

1522

W. A. S. P.

FIELD BOOK

No. 505 F

100  
9613  
29,70  
42583  
8.65  
404.98

97.66  
434.38  
2863  
558.67  
82.95  
691.12

884.42  
95.94  
32.52

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DEC 24 1964

ENGINEERING DEPARTMENT  
CITY OF SAN DIEGO.  
CALIFORNIA.

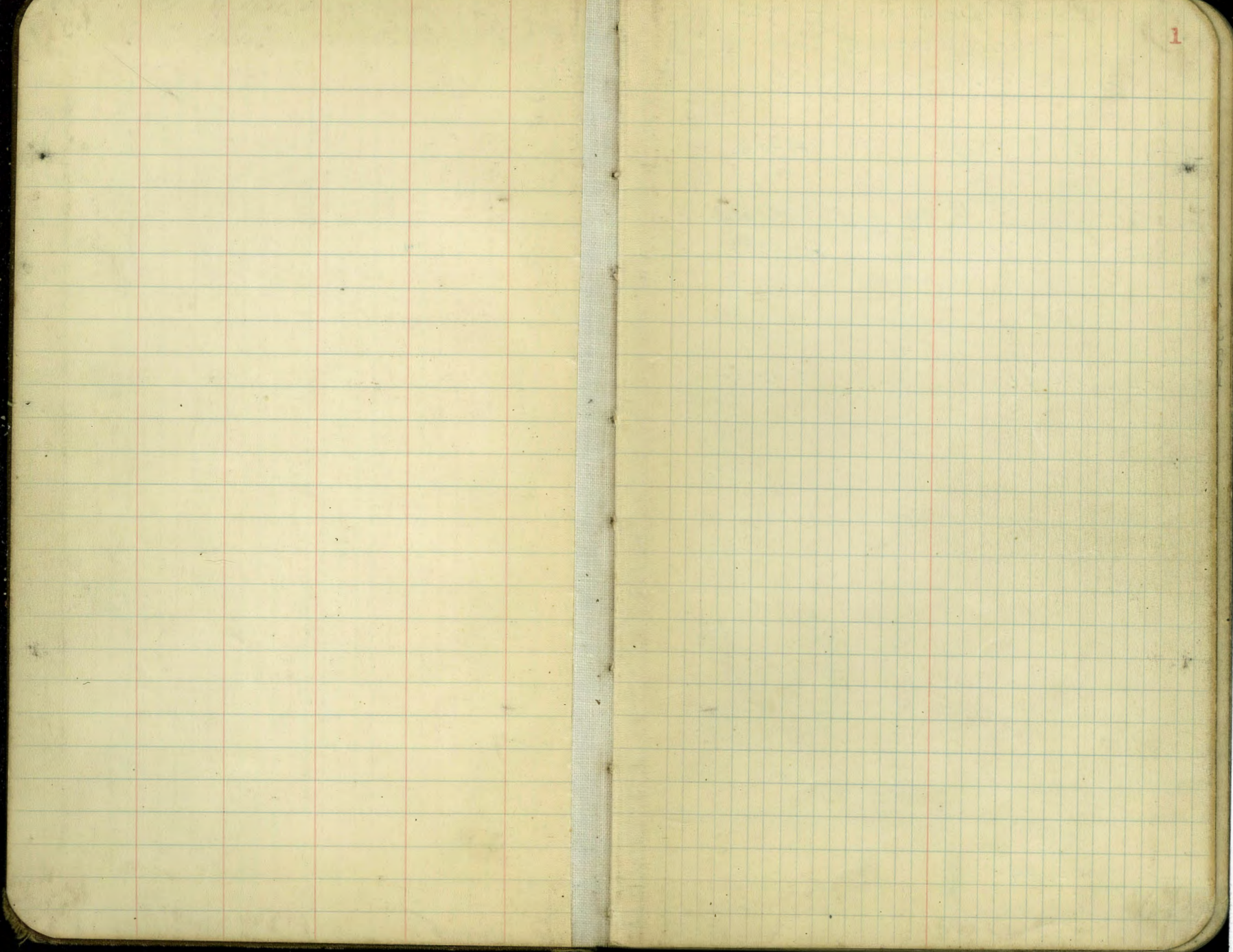
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- No. 380 LEVEL BOOK. Left and Right Hand Page the same as Left Hand Page of this Book.
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Location Sewer Line  
 in Pound Canon. Running N.  
 From  $\frac{1}{2}$  lat. 11<sup>th</sup> Arc  $\frac{3}{4}$  A. St.

Partridge }  
 E 33rd St } 4/9/35  
 Weir

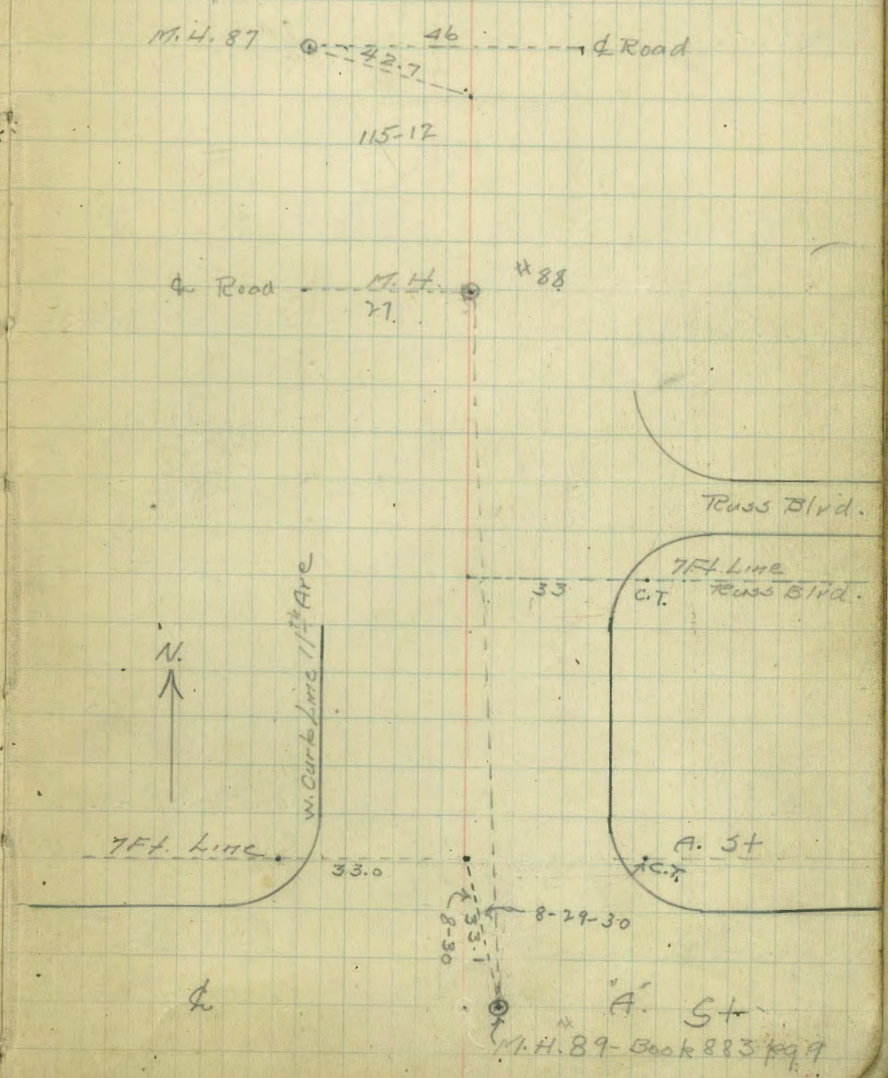
Indexed  
 C.S.K.

Sta Dist. Angle

9+28.59 19-48 RT

5+75.44 M.H. 88<sup>N</sup> 2-49 LT

0+00 M.H. 89



Sewer Line Found Canon.

32+32.56

15-46-30 Lt.

27+04.76

31-25-30 Rt.

407.71



22+97.05

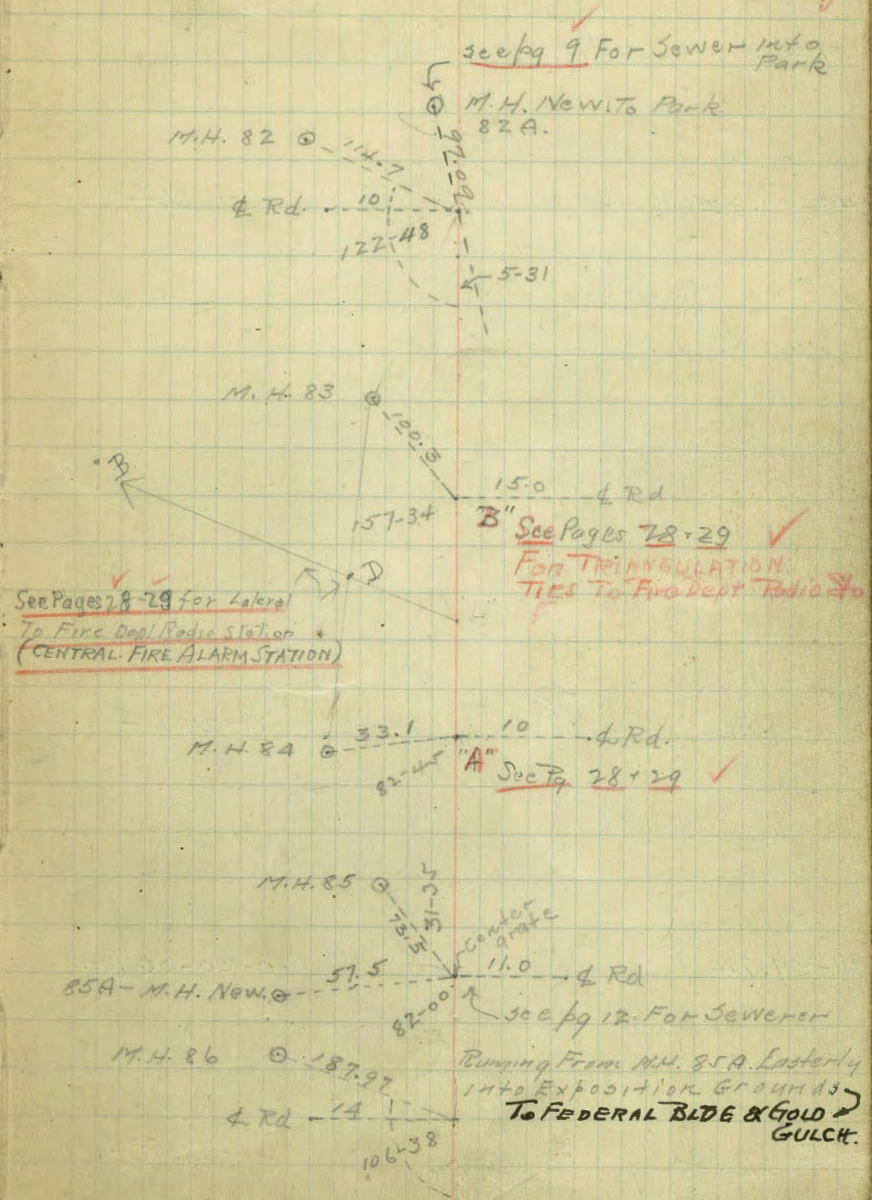
1-22 Rt.

17+54.83

6-54-30 Lt.

11+62.74

28-11-30 Lt.



Sewer Line Port Canon.

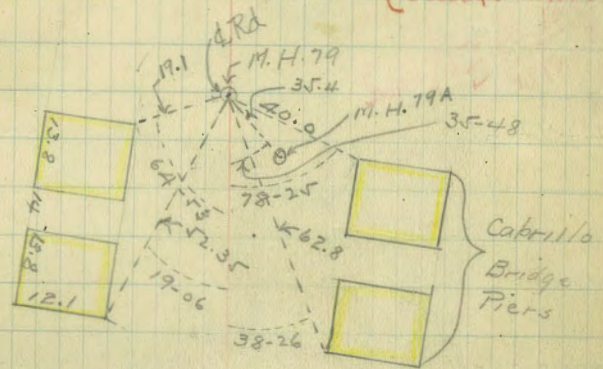
51+89 M.H. 78A

See Page 53  
See Page 16  
for Lateral To  
Bowling Green

See Pages 30/31/32  
for  
Sewer To Zoo

47+57.92 M.H. 79

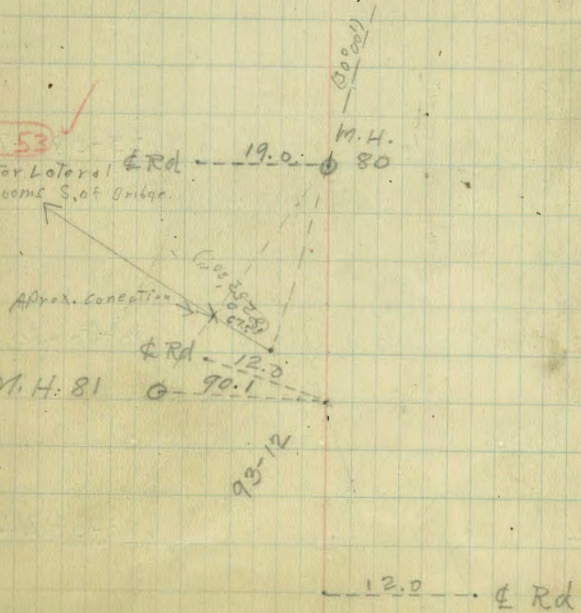
21-49 Lt



42+09.74 M.H. 80

27-27 Lt.

See Page 53  
See P. 17 For Lateral  
W To Rest Rooms S. of Bridge.



37+39.74

0-20-30 Rt.

35+07.32

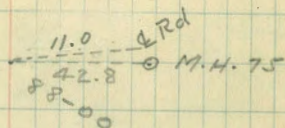
2-8-27 Rt

Sewer Line Pond Canon-

69+90.65

496.40

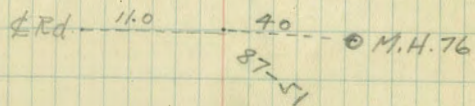
2-15 RT.



64+94.25

270.71

6-22 Lt.



62+23.54

254.30

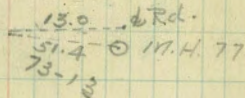
14-11-30 Lt.



59+69.24

369.22

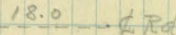
23-38 RT.



56+00.02

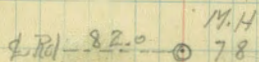
315.18

30-50-30 RT.



52+84.84

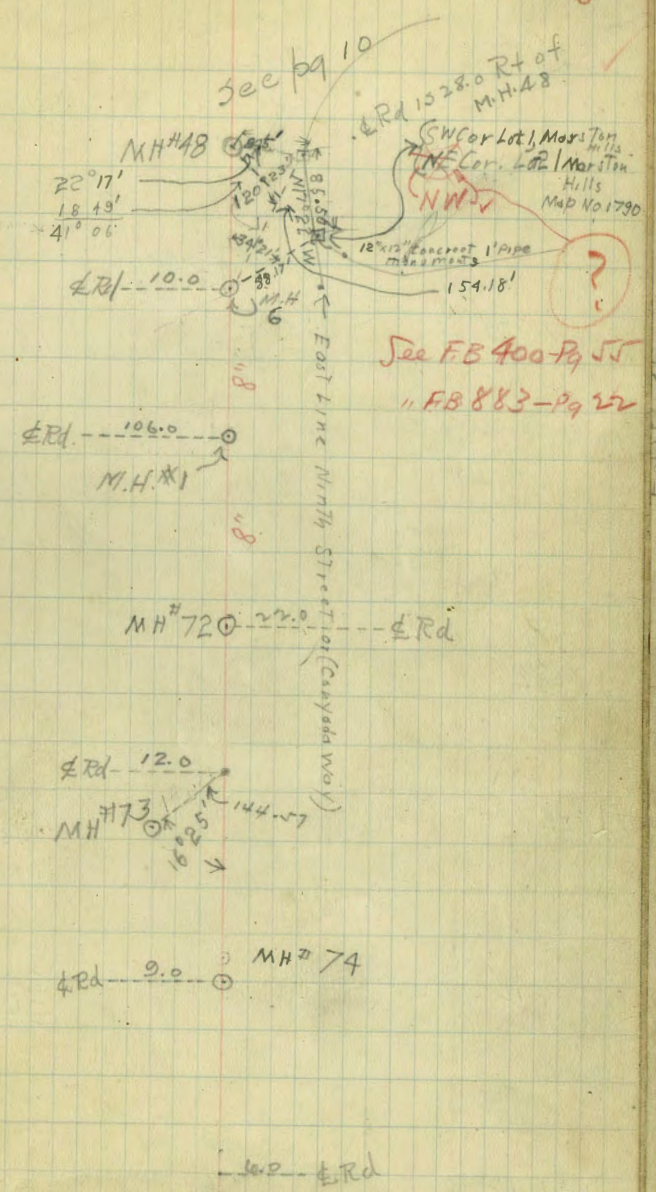
20-30 Lt.



Sewer Line Found Canon

AE. Essery  
 J.P. Bowen  
 H. Wade  
 4/17/35  
 Chain.

Sta.	Dist.	Angle
91+16 <sup>11</sup>	218.73 ✓	(41°20') Rt 46-20-30
88+97 <sup>38</sup>		6°57' Lt
86+80 <sup>92</sup>		43°02' Lt
84+13 <sup>83</sup>		56°17'30" Rt.
81+51 <sup>59</sup>		22°11' Lt.
79+36 <sup>61</sup>	63.58	22°02' Lt.
74+33 <sup>23</sup>	442.38	29°45' Rt.

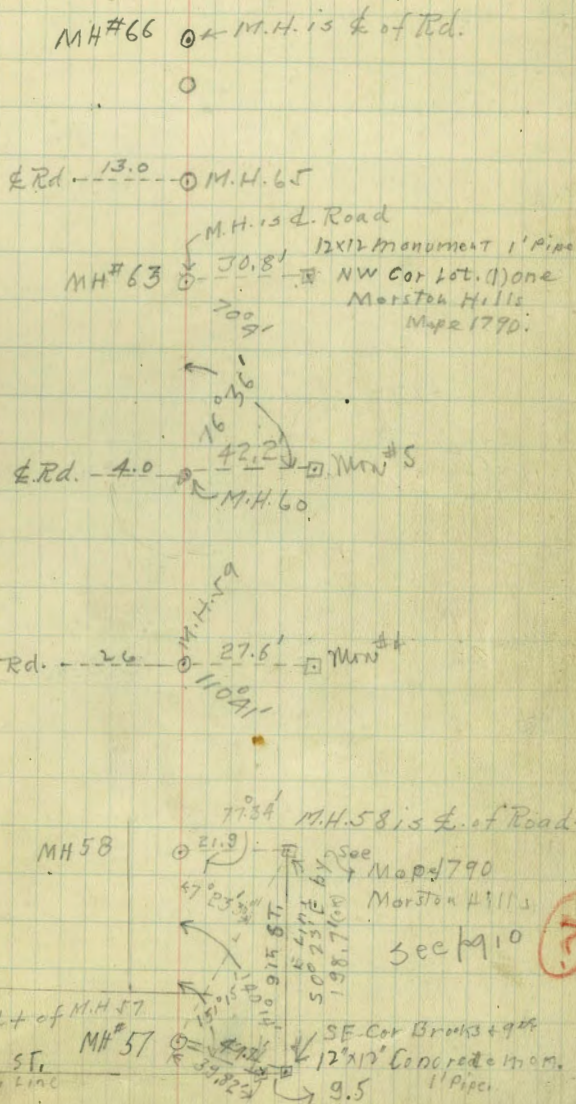


See page 13 for lateral  
 To Rest Room  
 Near 7th + Redwood



Sta.	Bist	Angle
104+36 <sup>00</sup>		3°30' RT.
104+32 <sup>35</sup>		13°35' LT.
100+11 <sup>4</sup>		29°43'30" RT.
97+82 <sup>41</sup>		2°49'30" RT.
96+27 <sup>57</sup>		44°23'30" Lt.
94+85 <sup>4</sup>		24°22' RT. 25°22' Lt.
93+16 <sup>13</sup>		25°22' Lt.

A.R. Essery R 4/18/35  
 P.P. Bowen } chain.  
 H Wade }



Essex  
Bowen 4/18/35

8

Sta Dist Angle

11241365

109458<sup>27</sup>

108429<sup>95</sup>

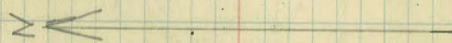
105462<sup>82</sup>

30° 20' 15" RT

19° 53' 30" RT

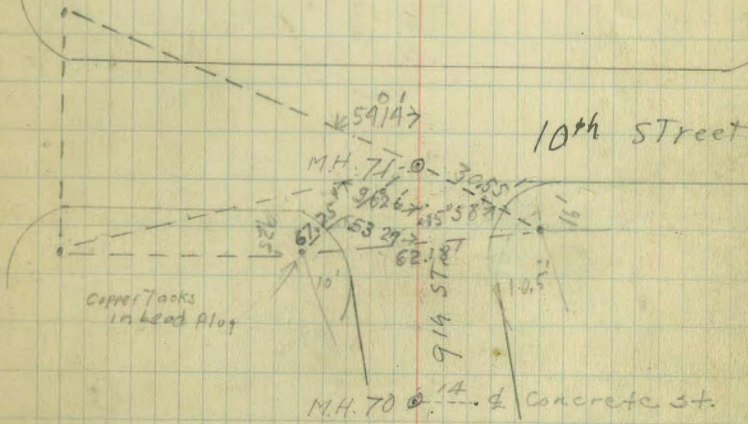
23° 19' 30" RT

See Pg 11



University Ave

Essex St



MH # 69 @ 15.0' --- Concrete St

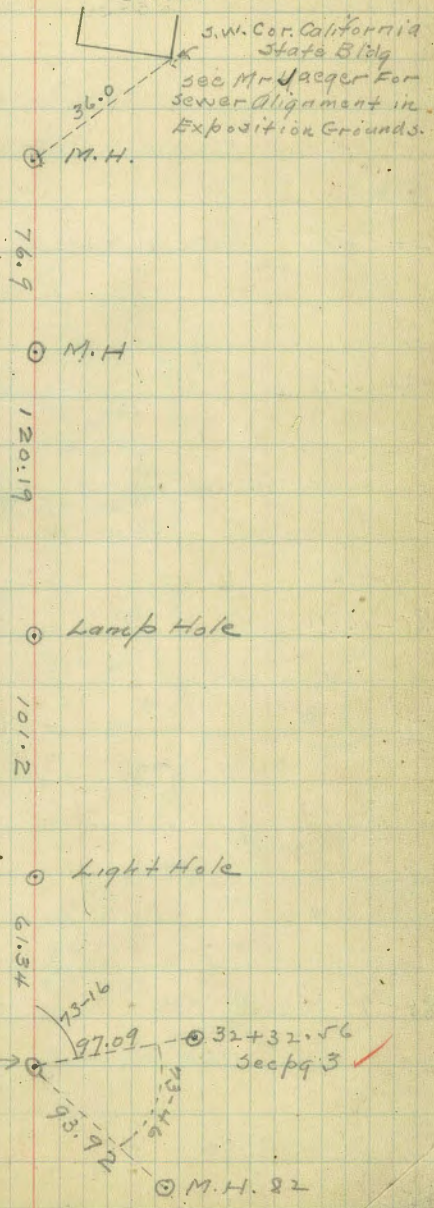
MH # 67 @ 10.0' --- Concrete St

⊥

Indexed  
C.S.K.

Partridge  
Brown  
Weir 4/24/35

Sewer Lateral Running From Trunk Line  
M.H. #82 - Pound Cañon Into Exposition  
Grounds. 9



3.5  
2.8  
4.2

Brown - Transit  
Partridge - Record  
Bowen } chainmen  
Weir }

10

These Ties are a duplication of Ties  
designated by red question marks on pgs. 6-7

#3

M.H. 58 26.9 Mon. Map 1790, Marston Hills

M.H. 57

M.H. 48

M.H. 6

178.34-3.0  
10x30  
198.83  
15-16

S.E. Cor. Brooks  
Map 98 Arc.  
12x12 Mon. Pipe

Monument - 1790

S.W. Cor. Lot #1, Marston  
Hills  
Mon. 1" Pipe  
S.W. Cor. Lot #2, Marston  
Hills  
Map 1790

see pgs. 6-7

For Duplicate Ties

94+85.11

93+14.13

91+16.11

41°20'30" RT  
41-20 RT

88+97.38

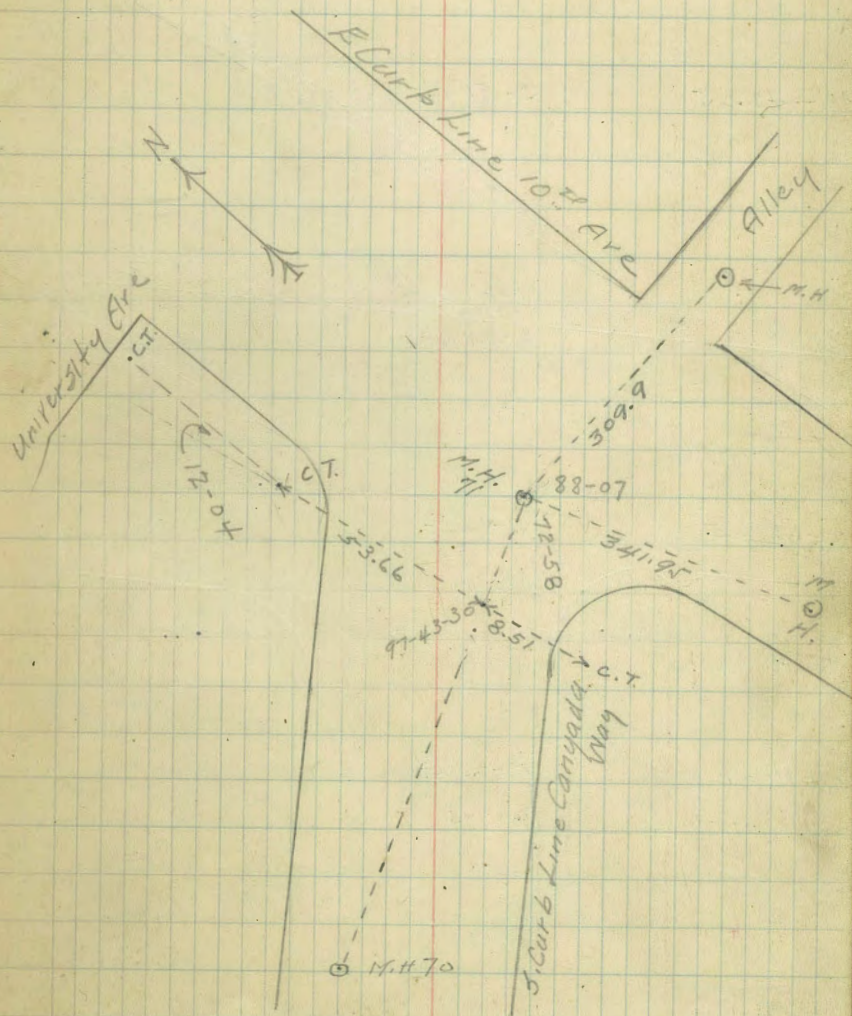
6-57 Lt

X

Indexed  
C.S.K.

Pound Cañon Trunk Line  
Sewer Tie To 10<sup>th</sup> Ave and  
Canyada Way. see pg 8

11



112+13.65

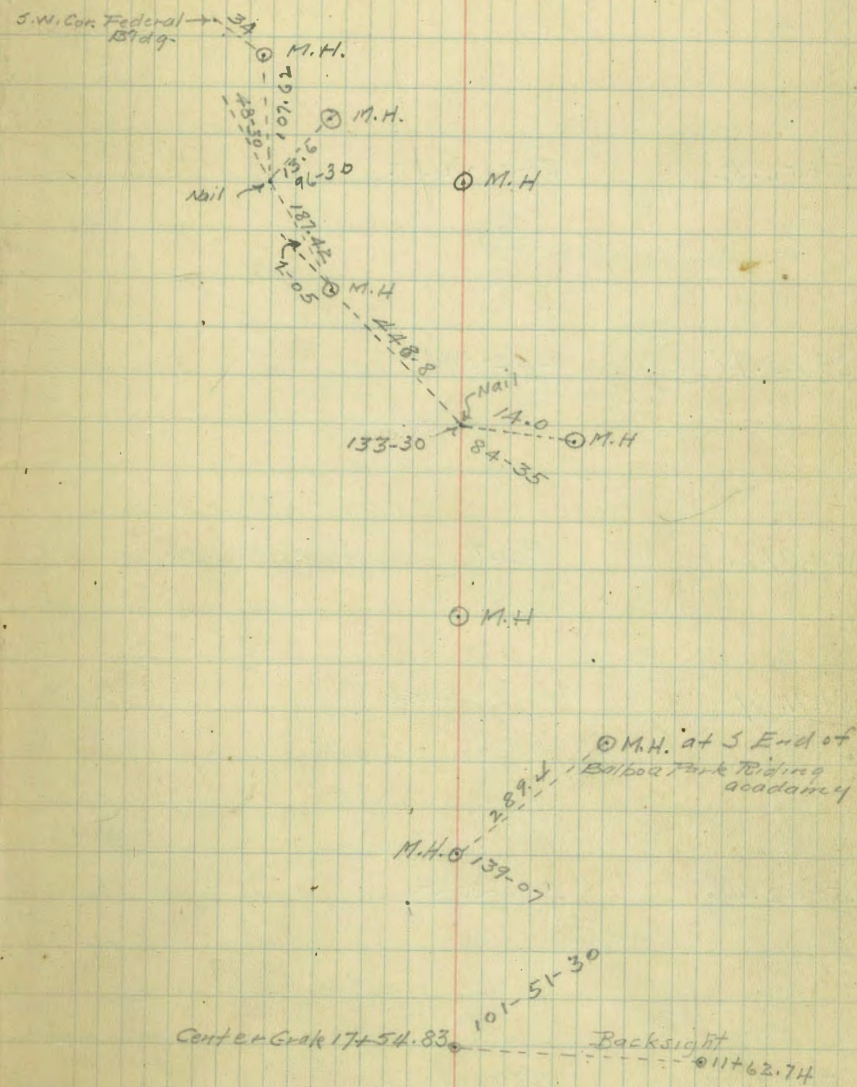
109+58.27

Indexed  
c.s.K.

Partridge  
Bower  
Weir. } 4/26/35

Sta	Def/lot.
178.48	
10+42.25	3-51 Rt.
200.05	
8+42.2	8-34 Rt
175.55	
6+66.65	4-34 Lt
375.16	
2+91.49	17-23 Lt

Sewer Laterals Running From  
M.H. 85A Trunk Line Pound Cañon Northwly  
Into Exposition Grounds 12 ✓



See Pg #3 For Trunk Line Sewer  
Thru Pound Cañon

Sta	Defl.
337.68	
25+56.82	27-04-30 Lt.
233.34	
23+23.48	1-42-30 Lt.
226.27	
20+97.21	P.O.T.
226.12	
18+71.09	13-38-30 Lt.
278.63	
15+92.46	8-00-30 Lt.
371.73	
12+20.73	22-01-30 Lt.

Nail →

0.5  
3.1  
3.6  
M.H. in Gold Gulch

⊙ M.H.

Under Construction ⊙ M.H.

⊙ M.H.

⊙ M.H.

⊙ M.H.

Sta Defl.

36+12.17

223.30

33+ 88.87

50.72

33+38.15

145.75

31+92.A

297.9

28+94.5

43-17H

44-31H

67-39H

62-16H

10' CANON about 10'  
S of N Boundary Fence  
Gold Gulch. End of Line

42-02 Red Head  
1122

Red Head

⊙ M.H.

1K Gold Gulch

⊙ M.H.)

⊙ M.H. in Gold Gulch about  
30 Ft. N.E. of Old West  
Trading Post





Sewer Lateral Running Westward from MH 78A  
 on main Trunk Line Round Corner to Bowling Green  
 Club House

sta

Angle

A.R. Essery  
 P.P. Bowen  
 Wier

5/6/35

16

6+41 12

5+58.67

4+34 48

3+29 70

0+00

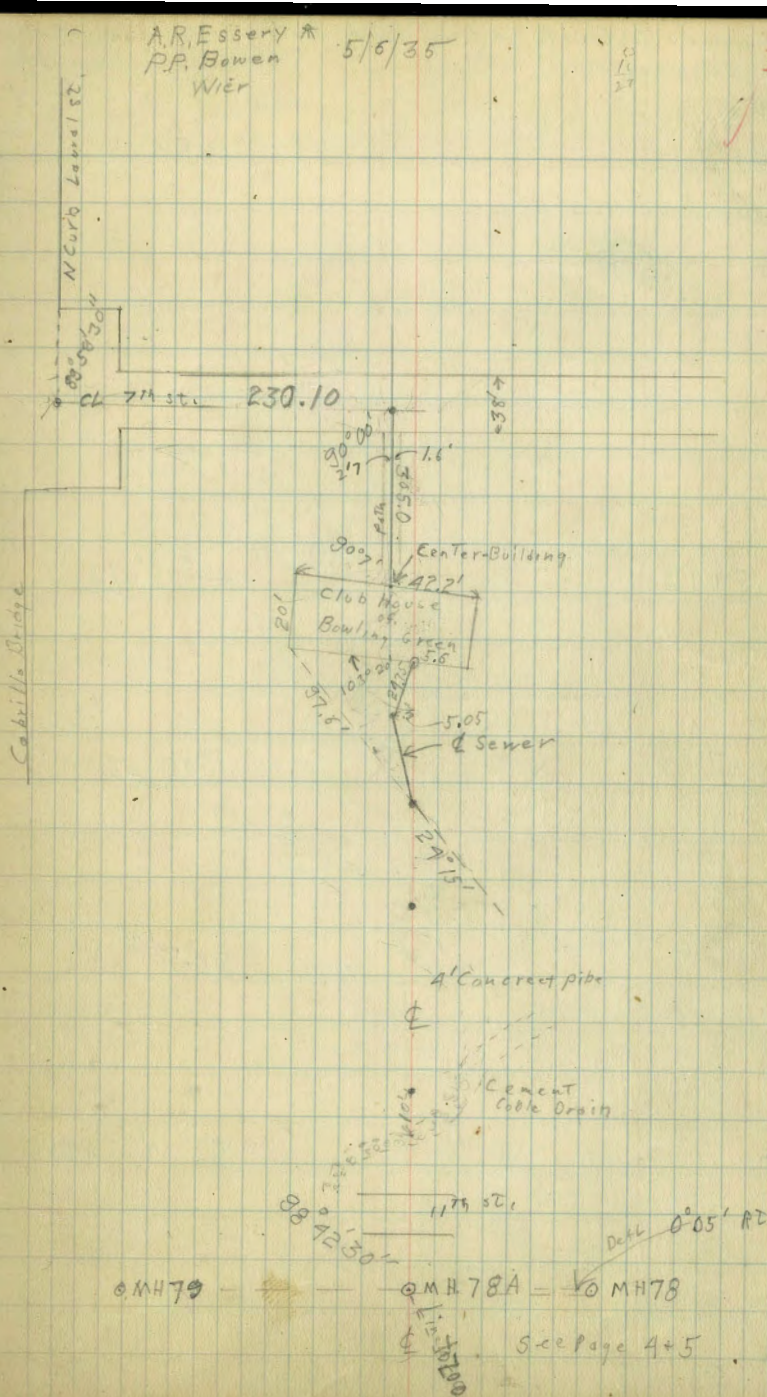
~~Void~~  
 see page 53

2°49'30" Lt

19°22'30" Rt

11°57' Lt

12°08'30" Lt



MH 78

MH 78A - MH 78

See page 4+5

Sewer Lateral To Rest Room South of Cabrillo Bridge  
See page 18

ARESSER \* 3/7/35  
P.P. Bowen  
Wier

ETC

17

Sta

Def L

3+8942

44°05' Lt

5+98 67

0°00' Lt

4+36 07

82°52' 30" Rt

0+00

30°00' Rt

BS

Void  
See  
page  
53

⊙ MH# 79

Main Link Found  
Cable

6754  
N  
S  
6754  
N  
S

6' Cement Pipe

⊙ MH# 80

⊙ MH# 79

(See page 4 Book 1522)

Sewer Lateral Running from Ft North of  
 MH# 80 of trunk line in Pound Canon, Westly to  
 Rest Room approx 250yds South Cabrillo Bridge.  
 Cor Juniper + 726.

Sta. Angle

Essery  
 Bowen  
 wier 3/7/35

Void  
 see page 53

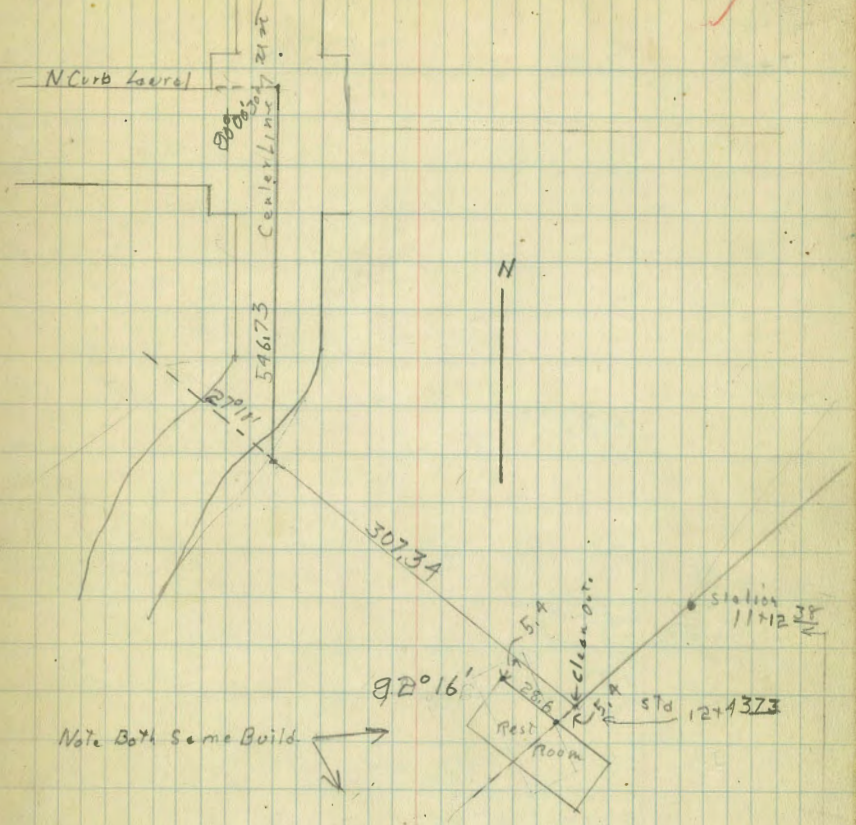
1249 13

13675

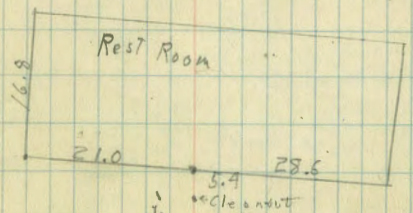
11+12 38

8° 22'

?  
 BorL



Note Both Same Build



82° 16'  
 4' cast iron

← Same point

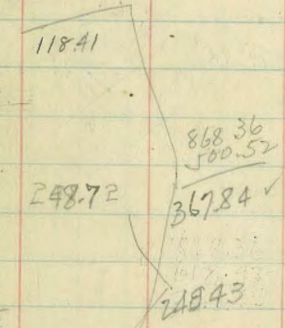
Sewer Lateral Running Easterly From  
 (Near Redwood + 7th.) to main line in pound  
 5 to

Sta	Dist.	Angle
0+00		Angle
2+00 <sup>31</sup>	97.55	40° 30' LT

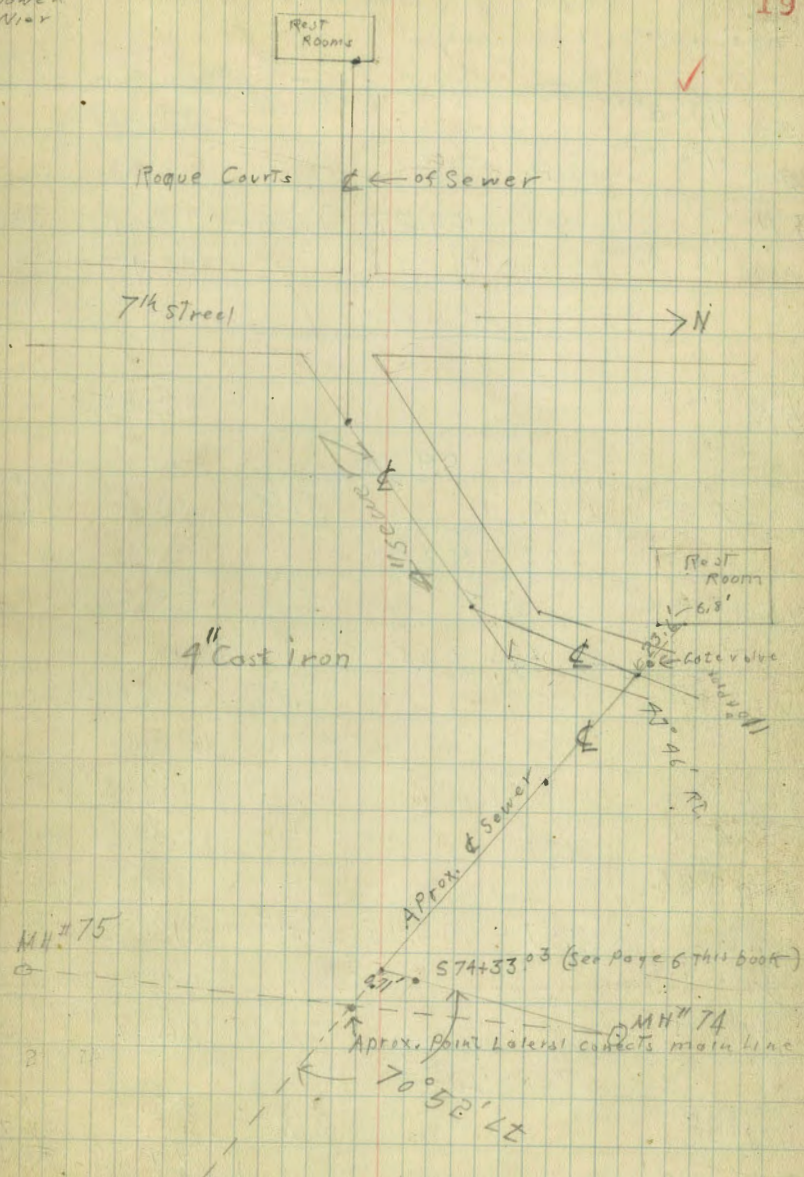
2+57 <sup>86</sup>		10° 53' LT
5+00 <sup>52</sup>	202.66	43° 46' RT
	118.41	

6+18 <sup>93</sup>		0° 00'
	248.72	
	868.36	
	500.52	
	367.84 ✓	

8+67 <sup>65</sup>		70° 52' LT
8+68 <sup>36</sup>	574+33 <sup>03</sup> (Page 6)	0° 00'
MH# 74		



Essery  
 Bowen  
 Wier



Levels on Sewer Line Round Canon  
Running North From 11+A  
(Resurvey Page 1 This book)

Sta	+	H.I.	-	Elev. Rim	Elev. Flow Line
BM 11+A <sup>1</sup>				82.95	
BM 11+A <sup>2</sup>	12.51	95.46	11.02	84.43	check
TP	9.84	94.27	1.26	93.01	
MM 12+A	12.88	105.89	0.42	105.47	
<hr/>					
BM 11+B				82.95	
MH #89 <sup>TP</sup>	6.29	89.24			-16.69
			3.60	85.64	69.00
MH #88 <sup>TP</sup>	3.03	88.67			
			5.31	83.36	79.16
MH #87	7.30	90.66			-4.35
			9.75	80.91	75.96
TP #3			0.28	90.38	
	7.77	98.15			
MH #86			7.00	91.15	-8.5
B.M.	9.57	99.95	1.43	98.52	82.7
TP #4			3.16	94.99	
TP #4			3.68	96.27	
	7.48	103.75			
		<del>102.27</del>			
MH #85			7.6	96.2	-11.2 x
				94.9	83.7
				91.50	-6.9
New M.H. #1			12.24	90.23	
TP #5				102.87	
	8.37	111.24	0.87	101.60	
		<del>101.97</del>			

See Page 23

A.R. Essy - Leveler Indexed 787 1465 9.2  
4/13/35 e.s.k.  
R.P. Bowen - Rodman 629

11+A Cross Plug N.W. Cor End Return  
Checked to a 700 with N.W. Cor 12+0 - ELEV 105.47  
But NW cor at 11+A off 0.48  
~~9.48~~  
#8

#3 Book 1520 (SE Cor NE Post NW Wall Bridge NW 11+A)  
#25001  
E 138.535

Corrected Elev. TP #4 (Error due to wrong - Rod reading)

See page 3 This book

See page 23

21

Sta.	T	H.I.	Elv. Rim	Flow Elev. & Inc
		109.97		
M.H. #89			14.30	95.67 89.37
T.P. #6			1.73	108.24
M.H. #83	6.36	114.60		9.55 105.05 95.5
T.P. #7			3.32	111.28
M.H. #82	9.83	121.11		9.83 111.28 104.8
New M.H.			+13.0	34.11 114.5
T.P. #8			2.76	118.35
M.H. #81	6.65	125.00		7.32 117.7 108.6
T.P. #9			0.38	124.62
M.H. #80	11.30	135.92		8.4 127.5 118.5
M.H. #79 <sup>TP #10</sup>			2.38	133.54 124.8
New M.H.	6.75		+1.1	137.00 130.0
	6.90	140.44		

See page 3 This Book

Page 4

See page 23

22

<del>H</del>	<del>H1</del>	<del>-</del>		
<del>TP # 11</del>	<del>140.99</del>	<del>3.68</del>	<del>136.76</del>	
<del>New M H</del>	<del>5.06</del>	<del>141.82</del>	<del>5.9</del>	<del>135.9</del>
				<del>-9.9</del>
<del>M.H. 78</del>		<del>5.6</del>	<del>136.2</del>	<del>126.6</del>
				<del>-9.6</del>
<del>TP # 12</del>	<del>0.00</del>	<del>0.00</del>	<del>141.82</del>	<del>-</del>
	<del>9.94</del>	<del>151.76</del>		
<del>M.H. 77</del>		<del>9.37</del>	<del>142.39</del>	<del>136.6</del>
				<del>-5.8</del>

See Page 4 (8A)



Sta.	+	H1	-	Elev. rim	Elev. <sup>Flow</sup> Line
		111.29			
MH #84			14.30	96.94	-6.3 90.64
T.P. #6			1.73	109.51	
	6.36	115.87	1.73		
MH #83			9.55	106.32	-9.5 96.82
T.P. #7			3.32	112.55	
	9.83	122.38			
MH #82			9.83	112.55	-6.5 106.05
New MH			+13.00	135.38	
T.P. #8			2.76	119.62	
	6.65	126.27			
MH #81			7.32	118.95	-8.9 110.05
T.P. #9			0.38	125.89	
	11.30	137.19			
MH #80			8.4	128.79	-8.0 120.79
MH #79 <sup>T.P.</sup> #10			2.38	134.81	
New MH			+1.1	138.3	
	6.75	141.57			

Sta.	+	H.I.	-	Elev. Rim	Elev
		141.57			
TP # 11			3.54	138.03	
New MH 78 <sup>+</sup>	6.61	144.64			
MH 78					
TP # 12			0.36	144.28	
	9.97	154.25			
BM			6.61	147.64	
					Given Elev 147.65
MH 77			9.40	144.85	-5.9 138.95
TP # 13			4.19	150.06	
	7.67	157.73			
MH 76			4.4	153.33	-6.1 147.23
TP # 14			0.93	156.80	
	9.36	166.16			
MH # 75			3.6	162.56	-7.5 155.06
TP # 15		159.19	1.97	164.19	
	9.58	173.77			
MH # 74			4.69	169.08	-6.1 162.98

Sta.	+	H.I.	-	Elev. Rim	Elev. Flow Line
T.P. #16		173.77	1.07	172.70	
	9.64	182.34			
MH #73			2.95	179.39	171.09 <sup>-8.3</sup>
T.P. #17			0.79	181.55	
	10.97	192.52			
MH #72			2.7	189.82	180.12 <sup>-9.7</sup>
T.P. #18			<del>0.50</del> 0.05	192.02	
	8.04	200.06			
MH #1			10.90	189.16	183.16 <sup>-6.0</sup>
T.P. #19			3.80	196.26	
	12.82	209.08			
MH #6			14.0	195.08	186.28 <sup>-8.8</sup>
	10.74	207.00			
MH #48			8.5	198.5	191.0 <sup>-7.5</sup>
MH #57			2.6	204.4	196.2 <sup>-8.2</sup>
T.P. #20			1.42	205.58	
	13.25	218.83			
MH #58			12.50	206.3	200.3 <sup>-6.0</sup>
MH #59			10.3	208.5	203.9 <sup>-4.6</sup>

1420-26

STA.	+	#I	-	Elev. Rim	Elev. Flow line
		218.83			
MH#60			5.9	212.9	-5.0 208.3
			-0.53		
TP#21			0.53	218.30	
	13.22	231.52			
MH#63			12.95	219.07	-5.0 214.5
MH#65			7.75	223.77	6.5 217.7
TP#22			0.71	230.81	
	10.34	241.15			
MH#66			2.8	238.35	10.7 228.0
MH#67 TP#23			1.95	239.20	-7.3 232.3
	9.96	249.16			
TP#24			0.85	248.31	OK + .01 = 248.32
	10.21	258.52			
				(See Page 27)	
MH#69			12.5	246.0	
MH#70			5.3		
TP#25			0.66	257.86	
	13.19	271.05			
TP#26			0.47	270.58	
	11.03	281.61			
MH#71 TP#27			4.30	277.31	

W. Essery  
R. Bowen 9/17/35  
H. Wade

	+	HI	-	Elev.	Elev Flow Line
T.P.# 24				248.32	
	10.67	258.99			
TP# 25			0.84	258.15	
	11.41	<del>259.73</del> 269.56			
M.H.# 69			13.6	<del>245.9</del> 256.0	
M.H.# 70			6.4	253.3	
	13.00	271.15			
TP# 26			0.28	270.87	
	12.29	283.16			
M.H.# 71			5.56	277.60	-19.6 258.0
BM <sup>10<sup>th</sup></sup> Essex			1.32	281.84	
	5.44	287.28			
TP# 27			1.12	286.16	
	7.13	293.29			
BM <sup>Vermont + Univ.</sup>			3.75	289.54	

Given Elevation SE Cor 10th + Essex 282.03  
- 281.84  
Variation .19

Given Elevation SW Cor Vermont. 289.73  
- 289.54  
Variation .19

Note BM at SE Cor 10<sup>th</sup> + Essex checks with BM  
at SW Cor Vermont + Univ.

Sewer Line Running Westerly From Trunk  
 Line from Canopy to Rest Room 250 FT N. of Fire Station then To Fire Dept Radio Sta.

Essery Bowen Wier

At	Sta	Chain. Dist	Obs. $\angle$	Calculated DIST.	Calcu. $\angle$
A	C		$26^{\circ}13'30''$		
A	D	MH83 274.67	$43^{\circ}11'$	151.75	$151.75$
A	D	MH84	$76^{\circ}38'$		
B	C	269.89	$83^{\circ}14'$		
A	MH83 MH84			119.95	$70^{\circ}32'30''$
MH83	MH84 D			505.48 179.03	$32^{\circ}03'15''$
D	MH83 B			413.95	$75^{\circ}14'15''$

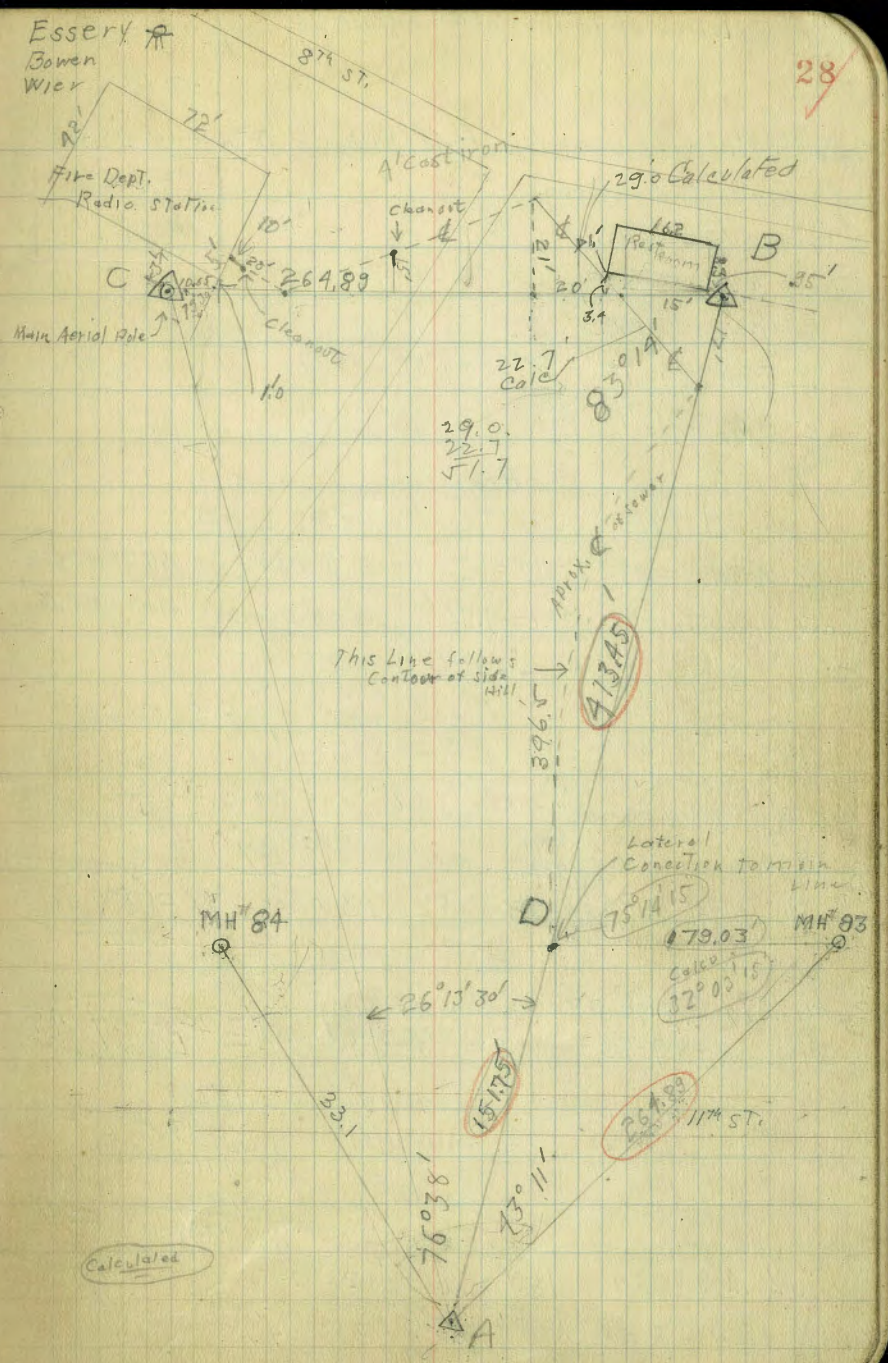


Fig B

From data on page 3, Find Distance between MH 83 & 84

In Fig A. (RT page 3)  
Line AB = 407.71' P

- 1. A-84 = 33.1
- 2. B-85 = 100.3
- $\angle B-A-85 = 180^\circ - 92^\circ 45' + 1^\circ 22' = 98^\circ 37'$
- $\angle A-B-83 = 157^\circ 34'$

By Drawing

A-84  $\perp$  AB | B-85  $\perp$  AB  
 $\angle A-84-A' = 98^\circ 37' - 90^\circ = 8^\circ 37'$  |  $\angle B'-B-85 = 180 - 157^\circ 34' = 22^\circ 22'$   
 and  $A'A = \sin 8^\circ 37' \cdot 33.1 = 4.96'$  | and  $B'B' = \cos 22^\circ 22' \cdot 100.3 = 92.76'$   
 $\therefore A'B' = 407.71$   
           + 4.96  
           + 92.76  
 $A'B' = 505.43'$

also  $B'85 = \sin 22^\circ 22' \cdot 100.3 = 38.2$  and  $C85 = \frac{38.2}{5.1}$

$\tan \angle 85-84-C = \frac{5.1}{505.4} = .01008 = 0^\circ 37'$

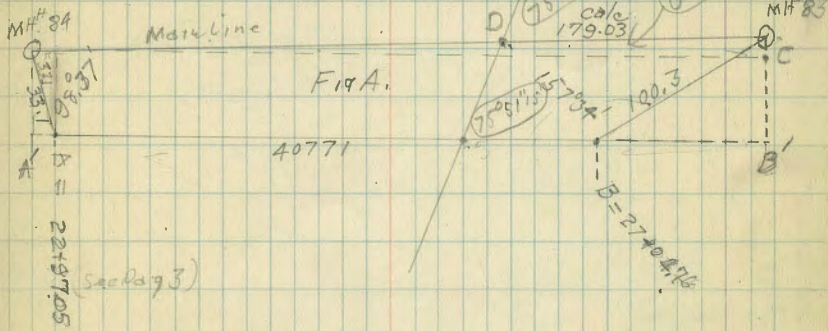
∴ DIST. bet. MH 84 & 83 =  $505.43 \times \sec 0^\circ 37' = 505.48'$

2) In Fig B, page 28 by Law of Sines  
 $\sin \angle A-84-83 = \frac{279.67 \times \sin 119^\circ 49'}{505.48} = 28^\circ 07' 45''$

$\log 279.67 = 2.443881$   
 +  $\log \sin 119^\circ 49' = 9.93833 - 10$   
 -  $\log 505.48 = 2.37714 - 10$   
 -----  
 $\log \sin \angle = 9.67687 - 10$   
 $\log \sin \angle = 9.67344 - 10$

3)  $\therefore \angle A-83-84 = 180^\circ - (119^\circ 49' + 28^\circ 07' 45'') = 32^\circ 03' 15''$

4)  $\angle 83-D-B = 32^\circ 03' 15'' + 43^\circ 11' = 75^\circ 14' 15''$



Find Length of Sewer Lateral from D (Fig B) on  
 Main Line to Real Runn B

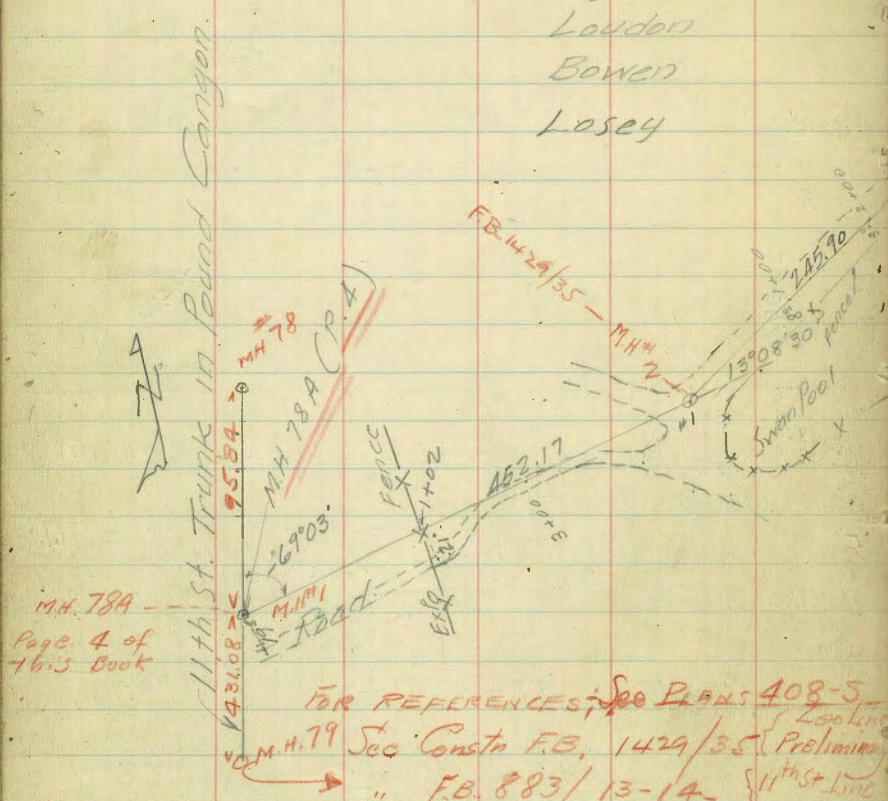
5) From Law Sines  $AD = \frac{\sin 32^\circ 03' 15'' \times 279.67}{\sin 75^\circ 14' 15''} = 156.75'$   
 and  $AB = \frac{\sin 180 - (26^\circ 17' 30'' - 85^\circ 19') \times 269.89}{\sin 26^\circ 17' 30''} = 565.20'$

6)  $\therefore DB = AB - AD = 413.45'$

7) MH 83-D =  $\frac{\sin 43^\circ 11' \times 269.89}{\sin 75^\circ 14' 15''} = 179.03'$

Location of Zoo Sewer  
in Balboa Park

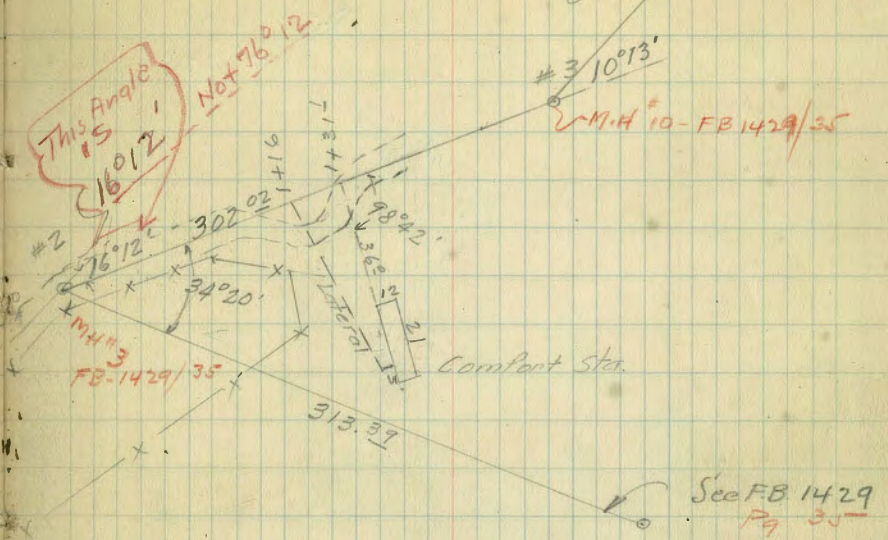
May 15, 1935  
Louders  
Bowen  
Losey



M.H. 78A  
Page 4 of  
this Book

FOR REFERENCES: See PLANS 408-5  
M.H. 79 See Constn F.B. 1429/35 (Preliminary)  
" F.B. 883/13-14 (11th St. Line)

Note: - Use F.B. 1527 Pages 4-5-30-31-32 in THIS BOOK  
FOR SEWER LOCATIONS AFTER CONSTRUCTION  
OF MAIN LINE.  
USE DETAIL Paper PLAN 408-5. For laterals.  
Also Some of which are in F.B. 1429/Pgs 35-45-48

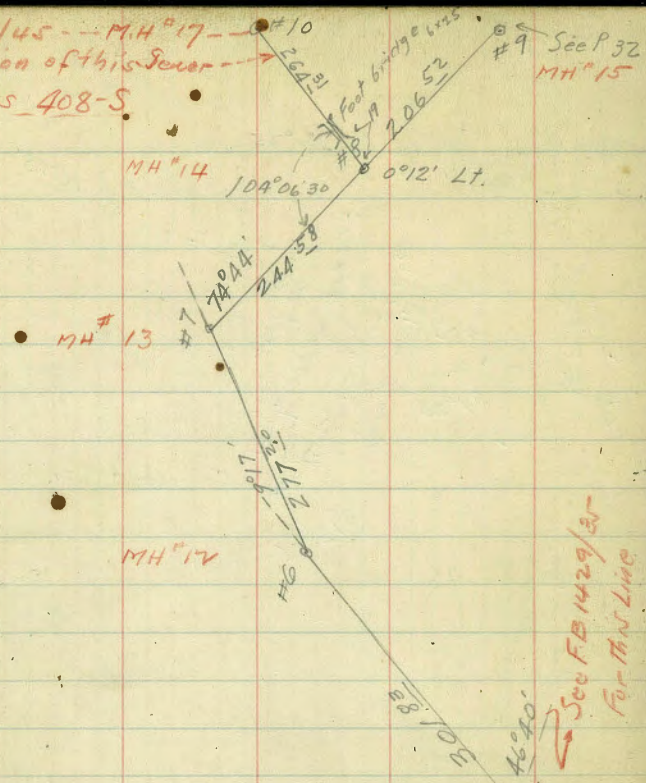


This Angle is 16°12'  
Not 76°12'

See FB 1429  
Pg 35



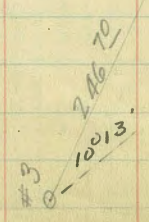
See FB 1429/45 --- MH #17 ---  
For continuation of this sewer ---  
Also See PLANS 408-5.



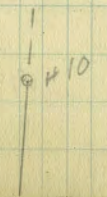
See FB 1429/45 --- MH #11

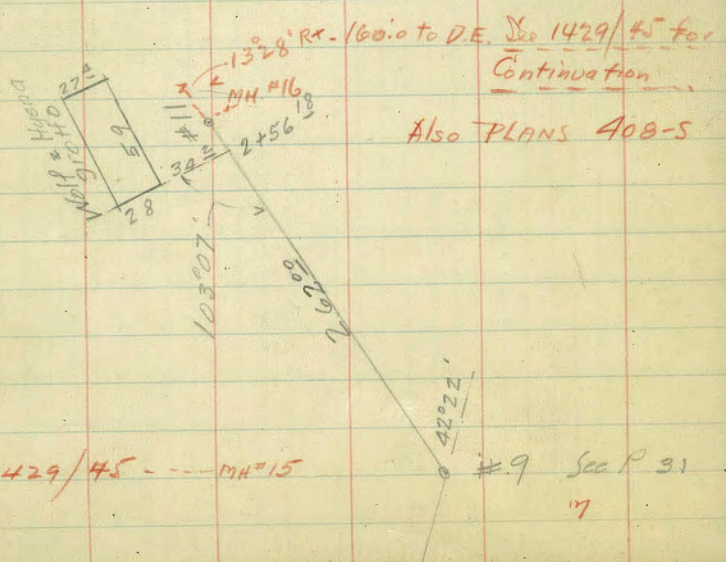
MH #10

See FB 1429 Pgs 35-48 MH #10

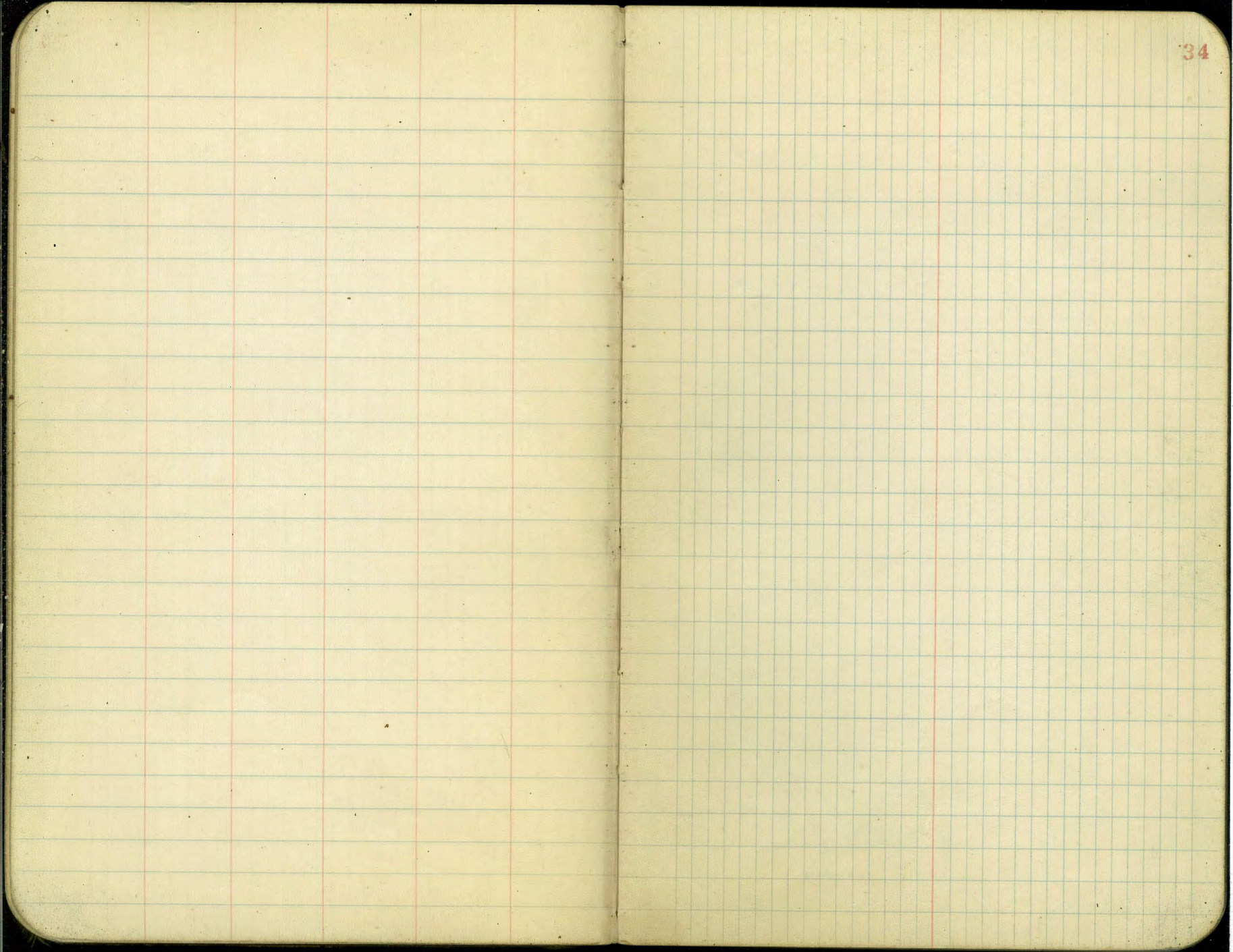


See FB 1429/45  
For this line









Sewer Running from S.W. Cor. of  
19th and C. To W. Side Naval Hospital.

Defl. Bearing

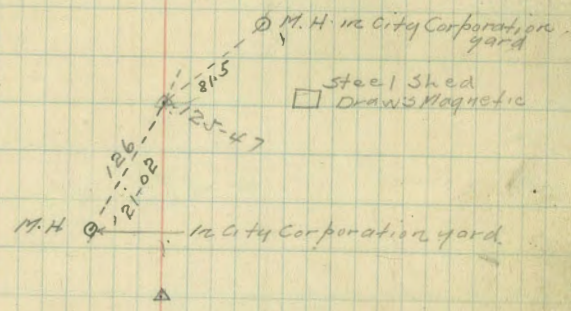
9+18.33 11-52-30 RT N 14-00 E

4+86.73 86-19 LT N 3-00 E

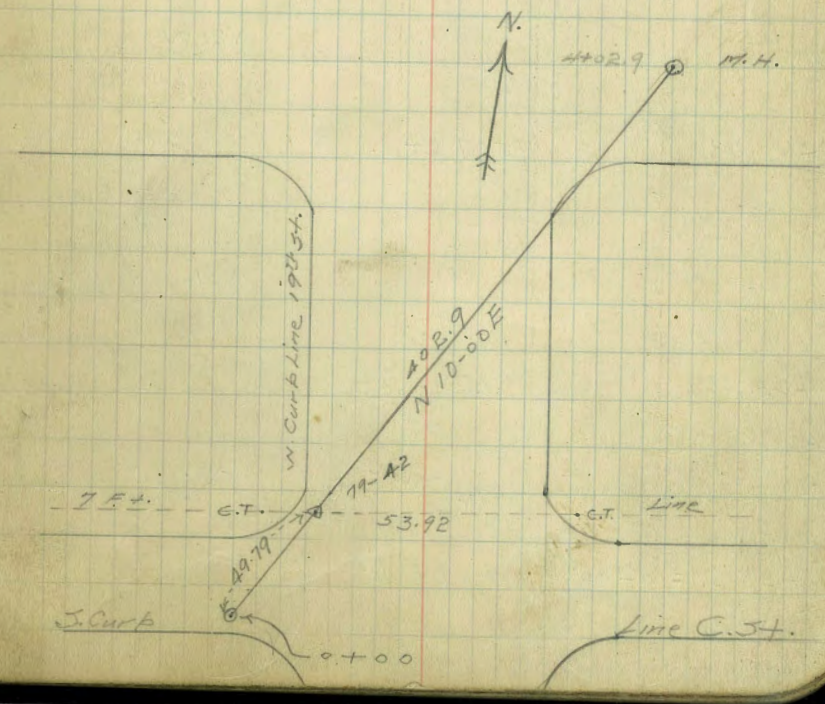
4+02.9 M.H. 79-30 RT E N 10-00 E

0+00 M.H. S.W. Cor. 19th St and C.

Partridge } 5/28/35  
Bower }  
Detchon }



N. Curbline B. St.



	Def'l.	Bearing
10		N 4 W.
20+87.05	14-24 Rt	
		N 18 W
9		
19+14.63	9-49 Rt.	
		N 28 W
8		
15+80.01	7-25 Lt	
		N 21 W
7		
13+60.08	0-07 Rt	
		N 21-00 W
6		
12+23.46	68-15-30 Rt	
		W.
5		
10+28.83 = 0+00	5w 103-49-30 Lt	

Dug 3 Ft. Here and Found Sewer



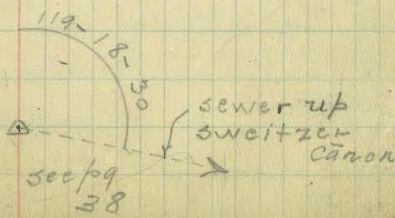
M.H.

M.H.

M.H.

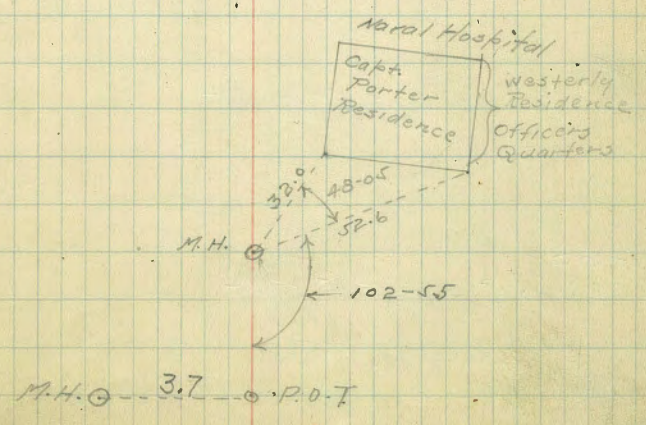
M.H.

N. side Pershing Drive  
in Faremont



24+79.26 End M.H.

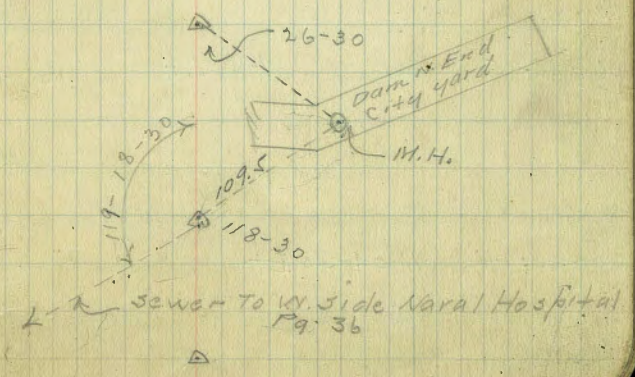
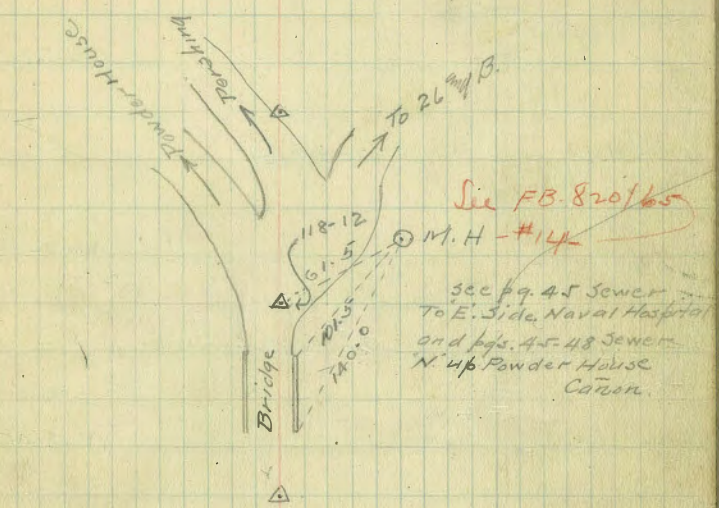
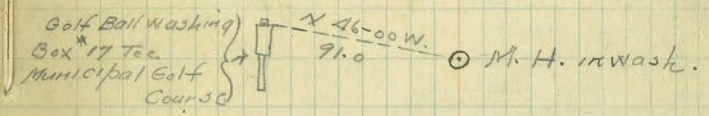
24+23.51 P.O.T.



Constructed Sewer Running From  
19th St. and B St. N.E. up Sweetzer Cañon  
Thru Municipal Golf Course

Partridge  
Bower  
Grabowski

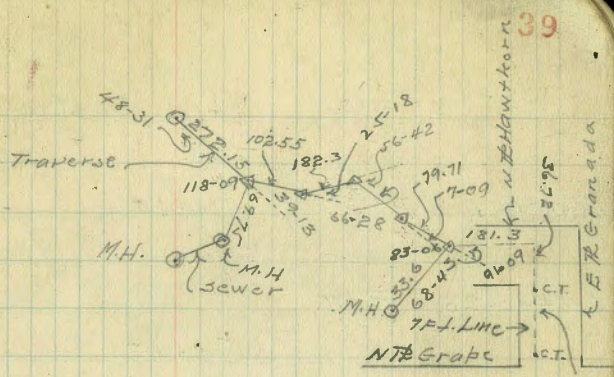
	Def'n.	Bearing
19+65.46	18-35 Lt	N49-30E
18+31.06	23-19 Lt.	N72-30E
14+35.12	29-21-30 Rt ✓	N43-30E
7+34.92	4-52-30 Lt	N48-30E
2+34.92	17-40 Rt	N34-30E
0+00 10+28.83 =	15-29 Rt	N14-00E
19+18.33	See pgs. 35 & 36	



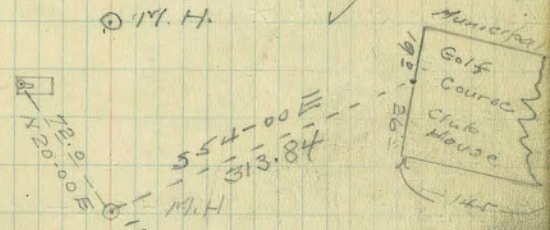


Switzer Cañon Sewer

Sta	Def'n	Bearing
51+31.16		N45-00-E
47+80.8	P.O.T.	N45-15-E
44+31.18	0-47 Pt. 480', 20' SE. 555'	N44-30-E
33+82.27	14-05 Lt	N58-15-E
30+48.27	25-21-30 Pt	N33-00-E
26+83.65	9-00 Lt	N41-45-E
23+33.28	11-04-30 Pt	N31-00-E



Top Faucet in wooden Box 5 Slope #17 Green



M.H. ✓

M.H. ✓

M.H. ✓

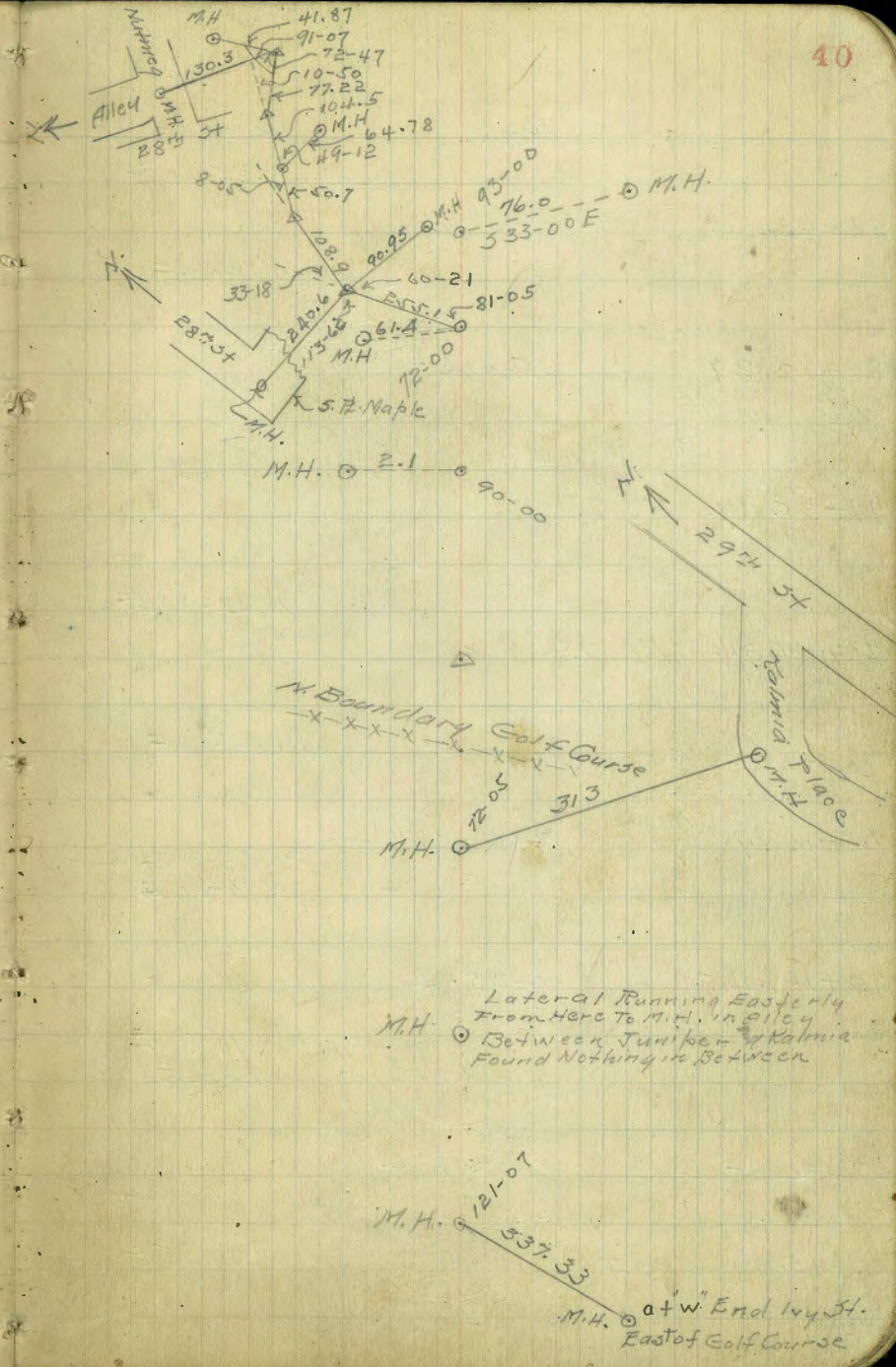
M.H. ✓

R.G.R. Granada  
513  
518

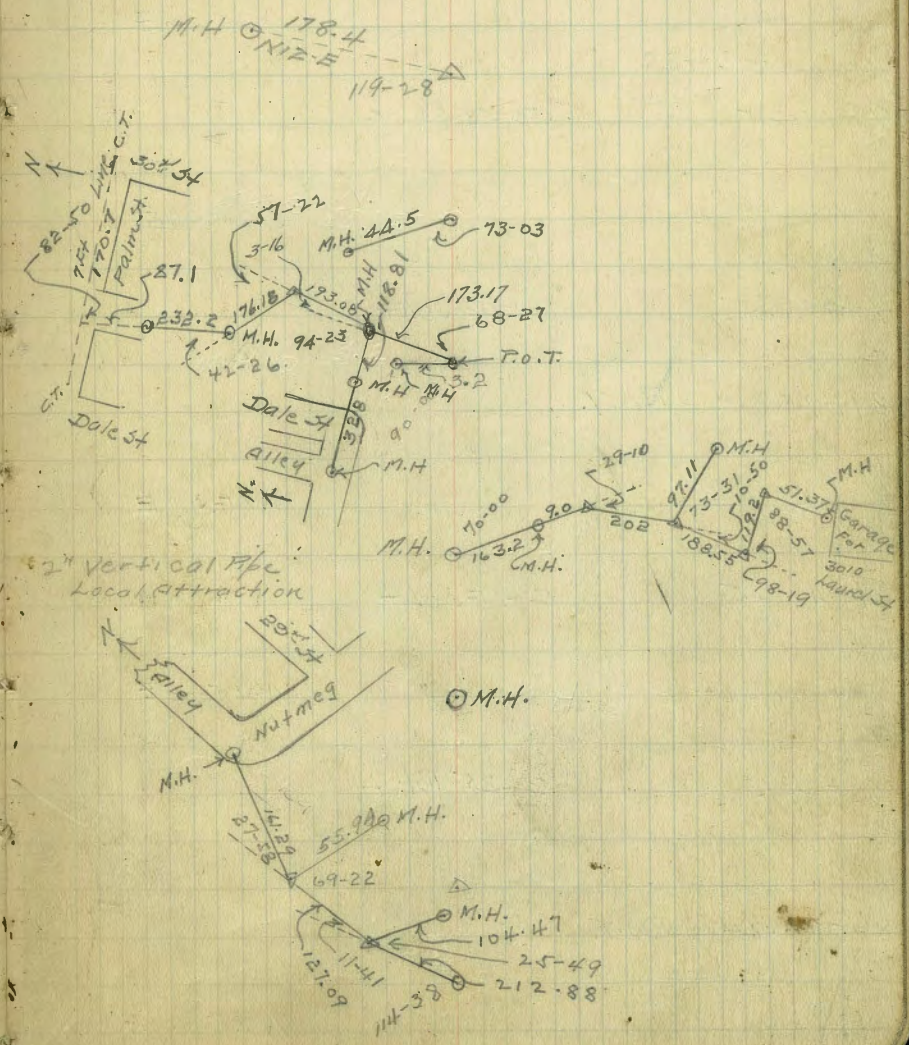


76-42  
67-45  
10-42

	Defl.	Bearing
66+45.9	P.O.T.	
64+80.20	P.O.T.	
62+15.25	P.O.T.	
		N54-15E
61+29.85	34-10 Rt	
60+91.61	Fence	
59+83.61	P.O.T.	100' 11 100' = 27-54 81.3 = 17-06 36.1 = 50' 12.6'
		N19-30E
55+81.11	1-25 Rt	
	235'	
		N18-45E
	205'	
54+31.16	26-24-30 Lt.	
450		N45-00E



	Defl.	Bearing
83+63.04	13-37Lt	N.25-00 E
		N38-00-E
80+12.29	35-01Lt	
77+35.39	P.O.T.	
75+04.34	P.O.T.	N72-30 E
74+16.19	2-05-30 Rt	N65-00E
		N63-30E
		N. 7-00 E
72+48.45	0-25 Rt	
		N70-30E
67+36.05	16-15-30 Rt	
66+45.9	P.O.T.	N54-15 E



Defl. Bearing

93+58.85 P.O.T.

N25-30E

M.H.

93+01.25 ✓ 50-58-30 Lt.

N76-30E

sawer found up under Redwood Can find No M.H.

91+23.05 ✓ 61-02-30 Rt.

89+95.35 P.O.T.

N15-30E

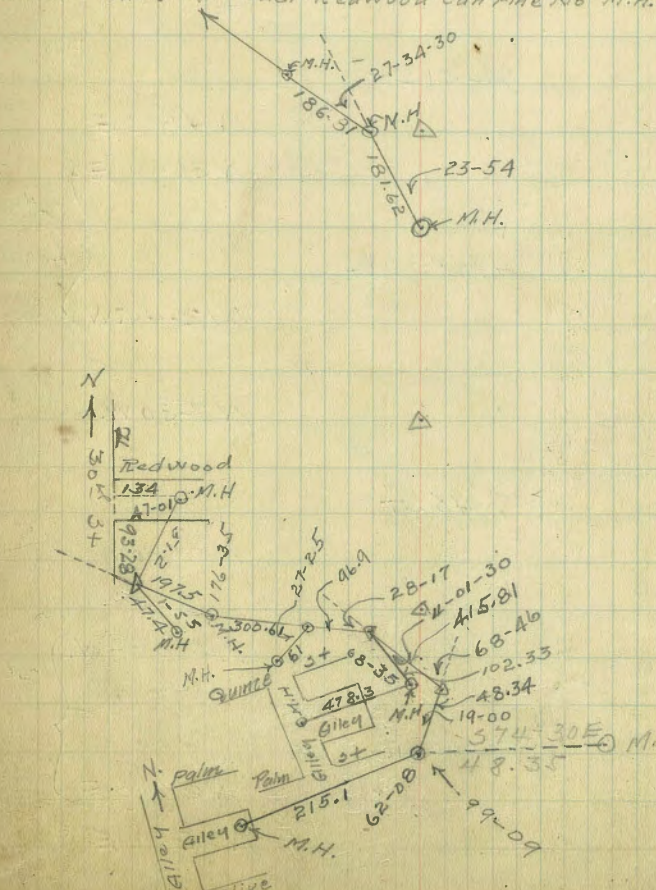
89+41.45 ✓ 79-15-30 Lt.

N45-00E

88+23.3 ✓ 20-25 Rt.

86+26.84 P.O.T.

N25-00E



387-00E

102+55.5

81-58 RT+



N11-00E

100+41.8

79-51 LT+



N41-00E

N36-00E

2" iron pipe  
Local Attraction

18+60.55 ✓

4918-30 RT

N12-45N

N7-30 W.

96+89+35. ✓

7-48 LT

M.H. 32-03

N00-00

N3-00-W.

2" Pipe  
Local Attraction

94+85.05 ✓

31-03 LT.

N28-00E

N25-30E

107+87.4

105+00.5

103+87.9

00-00

93-37.4

N1-00W

S87-00E

Herman St.

32<sup>d</sup> St.

N.  
↑

○ M.H.

Alley

Bancroft St.

Thorn St.

○ M.H.

c.t.

c.t.

c.t.

132.65

90° OR 22.65

S. 89° 00' W

○ M.H.

Constructed sewer running from sewer  
in Switzer Cañon to E. side of Naval  
Hospital.

Bowen }  
Grabowski } 6/5/35  
Caldwell }

8+63.96 P.O.T. Def'l Bearing  
N70-30W

⊙ M.H. #2

6+91.01 P.O.T. 27-44R  
S81-45W  
(S81-00W)

⊙ M.H. #1

5+13.61 7-36-45L  
(S88-45W)  
S89-30W

local  
attraction  
2" iron  
pipe

⊙ M.H. on Powder House  
Canyon trunk sewer

4+53.47 91-10 L  
N00-30E

△

2+99.53 17-13-30L  
N17-45E

see page 48 for  
Powder House cañon  
sewer

△

0+00 = Naval Hospital Sta  
14+35.12 = Switzer Cañon Sta 25-37L  
See page 38  
N43-15E

△

7+34.92

△

Def'l.

Bearing

14+30.80

14+22.70

S 80-30W

13+73.80

29-10-45L

VA 6-45

N 70-30W

13+00.19

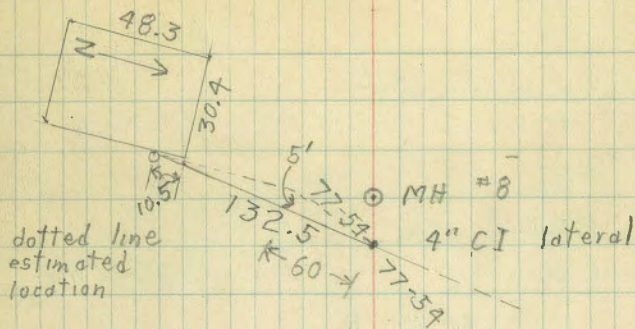
11+72.10

9+72.51 P.O.T.

9+33.50

N 70-30W

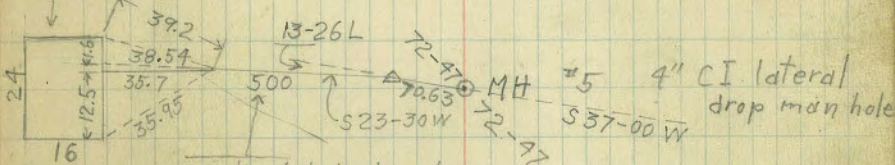
N 70-30W



⊙ MH #7

⊙ MH #6

Police radio  
station



sewer estimated to deviate  
to a maximum of 5' to the  
West of center of 500'  
course

⊙ M.H. #4

⊙ M.H. #3



Tie between sewer from E side Naval Hosp.  
(see below) and sewer from W side Naval Hosp-  
ital (see page 37)

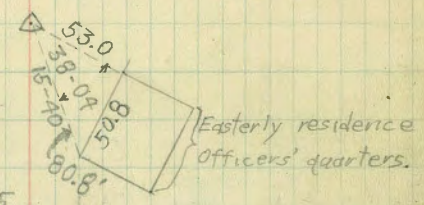
6+18.92 87-58 L S 03-50E  
 5+25.70 P.O.T. S 84-10W  
 3+85.90 P.O.T. S 83-30W } local att.  
 3+45.70 68-20 R S 15-30W } iron fence  
 2+43.46 P.O.T.  
 0+00 =  
 17+74.10 } see below  
 15+22.35 }  
 17+84.31 MH #11 S 18-00W  
 17+74.10 T.P. S 65-30W } local attraction  
 S 63-45W  
 15+22.35 16-43-30 L S 80-15W

Bowen Caldwell } 6/10/35

20+87.05 page 36 47

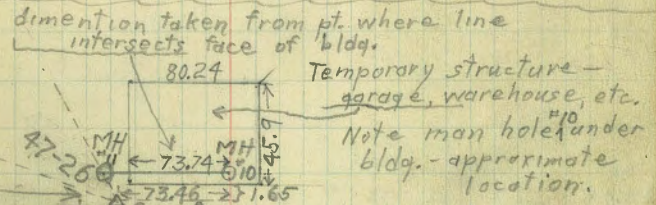
⊙ MH last MH on W sewer page 37

MH 28.0  
 on lat. to W sewer  
 ⊙ 12.2 ⊙ MH on lateral to W sewer

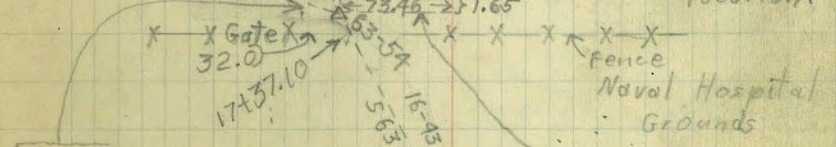


MH 5.5  
 on lateral to west sewer

⊙ M.H. #9



3+45.70 above } Δ



Punch mark in W curb of street about 0.2 N of S. line of bldg. produced

N 1-30 E  
 note local att. at T.P.

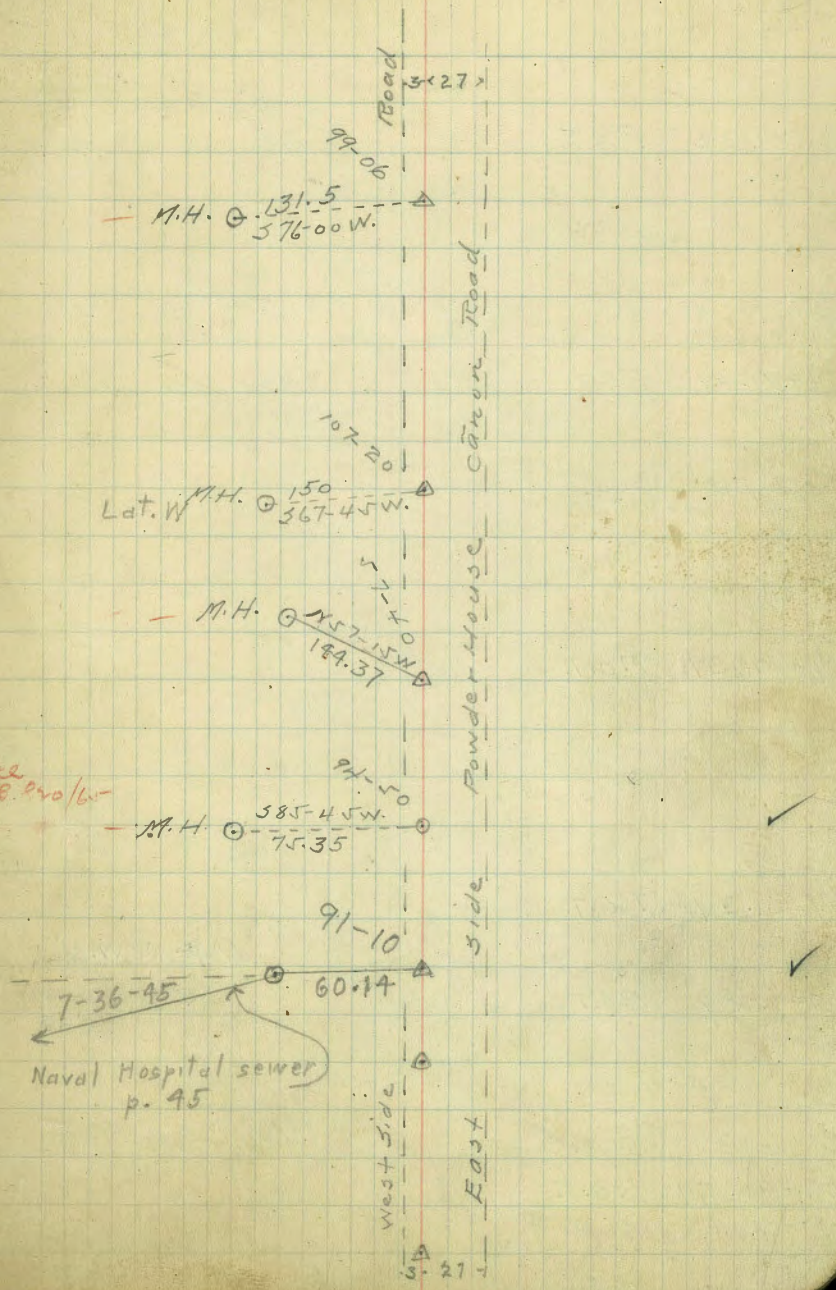
⊙ MH #9

Constructed sewer running northerly in Powder House Cañon from man hole located from station 14+35.12 on Switzer cañon sewer (pages 38 and 45)

Bower Caldwell } 6/11/35

Distance	Deflection	Bearing
21+10.84	P.O.T.	
16+75.92	5-29-30L	N09-45W
		N00-45E
3+76.39		
12+99.53	P.O.T.	
6+84.28	P.O.T.	
8+96.06		
4+53.47	P.O.T.	
		N00-30E
2+99.53 (page 45)	17-13-30L	
		N17-45E

0+00 = Powderhouse Cañon  
 14+35.12 = Switzer Cañon  
 (page 45)



See p. 45 for 16-17

41+61.34 P.O.T.

34+95.49 P.O.T.

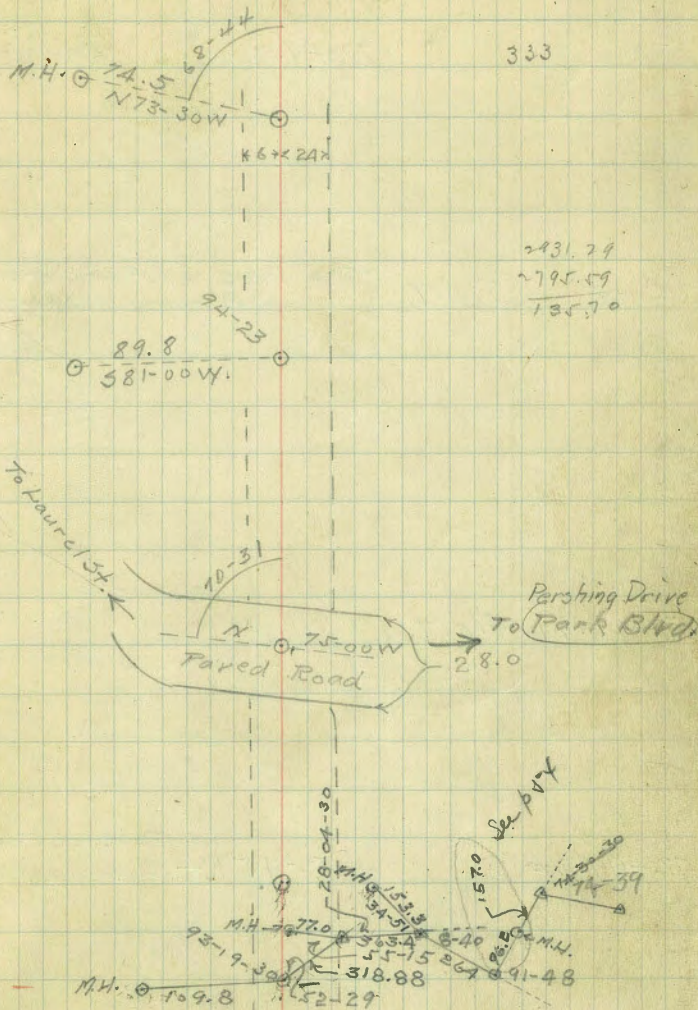
29+84.39 P.O.T.

29+31.29 P.O.T.

27+95.59 P.O.T.

27+95.59 P.O.T.

N4-45.W.



2431.74  
2795.59  
1363.70

Defl. Bearing

66+58.61 P.O.T

See page 64 For Lateral Running westerly to Georgia St

See FB 820/67

M.H. 74

M.H. 158.2  
N66W

66-11-30

5 25

Lat.

57+21.61 P.O.T

N

M.H. 61.3  
S85-30W

94-37

52+99.74

Page 63 For Lateral H-52-4.5 R+ Running westerly to Park Blvd

43-54

Lat. W

91-28

50+78.64 P.O.T

Page 61 For Lateral Running Easterly to Swimming Pool

M.H. 43.7  
S84W

91-02

19 x 21

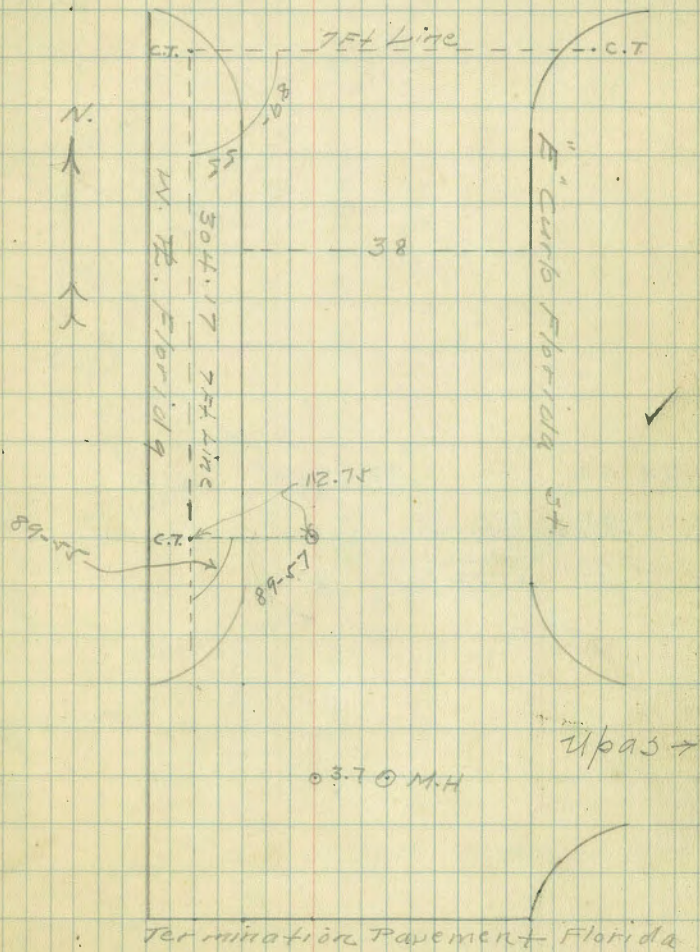
48+85.74 P.O.T

M.H. 49.3  
S87-30W

Defl

Bearing

Myrtle St.



69+78.46 P.O.T.

69+31.81 P.O.T.

North

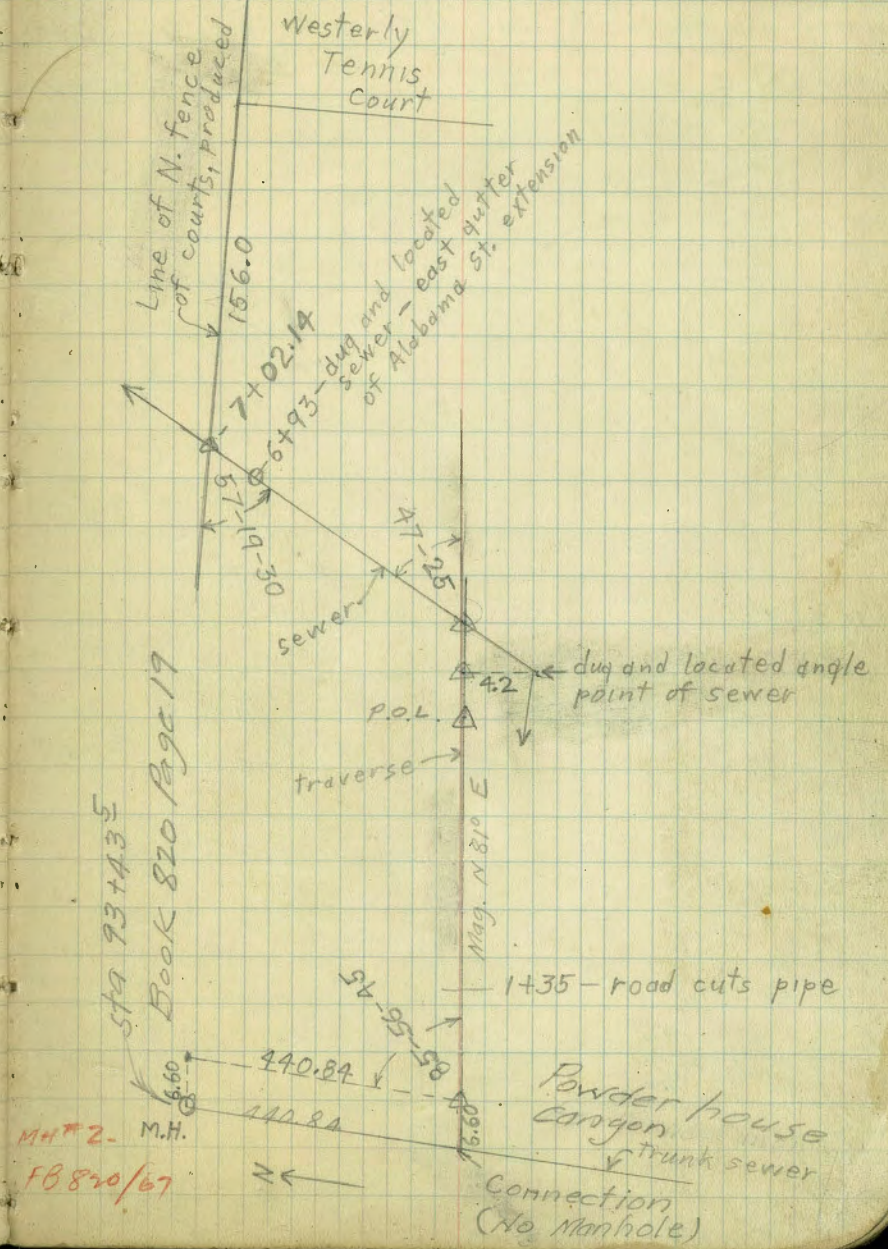
69+02.31 Termination Pavement

Resurvey of lateral sewer line for  
 U.S. Cavalry, City Park, running Easterly from  
 Powder<sup>house</sup> Cañon main sewer (page 32, book 820)

July 1-35  
 Loudon  
 Bowen  
 Graboski

5+84.44      47-25 Left  
 5+80.48      P.O.L.  
 5+74.83      P.O.L.

0+6.6      P.O.L.  
 0+00

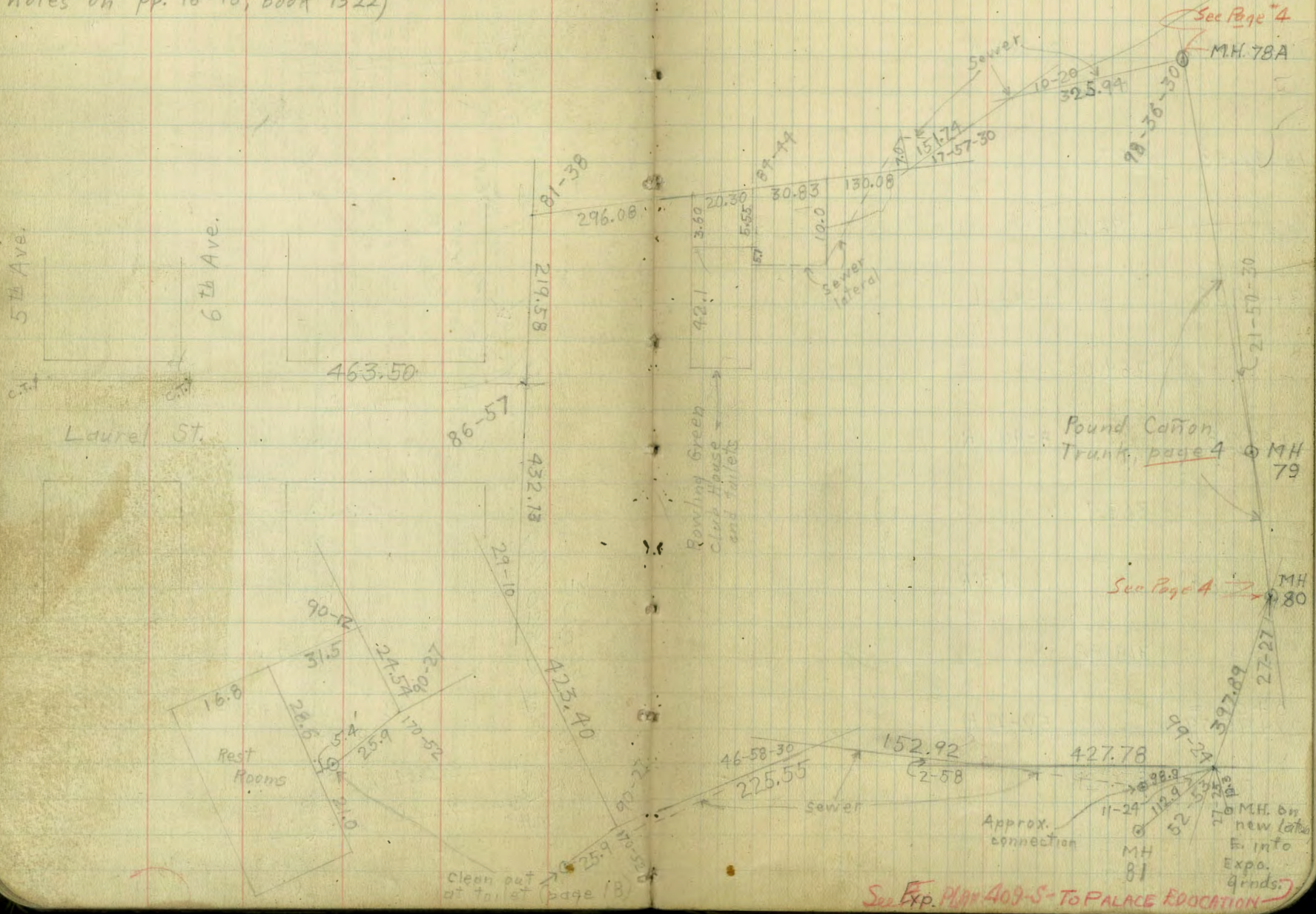


Sta 93+43.5  
 Book 820 Page 19  
 M.H. #2.  
 FB 820/67

Corrected notes on two laterals running  
 Westerly from Pound Cañon trunk sewer - one  
 S. of Cabrillo Bridge to toilets - one N. of  
 Bridge to Bowling Green Club House (replacing  
 notes on pp. 16-18, book 1522)

Bowe 7/24/35  
 Losey  
 Grobasky  
 Grabowski.

83 ✓



See Exp. Plan 409-S-TO PALACE EDUCATION

Cañon sewer line running from man hole  
located from station 27+95.59 on Powder  
House main (page 49) to alley between  
Arizona and Arnold (original survey p. 40, book 820)

Bowen  
Grabowski 7/29/35

54

11+03.28 74-39 R  
60.8

△

10+42.48 P.O.T.  
96.2

○ M.H.

9+46.28 91-48 L  
264.0

△

6+82.28 8-40 R  
363.4

○ 153.3  
34-51 △  
MH

3+18.88 28-04-30 R  
318.88

MH ○ 77.0  
55-15 △

0+00 =  
27+95.59 = Powder House 52-29 R

MH ○ 109.8

86-40-30 △

21+10.84 B.S.

△



170.38

29+54.97 P.O.T.

397.80

20+56.67

8-15 R

148.35

19+08.32

9-26-30L

204.80

17+03.52

9-22 L

250.89

14+52.63

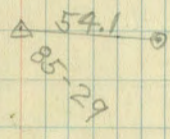
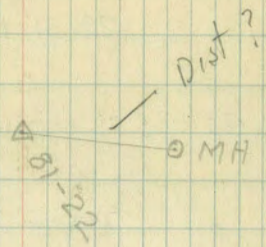
20-30-30L

163.75

12+88.88

16-13-30L

185.60



46+49.12 29-31 L

⊙ MH

2 401.25

42+47.87 7-55-30 R

⊙ MH

2 138.38

41+09.49 6-57 L

△

1 294.35

38+15.14 12-47-30 L

△ 50.2 ⊙ MH  
49-52

328.40

34+86.74 11-56-30 L

△ 80.2 ⊙  
59-10

14 585.47

29+01.27 11-04 R

△ 81.7 ⊙ MH

12 276.42

67-38 112-22

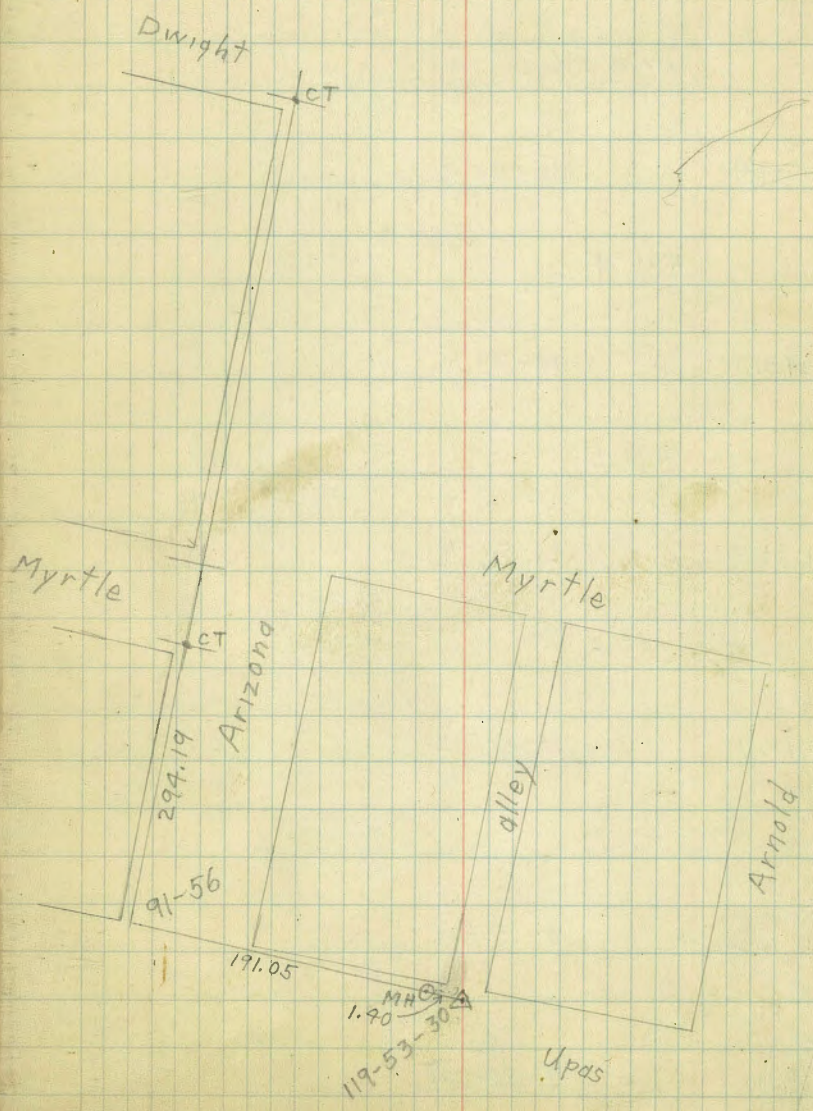
26+24.85 5-30-30 L

△

64 in =

50 + 80.30

431.18



367.0

17+96.9 367.0 01-12 L

522.5 01-12 L

12+74.9 10-01 L

581.4

6+93.0 18-32 R

311.5

3+81.5 26-56 R

285.8

0+95.7 20-29-30 L

95.7

0+00 =  
51+89 (page 4) 0-03-30 R

21-50-30 L

N 00-17-30 E

△ 31.5 ⊙ MH 75  
79-21

△

△

△

⊙ MH 78

⊙ MH 78A

⊙ MH 79

42+42.9 P.O.T.

167.9

MH 012.2  
58 92-23

40+74.5 21-20-30L

200.0

⊙ MH57

38+74.5 46-20-30R

218.6

⊙ MH48

36+55.9 32-30-30L

396.7

⊙ MH.6

32+59.2 31-29-30R

414.8

△

28+44.4 17-26-30L

680.5

△

21+63.9 7-7-30R

△

53+62.8

32-44-30R

186.6

△

51+76.2

P.O.T.

○ MH 66

361.5

48+14.7

15-31 R

△

62.4

47+52.3

P.O.T.

MH 2.8  
63  
94-58 △

226.1

45+26.2

P.O.T.

MH 5.6  
60  
69-20 △

54.7

44+71.5

23-12-15 L

△

97.2

43+74.3

P.O.T.

△ 37.7 ○ MH 59

131.9

92-48-30

116.22

4-22-30 R

57.16

59+54.6

111-34 L

255.20

56+99.4

39-49-30 R

336.6

Univ. Ave.

C.T.

10<sup>th</sup> Ave.

C.T.

Conyadd  
Way

⊙ MH 71

⊙ MH 70

Lateral Running Easterly From Sta.  
50+78.64 P.O.T. Powder House Cañon - Page 50

Partridge  
Grabowski  
Aug. 12/35

61

Deflect.

13+99.60

37-40 Lt.

⊙ M.H.

10+76.93

7-50 Lt.

⊙ M.H.

7+84.23

13-54 Rt.

⊙ M.H.

5+36.83

P.O.T.

⊙ M.H.

2+96.58

27-25-30 Lt.

⊙ M.H.

0+00 Sewer Lateral

50+78.64 = Powder House Cañon - Page 50

52+99.74 Powder House Cañon

⊙ Nail Red Head

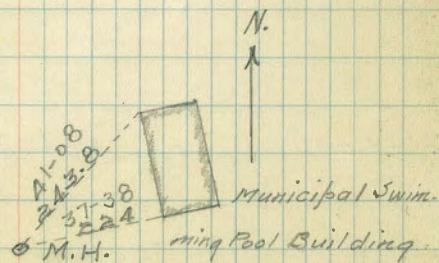
57-22-30

⊙ 48+85.74 P.O.T.  
Powder House



Reflect.

17+35.17



Lateral Running Westward From  
M.H. Trunk Line Powder House Cañon  
Page 50

Reflect.

9+45.52

5+33.53

P.O.T.

1+46.56

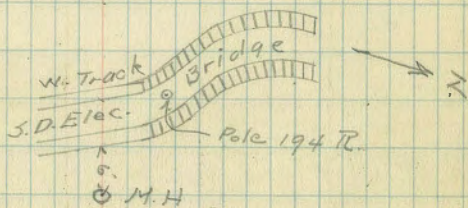
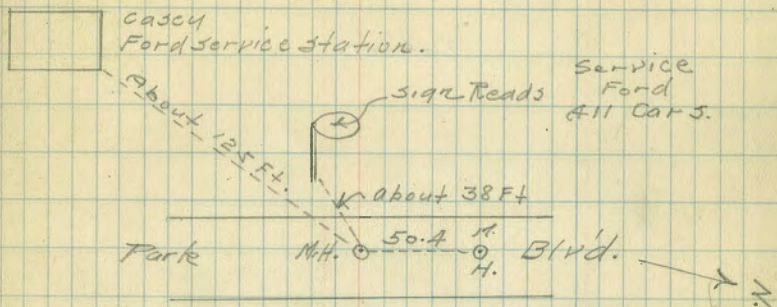
8-55-30R+

0+00

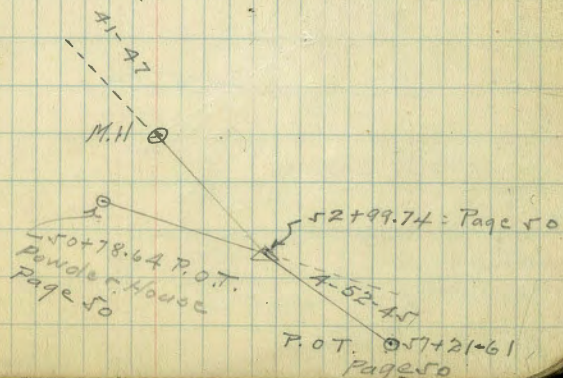
41-47R+

Partridge  
Grabowski  
Aug 14/35

63



M.H.



Lateral Running Westerly From M.H.  
Trunk Line Powder House Cañon Page 50.

64

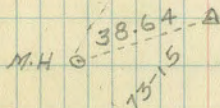
Deflect.

3+11.99

M.H. ○

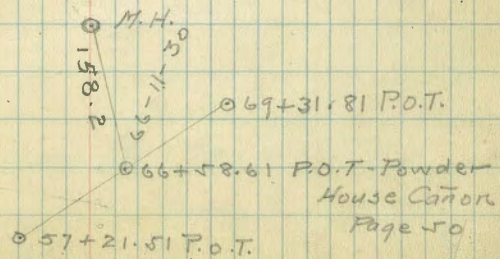
1+92.79

12-15 Lt.



0+00

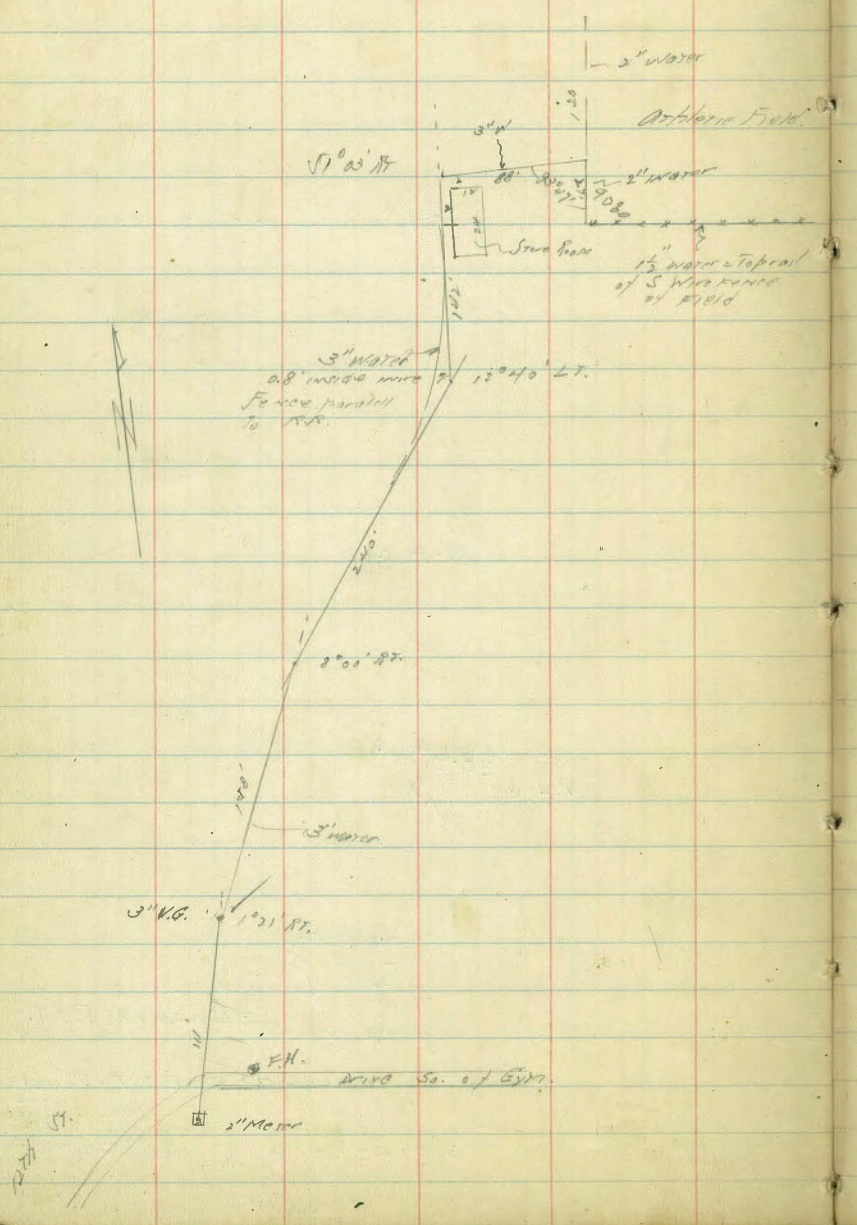
24-47 Rt.

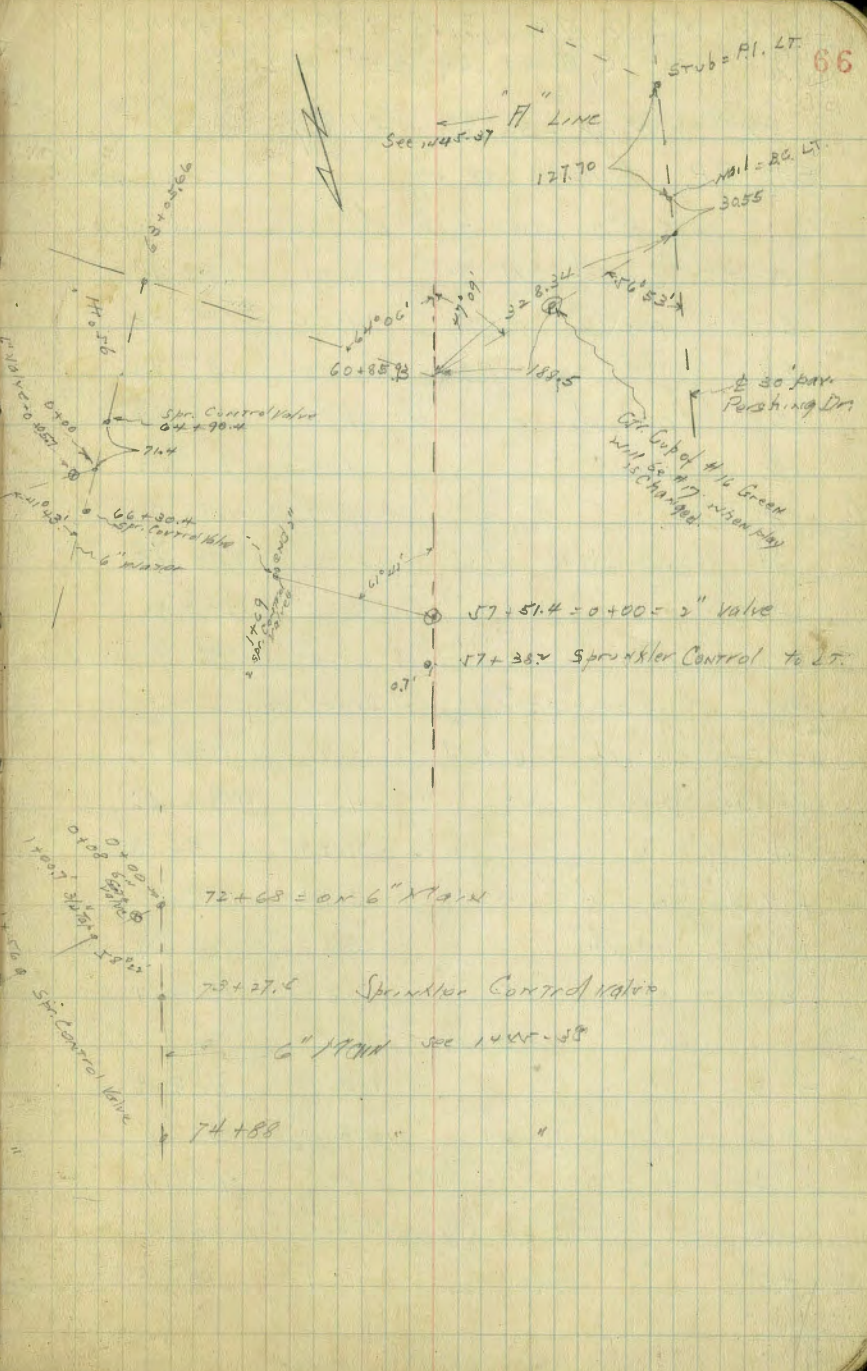
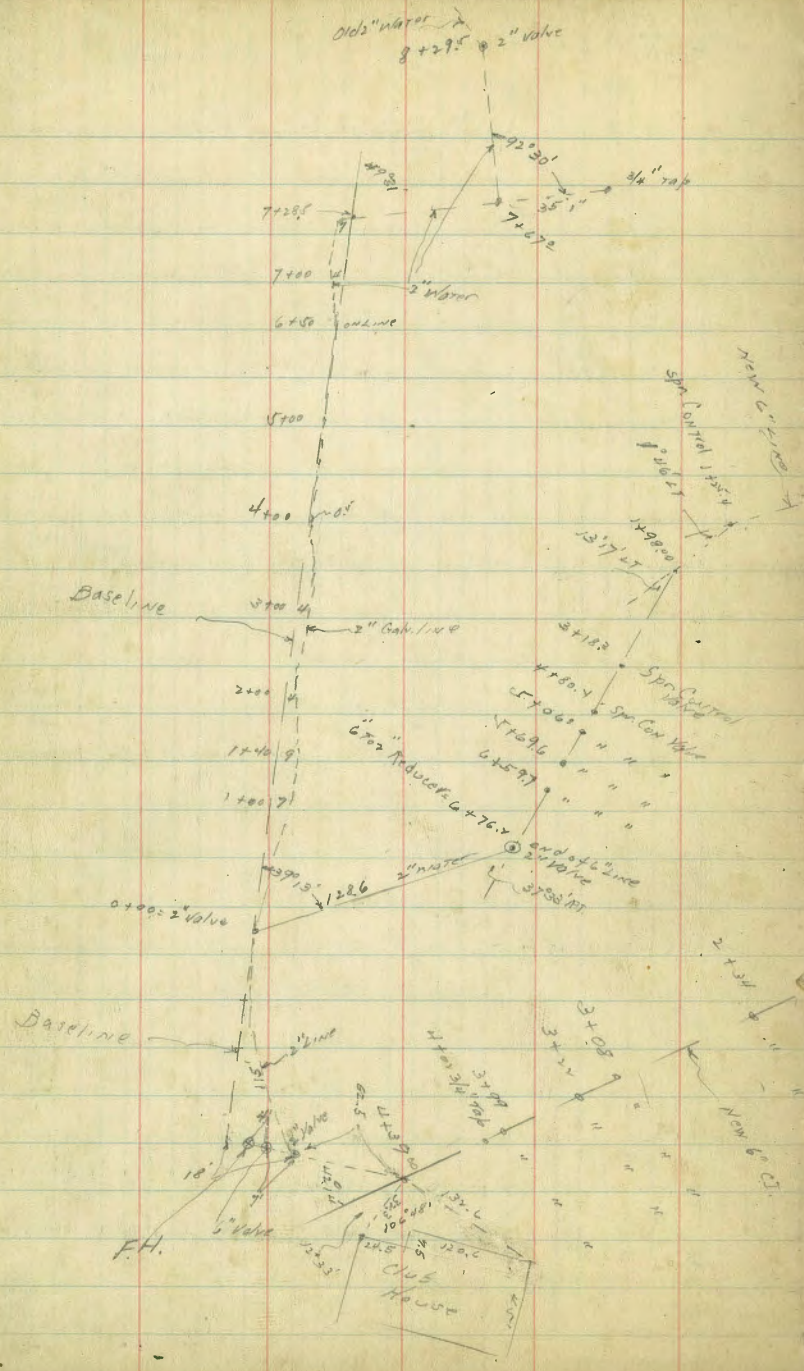


Moore  
1-19-36

Location of 3" water line to  
New Drill + Artillery Field N of S.D.H.S. Gym.

Indexed  
C.S.K.





2-18-36 X Sec. Alley B.K. 27 H. M. Higgins Add.  
 Mill  
 Walk  
 Blvd

Ret. C, Broadway, 25<sup>th</sup> + 26<sup>th</sup>

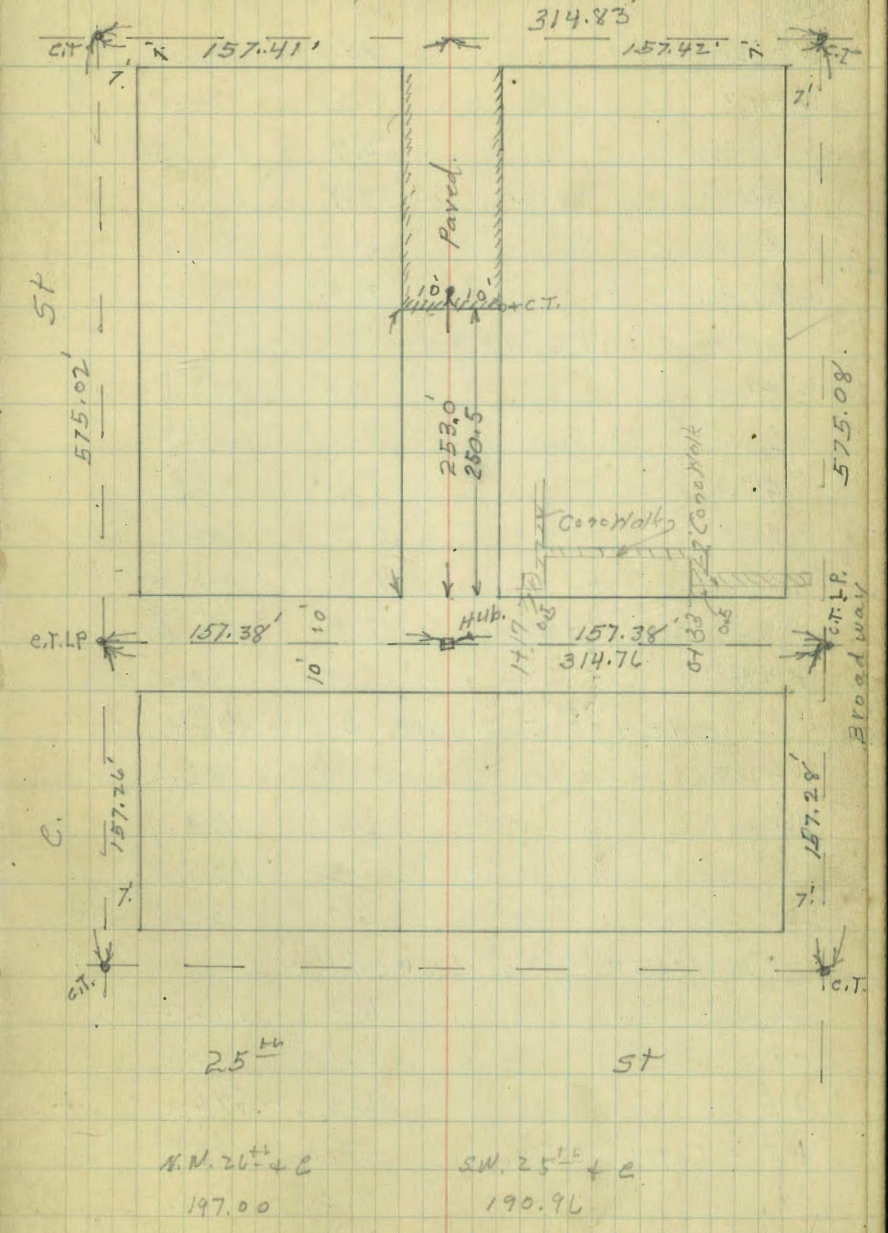
North + South Alley.

BM. B.P.	544	192.47	187.03	S.W. 25 <sup>th</sup> + Rdw.
14'S. of N. Line = N. ch. Line Bdw.				
E-25	cmt. ch.	N.	4.01	188.46
E-25	pav		4.67	187.80
E	"		4.73	187.74
E	cmt. ch		4.13	188.34
±	pav		4.72	187.75
W	"		4.77	187.70
W.	cmt. ch		4.22	188.25
+ 25'	" "		4.35	188.12
+ 25'	pav		4.84	187.59
0+00 = N. Line Broadway.				
W-0.2	cmt. ch	N. End.	3.91	188.56
W-0.1'	pav	" "	4.01	188.46
±	"	" "	4.29	188.18
+ 9.8'	"	" "	3.91	188.56
+ 9.9'	cmt. ch	" "	3.83	188.64
E.	" "	" "	3.83	188.64
0+35				
- 5			4.7	187.8
E			5.0	187.5
A			5.1	187.4
W.			5.1	187.4
+ 5.			5.1	187.4

SW 25<sup>th</sup>  
 26<sup>th</sup> Alley  
 18898

26<sup>th</sup> EF 63  
 8/15/34

57  
 67



192.47

0 + 80

W-20	12.0	180.5
W-13	13.0	179.5
W	6.9	185.6
⊕	6.9	185.6
E	6.9	185.6
+7	7.0	185.5

1 + 20

E-10	7.0	185.5
E	7.0	185.5
⊕	7.1	185.4
W	6.8	185.7
+5	9.6	182.9
+10 E side shed.	11.0	181.5
+25	11.0	181.5

1 + 40<sup>38</sup> = S. Line E + W. Alley

W-25	10.4	182.1
W.	7.6	184.9
⊕	7.0	185.5
E	6.7	185.8

1 + 50<sup>38</sup> = ⊕ E + W. Alley

E	6.3	186.2
⊕	6.1	186.4
+5	6.3	186.2
+7 Top 6" C.I. sewer.	6.70	185.77
W.	8.3	184.2
+1.5.	9.1	183.4

192.47

1 + 58 = S. End Frippe garage on W. 7.7' back 68

W-7.7 Dirt floor	8.4	184.1
1 + 60 <sup>38</sup> = N. Line E + W. Alley.		
W-7.7 Front. of garage	8.4	184.1
W-5	8.3	184.2
W.	7.9	184.6
+4	6.8	185.7
⊕	6.6	185.9
E.	6.6	185.9

2 + 74 double garage on E. Wood floor 16' back

E-16' floor	6.4	186.1
E	7.8	184.7
⊕	7.8	184.7
W	8.3	184.2
+7.7 Front. garage	8.4	184.1

2 + 00 = N. End. above garage on W.

W-15. N. side garage	8.3	184.2
W-7.7	8.2	184.3
W	8.4	184.1
⊕	7.8	184.7
+3	7.7	184.8
E	6.6	185.9
+10	5.8	186.7

192.47

2+21 = S. End. House on E		3' Back	
E - 10.	6.2	186.3	
- 3.	6.2	186.3	
E	6.4	186.1	
☩	7.4	185.1	
W.	7.8	184.7	
+ 15	8.4	184.1	
T.P. Hub.	11.64	197.86	P.I. ☩ of Alleys.
	2+46	6.25	186.22
W - 15	12.4	185.5	
W	11.6	186.3	
☩	11.2	186.7	
+ 9	10.7	187.2	
E.	10.3	187.6	
+ 4. = W side House	10.3	187.6	
	2+47		
E - 4 = W. side House	7.0	190.9	
E under Board. walk	7.0	190.9	
+ 0.8	7.0	190.9	
+ 1.0	10.7	187.2	
☩	11.1	186.8	
W	11.5	186.4	
+ 15	12.3	185.6	
	2+68		
W - 15.	10.8	187.1	
W	9.3	188.6	
☩	8.9	189.0	

197.86

69

+ 3	8.9	189.0
+ 8.5	7.9	190.0
+ 9	6.4	191.5
E.	6.4	191.5
+ 4. Under Board. walk	7.0	190.9
	2+76	
E	3.8	194.1
+ 1	3.8	194.1
+ 1.5	6.9	191.0
+ 5	7.8	190.1
☩	7.9	190.0
+ 8	7.6	190.3
W.	8.3	189.6
+ 15.	10.4	187.5
	3+00 <sup>76</sup> = S. Line C. St.	
W. cnt. el. S. End.	4.34	193.52
W Pav " "	4.51	193.35
☩ " " "	4.45	193.41
E " " "	4.14	193.72
E. cnt. el " "	3.74	194.08
	14' N. of S. Line = S. el. Line of C. St	
E - 25 Pav.	4.14	193.72
E - 25 cnt. el	3.58	194.28
E " " "	4.04	193.80
E. Pav	4.64	193.22
☩ " "	4.79	193.07



197.86  
S. ch. Line of E. st. Con.

W.	Pav	4.98	192.88
W.	cmt. ch	4.47	193.39
+25	" "	4.91	192.95
+25	pav	5.50	192.36
chk. B.M. B.P. S.W. 25 <sup>th</sup> & E.		6.90	190.96 = 190.96
T.P.	6.00	<u>192.22</u>	11.64 186.22

East & West Alley

0+00 = E. Line N & S. Alley.

S.		6.4	185.8
Φ		6.0	186.2
N.		6.4	185.8
0+50 W. End 3 garages on N. Wooden floors 5.8 Back.			
N-5.8		4.6	187.6
N		5.1	187.1
Φ		5.5	186.7
S.		5.7	186.5
-10		5.5	186.7
0+79 { E. End above 3 Garages W. " 2 garages on N Wooden floors. 0.5 in Alley			
S-10		5.0	187.2
S		5.1	187.1
Φ		5.2	187.0
+9.5	floor garage to E.	4.4	187.8
N.	ground	4.8	187.4
N+5.8	floor garage to W.	4.5	187.7

192.22  
1+00 = E End above garages, on N

70

N		4.5	187.7
+0.5	S. side garage	4.5	187.7
Φ		4.6	187.6
S		4.6	187.6
+10		4.6	187.6
1+07 garage on S. line - wooden floor			
S.	floor	4.6	187.6

1+21

S.		2.4	189.8
Φ		2.9	189.3
N		2.4	189.8
1+31 garage on N. Wooden floor 2.0 Back			
N-2.0	floor.	2.0	190.2
T.P.	8.24	<u>199.09</u>	1.37 190.85

1+40 Pepper Tree 30" Diam S. side 2.5 in Alley  
from 1+46 to 1+62 Fence on N. 1.0' in Alley.

1+50

N.		7.9	191.2
Φ		8.1	191.0
S		8.2	190.9

1+60

1.5 of Φ = Sewer M.H. 7.38 191.71 Top.

199.09

1+62 = W. End. garage on N cmt. floor 6.2' Back		
N-6.2 floor	6.20	192.89
N. line on cmt. apron	6.72	192.37
+0.5 S. edge "	6.74	192.35
1+73 E. end. above garage		
N-6.2 floor	6.20	192.89
N on cmt. apron	6.31	192.78
+0.5 S. edge "	6.33	192.76
1+75 = W. End. lattice fence on N. 1.2' in Alley		
1+91 W. End. cmt. apron front. of 6. garages on S		
S.-5.1 = Front. of garage	4.89	194.20
S.-0.2 N. edge cmt. apron	5.45	193.64
S. ground.	5.6	193.5
⊥	6.4	192.7
+8	5.2	193.9
N	4.5	194.6
2+15		
N	3.5	195.6
+2.0 Fence 1.0 in Alley	4.0	195.1
⊥	4.8	194.3
+5	5.1	194.0
S. ground.	4.9	194.2
S+0.1 N. edge cmt. apron	4.70	194.39
S+0.5 floor of garages.	4.12	194.97

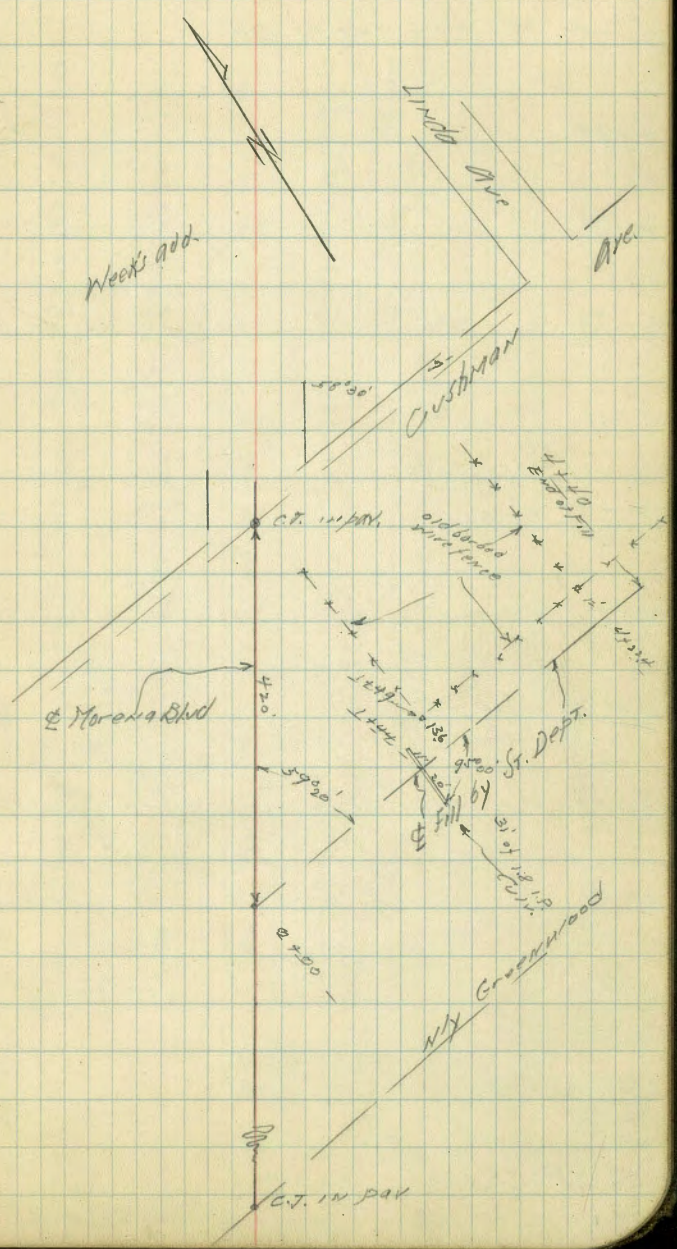
199.09

E. End. Lattice fence on N 0.4' in Alley 71		
2+35 W. end. garage on N. cmt. floor 4.8' Back		
N-4.8 floor	3.19	195.90
N. = S. edge cmt. apron	3.40	195.69
E. End. above garage on N		
2+50 E. " 6. " 5 on S.		
S-5. floor	3.20	195.89
S-0.1 N. edge cmt. apron.	3.55	195.54
S. ground	3.7	195.4
⊥ "	3.7	195.4
+9.5 S. edge cmt. apron.	3.32	195.77
N	3.30	195.79
N+4.8 floor	3.01	196.08
2		
⊥+50.5 = W. End. Ex Payment		
N. on pay	2.96	196.13
⊥ " "	3.53	195.56
S " "	3.31	195.78
T.P.	1.17	192.02
chk Hub P.I. ⊥ Alley 5	5.80	186.22 = 186.22

Survey of Filled Private Rd.  
S of Weeks add & Ely from  
Morena Blvd.

Moore  
4-9-26

Levels p 73 & 74



Levels on Private Rd  
 Sly of Weeks add and Sly of Torrens Blvd.

LT.

F.F.II

RT.

73

4+20 = NELY end of Fill

4+00

3+75

3+50

3+00

2+50

2+00

1+44 line of Culv.

1+00

0+75

0+40

0+25

Station	LT.	F.F.II	RT.
4+20	19.9	20.8	20.2
4+00	18.8	16.2	14.7
3+75	17.4	13.5	11.9
3+50	16.0	11.7	10.0
3+00	14.7	10.1	8.7
2+50	13.0	9.0	7.0
2+00	11.7	8.5	6.2
1+44	10.5	7.2	5.8
1+00	9.2	6.1	4.6
0+75	8.0	5.0	3.8
0+40	7.0	4.0	3.0
0+25	6.0	3.0	2.0

M.B.P. 346 20.34

16.86 S of Weeks  
 E of Dyke

20.34

Horning Blvd.

NEW SECTIONS 0+00 TO 0+68

0+75 page 73 taken at Pt. A with new fill

0+68

0+56

0+40

SECTIONS TAKEN PARALLEL TO PAR. STRIP

0+29.06 = Ely Line of ROW

0+25

0+19.5 = Ely edge par. V Par. = .75 off center at this point.

0+00 = Ely 50 ROW

B.P. Mon. 260

1946

16.86

1946

	7.3	11.8	12.9	12.6	7.1
Toe of New	12.2	7.7	6.6	6.9	12.4
	21	14	10	10	22
		Near Shoulder		New Shoulder	Toe of New + Toe of old fill
	8.4	12.8	14.0	13.8	9.8
Toe New	4.1	6.7	5.5	5.7	9.7
+ Toe of old	22	18	12	12	22
		Shoulder New		Shoulder New	Toe of New ON old fill
	12.6	15.2	15.6	15.4	13.6
Toe New on old fill	6.9	4.3	3.9	4.1	5.9
	27	22	22	22	22
		Shoulder New fill		Shoulder New fill	Toe of New ON old fill
	15.6	16.4	16.5	16.9	16.8
Toe New fill on old fill	3.9	3.1	3.0	2.6	2.6
	32	30	25	25	30
		Shoulder New fill			Shoulder New fill
	16.6	17.2	17.0	17.0	16.6
Shoulder old fill	2.9	2.4	2.5	2.4	2.9
Shoulder New	40	30	25	25	30
					old fill
	17.6	17.52	17.35	17.26	17.01
	1.86	1.94	2.08	2.34	2.45
	40	30	25	20	30
					2.51
					40

1-15-37  
Miller  
Walker  
Bliss

Levels & W. Curb. of 38<sup>th</sup> St  
National Ave to Boston Ave  
c.s.k.

S.E. 38<sup>th</sup>  
+ National

79.31<sup>1</sup> S. ch. Newton (cont)

75

B.M.B.P. 3.50 86.08<sup>✓</sup> 76.58  
S. Line National Ave

E. ch. 3.44 76.62  
E. gutter S. End. Pav 4.20 75.88  
W " " " 4.79 75.29  
W. ch. 4.45 75.63

N. Line Newton

W. ch 5.48 74.60  
E. ch 5.50 74.58  
T.P. 4.74 79.31<sup>✓</sup> 5.51 74.57

N. ch. 2 line Newton

E. Line 38<sup>th</sup> Top ch 4.77 74.54  
0+250 " " 4.87 74.44  
0+500 " " 5.07 74.24  
0+750 " " 5.32 73.99  
W. Line 38<sup>th</sup> " " 4.78 74.53  
25' W " " 5.03 74.28  
50' W " " 5.74 73.57  
75' W " " 6.72 72.59

S. ch. Line Newton

W. Line 38<sup>th</sup> Top. ch 4.67 74.64  
+25' W " " 4.90 74.41  
50' W " " 5.16 74.15  
75' W " " 5.91 73.40  
E. Line 38<sup>th</sup> " " 4.63 74.68  
25' E " " 4.90 74.41

50' E  
75' E

S. Line Newton

E. ch 4.79 74.52  
W. ch. 4.80 74.51  
T.P. 4.91 77.35<sup>✓</sup> 6.87 72.44

N. Line Boston Ave

E. ch 4.91 72.44  
W. ch. 4.92 72.43

N. ch. Line Boston

E. Line = E End cut. ch. 4.95 72.40  
E. " ground. 5.5 71.85  
10' E " 5.7 71.65  
30' E " 5.9 71.45  
60' E " 6.0 71.35  
110' E " 7.2 70.15  
W. Line 38<sup>th</sup> Top. ch 4.91 72.44  
25' W " " 5.55 71.80  
50' W " " 6.63 70.72

S. ch. Line Boston

50' W Top. ch 7.47 69.88  
25' W " " 6.01 71.34  
W. Line 38<sup>th</sup> " " 4.91 72.44  
E " 38<sup>th</sup> " " 4.91 72.44  
20' E ground. 4.5 72.85

## S. Line Boston

E. ch. 38 <sup>th</sup> St	4.95	72.40
E. cnt. gutter N. End	5.83	71.52
W. " " " "	5.82	71.53
W. ch. 38 <sup>th</sup>	4.92	72.43

## 25' S. of S. Line Boston

W. ch. 38 <sup>th</sup>	5.68	71.67
W. cnt. gutter	6.59	70.76
E. cnt. "	6.55	70.80
E. ch. 38 <sup>th</sup>	5.65	71.70
T.P.	7.29	80.07
	4.57	72.78
chk. orig. B.M.	3.49	76.58 ✓





179-54-60  
77-34-30

179-54-60  
34-21-30  
145-36-30 ✓

10225-30

136-46  
84-45

212-01

241-31

180

184-

32-01

41-31

41-31

124-60

486.73

104-30

431.6

75-30

918.33

110.5

1028.83

1941.63

1223.46

1361.6

1360.08

219.93

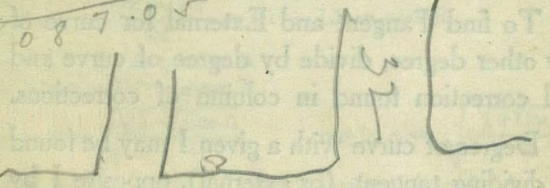
158.0.01

334

1914.63

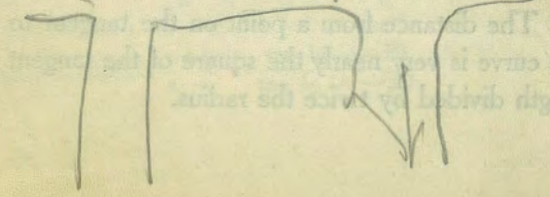
172.42

087.05



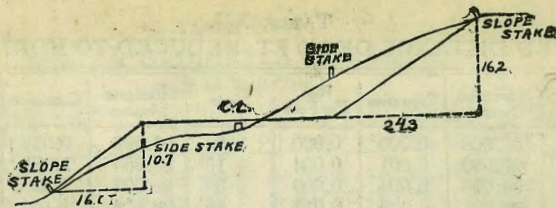
6

THORN



IMPROVED TABLES  
AND  
INFORMATION





DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.

SLOPE 1 1/4 TO 1. ROADWAY OF ANY WIDTH.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0 00	0 15	0 30	0 45	0 60	0 75	0 90	1 05	1 20	1 35	0
1	1 50	1 65	1 80	1 95	2 10	2 25	2 40	2 55	2 70	2 85	1
2	3 00	3 15	3 30	3 45	3 60	3 75	3 90	4 05	4 20	4 35	2
3	4 50	4 65	4 80	4 95	5 10	5 25	5 40	5 55	5 70	5 85	3
4	6 00	6 15	6 30	6 45	6 60	6 75	6 90	7 05	7 20	7 35	4
5	7 50	7 65	7 80	7 95	8 10	8 25	8 40	8 55	8 70	8 85	5
6	9 00	9 15	9 30	9 45	9 60	9 75	9 90	10 05	10 20	10 35	6
7	10 50	10 65	10 80	10 95	11 10	11 25	11 40	11 55	11 70	11 85	7
8	12 00	12 15	12 30	12 45	12 60	12 75	12 90	13 05	13 20	13 35	8
9	13 50	13 65	13 80	13 95	14 10	14 25	14 40	14 55	14 70	14 85	9
10	15 00	15 15	15 30	15 45	15 60	15 75	15 90	16 05	16 20	16 35	10
11	16 50	16 65	16 80	16 95	17 10	17 25	17 40	17 55	17 70	17 85	11
12	18 00	18 15	18 30	18 45	18 60	18 75	18 90	19 05	19 20	19 35	12
13	19 50	19 65	19 80	19 95	20 10	20 25	20 40	20 55	20 70	20 85	13
14	21 00	21 15	21 30	21 45	21 60	21 75	21 90	22 05	22 20	22 35	14
15	22 50	22 65	22 80	22 95	23 10	23 25	23 40	23 55	23 70	23 85	15
16	24 00	24 15	24 30	24 45	24 60	24 75	24 90	25 05	25 20	25 35	16
17	25 50	25 65	25 80	25 95	26 10	26 25	26 40	26 55	26 70	26 85	17
18	27 00	27 15	27 30	27 45	27 60	27 75	27 90	28 05	28 20	28 35	18
19	28 50	28 65	28 80	28 95	29 10	29 25	29 40	29 55	29 70	29 85	19
20	30 00	30 15	30 30	30 45	30 60	30 75	30 90	31 05	31 20	31 35	20
21	31 50	31 65	31 80	31 95	32 10	32 25	32 40	32 55	32 70	32 85	21
22	33 00	33 15	33 30	33 45	33 60	33 75	33 90	34 05	34 20	34 35	22
23	34 50	34 65	34 80	34 95	35 10	35 25	35 40	35 55	35 70	35 85	23
24	36 00	36 15	36 30	36 45	36 60	36 75	36 90	37 05	37 20	37 35	24
25	37 50	37 65	37 80	37 95	38 10	38 25	38 40	38 55	38 70	38 85	25
26	39 00	39 15	39 30	39 45	39 60	39 75	39 90	40 05	40 20	40 35	26
27	40 50	40 65	40 80	40 95	41 10	41 25	41 40	41 55	41 70	41 85	27
28	42 00	42 15	42 30	42 45	42 60	42 75	42 90	43 05	43 20	43 35	28
29	43 50	43 65	43 80	43 95	44 10	44 25	44 40	44 55	44 70	44 85	29
30	45 00	45 15	45 30	45 45	45 60	45 75	45 90	46 05	46 20	46 35	30
31	46 50	46 65	46 80	46 95	47 10	47 25	47 40	47 55	47 70	47 85	31
32	48 00	48 15	48 30	48 45	48 60	48 75	48 90	49 05	49 20	49 35	32
33	49 50	49 65	49 80	49 95	50 10	50 25	50 40	50 55	50 70	50 85	33
34	51 00	51 15	51 30	51 45	51 60	51 75	51 90	52 05	52 20	52 35	34
35	52 50	52 65	52 80	52 95	53 10	53 25	53 40	53 55	53 70	53 85	35
36	54 00	54 15	54 30	54 45	54 60	54 75	54 90	55 05	55 20	55 35	36
37	55 50	55 65	55 80	55 95	56 10	56 25	56 40	56 55	56 70	56 85	37
38	57 00	57 15	57 30	57 45	57 60	57 75	57 90	58 05	58 20	58 35	38
39	58 50	58 65	58 80	58 95	59 10	59 25	59 40	59 55	59 70	59 85	39
40	60 00	60 15	60 30	60 45	60 60	60 75	60 90	61 05	61 20	61 35	40
41	61 50	61 65	61 80	61 95	62 10	62 25	62 40	62 55	62 70	62 85	41
42	63 00	63 15	63 30	63 45	63 60	63 75	63 90	64 05	64 20	64 35	42
43	64 50	64 65	64 80	64 95	65 10	65 25	65 40	65 55	65 70	65 85	43
44	66 00	66 15	66 30	66 45	66 60	66 75	66 90	67 05	67 20	67 35	44
45	67 50	67 65	67 80	67 95	68 10	68 25	68 40	68 55	68 70	68 85	45
46	69 00	69 15	69 30	69 45	69 60	69 75	69 90	70 05	70 20	70 35	46
47	70 50	70 65	70 80	70 95	71 10	71 25	71 40	71 55	71 70	71 85	47
48	72 00	72 15	72 30	72 45	72 60	72 75	72 90	73 05	73 20	73 35	48
49	73 50	73 65	73 80	73 95	74 10	74 25	74 40	74 55	74 70	74 85	49
50	75 00	75 15	75 30	75 45	75 60	75 75	75 90	76 05	76 20	76 35	50

Computed by L. Leland Locke.

2084 58 9485.11  
 1915 57 9316.13  
 169 1.68.98  
 1773 59 9627.57  
 2084 48 9116.11  
 311  
 200  
 511

106-24  
 179-60  
 73-46  
 417.76  
 157.26  
 575.02

402.9  
 83.83  
 179.60  
 54.13  
 125.47  
 193.02  
 186.22  
 6.80  
 300.76  
 150.39

10436.68 66 7389 (294).19

10011.11 63 961

425.57 NW cor 11-428  
118.89  
12.33  
106.48  
2.95

10437 2468 NW cor H+A

10132 Brass Play 84.91

305 10+A NW cor Brass play 72.94

3048  
2683

10+ Unit SW cor Brass play End Return 282,020

Eight+Unit NW Cor brass play " 1284,380

24 Unit NW Cor " 283,763

SW Cor Payment 2333  
1916.5  
368 283,733

(181.87-3-01) 310132 1389

10011 1268  
121 121

27901  
664

283.92

21.38

281.54  
281.52  
+ 9.74

291.26  
210.0

289.23

(10.2)  
12.1

Realtor's Draft  
in context

q1. Roper

272 197.6  
19.6 145.1

57,418.2 2,470  
6.58 2496 141.80 84.43  
148.40 11.00 246 7.39

73,961 N 70 83,33 1268

151.76 91 43  
658 48

145.18 8496 1105 9.621 307

257.7 73910 1457 389 1047 99.95  
661 5491 7294 13743 120.08 96.27  
208 240 44364 00.12 94.99

257.7 907 42 138.03 9.84 99.7  
1987 5.89 9046 1.28 4499

9305 288 952 1 9651

528 3.01 8096 1.08 9499

10014 1.26 182.60 1.32

984 4.27 426.07 57 9316.13

906 4.43 598.9750 E 78 5284.84

1190 179.60 11252 4031.29

28292 7.10 1686208

2.40 281.52 147.857

105 62.82 104 26.64 527.4

1 26.19

(9-18-30)  
2.45  
11-63-30