

123

GRADE BOOK

POSTER

FIELD BOOK

1885

213 125 262 282 310

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Tie Points only indexed. All 4/2/20

INDEX

ORANGE AVE. GRADING

7-7

EVERGREEN ST. "

8

ORANGE AVE. WATER MAIN
 33# to Boundary St
 15' N of South of Line

Wk 33-4
 = 0+00 360.43
 +50 359.57
 1+00 358.77
 +50 357.86
 2+00 357.01
 +50 356.15
 3+00 = Bk. = L.H. Barroff 355.30
 +50 = Bk. = Wk. " = 0+00 354.40
 0+53.9 355.80
 1+07.8 356.80
 1+41.7 357.97

366.66 = NW CP Orange + 33-4
 7.87
 368.93 = T

360.43 359.57 358.77 357.86 357.01 356.15 355.30 354.40 353.50
 8.50 7.31 6.21 5.07 4.00 2.78 1.63 1.13 1.13
 3.8 6.21 7.84 9.52 11.21 12.90 14.58 16.27 17.95
 +1.7 +1.07 +1.7 +2.15 +2.72 +3.66 +4.05 +4.84 +5.37

= L.H. Bdry.
 358.80 357.80
 17.13 11.13
 8.90 8.90
 +3.93 +4.13

366.66 = Above B.M.
 1.85 = Top Pipe +45 1+37 = Top Pipe 2+12 = Top Pipe 2+00 = Top Pipe
 362.54 = T 358.55 358.02 357.20 357.61
 9.77 10.52 11.34 10.93
 2.97 7.63 11.03 10.80
 +1.02 +0.97 +0.31 +0.73

ORANGE AVE. BANCROFT ST. AND POLK AVE.

GRADING

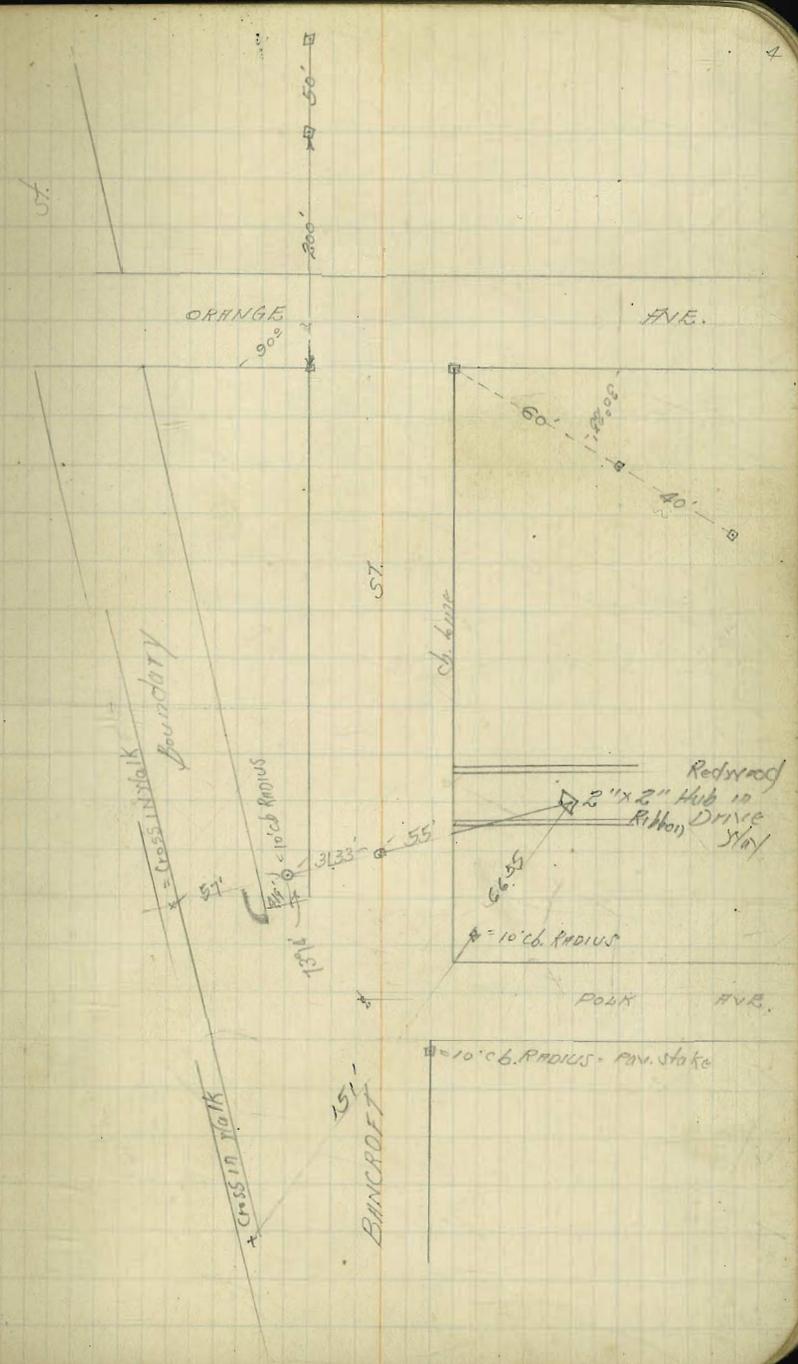
□ = 2"x2" REDWOOD HUB

Change in Profile of Culvert #1

3.6V 362.37

358.75 Elev. cut slab
 Page 5.
 11.94 350.43 = Flow line on
 S.W. Orange
 11.56 350.81 = Flow line under
 Water Main
 11.54 350.85 = Elev. of top of
 Sewer Pipe
 .35 = thickness of culvert
 .10 = clearance
 - Flow Line
 351.30 = over Sewer

11' N.W. 11' N.W. 11' N.W.
 350.81 351.30 351.80
 11.56 11.07 10.57
 11.71 11.37 10.88
 9.15 8.90 8.93



BANCROFT ST. GRADING
from orange to alk

El. Sta.	El. Grades	W.L. Sta.	W.L. Grade
4' - 4'	357.83	4' S. of 1/4 of Ch. = Cb PC = 4'	359.60
50' South Sta.			
30+50	356.52		356.66
1+00	355.31		355.02
1+30	354.10		353.78
2+00	352.89		352.54
150	351.68		351.30
3+00	350.47		350.06
150	349.26		348.82
4+00	348.05		347.58
150	346.84		346.36
5+00	345.63		345.13
opp Cb PC on W	344.98	Cb PC = 5126.25	344.53
Cb PC 5126.94	344.08		

25955 = 7 from P5
1.24

248.77 = TP
120 = 5' South Sta.

El. Sta.	El. Grades	W.L. Sta.	W.L. Grade
250+17+1	357.23	356.72	355.51
1.65	7.86	4.07	5.28
1.6	7.3	1.9	2.5
0.0	1.6	+2.6	+2.8
			+3.5
			+3.7
			+3.5
			+2.3
			7.1

3' South Sta.

W.L.	El. Grades	W.L. Sta.	W.L. Grade
357.70	356.46	356.22	353.98
1.88	3.12	2.36	5.6
1.8	4.0	6.6	7.8
7.5	-0.9	-2.2	-1.0
			-0.8
			-0.4
			-1.1
			-0.5

app. Cb PC on W = Cb PC

El.	El. Grades	W.L. Sta.	W.L. Grade
347.04	345.83	345.18	344.28
1.84	4.34	5.0	5.9
1.5	2.9	3.7	4.4
7.0	7.4	+1.3	+1.5

stop of Cb.

W.L.	El. Grades	W.L. Sta.	W.L. Grade
346.56	345.33	344.58	
3.61	1.84	5.64	
4.5	5.5	4.09	
344.33	-0.9	+1.55	
1.25 unit			
346.08 = Elev. 666		Finish stakes	
3.5			
349.61			
0.03 + correction		W.L. 344.53	
349.64 = T		5.11	

PC on Bancroft = PC on Alk.

El.	El. Grades	W.L. Sta.	W.L. Grade
344.28	344.37		
5.36	5.37		
	5.35 OK		

POPK HVE GRADING

BANCROFT ST. East to ALLEY

N.W. Sta N.W. Grade
 E.L. Bancroft
 0400
 cb pc.
 +10 344.37
 +16.6 345.51
 -93.37 347.07
 N.W. Alley
 1440 348.53
 E.L. Alley
 1400 349.20

S.L. Sta. S.W. Grades
 N.E. of E.C. line
 0400 343.98
 +48.5 345.43
 +97 346.88
 N.W. Alley
 145.0 348.33
 E.L. Alley 348.96

250.17 = π from U
 250
 2470.77
 339.1
 1529.07

5' E.C. Bancroft
 N.W. 344.86 345.11 347.12 348.63 349.20
 331 7.85 5.84 out 3.76
 1.4 5.8 4.1 3.7
 +0.9 +1.5 +7.7 3.92

= N.W. Alley = E.L. Alley = top cb.
 = N.W. Alley = E.L. Alley

cb Return
 S.W. 343.98 345.13 347.00 348.43 348.96
 1.4 3.17 out 4.00
 1.4 3.5 4.1 4.1
 0.7 0.3 0.2

BENCH MARKS

CABRILLO TERRACE

	+	+	-	
	350	53.01		49.51
T.P.	12.97	65.79	0.19	52.82
NX 7. fact on E.C. 25 y. N.W. Evergreen		9.85		55.94
- T.P.	12.84	78.63	0.00	65.79
T.P.	12.61	91.22	0.02	78.61
T.P.	126.8	103.71	0.19	91.03
T.P.	1259	115.99	0.31	103.40
T.P.	1292	128.82	0.09	113.90
T.P.	1020	138.89	0.13	128.69
T.P.			2.90	135.99

on NX Top of Fire Hydrant LEROY & Trumbull St

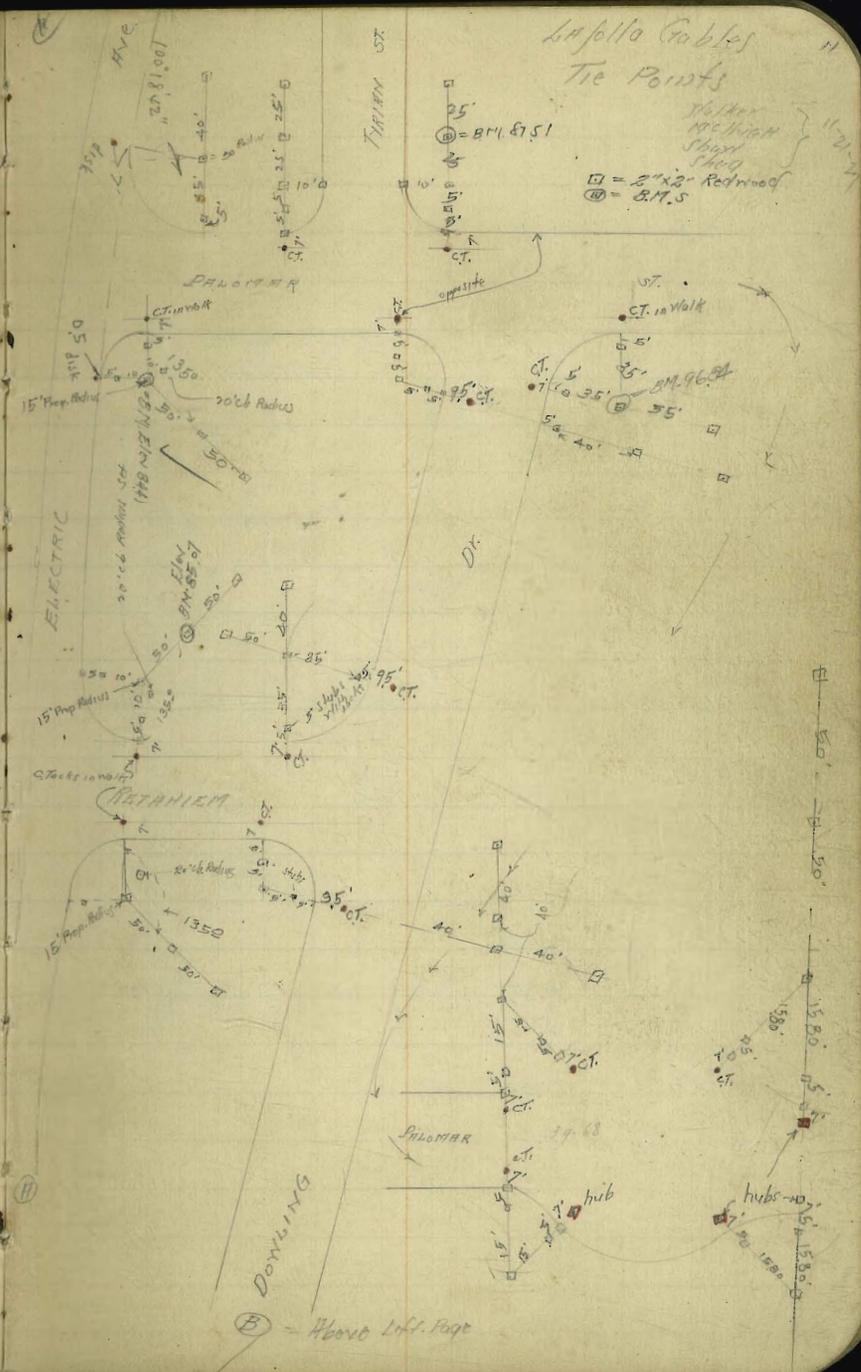
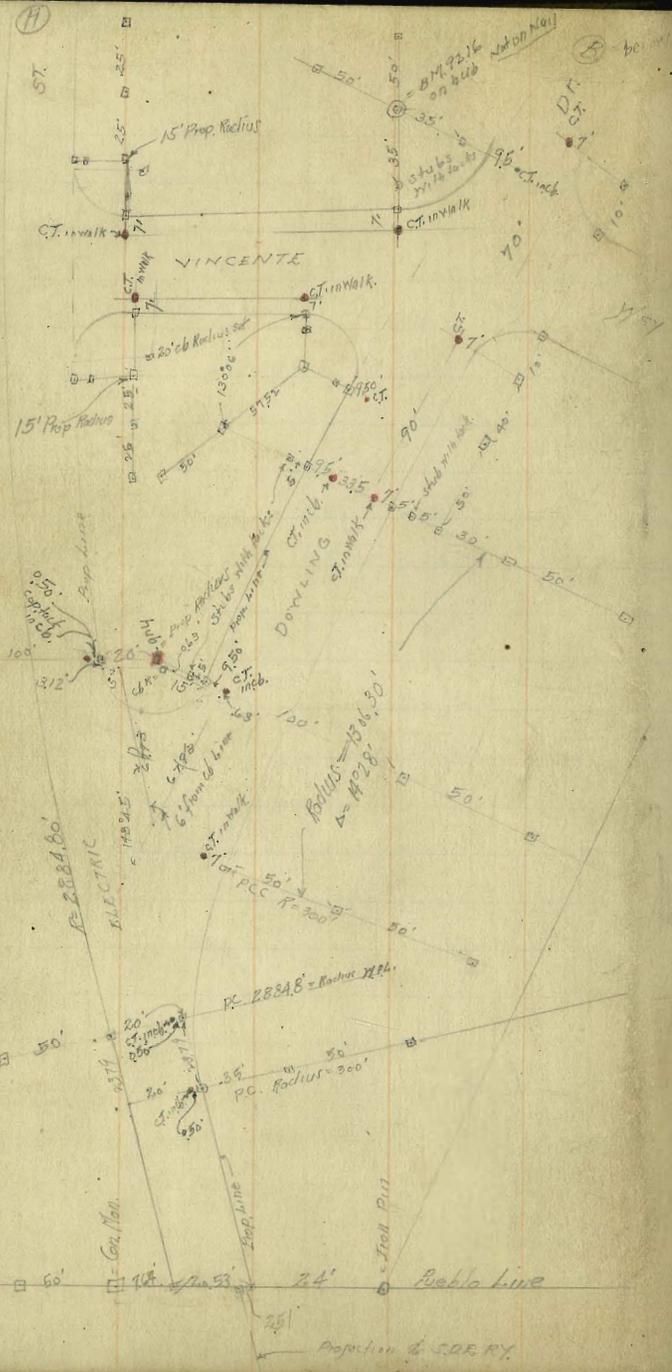
SEWER CONST. in Sunset Blvd.
and Longview Road.

Station	199	263.01	261.02	Sunset + 116 1/2 m by N.G. B.P.	
0+00 = DE		6.32	256.69	251.00	+5.69
+44		9.53	253.48	248.10	+5.38
+88		12.98	250.03	245.20	+4.83
7.P	0.43	13.62	249.79		
-1+32		3.32	247.10	242.30	-4.80
+76		5.00	245.42	239.40	+6.02
2+20 = M.H. Lt. 79009'		6.92	243.50	236.50	+7.00
3-45.86					
2+65.12		7.06	243.36	236.00	+7.36
3+10.18		8.26	242.16	235.50	+6.66
3+55.2 = exist. M.H.		15.42	235.00	235.00	✓

64 Jolla Gables

11-1-28

Tie Points
• = Copper Tacks in Streets & Curbs
□ = 2" x 2" Redwood Hubs



Jolla Gables Tie Points

15' Prop. Radius
20' Prop. Radius
1350

□ = 2" x 2" Redwood
○ = C.M.S.

Hub - Home Left Page

11-28-21
 11-28-21
 11-28-21

Lapolla GABLES
 RETAHEIM WAY
 From Electric to Dorling

N.L. Sta	N.L. Grade	Sta. Sta	St. Grade
cb PC on Electric	85.30	cb PC on Electric	85.96
Ch. Curve on cb Line 0+00	85.42	Ch. Curve on cb 0+00	86.00
cb EC on Retahheim (6-43.06')	85.54	cb EC on Retahheim 6-43.93	86.04
0+43.06	86.00	0+43.93	86.50
+86.12	86.46	+87.86	86.96
+129.18	86.92	+131.80	87.42
+73.24	87.38	+175.73	87.88
6+15.30	87.84	2+19.67	88.34
1+58.36 = Bk (7-20)	88.30	2+63.61 = Bk (2-20)	88.80
2+78.36 = " (2-25)	88.60	+83.61 = " (2-25)	89.10
+98.36 = " (2-25)	89.30	3+03.61 = " (2-25)	89.80
3+33.36	91.02	3+38.61	91.52
+68.36 = Bk. opp R. on bus (1-33.37)	92.75	3+73.61 = PC. of cb Return	93.25
4+01.71 = PC. cb Return	93.50	①	93.67
①	93.56	②	94.09
②	93.62	③ = EC. on Dorling Dr.	94.50
③	93.69		
④ = EC. on Dorling Dr.	93.75		

100.72 = Ht. From Page 16
 For Chk. See Continuation of Levels on page 16

N.L. Sta	N.L. Grade	Sta. Sta	St. Grade
N.L. 85.30	85.64	86.10	86.56
1.542	1.508	1.462	1.416
1.885	1.848	1.800	1.754
+1.37	+0.68	-0.2	+1.06
85.96	86.14	86.60	87.06
1.476	1.405	1.312	1.266
1.81	1.87	1.82	1.78
+1.6	+0.88	-0.5	+1.2
N.L. 92.85	93.60	93.72	93.85
7.87	7.1	7.0	
9.20	7.0	6.3	
-1.33	7.01	+0.7	
St. 93.35	94.60		
7.37	6.12		
6.5			
8441 = 819 SE balance Electric			
7277 = 1261 N 85.30	85.42	85.54	86.00
7.67	7.53	7.43	6.97
6.15	6.73		6.51
+1.24	0.62		6.05
5.55	5.96	8.600	8.604
7.01	6.97	6.73	6.77
5.18	5.77		6.01
+1.83	7.00		5.55
7.17 = 1171 from P16	92.75	93.50	93.56
7.95	9.22	5.67	5.61
			5.55
			5.48
			5.42
5.71	5.52	9.335	9.367
1.45	5.92	5.50	5.08
			4.67

FINISH STAKES

N.L. Sta	N.L. Grade	Sta. Sta	St. Grade
88.41	88.30	88.30	88.30
88.60	88.60	88.60	88.60
88.80	88.80	88.80	88.80
89.10	89.10	89.10	89.10
89.80	89.80	89.80	89.80
91.52	91.52	91.52	91.52
93.25	93.25	93.25	93.25
93.67	93.67	93.67	93.67
94.09	94.09	94.09	94.09
94.50	94.50	94.50	94.50

DOWLING DRIVE CONT.

EL. Stn.	EL. Grade	M.L. Stn.	M.L. Grade
①	92.21	⑬	4° 59' 39" 91.46
②	92.08	⑭	5° 22' 42" 91.33
③	91.95	⑮ = Prop. PRC	5° 45' 42" 91.20
④	91.83	0	90.97
⑤ = Bk. opp. PRC on Vert. 1673 - ch. 5.44 (0° 22' 07")	91.70	0	90.73
⑥ 1681 - 6' from	6° 07' 49" 91.74	⑯ = PCC on Electric	90.50
⑦	6° 29' 56" 91.78	16 P.C.	91.20
⑧	6° 54' 03" 91.82	⑰	91.06
⑨ PCC 1716 - ch. 5.01	7° 14' 91.85	⑱	90.93
⑩ 1748 - 6' from	7° 40' 00" 91.89	⑳	90.80
⑪	3° 20' 91.93	㉑	90.67
⑫	5° 00' 00" 91.97	㉒ = ch. E.C.	90.54
⑬	6° 40' 00" 92.01		
⑭	8° 20' 92.05	Bk.	
⑮ See Plan	10° 10.2	92.09	
⑯ = 1677 - ch. 5.44	10° 37' 45" 92.13		
⑰ Note: ch. is to be used for	11° 37' 45" 92.17		
⑱	13° 15' 30" 92.21		
㉑	14° 53' 15" 92.25		
㉒ = E.C.	16° 31' 92.25		

99.02 = 1 from Page 16
for ch. See Page 18

EL 9156	9143	9130	9125	9107	9050				
7.5	7.6	7.7	8.0	8.26	8.54				
7.6	7.7	7.9	7.9	8.37	7.38				
-0.1	-0.1	-0.2	+0.1	-0.1	-0.54				
= Bk.									
EL 9231	9218	9195	9193	9180	9184	9188	9192	9195	9199
6.73	7.86	7.1	7.10	7.54	7.7	7.16	7.12	7.1	7.05
4.3	4.3	4.1	4.35	4.35	4.73	5.12	5.92	6.16	6.53
+1.4	+1.5	+2.6	+2.75	+2.9	+2.5	+1.4	+1.2	+0.9	+0.5
= Bk.									
EL 9223	9207	9211	9215	9219	9223	9227	9231	9235	
7.0	6.97	6.93	6.7	6.85	6.8	6.77	6.73	6.7	
+0.2	+0.7	+0.9	+0.1	-0.3	-0.9	-1.2	-0.8	-1.0	

9724 - 1 from P. 16

591	EL 9221	9208	9195	9183	9170	9174	9178	9182	9181	9189	9193	9197
330	5.88	5.16	5.79	5.41	5.54	5.70	5.46	5.42	5.39	5.35	5.31	5.27
443	= PCC											
330	= PCC											
9133 - 7	= PCC											
457	9146	9133	9120	9106	9093	9080	9067	9054				
9600 - 1	5.78	5.91	5.93	5.57	5.70	5.70	5.33	5.46				
= PCC incl. only												
EL 9201	9205	9208	9212									
5.23	5.19	5.16	5.12									
				9205								
				5.47								
				5.87								
				0.88								

11-26-09
 11-26-09
 11-26-09

LA JOLLA GABLES

Electric Arc

Grading
 From Sky line Reble to 12.58 to Poleman of
 M.L. Grade E.L. Grade
 Reble 12.58 and Electric E.L. Grades

M.L. Sta	M.L. Grade	E.L. Sta	E.L. Grades
0+00	92.75	= 0+00	93.00
3+47.5		(5-41.13)	
0+47.5	92.44	0+41.13	92.75
+95.02	92.12	+82.26	92.50
1+42.53 = PC Pt.	91.80	1+43.39 = PC of Dowling	92.25
2398 = chks 5' off set			
① 0° 14' 16"	91.65		
② 0° 28' 32"	91.49		
③ 0° 42' 48"	91.33		
④ 0° 57' 04"	91.17		
⑤ 1° 11' 20"	91.02		
⑥ 1° 25' 36"	90.87		
⑦ 1° 39' 52"	90.71		
⑧ 1° 54' 08"	90.56		
⑨ 2° 08' 24"	90.40		
2° 22' 40"			
⑩ = Bkt. opp. Prop. PC. in 12	90.25	Prop. PC. on Electric of Dowling = 0+00	90.50 - 0.91
2352			
① 0° 14'	90.05	① 2328 = chks 5' off.	90.89 - 0.30
② 0° 28'	89.84	②	90.08 - 0.03
③ 0° 42'	89.63	③	89.88 ✓
④ 0° 56'	89.42	④	89.68 + 0.35
⑤ 1° 10'	89.21	⑤	89.47 + 0.65
⑥ 1° 24'	89.01	⑥	89.26 + 0.48
⑦ 1° 38'	88.80	⑦	89.05 + 0.67
⑧ 1° 52'	88.59	⑧	88.84 + 0.54
⑨ 2° 06'	88.38	⑨	88.63 + 0.42
⑩ 2° 20'	88.17	⑩	88.42 + 0.17
⑪ 2° 34'	87.96	⑪	88.21 + 0.20

chk. same as Dist

9904 = π from Page 17

- PC

M.L. 9275	9244	9214	9180	9165	9149	9133	9118	9102	9087	
63	66	69	724	74	755	77	786	802	817	
-0.8	-1.5	-0.7	-1.3	-1.3	-1.4	-1.1	-1.5	-1.6	-1.6	
M.L. 9071	9056	9040	9025	9005	8984	8963	8942	8921	8901	
833	835	864	88	90	77	74	762	783	803	
-1.5	-1.7	-1.3	-0.8	-0.7	-0.4	-1.0	-0.9	-0.6	-0.5	
E.L. 9300	9275	9250	9225	9200	9029	9008	8988	8968	8947	8926
64	65	65	68	85	875	896	916	936	957	978
-2.1	+0.7	-2.0	-0.7	-0.8	-0.3	+0.1	+0.1	+0.5	+0.7	+0.5
M.L. 8880	8859	8838	8817	8796						
1022	1025	1066	1087	1109						
-1.0	1.0	1.0	1.0	1.0						
-1.0	+0.3	+0.5	+0.7	+0.6						
E.L. 8905	8884	8863	8842	8821						
1000	1020	1041	1062	1083						
24	93	100	976	984						
+0.6	+0.9	+0.4	+0.8	+1.0						

FINISH STAKES

Rated from cb P.C.S to. cb P.C.S from Block to B.P. on East.

Electric Here

Cont

Wk. No.	Wk. Grade	El. Sta	El. Grade
1	2° 47' 48" (0° 16' 04")	87.75	(7)
2	3° 03' 57"	87.59	
3	3° 19' 56"	87.42	
4	3° 36' (0° 16' 04")	87.25	
5	0° 12' 51"	87.06	
6	0° 25' 42"	86.88	
7	0° 38' 33"	86.70	
8	0° 51' 24"	86.51	
9	1° 04' 15"	86.32	
10	1° 17' 06"	86.13	
11	1° 29' 57"	85.94	
12	1° 42' 48" (0° 16' 07")	85.75	
13	1° 55' 55"	85.50	
14	2° 15' 02"	85.25	
15	2° 31' 06" (0° 16' 04")	85.00	
16	0° 12' 48"	84.79	
17	0° 25' 36"	84.57	
18	0° 38' 24"	84.35	
19	0° 51' 12"	84.14	
20	1° 04' 00"	83.93	
21	1° 16' 48"	83.72	
22	1° 29' 36"	83.51	
23	1° 42' 24"	83.30	

RCC on Electric

= 0.400

81.37 = 1/2 5' off

87.32

87.14

86.95

86.76

86.57

86.38

86.19

86.00

85.27

85.06

84.86

84.65

84.44

84.23

84.02

83.81

83.60

def same as West

def same as West

S.E. Cor of Relatorm

Prop RCC on Electric

N.E. Cor of Relatorm

opp @ on West

S.E. Cor. Relatorm

Prop RCC on Electric = Brk.

Interpolation
No stakes

Interpolation
No stakes

9904 = 7 from Page 18

994-

89.10 = TP

396+

7306

7811

7892

798+

798+

798+

798+

798+

798+

798+

798+

798+

798+

798+

798+

798+

798+

798+

798+

798+

798+

798+

798+

798+

798+

798+

798+

798+

87.75	87.59	87.42	87.25	87.06	86.88	86.70	86.51	86.32	86.13
53	54	56	58	60	62	63	65	67	69
50	50	54	58	60	62	63	65	67	69
50	50	54	58	60	62	63	65	67	69

87.50	87.32	87.14	86.95	86.76	86.57	86.38
55	57	59	61	63	65	67
50	50	50	51	52	54	55
50	50	50	51	52	54	55

85.94	85.75	85.50	85.25	85.00	84.79	84.57	84.35	84.14	83.93
71	73	75	78	80	82	84	87	89	91
70	70	74	78	80	82	84	87	89	91
70	70	74	78	80	82	84	87	89	91

84.19	84.00	83.81	83.60	83.41	83.22	83.03
67	70	72	74	76	78	80
60	60	60	61	62	64	65
60	60	60	61	62	64	65

83.72	83.51	83.30	83.09	82.88	82.67	82.46
73	75	77	79	81	83	85
70	70	74	78	80	82	84
70	70	74	78	80	82	84

84.02	83.81	83.60	83.41	83.22	83.03
70	72	74	76	78	80
60	60	60	61	62	64
60	60	60	61	62	64

83.27	83.06	82.86	82.65	82.44	82.23
71	73	75	78	80	82
70	70	74	78	80	82
70	70	74	78	80	82

85.27	85.06	84.86	84.65	84.44	84.23
71	73	75	78	80	82
70	70	74	78	80	82
70	70	74	78	80	82

84.79	84.57	84.35	84.14	83.93	83.72
60	60	60	61	62	64
60	60	60	61	62	64
60	60	60	61	62	64

84.57	84.35	84.14	83.93	83.72	83.51
60	60	60	61	62	64
60	60	60	61	62	64
60	60	60	61	62	64

84.35	84.14	83.93	83.72	83.51	83.30
60	60	60	61	62	64
60	60	60	61	62	64
60	60	60	61	62	64

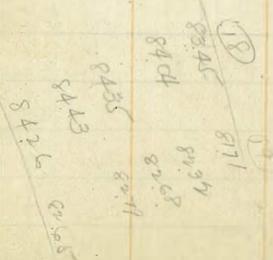
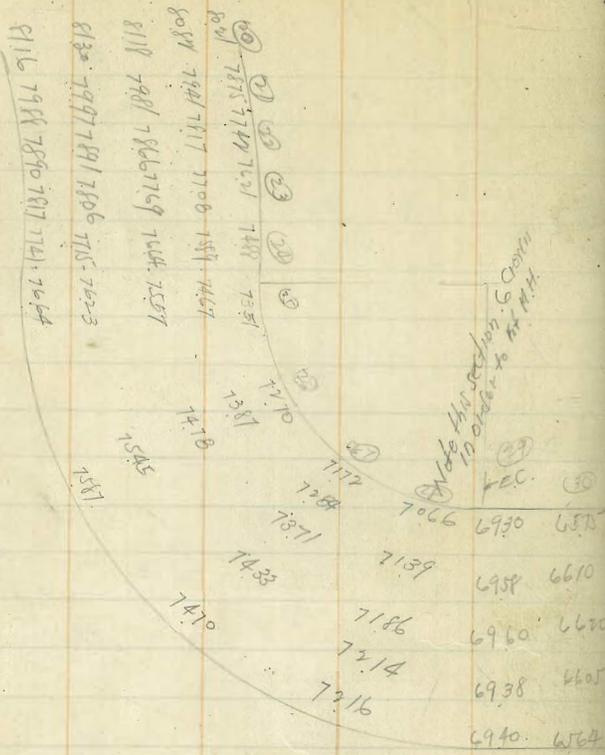
84.14	83.93	83.72	83.51	83.30	83.09
60	60	60	61	62	64
60	60	60	61	62	64
60	60	60	61	62	64

83.93	83.72	83.51	83.30	83.09	82.88
60	60	60	61	62	64
60	60	60	61	62	64
60	60	60	61	62	64

83.72	83.51	83.30	83.09	82.88	82.67
60	60	60	61	62	64
60	60	60	61	62	64
60	60	60	61	62	64

83.51	83.30	83.09	82.88	82.67	82.46
60	60	60	61	62	64
60	60	60	61	62	64
60	60	60	61	62	64

CABRILLO TERRACE PAVING



Walker

LAFOLLA GABLES
 6" SEWER Const. ELECTRIC AVE.
 From Exist. Sewer North of PALOMAR AVE.
 to D.E. 1195' South

Station	Station	Station	Elev. of Flow Line	
Existing Sewer North of Palomar Ave = 0+00 = M.H. to be Const.	645	8491	79.25	+591 +5.76
+50	679	8457	79.55	+577 +5.02
1+00	801	8335	79.85	+365 +3.50
+50	803	8333	80.15	+328 +3.18
2+00	755	8381	80.45	+341 +3.36
+50 = M.H. #2	671	8465	80.75	+390
3+00	609	8527	81.10	+4.17
+50	554	8582	81.45	+4.37
4+00	544	8597	81.80	+4.12
+50	471	8665	82.15	+4.50
5+00 = M.H. #3	423	8713	82.50	+4.63
+50	390	8746	82.85	+4.61
6+00	365	8771	83.20	+4.51
+50	317	8819	83.55	+4.64
7+00	268	8873	83.90	+4.83
+50 = M.H. #4 (5-52)	217	8919	84.25	+4.94
8+02	219	8917	84.61	+4.56
+54	410	8937	84.98	+4.39
9+06	351	8996	85.34	+4.62
+58	305	9042	85.71	+4.71
10+10 = M.H. #5 34+46.25	316	9031	86.07	+4.74
10+56.25	261	9086	86.38	+4.48
11+02.5	217	9130	86.69	+4.61
11+48.75	200	9147	87.00	+4.47
11+95 = D.E.	243	9104	87.32	+3.72

BM on Rodkus hub Page 11
 84.41
 6.75 +
 91.36 = T
 2.19
 89.17 = TP
 4.30
 93.47 = T

Elev. Flow Line 79.03 Exist. M.H. in Electric

Computed Elev. Flow = 79.25 M.H. to be Constructed



Elev. Flow Line 82.28 Exist. M.H. on Tyrion St.

LAJOLLA GABLES
 6" Sewer Const. Dowling Drive
 AND EASEMENT Bet. Palomar + Retzheim

125' North of M.H.#4	98.75	Elev. Sub.	Elev. Floor Line	
=0+00=DE {3-4166}		4.86	93.89	88.25 +5.64
0+41.66		6.14	92.61	87.84 +4.77
+83.32		6.19	92.56	87.42 +5.14
1+25=M.H.#4 {6-4833}		5.34	93.41	87.00 +6.41
1+73.33		4.89	93.86	87.48 +6.38
2+21.66		4.46	93.29	87.96 +5.33
2+71.0		4.28	94.47	88.45 +6.02
3+18.33		4.31	94.44	88.93 +5.51
+66.66		4.16	94.59	89.41 +5.18
4+15=DE		4.07	94.68	89.90 +4.78

Sewer Const. IN Above EASEMENT from Dowling
 to Electric Ave.

M.H.#4	98.75				
=0+00 {6-45.82}		5.34	93.41	87.00	+6.41
0+45.83		5.36	93.39	86.19	+7.20
+91.76		5.76	92.99	85.38	+7.61
1+37.59		8.31	90.44	84.57	+5.87
+83.47		10.30	88.45	83.76	+4.69
2+29.25 TR	91.75	11.76	86.99	82.95	+4.04
2+75=M.H.#3 {6-45.83}		5.26	86.49	82.14	+4.35
3+20.83		5.17	86.58	81.90	+4.68
+66.66		5.25	86.50	81.67	+4.83
4+12.5		5.05	86.70	81.44	+5.26
+58.3		5.43	86.37	81.21	+5.11
5+04.1		6.86	84.89	80.98	+3.91
5+50=M.H.#2 Page 27		7.09	84.66	80.75	+3.91

Page 11
 (SM on 35' radius hub)

28
 96.84
 1.91 +
 98.75 = π
 11.76 -
 86.99 = TP
 4.76 +
 91.75 = π
 6.64
 85.11

LAJOLLA GABLES
 6" Server Const. IN EASEMENT
 Bet. Ketaheim + Vincente Way

M.H. #3 Page 27

96.40

= 07.00 (6-45.71)	7.27	87.13	82.50	-4.63
0+45.7	7.42	86.98	83.06	+3.92
+91.4	8.23	88.17	83.62	+4.55
1+37.1	7.38	89.02	84.19	+4.83
+82.8	6.76	89.64	84.75	+4.89
2+28.55	5.81	90.59	85.31	+5.28
2+74.3	5.17	91.23	85.87	+5.36
3+20 = D.E. West of Dorrhing	3.33	93.07	86.44	+6.63

Elev. Sub. M.H. #3 Page 27 = 87.13
 92.14
 96.40 = T

LASOLLA GABLES

6" Sewer Const. IN Dowling Drive
And EASEMENT 100' South Vincente Way

240' North M.H. #7	9640	From Page 29		
= 0+00 = D.E. 5-48	2.32	9408	89.11	+ 4.97
+48	2.45	9395	88.63	+ 5.32
+96	2.41	9399	88.15	+ 5.84
1+44	2.76	9364	87.68	+ 5.96
+92	2.97	9343	87.20	+ 6.23
2+40 = M.H. #7	3.07	9333	86.72	+ 6.61
2+70 = DE	3.22	9318	87.00	+ 6.18

SEWER CONST. IN EASEMENT

Above M.H. #7	100' South Vincente Way			
= 0+00	9640 = Above M.H.		86.72	
+52.5	2.87	9353	86.11	+ 7.42
1+05	3.57	9283	85.49	+ 7.34
+57.5	6.74	8966	84.87	+ 4.79
2+10 = M.H. #6 Page 27	7.21	8919	84.25	+ 4.94

LAJOLLA GABLES
 Sewer Const. in Downing Dr.
 6"

175' North of MH #9 97.02

= 0+00 = D.E.

+43.75

+87.5

1+31.25

1+75 = MH #3

2+25 = MH #8 Page 27

4.45 92.57 87.60

4.91 92.11 87.30

5.17 91.85 87.00

5.19 91.83 86.69

5.62 91.40 86.35

86.07

+4.97

+4.81

+4.85

+5.14

+5.02

Page 27
 Elev. Stub MH #8 = 90.31
 671
 97.02 = x

48th St GRADING
Univ. to North Boundary Line

Culvert #1 - 96' 24"

West of Euclid	
= 0+00 = Bk	338.90
+36 = E. of Euclid = Bk	338.00
+76 = $\frac{1}{2}$ Clean out #1	337.00
+96 = End	338.00

Storm Drain

4th Clean out #1	
= 0+00	337.00
+49	335.66
+98	334.33
1+47 = Bk = $\frac{1}{2}$ Alley (3-3239)	333.00
1+85.33	332.86
2+23.66	332.73
6+62 = R.R. Rt 90° = $\frac{1}{2}$ Clean out #2	332.60
⊙	332.56
⊙	332.52
⊙	332.48
⊙ = E.C. = 3+24.8 (1-446)	332.44
3+69.4	332.32
4+14 = $\frac{1}{2}$ Clean out #3	332.20

Culvert #3 - 40' - 18" 72' - 36"

0+00 = 13' from line on diagonal	337.2
+29.50 = cb Inlet #4 = Bk	336.00
+40.72 = $\frac{1}{2}$ Clean out #3	332.20
0+79.57 = cb. Inlet #5	332.10
1+13.5 = end of culvert	332.00

350.69 = NW. BN Orange + Euclid
1.75 +
352.44 = π
574 =
= 0+00

343.70 = 70	338.70	338.00	337.00	338.00	338.90	338.00	337.00	338.00
334 +	814	804	1004	704	966	1056	1156	1056
34704 = π	331	378	330	332	486	526	539	480
	+4.83	+5.76	+6.54	+5.72	+4.80	+5.30	+6.56	+5.72
338.00 = Elev. Flow 0+96								
+5.72 = cut								
343.72 = Elev. of stub								
+1.18 +								
342.56 = π								

543.28	337.00	335.66	334.33	333.00	332.86	332.73	332.60	332.56	332.52
581		11.38	12.71	14.04	15.15	15.91	14.44	14.48	14.52
349.09		472	480	506	523	516	509	479	477
		+6.66	+7.91	+8.90	+8.85	+9.13	+7.35	+7.57	+7.53
332.45	332.44	332.32	332.20						
14.56	14.60	14.72	14.84						
5.02	4.69	6.16	8.22						
19.54	19.91	+8.56	+6.62						

338.00 = Elev. Grade 0+00
1.89 +
339.89 = E. of stub

339.89 = π	338.00	336.00	332.20	332.10	332.00
419 + Red	9.04	11.04	14.84	14.94	15.04
344.08 = π	7.15	9.10	8.22	6.60	13.16
	+1.89	+1.94	+6.62	+8.34	+1.88
343.92 = π					
337.60	337.2			343.92 = π	
6.78	6.72			332.00	
4.28	5.3			11.92	
+1.18	+1.15			7.88	
				+2.03	

48th St.

Culvert #4

0+00 = ch face - 84'	330.50	Flow line
0+36 = East ch. face	330.00	"
3-60 +76	327.80	"
1+16	325.60	"
1+56 = Δ P 47930'	323.40	"
(1-40)		"
1+96 = Catch Basin	321.20	"
1-48 2+10.8 = End	320.30	"

Culvert #2

15' x 14" - toe of slope	Flow line
0+00	317.50
+28 = ch line on West	316.10
+65.34 " " " East	313.80
32.5 1+02.84 = End	313.0

34945 = S.E. BR Orange + Estrella

153+

349.98 -

8.88 -

341.10 = TP

0.63 +

341.53 = T

330.50	330.00	327.80	325.60	323.40	321.20	320.30
1204	1103	1153	1373	776	996	1216
33947-TP	576	792	813	357	756	813
387+	+527	+361	+480	+219	+240	+403
3396 = T						+402

34068 = N.W. BR Union + Euclid

941

35013

12.63 -

337.50

1.99 -

335.79

1201 -

31638 = TP

0.71 +

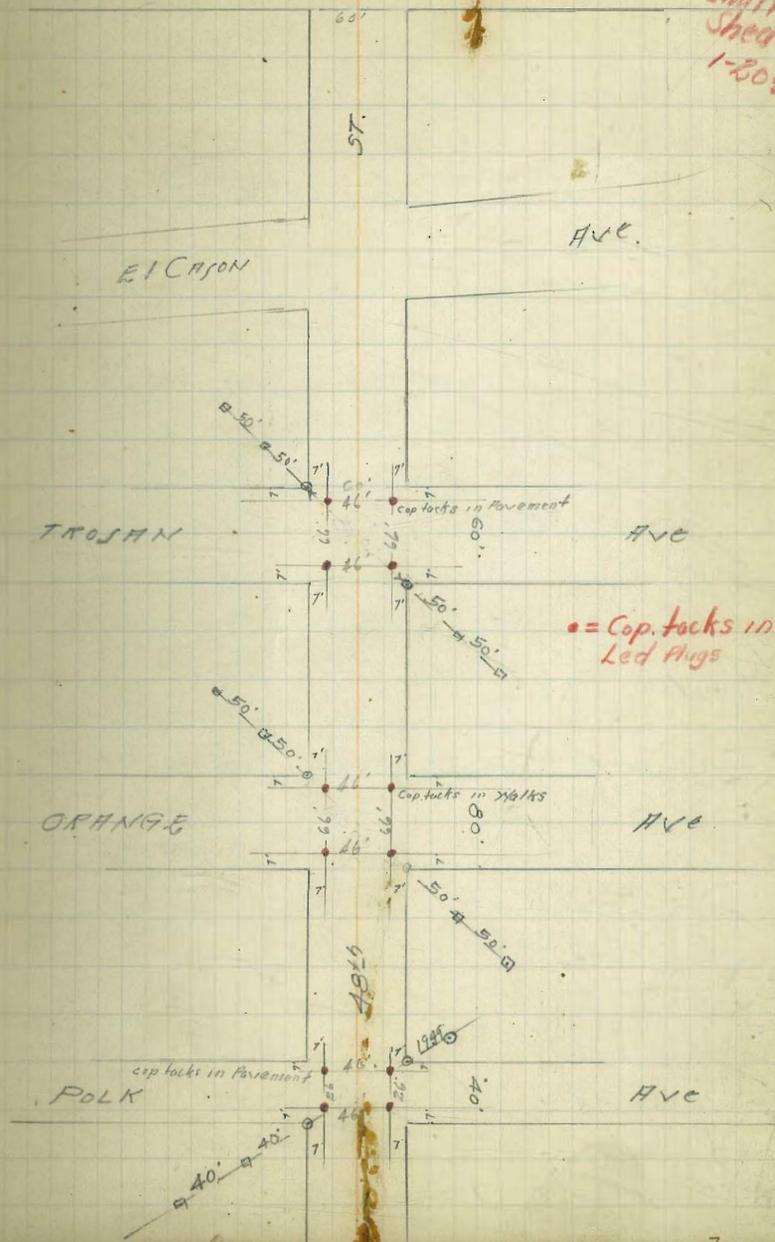
31665 = T

317.50	316.10	313.80	313.00
7.15	1053	17.85	13.65
887	2.62	6.73	12.71
+028	+793	+612	+094

48th Street

Reference Points

34
Walker
Ruplinger
Shaw
Shea
1-20-28



48th Street GRADING
From Univ. to Polk.

Y.L. Sta	Y.L. Grade	E.L. Sta	E.L. Grade
N.L. Univ.			
+0+00	345.50		346.00
+20	345.50		346.10
+60 = Bk - AXI	345.80		346.20
(6-20)			
+80 = "	345.80		346.10
+100 = "	345.50		345.70
+200 = "	344.80		344.90
+400 = "	343.80		343.80
+600 = "	342.30		342.20
+800 = " E.V.C.	340.40		340.30
(2-40')			
+2+20	336.25		336.05
B.K.			
+60 = P.V.C.	332.10		331.80
+80 = B.K.	330.30		330.00
+1000 = "	328.90	3+00	328.50
+200 = "	328.0	South end catch Basin	+18
South end catch Basin			327.40
+27 ²⁵	327.15	3+20	327.35
		North end catch Basin	leave out
+40 = B.K.	327.50	3+35	327.10
North end catch Basin			
+43 ²⁵	327.43	+40	327.05
+600 = B.K.	327.46	3+60	327.15
+800 = "	327.86	+80	327.40
+1000 = "	328.70	4+00	328.15
+2000 = "	330.00	+20	329.30
(4-41 ³⁸) use this to make up excess			330.5
+461 ³⁸	333.13		332.35
+502 ⁷⁶	336.25		335.40
+441 ⁴	339.38		338.45
= C.A.P.C.			
+85.52	342.50		341.50

12x longer than allowed

3460
3461
3462
3463
3464
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3470
3471
3472
3473
3474
3475
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3487
3488
3489
3490
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3492
3493
3494
3495
3496
3497
3498
3499
3500

Y.L. Sta	Y.L. Grade	E.L. Sta	E.L. Grade
3460	345.62	345.92	345.92
3461	345.62	345.92	345.92
3462	345.62	345.92	345.92
3463	345.62	345.92	345.92
3464	345.62	345.92	345.92
3465	345.62	345.92	345.92
3466	345.62	345.92	345.92
3467	345.62	345.92	345.92
3468	345.62	345.92	345.92
3469	345.62	345.92	345.92
3470	345.62	345.92	345.92
3471	345.62	345.92	345.92
3472	345.62	345.92	345.92
3473	345.62	345.92	345.92
3474	345.62	345.92	345.92
3475	345.62	345.92	345.92
3476	345.62	345.92	345.92
3477	345.62	345.92	345.92
3478	345.62	345.92	345.92
3479	345.62	345.92	345.92
3480	345.62	345.92	345.92
3481	345.62	345.92	345.92
3482	345.62	345.92	345.92
3483	345.62	345.92	345.92
3484	345.62	345.92	345.92
3485	345.62	345.92	345.92
3486	345.62	345.92	345.92
3487	345.62	345.92	345.92
3488	345.62	345.92	345.92
3489	345.62	345.92	345.92
3490	345.62	345.92	345.92
3491	345.62	345.92	345.92
3492	345.62	345.92	345.92
3493	345.62	345.92	345.92
3494	345.62	345.92	345.92
3495	345.62	345.92	345.92
3496	345.62	345.92	345.92
3497	345.62	345.92	345.92
3498	345.62	345.92	345.92
3499	345.62	345.92	345.92
3500	345.62	345.92	345.92

Walker

TROJAN AVE. Grading
from 48th to Euclid.

S.L. (6-23-67) = 0+00	S.L. Grade	N.L. Sta	N.L. Grade
+43.67	342.04		342.54
+87.94	342.27		342.54
+131	342.39		342.74
+174.7	342.57		342.94
+218.3	342.74		343.14
+262 = E.L. Euclid	342.92		343.34
	343.10		343.54

11.88
342.5069
342.50
342.50
342.50

N	342.41	42.11	12.86	42.06	43.26	43.46	43.54
	1.1	2.4	2.8	2.9	2.8	3.4	3.50
	2.1	2.2	2.6	2.7	2.9	3.8	
	2.1	2.2	2.6	2.7	2.9	3.8	

S	343.11	12.89	12.51	42.09	42.86	42.04	42.10
	1.9	2.2	2.6	2.4	2.2	2.5	3.2
	5.1	5.2	5.0	5.3	5.7	5.9	
	2.3	2.7	2.0	2.3	2.5	2.7	

347.04
346.76
346.58
346.30
346.02
345.74
345.46
345.18
344.90
344.62
344.34
344.06
343.78
343.50
343.22
342.94
342.66
342.38
342.10
341.82
341.54
341.26
340.98
340.70
340.42
340.14
339.86
339.58
339.30
339.02
338.74
338.46
338.18
337.90
337.62
337.34
337.06
336.78
336.50
336.22
335.94
335.66
335.38
335.10
334.82
334.54
334.26
333.98
333.70
333.42
333.14
332.86
332.58
332.30
332.02
331.74
331.46
331.18
330.90
330.62
330.34
330.06
329.78
329.50
329.22
328.94
328.66
328.38
328.10
327.82
327.54
327.26
326.98
326.70
326.42
326.14
325.86
325.58
325.30
325.02
324.74
324.46
324.18
323.90
323.62
323.34
323.06
322.78
322.50
322.22
321.94
321.66
321.38
321.10
320.82
320.54
320.26
320.00

NW Trojan Ave
Trojan Ave

346.58
342.04
4.54 ✓ SW Trojan Ave

346.58
342.84
4.24 ✓ NW Trojan Ave

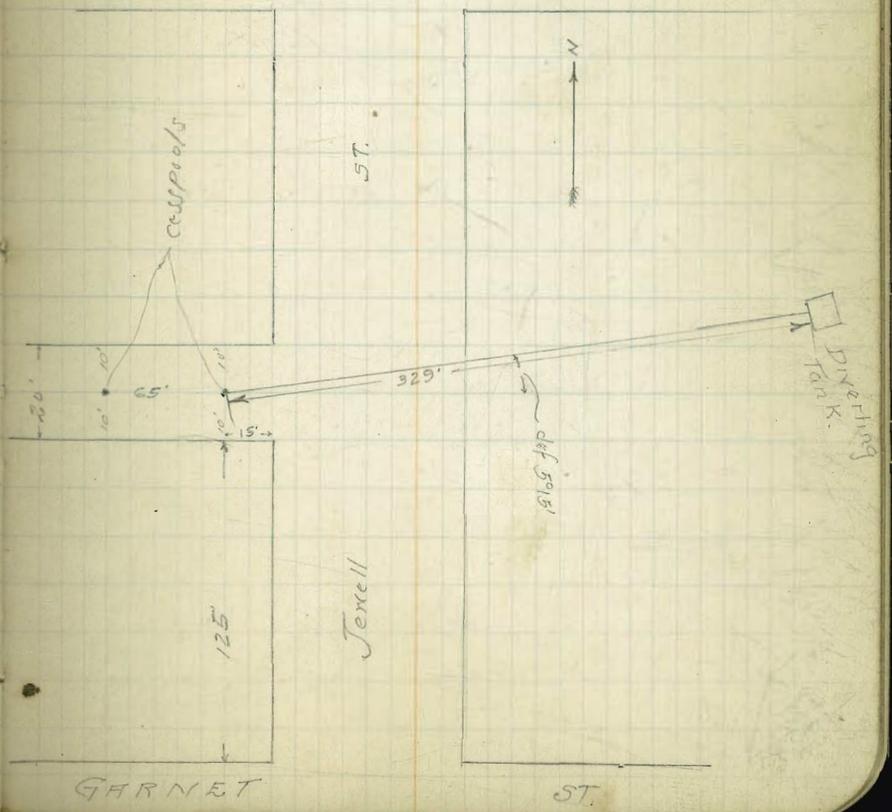
3/14/27
 Rippling
 5/16/28

Levels for Sewer As Per sketch opp. Page

S.E. BP				
Garnet + Ingram	10.55	73.15		62.60
T.P.	7.56	77.23	3.48	69.67
"				
0+00 on top directing tank.		2.6		74.63
700 " Flow "		4.04		73.19
0+00 on Ground		3.3		73.9
7.15		3.9		73.3
7.25		4.0		73.2
7.50		5.6		71.6
7.75		5.8		71.4
1+00		6.3		70.9
7.25		6.6		70.6
7.50		7.0		70.2
7.75		7.3		69.9
2+00		7.4		69.8
7.25		7.4		69.8
7.37		7.3		69.9
7.50		7.6		69.6
7.75		7.5		69.7
7.90		7.3		69.9
3+00		6.9		70.3
7.10		7.0		70.2
7.17		7.4		69.8
3+29 = 1/2 Cesspool	^{Nº1} 15' x 15'	9.0		68.7
7.94 = " "	Nº2	8.8		68.4
T.P.	2.21	756.8	3.76	73.47

3/14/27
 Rippling
 5/16/28

Location Cesspools + Sewer Line
 For San Diego Army & Navy Academy
 Pacific Beach 3-14-27



7/11/1907
 Ruppington
 Station
 Sta. 3-10-25

Grades For Sewer
on Page 39

	Elev. Grade
Flow line diverting +0+00	73.19
7.50 = B.M.	69.60
7-47.14	
0+99.14	68.90
1+48.28	68.21
1+97.42	67.52
2+46.56	66.83
2+95.70	66.14
1-333	
3+29 = % Cesspool N ^o 1 = 6 RT + 5° 15'	65.67
3+44.84	65.45
4+94 = " " N ^o 2	64.76

7568 = H.I. from Page 39

813 - TP

								N ^o 1	N ^o 2
67.55									
447.1	73.19	69.60	68.90	68.21	67.52	66.83	66.14	65.67	65.45
702.1									
906									
67.96 = TP									
759.1									
7.55									
788 = B.M.									
6257 = TP on B.M.									
6260 = B.M.									
003									

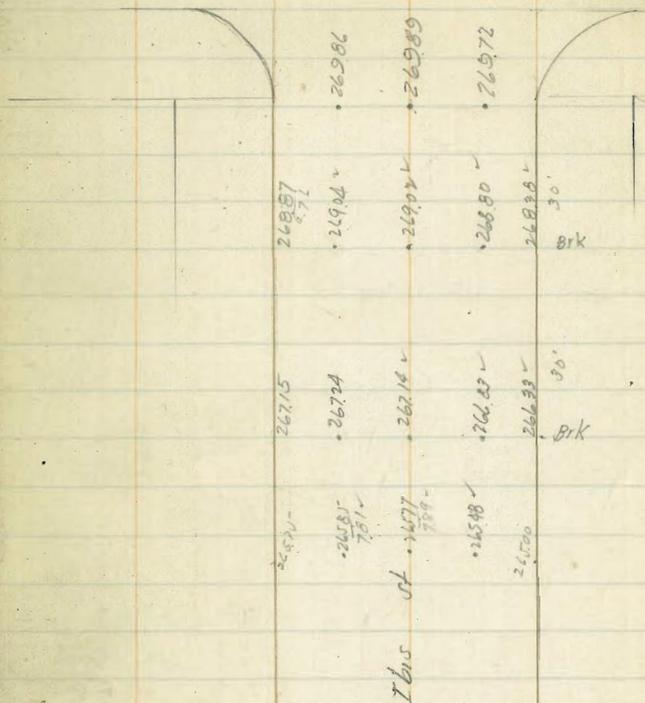
+2.37 +2.14 +2.13 +2.11 +3.13 +4.18 +2.77 +3.16 +3.68

South

41

Hunter

St.



26907 = 811.58 Jackdaws 1 I bus
 4.64 +
 273.26 =

Brk

Brk

McHug

Curb stakes El Cajon to N.L. Belmont

WL	EL	WL	EL
0+00 NL El Cajon	350.5	0+00 = NL El Cajon	351.1
0+52 ²⁸	351.96	+50	351.92
1+04 ¹⁶	352.92	1+00	352.74
1+56 ⁴	353.38	+50	353.56
2+08 ³²	354.34	2+00	354.28
2+60 ⁴⁰ BK	355.30	2+50 = BK	355.20
3+10 ⁴⁰	355.62	3+00	355.55
3+60 ⁴⁰	355.94	3+50	355.90
4+10 ⁴⁰	356.27	4+00	356.25
4+60 ⁴⁰ BK	356.60	4+50 = BK	356.60
5+10 ⁴⁰	✓	5+00	356.87
5+60 ⁴⁰	✓	+50	357.15
6+10 ⁴⁰	✓	6+00	357.42
6+60 ⁴⁰	✓	+50	357.70
7+10 ⁴⁰	✓	7+00	357.97
7+60 ⁴⁰	✓	+50	358.25
8+10 ⁴⁰	✓	8+00	358.52
8+58 ⁶⁰ = NL Belmont	✓	8+48 ²	358.80

42

WL

350.5	351.46	352.22	353.38	354.34	355.30	355.62
		3.29	2.33	1.37	4.1	6.18
355.94	356.27	356.60 ^{OK}	EL stations + WL stations			
5.86	5.53	5.20	356.87	357.15	357.42	357.70
			4.93	4.65	4.38	4.10
357.97	358.25	358.52	}			
2.83	2.55	3.12	358.80			
			3.09			

EL

351.1	351.92	352.74	353.56	354.38	355.20	355.55
4.61	2.37	2.97	2.15	1.33	.51	6.25
2.61						
355.90	356.25	356.60	From this on grades are			
5.90	5.55	5.20	same as on west			

BM. N.E. Mon. El Cajon & Escondido	348.21
	7.50
	355.71
	0.42
	355.29
	6.51
	361.80

Cb Stakes E/Cajon to Trojan

0+00 = NLTrojan	343.15		344.15
+41.8			345.0
0+89.3	346.35	0+91.8	347.2
1+36.8 BK	347.7	1+36.8	348.0
1+96.8 BK	348.4	1+86.8	348.5
+60	348.76	2+36.8	349.0
+120	349.13	+46.8	349.33
+180: SLE/Cajon	349.5	+73.3	349.66
		+140	350.

BM 48x
Trojan
HUB
343.28
813
351.41

343.30
7.6

WL

343.15				
8.26				
344.13				
349.5				
4.83				

BK	BK	BK	BK
345.0	346.35	347.7	348.4
6.41	5.00	3.71	3.01

EK

344.15	346.0	347.7	BK 348.0
7.26	5.41	4.21	3.41
348.5	355.13	354.13	
2.91	349.0	350	
	0K.13	4.13	

BM
E/Cajon
+411.4
348.21
592
354.13

Cb stakes Trojan to Orange

NL Orange
0+00 = P.C.

343.58

343.58

2x P.C.

2+39⁴⁷ = P.V.C.

347.2

347.1

+20

347.3

347.3

+40

347.3

347.3

+60

347.2

347.2

+80

346.8

346.9

+100

346.3

346.4

+120 = 3+59⁴⁷ = E.V.C. 345.6

345.8

4+09⁴⁷

343.55

343.9

4+59⁴⁷ = P.V.C.

341.5

342.0

+20

340.9

341.4

+40

340.6

341.1

+60

340.5

341.2

+80 = 5+39⁴⁷ = E.V.C.

340.7

341.4

5+92⁵¹ = Cb.P.C.

341.98

342.36

SL Trojan

See page 37

W

343.58 347.2 347.3 347.3 347.2 346.8 346.3

345.6 343.55 341.5 340.9 340.6 340.5 340.7

341.48

page 37

343.58 347.1 347.3 347.3 347.2 346.9 346.4

343.58 343.9 342.0 341.4 341.1 341.2 341.4

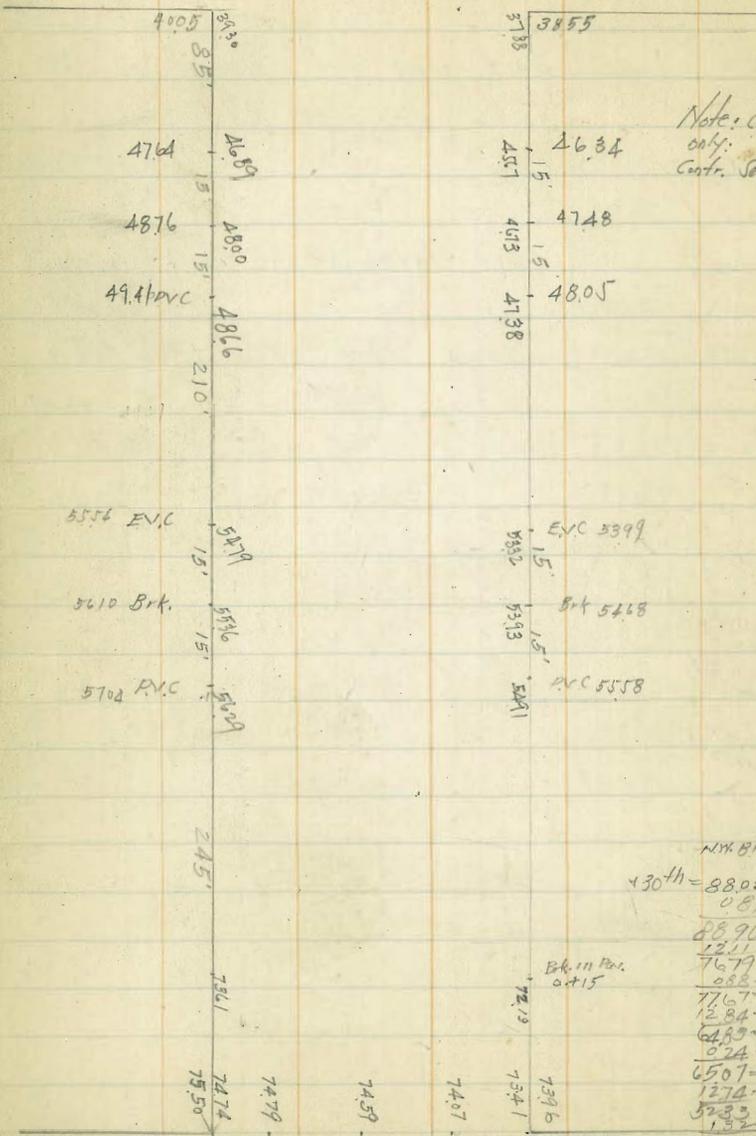
342.36

Walker
Paving
Co. KY
10-19-28

VALLE ST. PAVING

31st

St.



Note: Cut Curbs
only.
Contr. Set out
Stakes

N.W. BR. (Water)
430th = 88.03
0874
8890-T
1211
7679 - TP = NA
088-
7707-T
1284
6483 - TP
024-1
6501-T
1274-
5233 - TP
1211
5365-T
1216-
4149 - TP
386+
4535-T

top wall
Valle + 30th

on top Hydt. S.W. Valle + 31st St.

30th

St.

SEWER Const. in 33rd St.
South of Ivy St.

	π					
3911 S.S. Ivy						
= D.F. = 0+00 (3-4374) 0+4874	28279	10.01	272.78	263.80	+ 8.98	
+87.48		11.29	271.50	262.20	+ 9.30	
+41.8°26		12.99	267.80	260.60	+ 9.20	
1431.22 = 2' DMH #2 (3-437)	27089	311	267.76	259.00 = 5' DMH 262.00 = 3' DMH 259.00 = 5' DMH	+ 8.76	
1+74.92		584	265.03	256.37	+ 8.66	
2+18.62		9.05	261.82	253.75	+ 8.07	
+62.32 = End of line		1249	258.58	251.13	+ 7.25	

S.E. B.P. Juniper + Bouffault St = 293.58

0.81 +
294.43 = π
12.58 =
281.85 = TP
0.94 +
282.79 = π
1.29 =
269.80 = TP
1.07 +
270.87 = π
1.07 =
269.80 = TP
12.89 +
282.69 = π
0.75 =
281.94 = TP
12.70 +
294.64
1.08 =
293.56
293.58 = B.M.
0.02 = Error

SEWER Const. in Highview ^{And} Bouffault St.

Above DMH #2	π					
= 0+00 (4-51.5)				262.00		For this cut see Above line
0+51.5	282.69	743	273.26	263.00	+ 10.26	+ 7.26
1+03		7.62	275.07	264.00	+ 11.07	
+54.5		7.57	275.12	265.00	+ 10.12	
+20.6 = 4' DMH #1 (3-44.87)		8.23	274.46	266.00	+ 8.46	
2+50.5		6.83	275.86	267.67	+ 8.19	
+95.0		5.84	276.85	269.34	+ 7.51	
3+39.5 = D.F.		5.65	277.04	271.00	+ 6.04	

chk. on Above B.M.

SEWER LATERALS
IN BANCROFT TERRACE

57' South Try on Bl. Bancroft					
Lat #1 at Prop. 0436	261.30	197	279.33	271.86	+7.47
" #1 at end 0432	289.35	8.46	280.89	273.05	7.84
Lat #2	281.30	4.65	276.65	267.72	+8.93
" #3	281.30	11.91	269.39	267.32	+2.07
" #4	281.30	16.09	265.21	266.34	-1.13 down in hole
" #5	281.30	9.97	271.33	264.50	+6.83
" #6		5.30	276.00	264.40	+11.60
" #7	283.48	1.57	281.91	268.00	+13.91
" #8	283.48	11.42	272.04	264.50	+7.54
" #9 out				263.10	
" #10	274.47	4.60	269.87	262.00	+7.87
" #11	274.86	13.66	261.20	255.50	5.70 = 10' offset down hill
" #12	274.47	10.26	264.21	255.40	+8.81
" #13	274.47	16.07	258.40	252.60	+5.80

Elev. cut stub DE Page 46 = 272.78

T.P. Page 46 = 281.85

$$\begin{array}{r} 1.63 \\ 283.48 - T \\ \hline 11.73 \\ 271.75 \\ \hline 2.727 \\ 274.47 - T \\ \hline 4.60 \\ 269.87 - TP \\ \hline 4.99 + \\ 274.86 - T \\ \hline 1.60 \\ \text{Page 46} \\ \text{Sta 0+51.5 on cut stub} \\ 273.26 - TP \\ \hline 8.04 + \\ 281.30 = T \\ \hline 1.26 - \\ 280.06 - TP \\ \hline 7.29 + \\ 289.35 = T \\ \hline 12.30 - \\ \text{chk. on DE cut stub Page 46} \\ 277.05 \\ 277.05 = stub \\ 0.01 = error \end{array}$$

WATER MAIN H. Intersection
 Bellingham and Cherokee
 10' South of Bellingham St.

					Floor Line Grade	
N.W. B.P. Maple + 27th	9.46	320.70		310.74		
TP	0.61	307.89	12.92	307.28		
TP	0.79	295.88	12.80	295.09		
TP	7.01	290.68	12.71	283.67		
E. Cherokee			5.80	284.88	282.70	+ 2.18
H. "			8.31	287.37	280.70	+ 1.67
chk. on S.E. B.M. Book 1204-6			8.78	281.90		
S.E. Bellingham + Cherokee				281.89 = 8.77		
				0.01 - ERROR		

CHEROKEE St. Grading
Myrtle to Bellingham St.

E.L. Sta.	E.L. Grades	Y/L Sta.	Y/L Grades
N.E. E.C. on Cherokee	317.00	N.W. E.C. on Myrtle	317.00
" " PC " Myrtle	316.60		
S.E. P.C. " "	316.40	S.W. P.C. " "	316.40
S.E. E.C. " Cherokee = 0+00	316.40	" " E.C. " Cherokee = 0+00	316.40
3-38.67			
0+38.67	314.86		314.54
+77.34	313.33		312.67
1+16 = Bk.	311.80	Bk.	310.80
1-20			
1+36 = "	310.70	Bk.	309.70
(2-34)			
1+70	308.10		307.10
2+04 = Bk.	305.50	Bk.	304.50
(3-41.55)		(4-43.5)	
2+45.55	301.50	2+49.5	300.25
+87.10	297.50	+95.0	296.00
3+28.65	293.50	3+40.5	291.75
NE on Bellingham			
3+70.2 = c.p.c.	289.50	3+86 = c.p.c.	287.50
Bk. on Return	288.20	N.W. Return	
" " "	287.65	(3) = E.C. on Bellingham	285.10
NE on Bellingham			
= End Return	287.20		
S.E. Return on Bellingham	284.85	S.W. End Return on Bellingham	282.5
①		10' = Bk.	281.75
②		on Cherokee	281.02
③ = End Return on Cherokee	281.50	End Return	280.30

Change Grade

Start on Same as East

310.74
7.52
318.26

E.L.	316.40	314.86	313.33	311.80	310.70	308.10	305.50	301.50
	7.86	20	271	45	6.18			
Y/L	316.40	314.54	312.67	310.80	309.70	307.10	304.50	300.25
Est.	297.50	293.50	289.5	287.2	284.35	281.50		
M.	296.00	291.75	287.50	285.10	282.50	280.30		

Walker

CHEROKEE st. Gading
from N.W. Myrtle to S.E. Bellingham.

E.L. Sta.	E.L. Grade	Y.L. Sta.	Y.L. Grade.
N.W. Pt. on Cherokee	317.00	N.W. EC. on Cherokee	317.00
ctr. curve	316.80	①	316.85
E.C. on Myrtle	316.60	②	316.70
0+00 = S.E. PC. on Myrtle	315.52	③ = EC. on Myrtle	316.40
2-49.75 0+49.75	313.34	S.W. PC. " "	315.70
+99.5 = Bk (2-42.25)	311.17	④	315.80
1+41.75	308.86	⑤	315.70
+84 = P.V.C.	306.55	⑥ = 0+00 = EC. on Cherokee	315.52
2+04 = Bk	305.25	2-49.75 0+49.75	313.34
+24 = E.V.C. (3-48.73)	303.50	+99.5 = Bk	311.17
2+72.73	298.84	2-42.25 1+41.75	308.49
3+21.46	294.17	+84 = P.V.C.	305.80
NE +70.2 = P.C.	289.50	2+04 = Bk	304.30
NE. Return 14' from End on Bellingham	288.20	+24 = E.V.C.	302.60
7' " " "	287.65	4-40.5 2+64.5	298.82
" " "	287.20	3+05	295.05
S.E. Return End " on Bellingham Note Return 100 Parts	284.35	+45.5 N.W. Return	291.27
①	283.64	3+86 = P.C. 3-Part	287.50
②	282.93	①	286.70
③	282.21	②	285.90
④ = End cb. on Cherokee.	281.50	③ = End cb. on Bellingham	285.10
		S.W. Return End cb. on Bellingham	282.5
		Bk = 10' from End on "	281.75
		↑ = 2' way	281.03
		↓ End cb. on Cherokee	280.30

317.51 = N.W. BP Myrtle + Cherokee

318.77 - K

Station	Grade	Station	Grade
317.28 - TP	316.60	315.52	313.34
317.54 - K	315.70	311.17	308.86
317.71 -	315.52	306.55	305.25
317.90 - K	315.52	305.25	303.50
318.18 -	315.52	303.50	301.75
318.46 -	315.52	302.00	300.00
318.74 -	315.52	300.25	298.25
319.02 -	315.52	298.50	296.50
319.30 - K	315.52	296.75	294.75
319.58 -	315.52	295.00	293.00
320.00	315.52	293.25	291.25
320.42	315.52	291.50	289.50
320.84	315.52	289.75	287.75
321.26	315.52	288.00	286.00
321.68	315.52	286.25	284.25
322.10	315.52	284.50	282.50
322.52	315.52	282.75	280.75
322.94	315.52	281.00	279.00
323.36	315.52	279.25	277.25
323.78	315.52	277.50	275.50
324.20	315.52	275.75	273.75
324.62	315.52	274.00	272.00
325.04	315.52	272.25	270.25
325.46	315.52	270.50	268.50
325.88	315.52	268.75	266.75
326.30	315.52	267.00	265.00
326.72	315.52	265.25	263.25
327.14	315.52	263.50	261.50
327.56	315.52	261.75	259.75
327.98	315.52	260.00	258.00
328.40	315.52	258.25	256.25
328.82	315.52	256.50	254.50
329.24	315.52	254.75	252.75
329.66	315.52	253.00	251.00
330.08	315.52	251.25	249.25
330.50	315.52	249.50	247.50
330.92	315.52	247.75	245.75
331.34	315.52	246.00	244.00
331.76	315.52	244.25	242.25
332.18	315.52	242.50	240.50
332.60	315.52	240.75	238.75
333.02	315.52	239.00	237.00
333.44	315.52	237.25	235.25
333.86	315.52	235.50	233.50
334.28	315.52	233.75	231.75
334.70	315.52	232.00	230.00
335.12	315.52	230.25	228.25
335.54	315.52	228.50	226.50
335.96	315.52	226.75	224.75
336.38	315.52	225.00	223.00
336.80	315.52	223.25	221.25
337.22	315.52	221.50	219.50
337.64	315.52	219.75	217.75
338.06	315.52	218.00	216.00
338.48	315.52	216.25	214.25
338.90	315.52	214.50	212.50
339.32	315.52	212.75	210.75
339.74	315.52	211.00	209.00
340.16	315.52	209.25	207.25
340.58	315.52	207.50	205.50
341.00	315.52	205.75	203.75
341.42	315.52	204.00	202.00
341.84	315.52	202.25	200.25
342.26	315.52	200.50	198.50
342.68	315.52	198.75	196.75
343.10	315.52	197.00	195.00
343.52	315.52	195.25	193.25
343.94	315.52	193.50	191.50
344.36	315.52	191.75	189.75
344.78	315.52	190.00	188.00
345.20	315.52	188.25	186.25
345.62	315.52	186.50	184.50
346.04	315.52	184.75	182.75
346.46	315.52	183.00	181.00
346.88	315.52	181.25	179.25
347.30	315.52	179.50	177.50
347.72	315.52	177.75	175.75
348.14	315.52	176.00	174.00
348.56	315.52	174.25	172.25
348.98	315.52	172.50	170.50
349.40	315.52	170.75	168.75
349.82	315.52	169.00	167.00
350.24	315.52	167.25	165.25
350.66	315.52	165.50	163.50
351.08	315.52	163.75	161.75
351.50	315.52	162.00	160.00
351.92	315.52	160.25	158.25
352.34	315.52	158.50	156.50
352.76	315.52	156.75	154.75
353.18	315.52	155.00	153.00
353.60	315.52	153.25	151.25
354.02	315.52	151.50	149.50
354.44	315.52	149.75	147.75
354.86	315.52	148.00	146.00
355.28	315.52	146.25	144.25
355.70	315.52	144.50	142.50
356.12	315.52	142.75	140.75
356.54	315.52	141.00	139.00
356.96	315.52	139.25	137.25
357.38	315.52	137.50	135.50
357.80	315.52	135.75	133.75
358.22	315.52	134.00	132.00
358.64	315.52	132.25	130.25
359.06	315.52	130.50	128.50
359.48	315.52	128.75	126.75
359.90	315.52	127.00	125.00
360.32	315.52	125.25	123.25
360.74	315.52	123.50	121.50
361.16	315.52	121.75	119.75
361.58	315.52	120.00	118.00
362.00	315.52	118.25	116.25
362.42	315.52	116.50	114.50
362.84	315.52	114.75	112.75
363.26	315.52	113.00	111.00
363.68	315.52	111.25	109.25
364.10	315.52	109.50	107.50
364.52	315.52	107.75	105.75
364.94	315.52	106.00	104.00
365.36	315.52	104.25	102.25
365.78	315.52	102.50	100.50
366.20	315.52	100.75	98.75
366.62	315.52	99.00	97.00
367.04	315.52	97.25	95.25
367.46	315.52	95.50	93.50
367.88	315.52	93.75	91.75
368.30	315.52	92.00	90.00
368.72	315.52	90.25	88.25
369.14	315.52	88.50	86.50
369.56	315.52	86.75	84.75
370.00	315.52	85.00	83.00

317.21 - Above 4th

FINISH STAKES

Station	Grade	Station	Grade
317.21	317.00	315.52	313.34
317.57	316.85	315.52	311.17
317.93	316.70	315.52	308.86
318.29	316.55	315.52	306.55
318.65	316.40	315.52	304.25
319.01	316.25	315.52	301.95
319.37	316.10	315.52	299.65
319.73	315.95	315.52	297.35
320.09	315.80	315.52	295.05
320.45	315.65	315.52	292.75
320.81	315.50	315.52	290.45
321.17	315.35	315.52	288.15
321.53	315.20	315.52	285.85
321.89	315.05	315.52	283.55
322.25	314.90	315.52	281.25
322.61	314.75	315.52	278.95
322.97	314.60	315.52	276.65
323.33	314.45	315.52	274.35
323.69	314.30	315.52	272.05
324.05	314.15	315.52	269.75
324.41	314.00	315.52	267.45
324.77	313.85	315.52	265.15
325.13	313.70	315.52	262.85
325.49	313.55	315.52	260.55
325.85	313.40	315.52	258.25
326.21	313.25	315.52	255.95
326.57	313.10	315.52	253.65
326.93	312.95	315.52	251.35
327.29	312.80	315.52	249.05
327.65	312.65	315.52	246.75
328.01	312.50	315.52	244.45
328.37	312.35	315.52	242.15
328.73	312.20	315.52	239.85
329.09	312.05	315.52	237.55
329.45	311.90	315.52	235.25
329.81	311.75	315.52	232.95
330.17	311.60	315.52	230.65
330.53	311.45	315.52	228.35
330.89	311.30	315.52	226.05
331.25	311.15	315.52	223.75
331.61	311.00	315.52	221.45
331.97	310.85	315.52	219.15
332.33	310.70	315.52	216.85
332.69	310.55	315.52	214.55
333.05	310.40	315.52	212.25
333.41	310.25	315.52	209.95
333.77	310.10	315.52	207.65
334.13	309.95	315.52	205.35
334.49	309.80	315.52	203.05
334.85	309.65	315.52	200.75
335.21	309.50	315.52	198.45
335.57	309.35	315.52	196.15
335.93	309.20	315.52	193.85
336.29	309.05	315.52	191.55
336.65	308.90	315.52	189.25
337.01	308.75	315.52	186.95
337.37	308.60	315.52	184.65
337.73	308.45	315.52	182.35
338.09	308.30	315.52	180.05
338.45	308.15	315.52	177.75
338.81	308.00	315.52	175.45
339.17	307.85		

3/11/28
 100
 100
 100

Alley Paving Blk. 106 Univ. Hts.

N. L. Sta.	N.L. Grade	S.L. Sta.	S.L. Grade
34 Hamilton = 0+00	369.30		369.10
+10 = Blk.	370.50		370.40
+20 = "	371.40		371.80
+30 = "	372.00		371.90
+40 = "	372.20		372.20
2-50 0+90	372.85		372.85
1+10 = Blk.	373.50		373.50
+60 = "	373.70		373.70
3-46.67 2+06.67	374.07		374.07
+53.33	374.43		374.43
3+00 = Blk. Oregon	374.80		374.80

36835 = N.L. Bl. Oregon (Hamilton)

377								
374.72								
0.55								
373.57	SL 369.10	370.40	371.80	371.90	372.20	372.85	373.50	
503	502	372	282	272	192	575	510	
378.60	293	230	226	201	170	516	460	
	2894	+142	+256	001	+022	-1059	+060	
	N.L. 36830	370.50	371.40	372.00	372.20	372.85	373.30	
	482	362	272	212	192	575	510	
	471	294	265	135	043	395	400	
	0254	+163	007	+077	+147	+180	+110	
	SL 373.70	374.07	374.43	374.80				
	490	453	417	380				
	307	378	321	305				
	+188	+078	+076	015	Hgb.			
	N.L. 373.70	374.07	374.43	374.80				
	490	453	417	380				
	293	223	292	370				
	+197	+030	+025	0054				

Water
Pipe
Lack
180 Wm
11-10-28

GRADES FOR WATER MAIN

17 Boulevard place bet. N.Y. Ave
Lookout Drive and Torrey Pines Rd.
10' E and 2.5' North of S. Street. Elev. Flow

0+00 (3-48.91)	157.13	333	153.80	149.50	+ 4.30
0+48.91 or 50		629	150.84	144.04	+ 6.80
197.82 1400 120 = Bk.	150	1268	144.45	138.57	+ 5.88
(1+26.77) = 50' at 41037 (2-44') (2-1796)	144.51	513	139.38	133.10	+ 6.3
1490.73 1492.96 = Bk. 55021	852.3	624	138.27	126.40	+ 11.87
2+34.73 = 56' 15" Lt. (5-41.48) (5-47.92)	131.96	344	128.52	119.70	+ 8.82
2+76.2		370	128.26	116.08	+ 12.18
3+17.7		848	123.48	112.46	+ 11.02
+ 59.2	120.44	336	117.08	108.84	+ 8.24
4+00.6		1077	109.67	105.22	+ 4.45
+ 42.16 = Bk.	108.72	201	106.71	101.60	+ 5.10
4+42.16 = "		201	106.71	83.10	+ 23.6
2-33		998	98.74	83.10	+ 15.64
4+75.16	101.12	1504			
5+08.16 = First 16" Main Wooden Stake Pipe 8608			8608	83.10	+ 3.0

Book 1181-76

→ B.M. on Iron Pipe NW Boulevard Pl. & Lookout Dr.	155.04
	2.09 +
	157.13
	12.68 -
	144.45
	0.06 +
	144.51 = T
	12.75 -
	131.76 = TP
	0.20 +
	131.76 = T
	12.18 -
	119.78 = TP
	0.66 +
	120.44 = T
	12.59 -
	107.85 = TP
	0.87 +
	108.72 = T
	12.33 -
	96.39 = TP
	4.73 +
	101.12 = T
	6.98 -
	94.14
	94.18 = B.M.
	0.04 = ERROR

chk on B.M. most S.W. line Blvd. Pl.
and Torrey Pines Rd. on Iron Pipe
Book 1181-69

Walker
Rep. Inspect
Lacey
Mo. W. Co.
11-10-23

GRADES FOR WATER MAIN

17 Boulevard place bet. N.W. line
Lookout Drive and Torrey Pines Rd.
10' E and 2.5' North of S. Street. Elev. Flow

0+00 (3-48.91)	157.13	333	153.80	149.50	+4.30	
0+48.91		629	150.84	144.04	+6.80	
1+7.82	144.51	1268	144.45	138.57	+5.88	
1+26.77 (2-44') (5-17.96)		513	139.38	133.10	+6.3	
1+90.73 - Brk. 55' 0"		624	138.27	126.40	+11.87	
2+34.73 (5-41.48) (5-47.92)	131.96	344	128.52	119.70	+8.82	
2+76.2		370	128.26	116.08	+12.18	
3+17.7		848	123.48	112.46	+11.02	
4+59.2	120.44	336	117.08	108.84	+8.24	
4+00.6		1077	109.67	105.22	+4.45	
4+42.16 = Brk.		10872	2.01	106.71	101.60	+5.10
4+42.16 = "			2.01	106.71	83.10	+23.6
2-33 4+75.16	101.12	998	98.74	83.10	+15.64	
5+08.16 = Exist 16" Main wooden stave Pipe	150.4	8608	8608	83.10	+3.0	

150'
8523'
120.44

Book 1181-76

→ B.M. on Iron Pipe NW Boulevard Pl. & Lookout Dr.

155.04
2.09 +
157.13
12.68 -
144.45
0.06 +
144.51 = T
12.75 -
131.76 = TP
0.20 +
131.76 = T
12.18 -
119.78 = TP
0.66 +
120.44 = T
12.59 -
107.85 = TP
0.87 +
108.72 = T
12.33 -
96.39 = TP
4.73 +
101.12 = T
6.98 -
94.14
94.18 = B.M.
0.04 = ERROR

chk on B.M. Mast Sky line Blvd. Pl.
and Torrey Pines Rd. on Iron Pipe
Book 1181-69

Klumber St. Cont. From P-55

S.L. Sta	S.L. Grade	N.L. Sta	N.L. Grades
7+124 - Brk. = West Line Zeller	436.64 83		436.81 86
7+224 = 0+00 - Brk.	436.88		436.89
0+127 = Brk.	437.41		437.29
+374 = "	438.53		437.34
(5-4476)	70		438.28
0+82.37	440.75		438.57
1+27.83	442.92		440.86
+72.3 = Brk.	445.20		442.91
(2-40')	85		445.48
2+12.3 = "	446.90		445.85
+52.3 = "	448.10		446.90
(1-40')	75		448.05
2+92.71 = "	448.80		448.75
(2-40')	75		448.00
3+32.71 = "	448.80		448.80
+72.71 = "	448.40		448.35
(2-50')	45		448.40
4+22.71	447.50		447.45
+72.71 = Brk.	446.50		446.55
(4-40')	75		446.50
5+12.7 = "	445.80		445.75
+52.7 = "	444.80		445.80
+92.7 = "	443.50		444.75
6+32.7 = "	441.95		443.55
(2-39.9')			441.95
6+72.6 } = Measured	440.16		441.79
7+125 } S.L. Plover St.	438.29		440.16
5-34.5 } "	436.90		438.36
0+00 = Brk.	435.51		436.98
(2-49.10')	139		435.60
0+49.10	433.68		435.60
+98.2 = Brk.	431.85		433.73
(2-40')			431.85
1+38.2	429.70		429.70

S.L. Slope of South

S.L. Slope of South

Cont. on Page 57

Sta	Grade	Sta	Grade	Sta	Grade	Sta	Grade	Sta	Grade
45118-X from P-55	436.64	436.88	437.36	438.28	440.57	442.86	445.15	446.85	
44608-TP	1481	1462	1409	1277	1075	853	630	460	
45822-TP	1328	1333	1341	1085	767	265	315	158	
4761	+148	+127	+161	+272	+308	+388	+315	+302	
47558-X	436.81	436.89	437.29	438.28	440.57	442.86	445.15	446.85	
NL	1464	1456	1416	1317	1088	857	630	468	
	1813	1797	1730	1527	123	625	329	298	
	-347	-341	-314	-210	+115	+234	+301	+162	
SL	44805	44875	44878	44835	44745	44655	44575	44475	
	340	270	272	283	573	463	543	543	
	103	147	176	274	323	209	303	390	
	1237	+173	+074	+209	+150	+287	+240	+243	
N	44808	44875	44875	44835	44745	44655	44575	44475	
	340	278	270	310	400	463	543	543	
	167	106	103	274	337	209	303	390	
	+173	+106	+083	+036	+063	+084	+080	+077	
SL	44345	44195	44016	43829	43690	43551	43368	43185	
	773	923	1102	1287	1668	207	290	1173	
	330	636	766	977	1260	720	600	527	
	+375	+287	+336	+312	+208	+087	+790	+286	
N	44345	44195	44016	43836	43698	43560	43373	43185	
	773	923	1102	1282	1640	798	985	1173	
	639	720	1044	1570	208	1170	1203	1223	
	+140	+203	+058	-278	-288	-372	-418	-050	
S	42970	3664	3683	3736	3848	4070	4292	4515	4685
	1388	879	860	817					
	+460								
N	42970	3681	3689	3729	3828	4057	4286	4515	4685
	1388	867	854	814					
	+143								
44543-X P-55	S	4875	4875	4835	4745	4655	4575	4475	4345
	57								
	4253								
N	4875	4875	4835	4745	4655	4575	4475	4345	4195
U	4016	3829	3690	3551	3368	3185	2970		
N	4016	3836	3698	3560	3373	3185	2970		

44558-X below
675-
49689
43682 = Millers RM. Book 1214-11 } check.
001 = Error

KLAUBER ST.

S.L. Sta.	Cont. from P-56 S.L. Grades N.L. Sta	N.L. Grades
1+782 = Brk.	427.55	427.55
2-40'		
2+182 = "	424.65	424.65
452 = "		
(1-40')	421.35	421.35
+98.2 = "		
(2-32.5)	417.65	417.65
3+307	414.65	414.65
+63.2 = Brk		
(5-40.10')	411.65	411.65
4+03.3 = "		
+43.4 = "	408.05	408.05
(3-40')	405.15	405.15
4+83.4 = "		
5+23.4 = "	402.95	402.95
+63.4 = "	401.55	401.55
1-21.84	400.90	401.00
5+85.2 = Brk. S.L. Hilger St.	400.71	400.83
(5-59.45)		
6+14.68	400.35	400.59
+44.16 = S. Valley Center	400.00	400.35
1-10'		
6-52.16 = S.L. Hilger	400.00	400.21
= 0+00		
+08 = Brk.	400.10	400.35
3-49.8		
0+57.8	400.68	400.85
1+07.6	401.26	401.35
+57.4 = Brk. = opposite Rimdon N 102.2 E. ATTY St.	401.85	401.85
(3-32.97)		
1+89.87	402.74	402.21
2+82.34	402.57	402.57
454.81 = P.C. H 42°56'	403.09	403.10
	402.93	402.93
	403.26	403.28
	403.10	403.11
	403.46	403.48
	403.57	403.51
	403.67	403.72
	403.71	403.71
	403.89	403.89
	403.71	403.71

Stations same as South
 Stations same as South
 Stations same as South

Note this P.C. is 27.4 W.N.E. ATTY St

- ①
- ②
- ③
- ④

Cont. on P. 58

443.58 = A from P-56

Station	Grade	Grade	Grade	Grade	Grade	Grade	Grade	Grade	Grade
431.58-TP	12.30								
433.60-T	11.71								
421.83-TP	6.85	8.35	12.25	2.21	7.21	10.21	1.58	4.48	
421.86-T	2.30	+2.67	+7.14	+7.84	+0.78	+0.53	+7.33	+1.38	
409.45-TP	16.03	8.95	17.21	4.21	7.21	10.21	1.58	4.48	
409.63-T	11.63	2.60	8.76	2.34	6.28	10.21	2.57	5.97	
408.49-TP	6.14	+4.35	+3.47	+1.87	+0.53	+0.16	-0.99	-1.61	
402.95	6.68	8.28	8.63	8.80	7.40	7.64	7.78	7.64	
402.95	3.77	3.93	4.04	4.20	2.86	3.08	3.14	3.36	
402.95	1.91	+4.15	+4.59	+4.60	+4.64	+4.56	+4.54	+4.28	
402.95	6.68	8.08	8.73	8.92	7.64	7.37	7.99	7.89	
402.95	7.28	7.72	7.96	7.82	5.57	6.00	5.19	5.65	
402.95	0.52	+0.36	+0.77	+1.06	+2.13	+1.97	+2.30	+2.24	
400.85	7.4	6.64	6.14	5.78	5.47	5.06	4.88	4.68	
400.85	4.40	4.21	4.42	5.52	4.21	3.94	3.13	2.1	
400.85	2.74	+2.38	+1.74	+0.26	+1.18	+2.12	+1.15	+2.07	
400.68	7.31	6.78	6.14	5.78	5.42	5.06	4.87	4.70	
400.68	5.56	5.26	5.41	5.13	4.27	3.57	2.30	1.65	
400.68	1.75	+1.07	+0.68	+0.65	+1.15	+1.97	+2.54	+2.40	
403.79	4.10								
403.79	1.72								
403.79	1.48								
403.79	1.35								
403.79	1.27								
403.79	1.348								
403.79	1.90								
403.79	1.90								
403.79	3.10								
403.79	4.03								
403.79	5.00								
403.79	6.00								
403.79	7.00								
403.79	8.00								
403.79	9.00								
403.79	10.00								
403.79	11.00								
403.79	12.00								
403.79	13.00								
403.79	14.00								
403.79	15.00								
403.79	16.00								
403.79	17.00								
403.79	18.00								
403.79	19.00								
403.79	20.00								
403.79	21.00								
403.79	22.00								
403.79	23.00								
403.79	24.00								
403.79	25.00								
403.79	26.00								
403.79	27.00								
403.79	28.00								
403.79	29.00								
403.79	30.00								

KHUBER St. Cont.

Stkly. Sta.	Stkly. Grade	N.W. Stkly. Sta.	N.W. Stkly. Grade
⊙ def=20°16'20"	384.50	⊙ def=19°00'20"	383.95
⊙ " " = 20°20'25"	383.85	⊙ = def=22°48'24"	383.37
⊙ = EC = 30°24'30"	383.15	⊙ " " = 26°36'28"	382.82
-20'54" = 0+00		" " = 0+00	
opp EC on N.W. Line	382.23	⊙ = EC = 30°24'30"	382.23
5(4893')			
0+48.93	380.05		380.05
+97.86	377.89		377.89
+146.79	375.72		375.72
+95.72	373.56		373.56
= N.L. Sparrow St.	371.40		371.40
= S.L. Sparrow St = 0+00	370.74		370.74
(2-42.6')			
0+42.6	369.79		369.79
+85.2 = Bk.	368.85		368.85
(7-20')			
1+25.2 = "	367.75		367.75
+65.2 = "	366.45		366.45
2+05.2 = "	364.75		364.75
+45.2 = "	362.75		362.75
+85.2 = "	360.55		360.55
3+25.2	358.10		358.10
+65.2 = "	355.65		355.65
(5-46.84')			
4+12.64	351.65		351.65
+58.9	347.65		347.65
5+105.9	343.65		343.65
+52.36	339.65		339.65

Cont. on P. 61

Stkly. Sta.	Stkly. Grade	N.W. Stkly. Sta.	N.W. Stkly. Grade
370.53			
370.85 - TP			
371.57 - TP			
1220 -			
N 38395 38337 38282 38223 38005 37789 37572			
3772 TP	1048	1106	1161
1571	837	837	729
38086 - TP	+4.49	+3.75	+3.79
37579 - TP			
2164	707	767	837
37739 - TP	316	321	238
196	+3.88	+4.26	+2.09
31443 TP			
083	730	746	1012
31626 - TP	1120	1345	1328
1142	-460	-399	-376
31834 TP			
0131	730	746	1012
31834 TP	383	599	665
31834 TP	347	379	317
085	+0.36	+2.18	+2.86
34142 TP			
716	716	761	1361
735	390	1329	176
-029	-029	+022	+056
S 35810 35565 35165 34765 34365 33965			
37679 - TP			
1219	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067
37666 TP	+3.26	+2.73	+2.94
37666 TP			
1187	716	761	1361
37666 TP	390	733	1067

3/6/19
McH...
1-16-29

65TH ST. PAVING. {20' STRIP}

From S.L. BACH to Brooklyn St.

Note: Grades are for East and West edges of 20' strip of Paving whose E. is in E. 65th St.

El. Sta. Paving PC. on Bach.	El. Grades	St. Sta. Paving PC. on Bach.	St. Grade
0		0	
0		0	
① = P.V. EC. ② = 0+00 (4493.19) 0+44.93		① = P.V. EC. ② = 0+00	
+89.86			
1+34.79			
+79.7			
2+24.65			
+69.6			
3+14.5			
+59.44			
4+04.38 = Dist. 10' N.W. Brooklyn			
5-35			
4+39.75			
+74.37			
(9-46.18)			
5+20.55			
+66.73			
6+12.9			
+59.1			
7+05.3			
+51.45			
+97.6			
8+43.8			
+90 = 10' N.W. Brooklyn			
9+00 = Exist Paving			

See Next Page

No Good

All station done as South

Walker
As High
Levy
1829

65th St. Paving
From Bath to Brooklyn St.

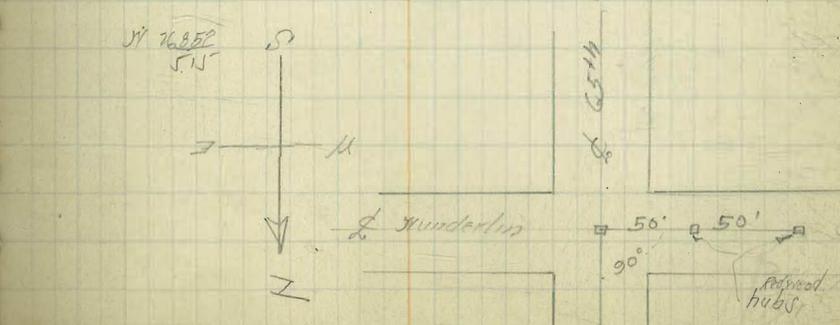
E.L. Sta.	E.L. Grade	M.L. Sta.	M.L. Grade
Par. P.C. on Bath 313.85		R.C. on Bath	312.60
C 313.47		①	312.67
① 313.00		②	312.45
② Par. E.C. = 315.40	= 0+00	③ = E.C. on 65 th	311.90
(4615) 9 0+46.15	309.78		309.35
+92.3	307.15		306.80 -
1+38.45	304.52		304.26
+84.6	301.90		301.72
2+30.75	299.27		299.18
+76.9	296.65		296.64
3+22.05	294.02		294.10
+69.2	291.40		291.56
4+15.38 = 10' N.W.L. Manhattan	288.77		289.02
2+40'	287.02		287.77
4+55.08 = 10' N.W.L. Manhattan	285.27		285.52
(4618) 9	283.39		283.64
5+41.53	281.50		281.75
+87.7	279.69		279.86
6+33.89	277.72		277.97
+80.07	275.83		276.08
7+26.25	273.94		274.19
+72.43	272.05		272.30
8+18.61	270.16		270.41
+64.79	268.52		268.52
9+11 = 10' N.W.L. Brooklyn			

314.33 = ON BM in Pole Bath + Klumber

543-1	275.97		
31981-K	1193		
1311	7640V		
31167-TP			
537-1			
30706-K	596	634	681
1273-	214	346	382
31033-TP	+320	+335	+359
108-4			
29541-K	7.21	714	736
1312	645	622	576
30772-TP	+076	+072	+160
159-1			
28377-K	294.65	294.02	291.40
1050-	1021	1304	1481
31137-TP	1028	1073	1337
460-1	+013	+031	+064
31577-K			
Y 29664	296.10	291.56	289.02
1022	1086	1101	1246
1086	+036	+088	+139
E 27969	277.72	275.83	273.94
418	615	804	993
265	464	720	697
153	+151	+074	-004
Y 27986	277.97	276.08	274.19
1555	590	779	968
1313	435	621	764
1247	+135	+158	+204

More BM

Station	Grade	Station	Grade
31433-BM	282.4	31620-T	288.77
31620-T	287.77	31620-T	285.27
31620-T	285.27	31620-T	283.39
31620-T	281.50	31620-T	279.69
31620-T	277.72	31620-T	275.83
31620-T	273.94	31620-T	272.05
31620-T	270.16	31620-T	268.27



5

6

4169

472

452.00
456.70

452.10

456.30
455.90

472'

50' cb. Radius

455.40

455.15

454.80

454.50

454.20

453.85

55.5

54.92

54.70

54.47

454.55

454.53

54.55

54.53

54.49

54.51

55.55

52.10

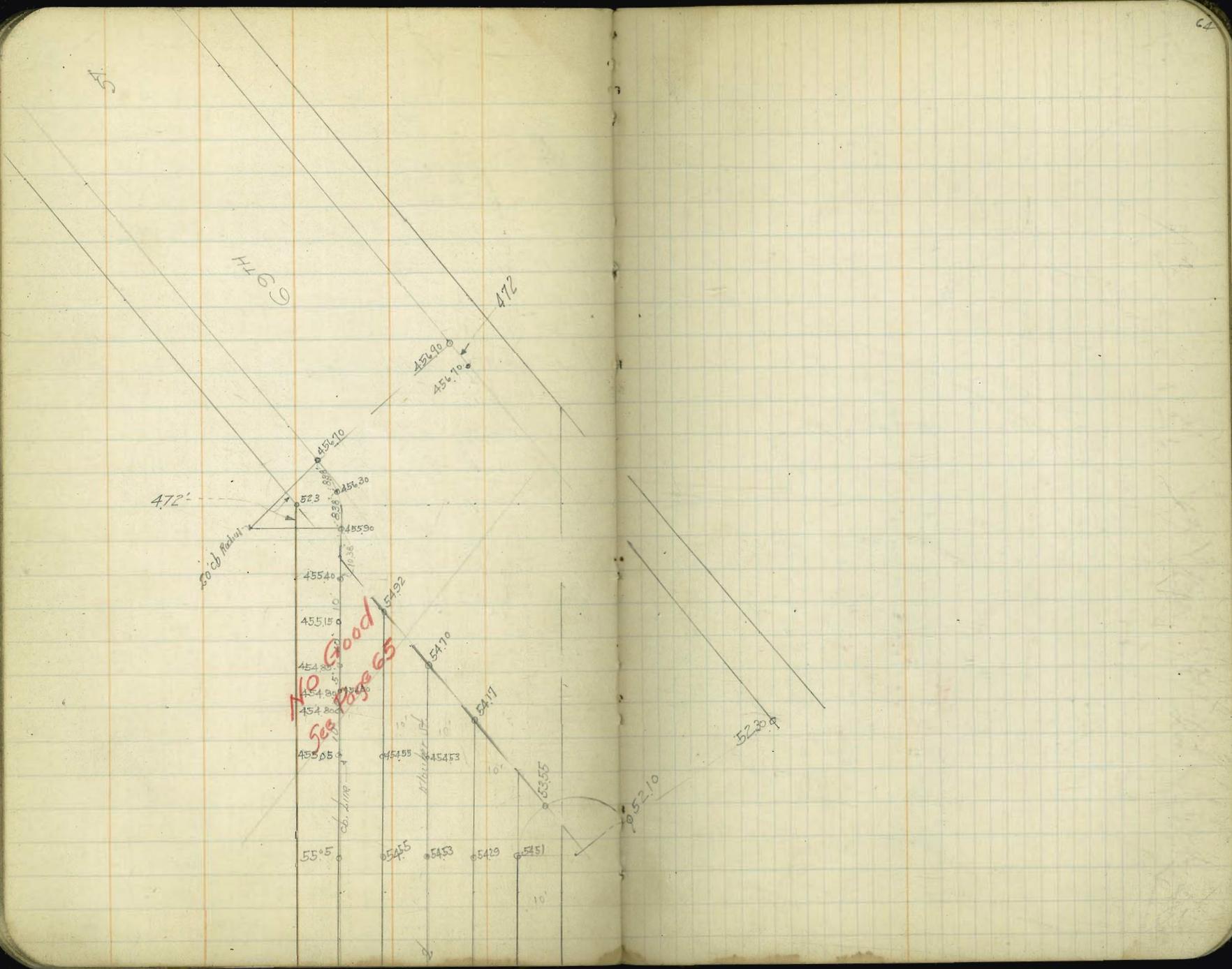
52.30

No Good
See Page 65

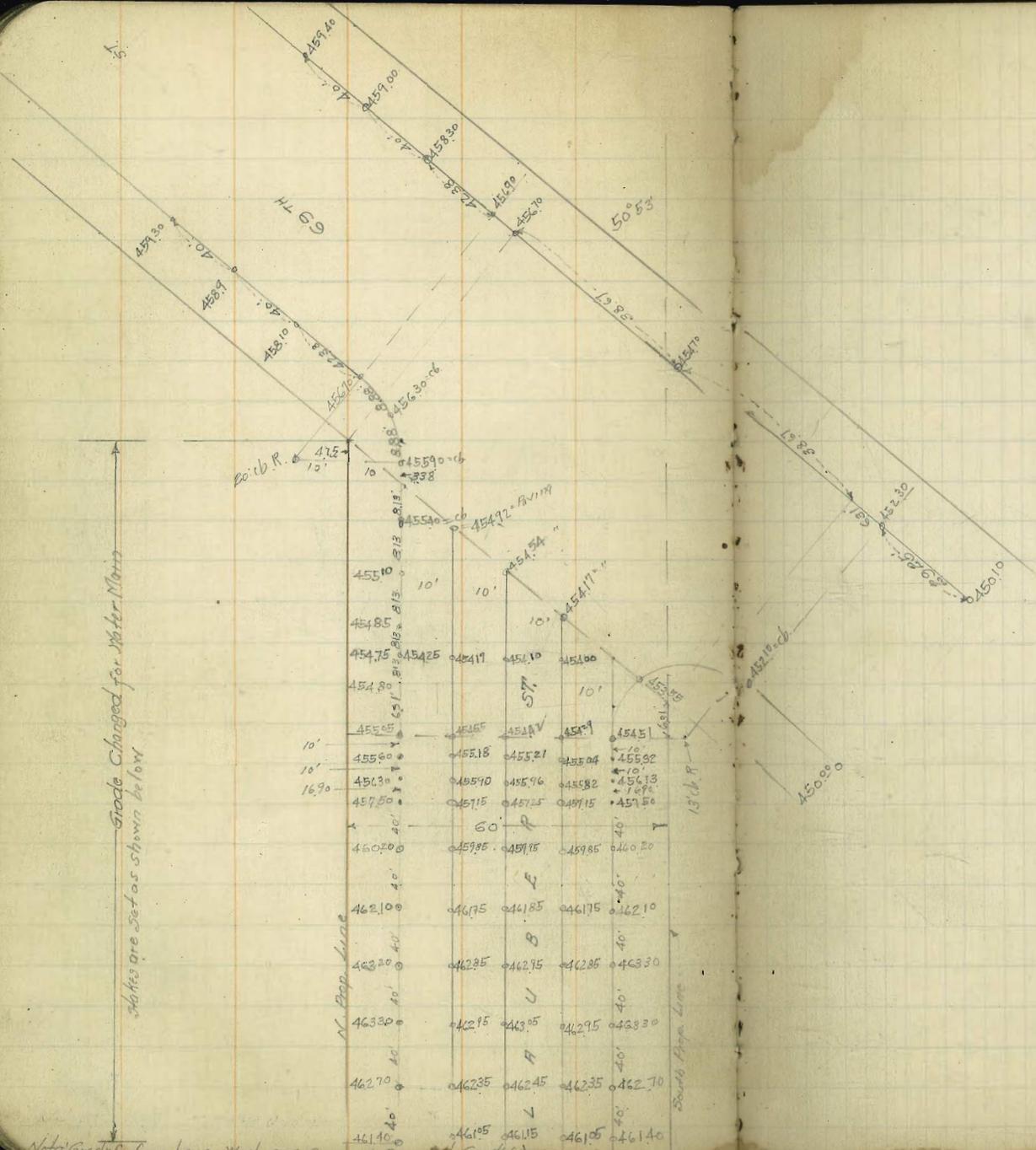
cb. line

10'

10'



Walker
M. H. 1946
L. H.
M. H.
1-17-58



Node Changed for Water Main
Stakes are set as shown below

Note: Grades from here west are same as proposed grades

Klauber St. Paving
from N.L. 69th to Zeller St.

S.L. Sta	S.L. Grades	N.L. Sta	N.L. Grades
-22.57	454.17	-40.65	454.92
-8.13	454.00	-8.13	454.17
Rt Δ to SW Prop Cor = 0+00	{left out}	Rt Δ to SW Prop Cor = 0+00	{left out}
+6.31 = Brk. Future cb PC	454.69	+6.31 = opp cb PC on South	454.55
+16.31 = Brk.	455.04		455.18
+26.31 = Brk.	455.82		455.90
+43.21 = "	457.15		457.15
+83.21 = "	459.85		459.85
1+23.21 = "	461.75		461.75
+63.21 = "	462.85		462.85
2+03.21 = "	462.95		462.95
+43.21 = "	462.35		462.35
2+83.21 = " (2-3417')	461.05		461.05
3+18	459.55		459.55
+52.8 = Brk. (2-352')	458.05		458.05
3+88	456.29		456.26
4+23.2 = "	454.52		454.47
+63.2 = "	452.33		452.33
5+03.2 = " (3-431')	449.65		449.65
5+46.3	446.26		446.30
+89.4	442.89		442.95
6+32.5 = Brk. (1-326')	439.48		439.60
6+55.10 = E.L. Zeller St.	437.97		438.22

cont. on p-55

45190 - BM. NYA Prop Hub Klauber + 69th

Sta	Grades	Sta	Grades
460.13		454.17	454.00
463.51 TP		454.55	455.18
467.64		455.70	457.15
472.86		457.85	461.75
477.98 TP		462.85	462.85
482.13		462.85	462.85
487.25		461.75	462.85
492.37		462.85	462.85
497.49		462.95	462.95
502.61		462.35	462.35
507.73		461.05	461.05
512.85		459.55	459.55
517.97		458.05	458.05
523.09		456.26	456.26
528.21		454.52	454.52
533.33		452.33	452.33
538.45		449.65	449.65
543.57		446.26	446.26
548.69		442.89	442.89
553.81		439.48	439.48
558.93		437.97	437.97

SE Zeller + Klauber

446.26	442.87	437.48	436.87	436.74	436.64	436.83
9.17	11.56	4.84	6.35	7.45	7.58	7.49
6.18	2.81	2.61	4.56	4.73	5.22	6.30
+ 8.04	+ 3.25	+ 2.19	+ 1.79	+ 1.72	+ 1.86	+ 1.38

SE Zeller

446.30	442.95	439.60	438.22	436.97	436.87	436.81	436.89	437.14
9.15	11.48	1.72	6.10	7.35	7.45	7.51	7.43	7.03
7.34	4.16	5.87	2.07	7.15	7.54	7.40	7.00	6.57
+ 1.77	+ 1.33	- 0.65	- 0.97	+ 0.20	- 0.09	+ 0.11	+ 0.23	+ 0.52

Finish stakes

454.17	454.00	542.9	552.4	558.2	571.5	59.85	61.75	62.85	62.95	62.35
1.43	1.26	17.31	11.56	10.18	7.41	6.75	4.85	3.75	3.65	4.25

See continuation p. 55

581.05	575.5	580.5	562.9	545.2	523.3	496.5	462.1	42.87	37.48	37.97
5.55	7.05	8.55	10.31	12.08	17.7	5.47	8.86	12.25	5.15	7.46

61.05	59.55	580.5	562.6	544.7	52.33	496.5	463.0	42.95	39.60	38.22
5.55	7.05	8.55	10.94	00.05	2.79	5.47	8.87	12.17	5.83	7.21

RHODE ISLAND ST.
Cont. from P-68

E.L. Sta.	E.L. Grade	N.L. Sta.	N.L. Grades
		⑤ Def = 8°18'35"	319.56
319.70	⑥	" 2°46'18"	318.61
318.86	⑦	" 3°14'	317.66
317.903	⑧	" 3°41'44"	316.71
316.10	⑨	" 4°09'57"	315.77
315.30	⑩	" 4°37'10"	314.83
314.30	⑪	" 5°04'53"	313.88
313.40	⑫	" 5°32'36"	312.94
312.50	⑬	" 6°00'19"	311.99
311.60	⑭	" 6°28'02"	311.04
310.70	⑮	" 6°55'45"	310.10
309.80	⑯	" 7°23'28"	309.15
308.90	⑰ P.V.C.	7°51'11"	308.20
		{ 8°24'46" }	
1357 = chf 3' from ch.	308.08	⑱ Bkt. 8°15'57"	307.34
		13.12 = chf 3' from ch.	
307.29	⑳	" 8°40'43"	306.52
306.54	㉑	" 9°05'29"	305.73
305.83	㉒	" 9°30'15"	304.99
305.15	㉓	" 9°55'	304.27
304.50	㉔	" 10°19'47"	303.60
303.88	㉕	" 10°44'33"	302.95
303.29	㉖	" 11°09'19"	302.35
302.74	㉗	" 11°34'05"	301.78
302.23	㉘	" 11°58'51"	301.25
301.75	㉙	" 12°23'37"	300.76
301.30	㉚ = E.V.C.	12°48'23"	300.30

1621 = chf 3' from ch.
Cont. on P-70

325.75 - from P-68
1262
313.10 - TP
1332

⑤	⑥	⑬	⑭	⑮	⑯	⑰	⑱
E 318.80	317.00	315.20	313.40	311.60	309.80	308.90	306.50
0.95	8.75	10.55	1.06	2.86	2.66	5.56	7.96
6.15	8.25	11.50	2.08	2.89	2.25	4.70	6.17
Imp. +0.8	0.84	-46	1.0	+0.3	+0.4	+0.6	+1.5
305.62 - TP	304.50	302.70	301.30	300.30	299.30	298.30	297.30
5.30	7.14	7.20	7.97	7.57	3.47	3.31	6.26
300.97 - TP	2.80	1.35	1.35	8.88	5.99	16.72	4.82
300.45 - TP	+0.34	-0.7	-1.6	-2.36	-2.37	-3.55	-4.46
003 - Inv							-4.94

329.85 - from P-68
1281
316.50 - TP
102 - TP
317.50 - TP
1288 - TP
306.66 - TP
108 - TP
357.4 - TP

E	W	E	W	E	W	E	W	E	W
19.70	18.80	17.90	17.00	16.10	15.20	14.30	13.40	12.50	11.60
7.63	10.13	11.43	12.33	14.4	2.34	3.14	4.14	5.04	5.94
8.28	7.77	12.85	12.13	3.81	2.11	4.51	5.77	6.21	7.11
+1.28	+0.59	+0.98	+0.20	-0.67	-0.72	-0.40	-0.72	-0.87	-0.77
18.51	18.61	17.6	16.7	15.77	14.83	13.88	12.94	11.99	11.04
9.77	10.72	11.67	12.62	13.57	14.51	15.46	16.40	17.35	18.30
7.72	10.31	11.27	12.22	13.17	14.12	15.07	16.02	16.97	17.92
+1.00	+1.36	+1.00	+0.98	+0.66				-0.75	0.17

08.90 08.08 07.29 06.54 05.83 05.15 04.50 03.88 03.29 02.74

8.14 7.46 6.55 11.00 11.71 12.39 13.04 13.86 14.5 3.00

8.97 7.68 10.38 7.26 11.2 12.87 12.10 13.0 3.00

-0.73 -0.22 -0.09 +1.74 -0.28 +0.54 +0.56 -3.60

08.20 07.31 06.52 05.73 04.99 04.27 03.60 02.95 02.35 01.78

9.34 10.20 11.07 11.81 12.55 14.7 2.14 2.79 3.39 3.96

8.84 10.27 10.93 11.63 11.2 11.2 11.2 11.2 11.2 11.2

+0.50 +0.75 +0.88 +1.12

02.23 01.75 01.30

3.51 3.99 4.44

3.39 2.31 3.24

+0.12 -0.86 +0.20

01.25 00.76 00.30

4.47 4.78 5.44

RHODE ISLAND ST.
Cont. from P-69

315.62 = π

70

E.L. Sta.	E.L. Grade	N.L. Sta.	N.L. Grade
	300.75	ⓐ Def. = 13°18'20"	299.75
	300.19	ⓑ 13°48'17"	299.19
PRC	299.63	ⓒ = P.C.C 14°18'14"	298.63

PRC	299.10	PRC	298.10
$\frac{1}{4}$	298.43	$\frac{1}{4}$	297.57
$\frac{1}{8}$	297.78	$\frac{1}{8}$ = Low Point	297.38
$\frac{1}{2}$	297.38	$\frac{1}{2}$	297.38

Same Point.

	Mc Basin	E Basin	
N 298.63	298.10	297.57	297.38
6.99	7.52	8.05	8.29
7.08	10.20	11.27	8.24
-2.1	-2.7	-3.44	6.85
			+1.4
E 299.63	299.10	298.43	297.78
5.79	6.52	7.19	7.84
4.00	3.36	3.88	5.20
+2.0	+3.16	+3.3	+2.6

305.74 = π P-69

E 300.75	300.19	299.63	299.10	298.43	297.78	297.38
4.99	5.55	6.11	6.44	7.31	7.76	8.36
4.22	4.83		6.31	6.33	7.42	7.11
+2.77	+1.52		+0.29	+0.78	+0.54	+1.25
N 299.75	299.19	298.63	298.10	297.57	297.38	
5.99	6.85	7.11	7.64	8.17		
		7.20				
E. c Basin	Mc Basin					
E 297.33	297.33					
8.41	8.41					
6.78	7.24					
+1.67	+0.97					

WATER MAIN Grades
 Bet. EC = 0+00 Page 60
 And Bach St.

Grades = ELY Edge Pav.	Elev. Paring			
EC. Page 60 = 0+00	387.35	5.09	382.26	382.23 ✓
0+48.93		7.22	380.13	380.05 ✓
+97.86		7.43	377.92	377.89 ✓
1+46.8	377.54			375.72 ✓
+95.72				373.56 ✓
2+44.66 = N.W. Sparrow				371.40
1-30 = S.W. " = 0+00				370.74
2-42.6		2.75	369.79	369.79
+85.2 = Bit		2.66	368.88	368.85
7-40				367.75
1+25.2 = "				367.75
+65.2 = "		11.43	366.11	366.45 -0.3
2+05.2 = "		12.71	364.83	364.75 ✓
+45.2 = "	365.13	2.43	362.70	362.75 ✓
+85.2 = "		4.59	360.54	360.55 ✓
3+25.2 = "		7.06	358.07	358.10 ✓
+65.2 = "		9.47	355.66	355.65 ✓
5-(46.84)	353.90			
4+12.04	353.80	2.17	351.53	351.65 -0.1
+58.9		6.11	347.59	347.65
5+05.7		10.14	343.66	343.65
+52.56				339.65
+99.4 = opp / N.W. Mien. St.				335.65
6+29.4				333.15
+79.4				329.46
7+29.4				325.77

Elev. Grade 0+48.93 = 380.05
 Cut = 3.33
 Elev. Stub = 383.38
 3.97 +
 387.35 - 7
 1.6 ✓
 375.71 - 7P
 1.83 +
 377.54 = 7
 1.271 -
 364.83 - 7P
 0.36
 365.19 = 7

Elev. Grade 2+18.2 = 360.55
 F = 0.01
 360.50
 4.63
 365.13 = 7
 12.68 -
 352.45 = 7P
 1.15 +
 353.70 = 7

Walker
McMahon
Molton
3-13-29

Side Walk Stakes

North Side of Polk Ave
From N. Line Alabama St. to Alley 140' West

N. Side	N.L. Grades	
N. Line Alabama St.	289.00	8 ft 0.52 short
+40	286.34	
+80	283.67	
+120 = Brk.	281.00	
+130 = "	280.40	
36.74 = 3' ENT ALLEY	280.00	
+39.74 = EN ALLEY	279.83	{Left out}
+36.74 = stake of P.L. Alley	279.98	

309.97 = SE. CP POLK + Miss.

199+							
311.94+							
12.64-							
299.30-TP							
1.29+							
300.59-T							
11.28-							
289.11-TP							
1.94							
291.05							

N.L.	289.00	286.34	283.67	281.00	280.40	280.00	279.83
	11.59	4.71	7.38	10.05	10.65	11.05	11.57
	11.58						
	0.01						

289.11-TP ON NW 7' Lock Polk and Alabama

289.11	290.82	290.82	290.82	290.82	290.82
1.71	289.11	289.11	289.11	289.11	289.11
290.82	1.82	1.82	10.83	10.83	10.84

Yellow
McLean
Mooney
Lee
3-23-20

SEWER CONST IN 10TH ST. ^{1/2} 10th St. Johnson

Sheet #3198

Genius Const Co.
Contractors
Flow Line, Guide

305' North of MH #1

= 0+00 (4357) 7	287.50	6.67	280.53	274.83	+ 5.70
0+43.57		6.30	280.90	274.49	+ 6.41
+ 87.14		5.88	281.38	274.14	+ 7.24
1+30.7		5.68	281.52	273.79	+ 7.73
+ 74.3		5.55	281.65	273.44	+ 8.21
2+17.8		5.23	281.97	273.09	+ 8.88
+ 61.4		4.95	282.25	272.74	+ 9.57
3+05 = MH #1 = Johnson		4.94	282.26	272.39	+ 9.87
(2812) 3		5.77	281.43	272.08	+ 9.35
3+43.1		7.17	280.03	271.76	+ 8.27
+ 81.25		8.47	278.73	271.45	+ 7.28
4+19.31		10.08	277.12	271.13	+ 5.99
(3834) 3		9.73	277.47	267.20	+ 10.27
+ 57.5 = MH #2 = Alley					
4+82.5 = Plug end.					

This offset
 is 9.42, compare
 with drawing to show
 how center line
 survey

10th St Johnson + 10th St = 282.44
 4.76
 287.20

0+00 = inside edge
 6 Inlet

CULVERT #1 = 31" 12" Can. Iron Pipe Flow Line

285.74	4.55	281.19	279.00	+ 2.19
0+30 = Horiz. det.	1.54	276.30	274.00	- 0.20

Elev. top ch. on 10th P-75 = 280.96
 4.76
 285.74

76

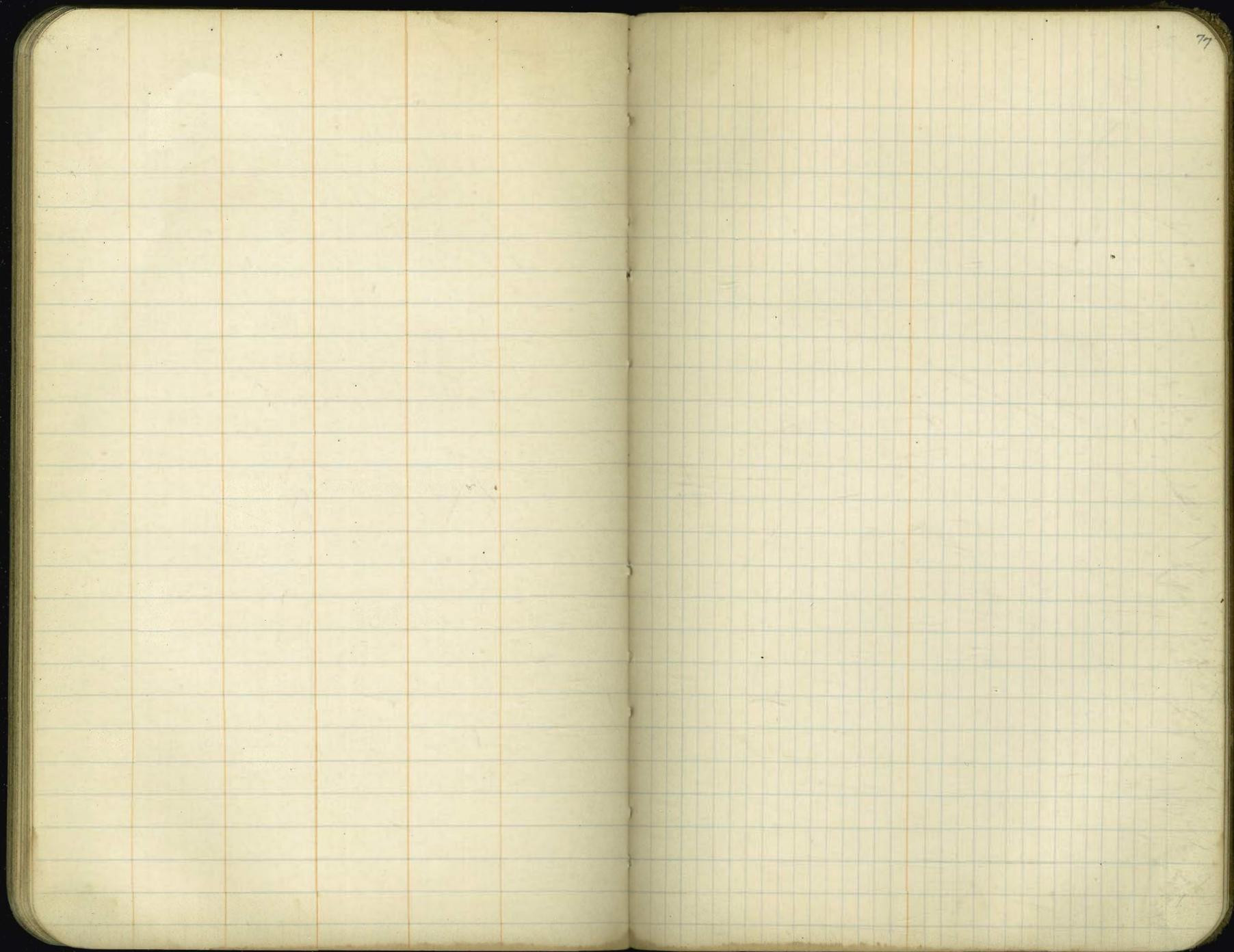
WATER MAIN 10th

From NLY End 10th St. to Johnson Ave

	hpcb.	Floor Line	
NLY End 10th = 0+00	80.9	877.8	+3.1
+30	81.1	78.0	+3.1
+55	81.3	78.2	+3.1
+80	81.5	78.4	+3.1
1+05	81.7	78.5	+3.2
130	81.9	78.7	+3.2
155	82.1	78.9	+3.2
1+80	82.3	79.0	+3.3
2+05	82.5	79.2	+3.3
+30	82.7	79.4	+3.3
+55	82.9	79.6	+3.3
2+80 = Bk	83.0	79.7	+3.3
3+71.5 = NLY line Johnson ave E	82.5	78.9	+3.6
4+51.5 = SLY " " "	83.5	79.8	+3.7

Johnson Ave from NLY line 10th

NLY line 10th = 0+00	281.3	278.3	+3.0
+34	80.2	277.2	+3.0
+67	79.1	276.1	+3.0
1+01	78.0	274.9	+3.1
+25.5	77.2	274.1	+3.1
1+67	75.9	272.7	+3.2
2+00	74.8	271.6	+3.2
+34	73.7	270.4	+3.3
+65 = Bk	72.6	269.3	+3.3
3+11.5	72.8	269.4	+3.4
+60 = End.	72.9	269.5	+3.4



Preliminary Levels
for Culvert End of Rhode Island St.

					B.M. on Prophyll N.E. end Rhode Island St.
	0.36	300.81	300.45		
0+00 = ch. line on medial line			2.03	298.8	
+17.75 = medial line			2.7	298.1	
+50			5.7	295.1	
+63			8.7	292.6	
T.P.	0.34	288.50	12.65	288.16	
+78			3.1	285.4	
+89			9.5	279.0	
+99			4.0		
T.P.	1.48	277.64	12.34	276.16	
0+99			6.0	271.6	
T.P.	0.28	265.72	12.20	265.44	
T.P.	1.81	254.90	12.63	253.09	
1+25			3.9	251.0	
T.P.	0.13	242.12	12.91	241.79	
1+42.3			5.3	236.8	
T.P.	0.02	229.71	12.43	229.69	
1+59			1.9	227.8	
1+71			9.5	220.2	
+78			13.3	216.4	
T.P.	12.22	241.91	0.02	229.69	
Rough ch. th. 1+20 =			4.26	237.65	
				238.1	
				5	

DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

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

TABLE No. 9.

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

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

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

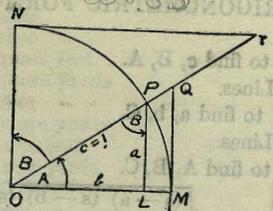


TABLE II

TRIGONOMETRIC FORMULÆ.

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

360.19
464
350.55

1925
1333
3258
38735
1087
37646
1.43

37794
392
37407

37754
983
36771
7.

37754
1087
367.00

37754
1333
366.32
366.41
1.13

40543
256
40799
417
622
387.35
831
79.0V
387.35
667
38068
7238
323
155
365.13
620
893
655

TABLE X.
MIDDLE ORDINATES OF RAILS
Length of Rail (feet)

C	R	30	28	26	24	22	20	C	R	30	28	26	24	22	20
o /	Feet	Inch	Inch	Inch	Inch	Inch	Inch	o	Feet	Inch	Inch	Inch	Inch	Inch	Inch
0-20	17189	.08	.07	.06	.05	.04	.03	8	716.8	1.88	1.64	1.42	1.20	1.01	.84
0-40	8594	.16	.14	.12	.10	.08	.07	9	637.3	2.12	1.84	1.60	1.35	1.14	.94
1-0	5730	.24	.20	.18	.15	.13	.10	10	573.7	2.36	2.05	1.78	1.50	1.27	1.04
1-20	4297	.31	.27	.23	.20	.17	.13	11	521.7	2.59	2.26	1.95	1.65	1.39	1.15
1-40	3438	.39	.34	.29	.25	.21	.17	12	478.3	3.33	2.47	2.15	1.81	1.54	1.26
2-0	2865	.47	.41	.35	.30	.25	.20	13	441.7	3.05	2.66	2.30	1.96	1.66	1.36
2-20	2456	.55	.48	.41	.35	.29	.23	14	410.3	3.30	2.87	2.48	2.10	1.78	1.46
2-40	2149	.63	.55	.47	.40	.33	.27	15	383.1	3.54	3.08	2.68	2.26	1.91	1.57
3-0	1910	.71	.62	.53	.45	.38	.31	16	359.3	3.76	3.28	2.83	2.40	2.04	1.67
3-20	1719	.78	.68	.59	.50	.42	.35	17	338.3	4.00	3.48	3.02	2.57	2.16	1.78
3-40	1563	.86	.75	.65	.55	.46	.38	18	319.6	4.21	3.67	3.18	2.70	2.28	1.87
4-0	1433	.94	.82	.71	.60	.50	.42	19	302.9	4.45	3.89	3.36	2.86	2.41	1.98
4-20	1323	1.02	.89	.77	.65	.55	.45	20	287.9	4.70	4.09	3.55	3.00	2.54	2.09
4-40	1228	1.10	.96	.83	.70	.59	.48	22	262.0	5.16	4.44	3.84	3.30	2.80	2.29
5	1146	1.18	1.03	.89	.75	.63	.52	24	240.5	5.64	4.92	4.20	3.59	3.04	2.50
6	955.3	1.41	1.23	1.06	.90	.76	.62	26	222.3	6.07	5.29	4.58	3.88	3.29	2.70
7	819.0	1.65	1.44	1.24	1.05	.89	.73								

TABLE XI.
SHORT RADIUS CURVES

Radius Feet	Chord Feet	Central Angle	Deflection Angle	Deflection for 1 Foot
35	10	16-26	8-13	49.3
45	10	12-46	6-23	38.3
50	15	17-16	8-38	34.5
60	15	14-22	7-11	28.8
75	15	11-30	5-45	23.0
100	20	11-30	5-45	17.3
120	20	9-34	4-47	14.3
150	20	7-39	3-49	11.5
190	25	7-32	3-46	9.15
200	25	7-10	3-35	8.6
225	25	6-25	3-12	7.7
240	25	5-58	2-59	7.2
250	25	5-44	2-52	6.9
275	25	5-12	2-36	6.2
288	50	9-58	4-59	6.0
300	50	9-32	4-46	5.7
350	50	8-12	4-06	4.9
376	50	7-40	3-50	4.6
400	50	7-10	3-35	4.3
410	50	7-00	3-30	4.2

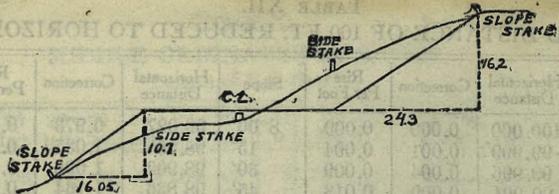
To find length of curve divide angle from P. C. to P. T. by central angle of chord, and multiply by length of chord.

TABLE XII.
INCLINED DISTANCE OF 100 FT. REDUCED TO HORIZONTAL

Slope	Horizontal Distance	Correction	Rise Per Foot	Slope	Horizontal Distance	Correction	Rise Per Foot
0°00'	100.000	0.000	0.000	8°00'	99.027	0.973	0.139
15'	99.999	0.001	0.004	15'	98.965	1.035	0.143
30'	99.996	0.004	0.009	30'	98.902	1.098	0.148
45'	99.991	0.009	0.013	45'	98.836	1.164	0.152
1 00	99.985	0.015	0.017	9 00	98.769	1.231	0.156
15	99.976	0.024	0.023	15	98.700	1.300	0.161
30	99.966	0.034	0.026	30	98.629	1.371	0.165
45	99.953	0.047	0.031	45	98.556	1.444	0.169
2 00	99.939	0.061	0.035	10 00	98.481	1.519	0.174
15	99.923	0.077	0.039	15	98.404	1.596	0.178
30	99.905	0.095	0.044	30	98.325	1.675	0.182
45	99.885	0.115	0.048	45	98.245	1.755	0.187
3 00	99.863	0.137	0.052	11 00	98.163	1.837	0.191
15	99.839	0.161	0.057	15	98.079	1.921	0.195
30	99.813	0.187	0.061	30	97.992	2.008	0.199
45	99.786	0.214	0.065	45	97.905	2.095	0.204
4 00	99.756	0.244	0.070	12 00	97.815	2.185	0.208
15	99.725	0.275	0.074	15	97.723	2.277	0.212
30	99.692	0.308	0.078	30	97.630	2.370	0.216
45	99.657	0.343	0.083	45	97.534	2.466	0.221
5 00	99.619	0.381	0.087	13 00	97.437	2.563	0.225
15	99.580	0.420	0.092	15	97.338	2.662	0.229
30	99.540	0.460	0.096	30	97.237	2.763	0.233
45	99.497	0.503	0.100	45	97.134	2.866	0.238
6 00	99.453	0.548	0.105	14 00	97.030	2.970	0.242
15	99.406	0.594	0.109	15	96.923	3.077	0.246
30	99.357	0.643	0.113	30	96.815	3.185	0.250
45	99.307	0.693	0.118	45	96.705	3.295	0.255
7 00	99.255	0.745	0.122	15 00	96.592	3.407	0.259
15	99.200	0.800	0.126	15	96.479	3.521	0.263
30	99.144	0.856	0.131	30	96.363	3.637	0.267
45	99.087	0.913	0.135	45	96.246	3.754	0.271

TABLE XIII.
MINUTES IN DECIMALS OF A DEGREE.

0 30"	.00833	10' 30"	.17500	20' 30"	.34167	30' 10"	.50833	40' 30"	.67500	50' 10"	.84167
1 00	.01667	11 00	.18333	21 00	.35000	31 00	.51667	41 00	.68333	51 00	.85000
30	.02500	30	.19167	30	.35833	30	.52500	30	.69167	30	.85833
2 00	.03333	12 00	.20000	22 00	.36667	32 00	.53333	42 00	.70000	52 00	.86667
30	.04167	30	.20833	30	.37500	30	.54167	30	.70833	30	.87500
3 00	.05000	13 00	.21667	23 00	.38333	33 00	.55000	43 00	.71667	53 00	.88333
30	.05833	30	.22500	30	.39167	30	.55833	30	.72500	30	.89167
4 00	.06667	14 00	.23333	24 00	.40000	34 00	.56667	44 00	.73333	54 00	.90000
30	.07500	30	.24167	30	.40833	30	.57500	30	.74167	30	.90833
5 00	.08333	15 00	.25000	25 00	.41667	35 00	.58333	45 00	.75000	55 00	.91667
30	.09167	30	.25833	30	.42500	30	.59167	30	.75833	30	.92500
6 00	.10000	16 00	.26667	26 00	.43333	36 00	.60000	46 00	.76667	56 00	.93333
30	.10833	30	.27500	30	.44167	30	.60833	30	.77500	30	.94167
7 00	.11667	17 00	.28333	27 00	.45000	37 00	.61667	47 00	.78333	57 00	.95000
30	.12500	30	.29167	30	.45833	30	.62500	30	.79167	30	.95833
8 00	.13333	18 00	.30000	28 00	.46667	38 00	.63333	48 00	.80000	58 00	.96667
30	.14167	30	.30833	30	.47500	30	.64167	30	.80833	30	.97500
9 00	.15000	19 00	.31667	29 00	.48333	39 00	.65000	49 00	.81667	59 00	.98333
30	.15833	30	.32500	30	.49167	30	.65833	30	.82500	30	.99167
10 00	.16667	20 00	.33333	30 00	.50000	40 00	.66667	50 00	.83333	60 00	1.00000

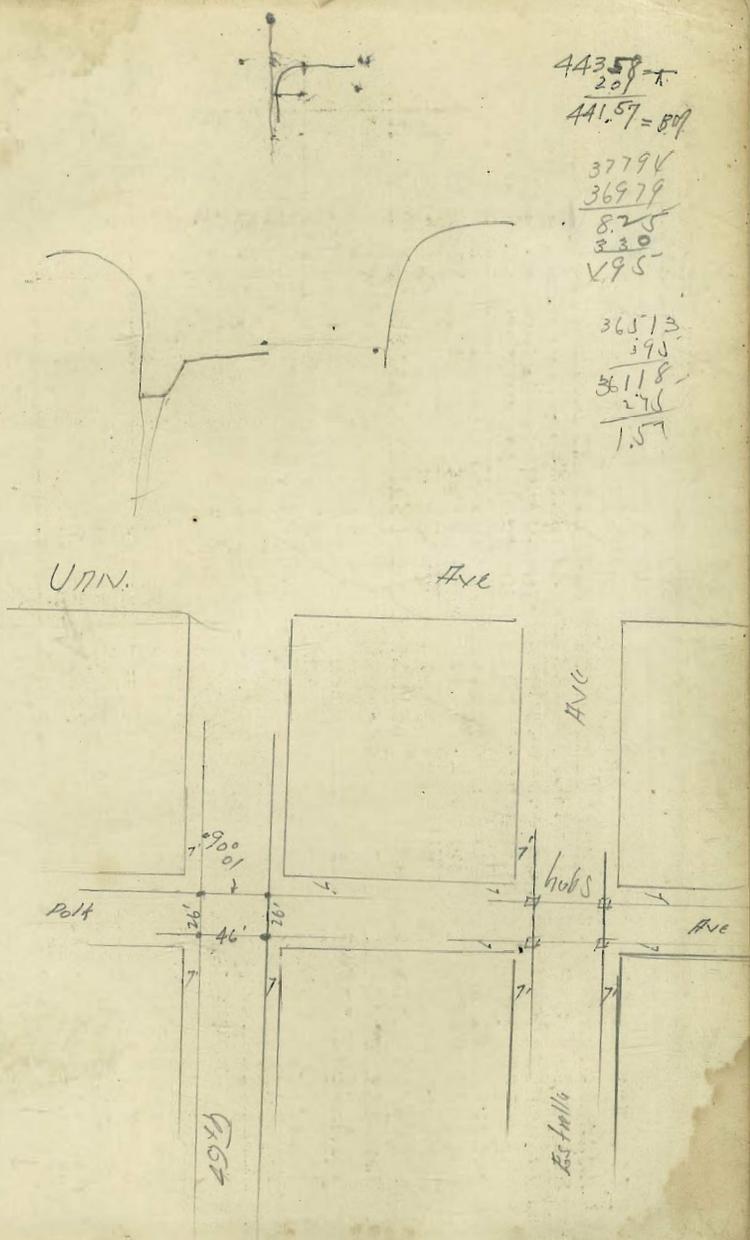


DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.

SLOPE $1\frac{1}{2}$ 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.



443.58 - 209 = 441.57 = 809

3779V
36979
825
330
V95

36513
390
36118
270
1.57

