250.
	60	497.1
	211.71	250
		747.1

50
42
459

511
30
481

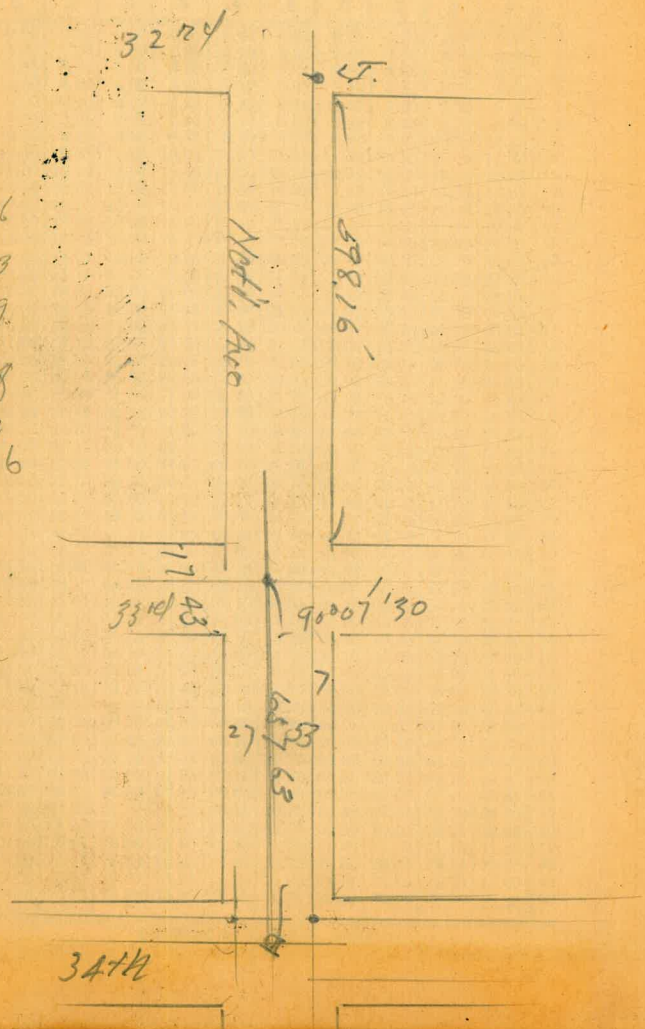
89
56
135

4
126
58
9.6
10.4

111
26
137

39816
17
65763
27279
10
126278
8082
65816
150

18553
73
182123



ENGINEERING DEPARTMENT,
SAN DIEGO,
CITY OF
CALIFORNIA.