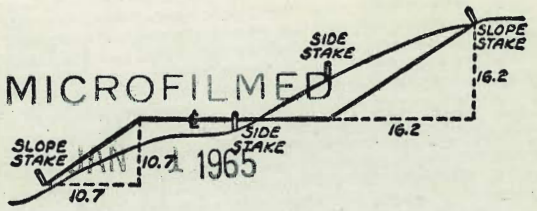
2214

STORM DRAINS



Distances from Side Stakes for Cross-Sectioning

Slope 1 to 1. Roadway of Any Width

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	0
1	1.00	1.10	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	1
2	2.00	2.10	2.20	2.30	2.40	2.50	2.60	2.70	2.80	2.90	2
3	3.00	3.10	3.20	3.30	3.40	3.50	3.60	3.70	3.80	3.90	3
4	4.00	4.10	4.20	4.30	4.40	4.50	4.60	4.70	4.80	4.90	4
5	5.00	5.10	5.20	5.30	5.40	5.50	5.60	5.70	5.80	5.90	5
6	6.00	6.10	6.20	6.30	6.40	6.50	6.60	6.70	6.80	6.90	6
7	7.00	7.10	7.20	7.30	7.40	7.50	7.60	7.70	7.80	7.90	7
8	8.00	8.10	8.20	8.30	8.40	8.50	8.60	8.70	8.80	8.90	8
9	9.00	9.10	9.20	9.30	9.40	9.50	9.60	9.70	9.80	9.90	9
10	10.00	10.10	10.20	10.30	10.40	10.50	10.60	10.70	10.80	10.90	10
11	11.00	11.10	11.20	11.30	11.40	11.50	11.60	11.70	11.80	11.90	11
12	12.00	12.10	12.20	12.30	12.40	12.50	12.60	12.70	12.80	12.90	12
13	13.00	13.10	13.20	13.30	13.40	13.50	13.60	13.70	13.80	13.90	13
14	14.00	14.10	14.20	14.30	14.40	14.50	14.60	14.70	14.80	14.90	14
15	15.00	15.10	15.20	15.30	15.40	15.50	15.60	15.70	15.80	15.90	15
16	16.00	16.10	16.20	16.30	16.40	16.50	16.60	16.70	16.80	16.90	16
17	17.00	17.10	17.20	17.30	17.40	17.50	17.60	17.70	17.80	17.90	17
18	18.00	18.10	18.20	18.30	18.40	18.50	18.60	18.70	18.80	18.90	18
19	19.00	19.10	19.20	19.30	19.40	19.50	19.60	19.70	19.80	19.90	19
20	20.00	20.10	20.20	20.30	20.40	20.50	20.60	20.70	20.80	20.90	20
21	21.00	21.10	21.20	21.30	21.40	21.50	21.60	21.70	21.80	21.90	21
22	22.00	22.10	22.20	22.30	22.40	22.50	22.60	22.70	22.80	22.90	22
23	23.00	23.10	23.20	23.30	23.40	23.50	23.60	23.70	23.80	23.90	23
24	24.00	24.10	24.20	24.30	24.40	24.50	24.60	24.70	24.80	24.90	24
25	25.00	25.10	25.20	25.30	25.40	25.50	25.60	25.70	25.80	25.90	25
26	26.00	26.10	26.20	26.30	26.40	26.50	26.60	26.70	26.80	26.90	26
27	27.00	27.10	27.20	27.30	27.40	27.50	27.60	27.70	27.80	27.90	27
28	28.00	28.10	28.20	28.30	28.40	28.50	28.60	28.70	28.80	28.90	28
29	29.00	29.10	29.20	29.30	29.40	29.50	29.60	29.70	29.80	29.90	29
30	30.00	30.10	30.20	30.30	30.40	30.50	30.60	30.70	30.80	30.90	30
31	31.00	31.10	31.20	31.30	31.40	31.50	31.60	31.70	31.80	31.90	31
32	32.00	32.10	32.20	32.30	32.40	32.50	32.60	32.70	32.80	32.90	32
33	33.00	33.10	33.20	33.30	33.40	33.50	33.60	33.70	33.80	33.90	33
34	34.00	34.10	34.20	34.30	34.40	34.50	34.60	34.70	34.80	34.90	34
35	35.00	35.10	35.20	35.30	35.40	35.50	35.60	35.70	35.80	35.90	35
36	36.00	36.10	36.20	36.30	36.40	36.50	36.60	36.70	36.80	36.90	36
37	37.00	37.10	37.20	37.30	37.40	37.50	37.60	37.70	37.80	37.90	37
38	38.00	38.10	38.20	38.30	38.40	38.50	38.60	38.70	38.80	38.90	38
39	39.00	39.10	39.20	39.30	39.40	39.50	39.60	39.70	39.80	39.90	39
40	40.00	40.10	40.20	40.30	40.40	40.50	40.60	40.70	40.80	40.90	40
41	41.00	41.10	41.20	41.30	41.40	41.50	41.60	41.70	41.80	41.90	41
42	42.00	42.10	42.20	42.30	42.40	42.50	42.60	42.70	42.80	42.90	42
43	43.00	43.10	43.20	43.30	43.40	43.50	43.60	43.70	43.80	43.90	43
44	44.00	44.10	44.20	44.30	44.40	44.50	44.60	44.70	44.80	44.90	44
45	45.00	45.10	45.20	45.30	45.40	45.50	45.60	45.70	45.80	45.90	45
46	46.00	46.10	46.20	46.30	46.40	46.50	46.60	46.70	46.80	46.90	46
47	47.00	47.10	47.20	47.30	47.40	47.50	47.60	47.70	47.80	47.90	47
48	48.00	48.10	48.20	48.30	48.40	48.50	48.60	48.70	48.80	48.90	48
49	49.00	49.10	49.20	49.30	49.40	49.50	49.60	49.70	49.80	49.90	49
50	50.00	50.10	50.20	50.30	50.40	50.50	50.60	50.70	50.80	50.90	50

Distance of slope stake from side or shoulder stake for any width roadway, slope 1 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 XIII—CORRECTIONS FOR TANGENTS AND EXTERNALS

These corrections are to be added to the approximate values, found by dividing the tangent, or external, for a 1° curve (Table VIII) by the degree of curve, in order to obtain the true tangents, or externals. Intermediate values may be obtained by interpolation.

FOR TANGENTS ADD

Central Angle	Degree of Curve													
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°
10°	03	.06	09	13	16	19	.22	.25	.28	.31	34	38	42	.46
15°	04	10	14	19	24	.29	.34	.39	45	.51	.53	58	.63	.68
20°	06	.13	19	.26	.32	.39	.45	.51	.58	.65	.72	79	.84	.90
25°	.08	16	24	.33	40	49	.58	67	.75	.83	90	.99	1.06	1.14
30°	10	19	.29	39	49	.59	.69	79	.89	.99	1.09	1.20	1.29	1.39
35°	11	22	.34	47	.58	.69	.70	.81	.92	1.04	1.29	1.42	1.54	1.66
40°	13	.26	.40	.53	.67	.80	.93	1.06	1.20	1.34	1.49	1.64	1.79	1.94
45°	15	.30	44	60	76	91	1.06	1.21	1.37	1.52	1.70	1.87	2.04	2.21
50°	17	.34	.51	.68	.85	1.02	1.19	1.36	1.54	1.72	1.91	2.10	2.29	2.48
55°	19	38	.57	76	.95	1.14	1.32	1.52	1.72	1.92	2.14	2.35	2.56	2.77
60°	21	42	.63	.84	1.05	1.27	1.49	1.71	1.94	2.17	2.38	2.60	2.83	3.07
65°	23	46	.69	.93	1.16	1 40	1.64	1.88	2.13	2.38	2.63	2.88	3.13	3.39
70°	25	.51	76	1.02	1.28	1.54	1.80	2.06	2.33	2.60	2.88	3.16	3.44	3.72
75°	.27	.56	.83	1.12	1.40	1.69	1.98	2.27	2.57	2.87	3.16	3.47	3.78	4.09
80°	30	.61	.91	1.22	1.53	1.84	2.15	2.46	2 78	3.10	3.44	3.78	4.12	4.46
85°	33	66	1.00	1.33	1.68	2.02	2.36	2 70	3.05	3.40	3.77	4.14	4.55	4 89
90°	36	.72	1.09	1.45	1.83	2.20	2.57	2.94	3.32	3.70	4.10	4.50	4.91	5.32
95°	39	79	1.19	1.55	2.00	2.40	2.80	3.20	3.61	4.02	4.40	4.98	5.38	5.83
100°	43	.86	1.30	1.74	2.18	2.62	3.06	3.50	3.95	4.40	4.88	5.37	5.85	6.34
110°	51	1.03	1.56	2.08	2.61	3.14	3.67	4.21	4 76	5.31	5 86	6.43	7 01	7 60
120°	62	1.25	1 93	2.52	3.16	3.81	4 45	5.11	5.77	6 44	7 12	7.80	8.50	9 22

FOR EXTERNALS ADD

Central Angle	Degree of Curve													
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°
10°	.001	.003	.004	.006	.007	.008	.009	.011	.012	.014	.015	.017	.018	.020
15°	.003	.007	.010	.014	.018	.023	.027	.029	.032	.035	.039	.043	.047	.051
20°	.006	.011	.017	.022	.028	.034	.038	.045	.051	.057	.063	.070	.076	.083
25°	.009	.018	.027	036	.046	.056	.065	.074	.083	.093	.106	120	127	135
30°	.013	.025	.038	.051	.065	.078	.090	.103	.116	.129	.149	.170	.179	.188
35°	.018	.035	.054	.072	.086	.109	.131	.153	.175	.197	.213	.230	.247	.264
40°	.023	.046	.070	.093	.117	.141	.172	.203	.234	.265	.277	.290	.315	.341
45°	.030	.060	.093	.119	.153	.184	.216	.254	.289	.325	.351	.378	.411	.445
50°	.037	.075	.116	.151	.189	.227	.266	.305	.345	.384	.425	.467	.508	.550
55°	.046	.093	.142	.188	.236	.283	.332	.381	.420	.479	.530	.582	.641	.700
60°	.056	.112	.168	.225	.283	.340	.398	.457	.516	.575	.636	.697	.774	.851
65°	.067	.135	.204	.273	.343	.412	.483	.554	.625	.697	.711	.845	.922	1.01
70°	.080	.159	.240	.321	.403	.485	.568	.652	.735	.819	.906	.994	1.08	1.17
75°	.095	.182	.286	.383	.480	.578	.678	.777	.877	.977	1.07	1.18	1.29	1.39
80°	.110	.220	.332	.445	.558	.671	.787	.903	1.02	1.13	1.25	1.38	1.50	1.62
85°	.128	.259	.391	.524	.657	.790	.926	1.06	1.20	1.34	1.47	1.62	1.76	1.91
90°	.149	.299	.450	.603	.756	.910	1.07	1.22	1.38	1.54	1.70	1.87	2.03	2.20
95°	.174	.350	.522	.706	.985	1.06	1.25	1.43	1.62	1.80	1.99	2.18	2.38	2.58
100°	.200	.401	.604	.809	1.01	1.22	1.43	1.64	1.85	2.06	2.28	2.50	2.73	2.96
110°	.268	.536	.806	1.08	1.35	1.63	1.91	2.20	2.48	2.76	3.05	3.35	3.66	3.96
120°	.360	.721	1.08	1.45	1.82	2.19	2.57	2.95	3.33	3.72	4.11	4.50	4.91	5.32

INDEX

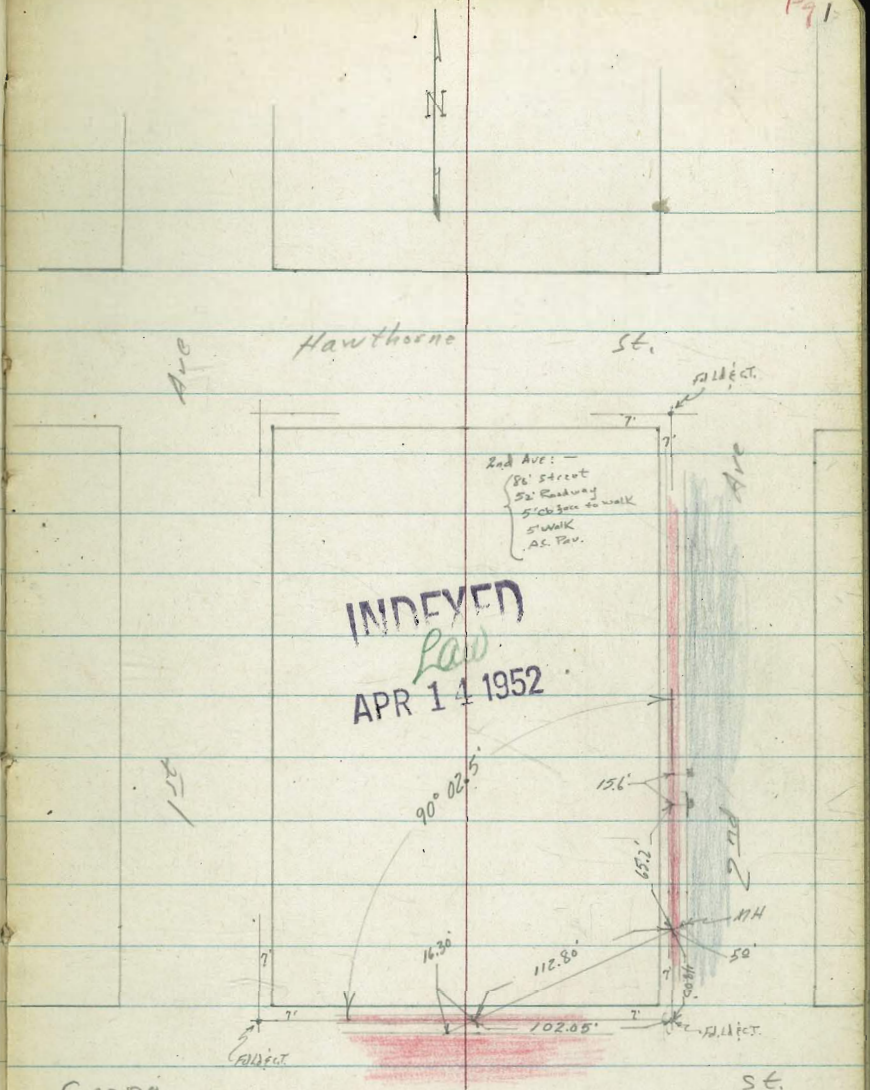
Survey for Storm Drain grape & First Camino del Rio to 1
" for drain in Rosecrans-Taylor St 3
" Pelotes Creek - to 43d N. Epsilon 17
" INLET - BLK 2: PARADISE HILLS 45

Roberts
Cota
Moore
Pullen
4-11-52
W.O. #2000

Survey to locate storm drain
From 2nd Ave to Grape St.

T.P. 50

P91



Grape: —
80' Street
52' Roadway
4.67' Ch. Face to walk
5.33' Walk
Conc. Pav.

Cont'd From Page 1

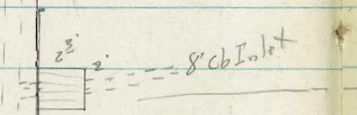
BM

168.99

SWBP Grape & 2nd

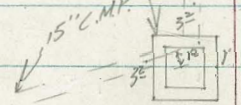
cb – 163.39
Gutter – 162.57
Invert – 160.37

15" CMP

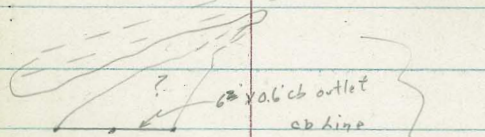


cb – 163.31
Gutter – 162.04
Invert – 158.62

This MH is Brick construction and not symetrical or plumb!



Invert – 158.42

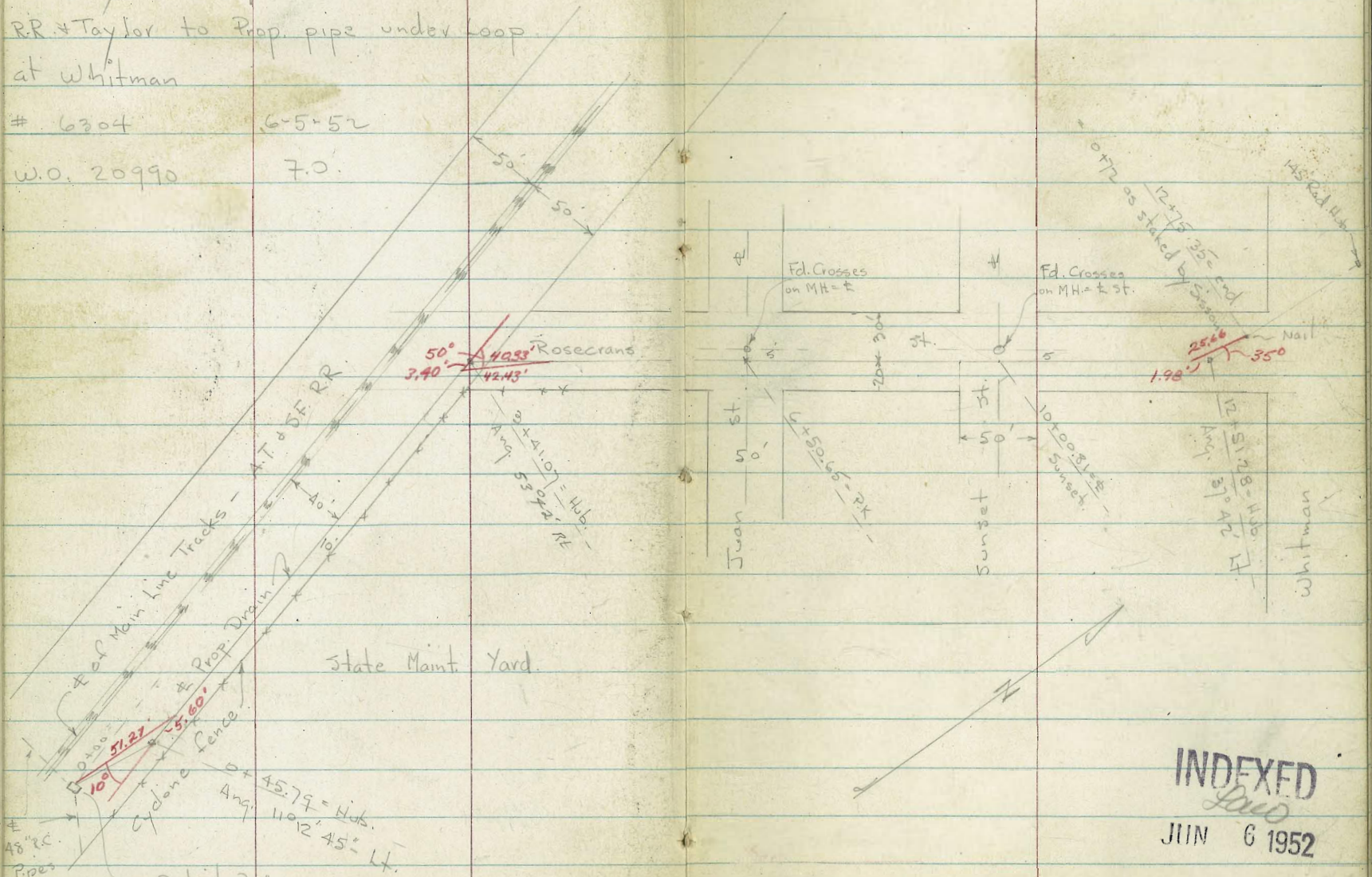


E. cb – 155.37
Gutt – 154.63
W. cb – 154.99
Gutt – 154.22
cb – 154.62
Gutt – 153.90

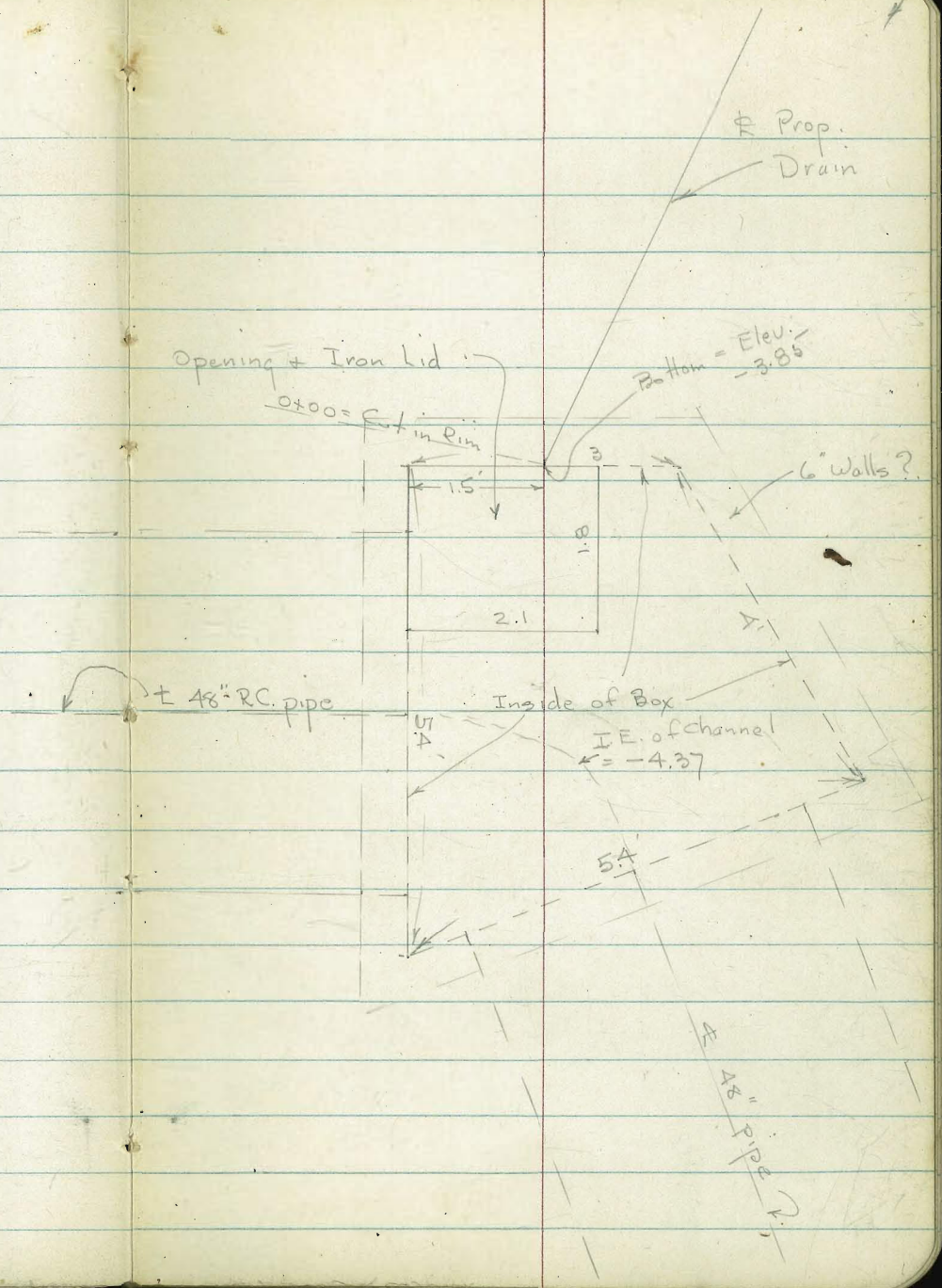
Survey for Prop. Drain from Box by R.R. & Taylor to Prop. pipe under Loop at Whitman

6304 6-5-52

W.O. 20990 7.0.



R.R. Tracks.

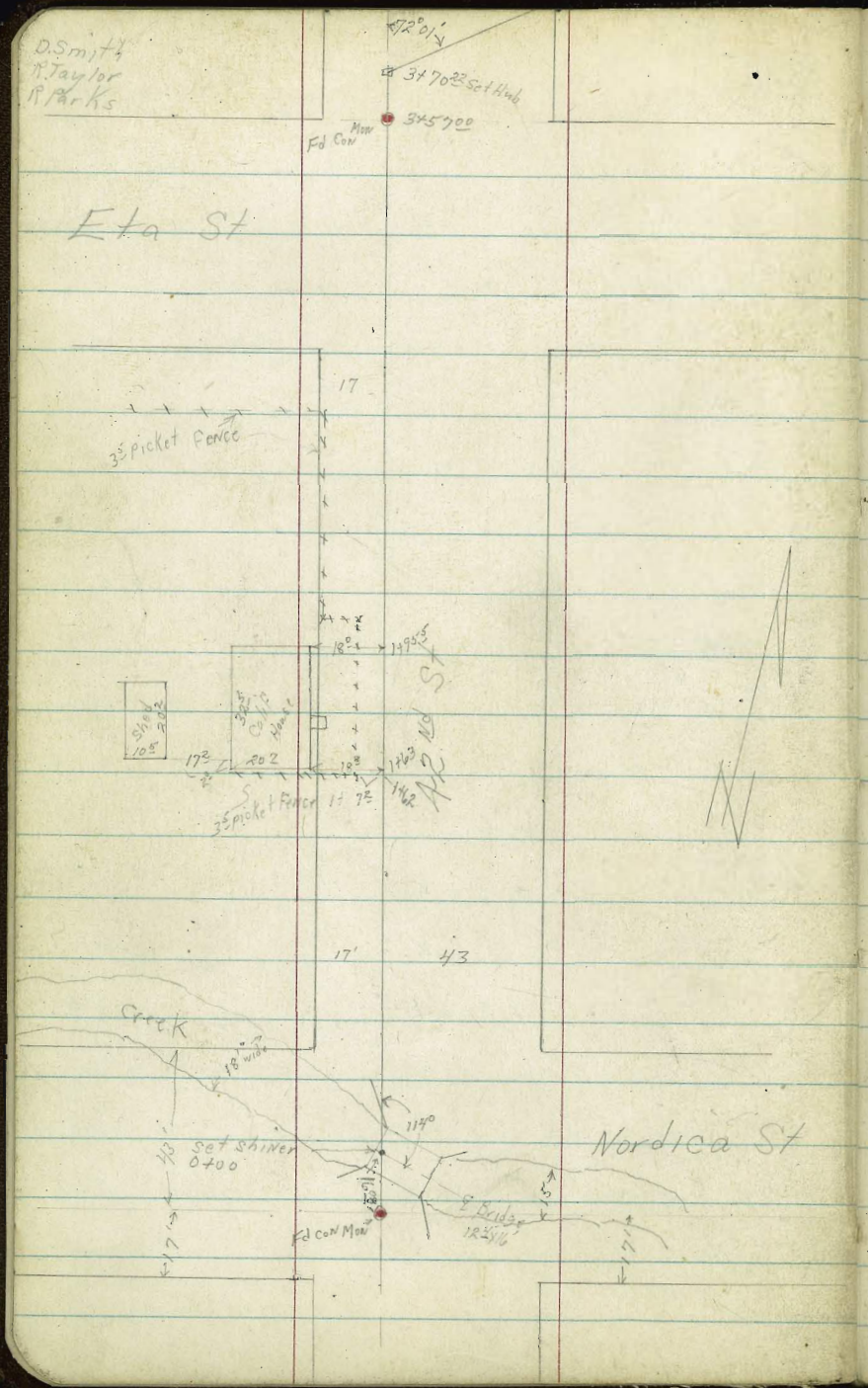

℄ Prop.
Drain
Opening + Iron Lid
0+00 = C.I. in Pin
Bottom = Elev. -3.85
3
1.5'
6" Walls?
8'
2.1
± 48" R.C. pipe
Inside of Box
I.E. of Channel
= -4.37
54'
48" pipe

Beg. Levels along ℄ of Prop. Dram
See Sketch - P. 3 + 4

		Lt.	℄	Rt
5+00		4.6 / 10	4.7	5.3 / 10
4+50			4.7	
4+00			4.8	
3+41.07 = Ang. Pt.		5.8 / 10	5.62 = Hub.	5.5 / 10 approx ℄ Conc
3+36 - 14.5' Rt. = ℄ P. pole # 4001				
3+22 - 10.1' Rt. = Cor. of Cyclone fence				
3+00 - 10' Rt. = Fence		5.6 / 10	5.8	5.9 / 10
2+50			5.7	
2+00			5.6	
1+80 - 6' Rt. = ℄ Tel. pole				
1+50			5.4	
1+00 - 10.2' Rt. = Cyclone fence		5.3 / 10	5.2	5.2 / 10
0+45.79 = Ang. Pt.			5.03 = Hub.	
0+43 - 6.8' Rt. = ℄ Tel. pole				
0+00 = Cut on Rim of M.H. - See Detail - P. 4		- 4.37 = Bottom on ℄ of channel.	4.96 Rim	- 3.85 = Bottom at wall by 0+00
B.M. = S. Cut on Rim of M.H. ℄ Juan + Rosecrans	5.34	Actual Elev. shown.		

	Lt.	℄	Rt.
B.M. on 145' Rad. Hub. = 6.91	6.75 = 10 RP. Stob. Marked	C 5.09.	
12+75.35 = End. of pipe as staked by Sisson	I.E. of Pipe = 1.66	6.7	
12+51.28 = Ang. Pt.	6.6 / 10 = on spirt.	6.70 = Hub.	6.8 / 10
12+00		6.3	
11+50		6.0	
11+00	5.7 / 10	5.7	5.8 / 10
10+50		5.6	
10+00.81 = ℄ Sunset - 4.9' Lt. = ℄ Sewer M.H.	3.27 I.E. of sewer; 5.52 4.9 = Rim	5.5	
9+50		5.2	
9+00	5.4 / 10	5.2	5.6 / 10
8+50		5.0	
8+00 Ave. Line of Poles about 12' Rt.		4.9	
7+50		4.9	
7+00	4.8 / 10	4.9	4.9
6+61 = Edge of A.C.		4.94	
6+50.65' = ℄ Joan - 4.5' Lt. = ℄ Sewer M.H.	2.99 I.E. 4.5; 5.34 4.5 Rim	5.28 = P.K.	
6+43 = Edge of A.C pave		4.89	
6+00		4.8	
5+50		5.0	

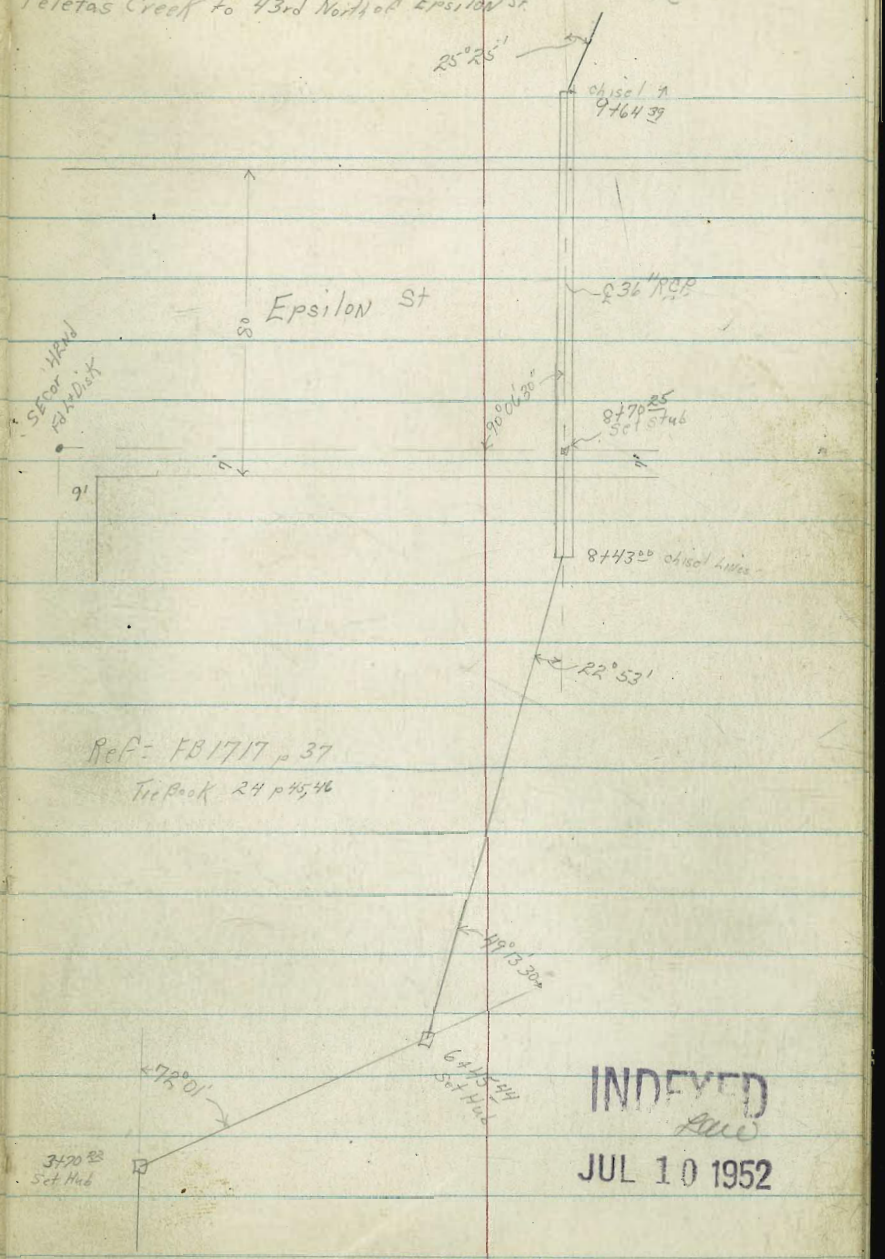
D. Smith
T. Taylor
R. Parks

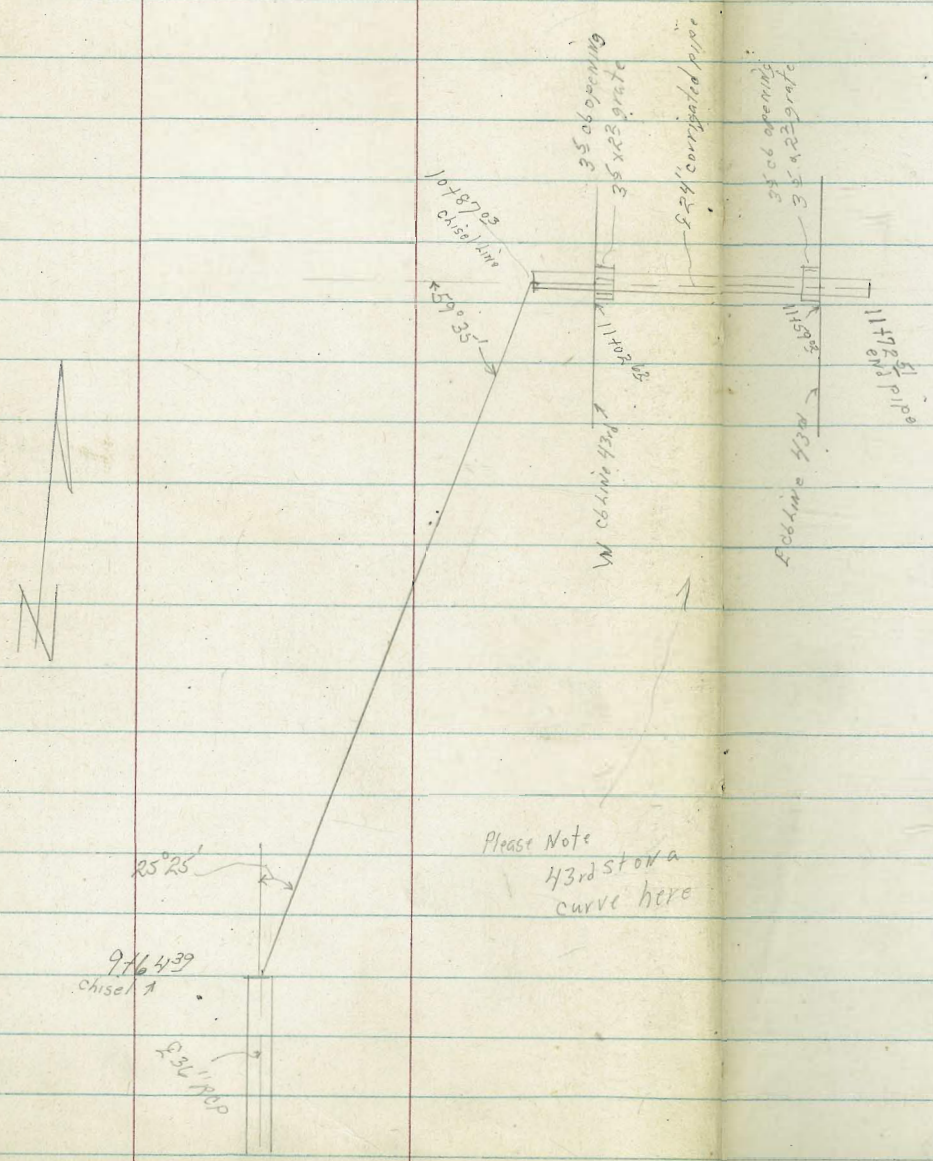


Proposed Storm Drain
Peletas Creek to 43rd North of Epsilon St

WO 20477
7-9-52

7




35'ab opening
35'x22'grate
corrugated pipe
35'ab opening
35'x22'grate
10+87.03
chisel mark
59°35'
N 60°11'24" W
441.98'
N 60°11'24" W
441.98'
1152.65'
1152.65'
25°25'
9+46.39
chisel
R=36'
Please Note
43rd St on a
curve here

TP	10^{35}	$3\,13^{36}$	$5.^{28}$	23^{01}
1+00				
0+50				
0+30 @ 90°				
0+10 taken along North bank of creek				
0+00 ℄ creek taken in center of creek				
0-10 Taken along top southerly Bank of creek				
BM	2^{45}	$.28^{22}$	26^{34}	SE top Fire Hyd 42 NB Nordica 1717 37

Lt = West & Rt = East

9

22.1 22.9 22.8 23.0 22.7
6Z 5$^{9}_{2}$ 6^{0} 5$^{8}_{2}$ 6^{1}
50 17 13 43

22.7 23.1 23.3 22.9 23.0
6^{1} 5^{2} 5$^{5}_{2}$ 5^{2} 5^{8}
50 17 13 43

20.1 23.1 23.7 22.7 22.8 23.4
8Z 5^{2} 5^{1} 6^{1} 6^{0} 5^{4}
50 30 17 13 43

22.7 23.8 23.0 22.9 23.8 23.3 22.9 23.0
6^{1} 5^{0} 5$^{8}_{2}$ 5^{2} 5^{0} 5$^{5}_{2}$ 5$^{9}_{2}$ 5^{8}
70 30 20 10 20 50 70

19.7 20.2 20.1 24.0 19.7 19.8 19.9 19.8
9^{1} 8$^{6}_{2}$ 8Z 4$^{8}_{2}$ 9^{1} 9^{0} 8$^{9}_{2}$ 9^{0}
70 50 20 bridge deck 90 20 50 70

25.16 24.8 24.4 23.8 23.2 23.5 23.5
3^{2} 4^{9} 4^{4} 5^{0} 5$^{6}_{2}$ 5$^{3}_{2}$ 5$^{3}_{2}$
70 50 20 20 50 70

T 28^{29}

Lt = West Rt = East

3+70 22 L. Rt 72°01' on split

3+35

3+00

2+50

2+00

1+80 18° Rt ℄ House

1+50

32.6	29.9	28.9	28.9	28.5	28.6
0 8	3 5	4 5 8	4 5	4 2	4 8
20	10	4+46	10	20	30

30.3	28.8	28.4	28.0	28.1	29.9
3 4	4 6	5 0	3 4	5 3	3 5
50	30	17		13	43

28.6	27.5	27.5	27.0	28.0	29.6
4 8	5 2	5 2	6 4	5 4	3 8
50	36	17		13	43

26.9	25.6	25.0	25.3	25.4	26.2
6 5	7 8	8 4	8 1	8 0	7 2
50	36	17		13	43

25.2	24.0	23.8	23.9	23.4
8 2	9 4	9 6	9 5	10 2
50	17		13	43

23.7	25.11
9 2	8 35
18	18
36	Floor

22.9	23.1	23.0	22.9	23.2
10 5	10 3	10 4	10 5	10 2
60	17		13	43

T 3 36

6+70

6+45.44 L. Lt 49°13'30" on split

6+00

5+50

5+00

TP2 12.08 43.39 2.05 31.31

4+50

4+00

Lt = West ℄ = Rt = East 11

37.3 36.7 36.0 37.2 37.5 38.5 40.6
6.1 6.2 7.4 6.2 5.2 4.2 2.8
30 20 10 8 17 22

37.8 36.6 35.5 36.1 36.9 37.4 40.9
5.6 6.8 7.2 7.3 6.58 6.0 2.5
50 45 20 14 46 9 20

36.3 35.8 35.1 34.7 34.4 35.5 37.6
7.2 7.6 8.3 8.7 9.2 7.2 5.8
25 15 11 6 15 30

35.3 35.0 34.1 32.9 33.5 36.1
8.1 8.4 9.3 10.5 9.2 7.3
25 10 6 18 30

35.8 31.7 31.4 30.2 31.4 32.1 36.0
7.6 11.7 12.0 13.2 12.0 11.3 7.4
21 11 4 4 20 35

↑ 43.39

36.0 31.3 29.9 30.4 30.4 30.2 31.2 32.8
12.6 2.1 3.5 3.0 3.0 3.2 2.2 6.6
37 30 7 4 12 20 30

30.8 30.0 28.8 28.3 28.6
2.6 3.4 4.6 5.1 4.8
40 20 20 40

↑ 33.36

9+03 ^{25} E Epsilon St

8+77 Sly AC paving

8+66

TP$_3$ 13^{27} 55^{34} 1^{32} 42^{07}

8+43 L. Lt 22°53' South cmb. exist 36" RCP

8+00

7+50

7+00 4° Lt E SMH Flows From North to west

Lt = West & Rt = East

51.53	51.62	51.60	51.54	51.57
3^{81}	3^{72}	3^{74}	3^{80}	3^{77}
50	20		20	50

50.64	50.82	50.91	50.99	51.09
4^{20}	4^{52}	4^{43}	4^{35}	4^{25}
50	20		20	50

51.3	51.4	51.7	51.7	51.8
4°	3^{9}	3^{6}	3^{6}	3^{5}
20	10		10	20

55^{34}

39.5	38.76	39.4	39.6	
3^{9}	4^{63}	4^{0}	3^{8}	
10	1E	9d	10	

39.3	38.9	38.7	38.7	40.6
4^{1}	4^{5}	4^{9}	4^{7}	2^{8}
25	9		16	35

38.7	37.8	37.8	37.4	38.5	39.2
4^{7}	5^{6}	5^{6}	6^{0}	4^{3}	4^{3}
30	10		6	20	30

41.1	38.2	37.3	32.05	37.83	37.6	37.7	38.7	41.4
2^{3}	5^{2}	6^{1}	11^{34}	5^{56}	5^{8}	5^{7}	4^{7}	2^{0}
50	28	15	4	4		7	22	30
			1E	RIM				

TI 4/3^{39}

Lt = West ℄ Rt = East

10+97

Wly 24" corrigated
10+87.03 Lt Rt 59°35' taken 90° to 43d

10+45

10+00

Nly end 36" RCP
9+64.39 Lt Rt 25°25'

9+43

9+25 Nly edge AC paving

49.5 48.4 49.0
5.8 6.9 6.3
20 20

44.0 42.10 43.0 41.9
11.3 13.24 12.3 13.4
20 1e 9d 20

41.0 41.1 41.0
14.2 14.2 14.3
20 20

40.2 40.5 40.2
15.1 14.8 15.1
20 20

41.2 41.4 39.45 40.2 40.5
14.1 13.32 15.89 15.1 14.8
20 3 1e 3 20

50.8 50.9 50.7
4.5 4.4 4.6
20 20

50.85 50.93 50.99 50.80 50.72
4.49 4.41 4.35 4.54 4.62
50 20 20 50

55.34

BM		2^{87}	58^{01}	58^{00} NEBP 43rd	
TP_4	8^{68}	60^{88}	3^{14}	52^{20}	Delta

$11+72^{51}$ Ely End 24" corrigated pipe

45.2 43.88 44.1 46.3

10^{1} 11^{46} 11^{2} 9^{0}

10 1c 9d 8

48.9 48.8 49.5

6^{4} 6^{5} 5^{8}

2c 2o

$11+65$

48.99 48.47 48.98 48.39 49.07 48.05 43.65 48.77 49.35 49.13 49.80

6^{35} 6^{87} 6^{36} 6^{95} 6^{27} 7^{29} 11^{69} 6^{57} 5^{99} 6^{21} 5^{54}

50 50 25 25 c6 grate 1c 25 25 50 50

c6 gut c6 gut gut c6 gut c6

$11+59^{03}$ Ely c6 Line 43rd taken along c6 line

48.90 48.80 48.95 49.15 49.61

6^{44} 6^{54} 6^{39} 6^{19} 5^{73}

50 25 25 50

$11+30$ & 43rd approx taken along & stripe

48.59 48.45 49.09 48.08 49.10 48.08 42.26 48.65 49.30 49.06 49.70

6^{75} 6^{89} 6^{25} 7^{24} 6^{24} 7^{26} 13^{08} 6^{69} 6^{04} 6^{28} 5^{64}

50 25 2 2 c6 grate 1c 25 25 50 50

gut gut Bc gut gut c6 gut c6

AC AC 5' Rad Ret end c6

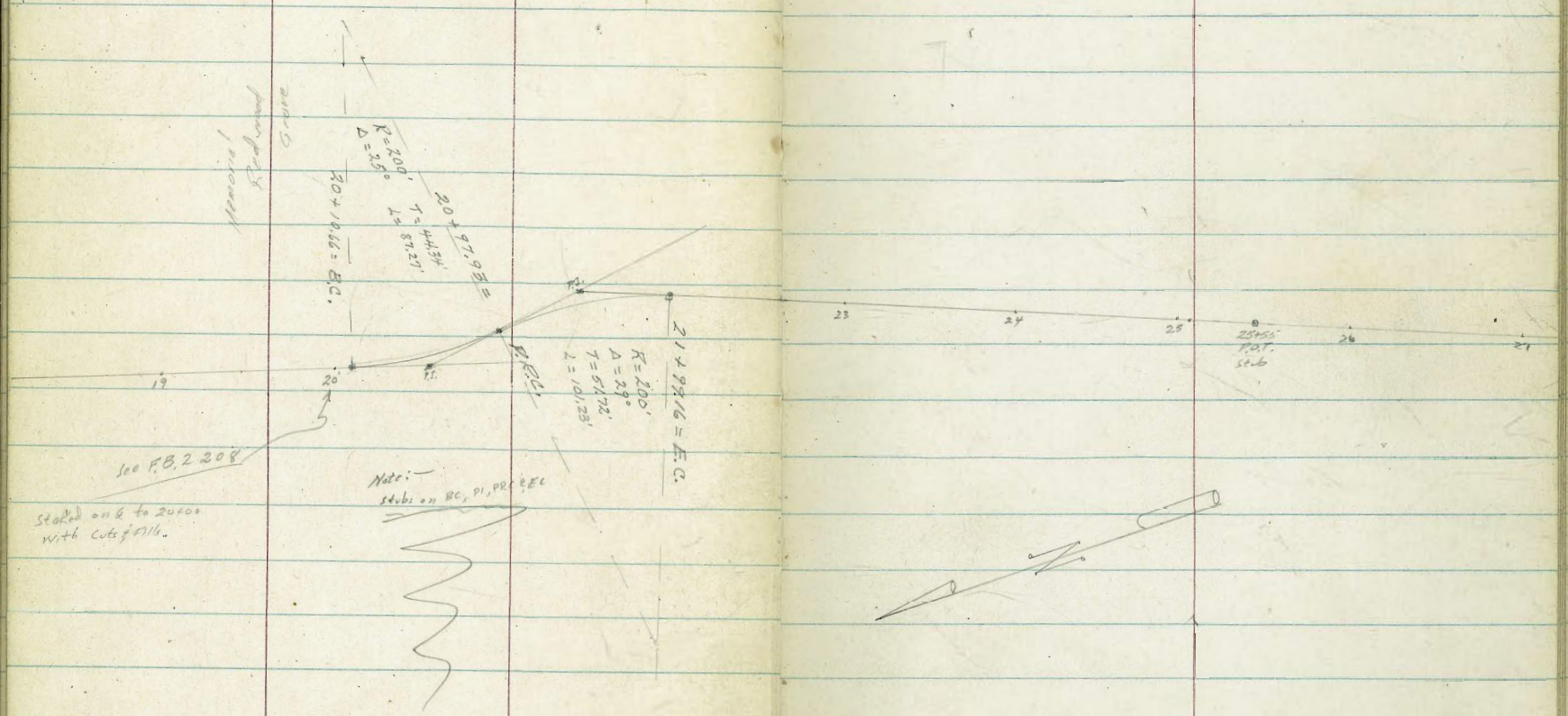
$11+02^{62}$ Wly c6 43rd taken along c6 line

11 55 34

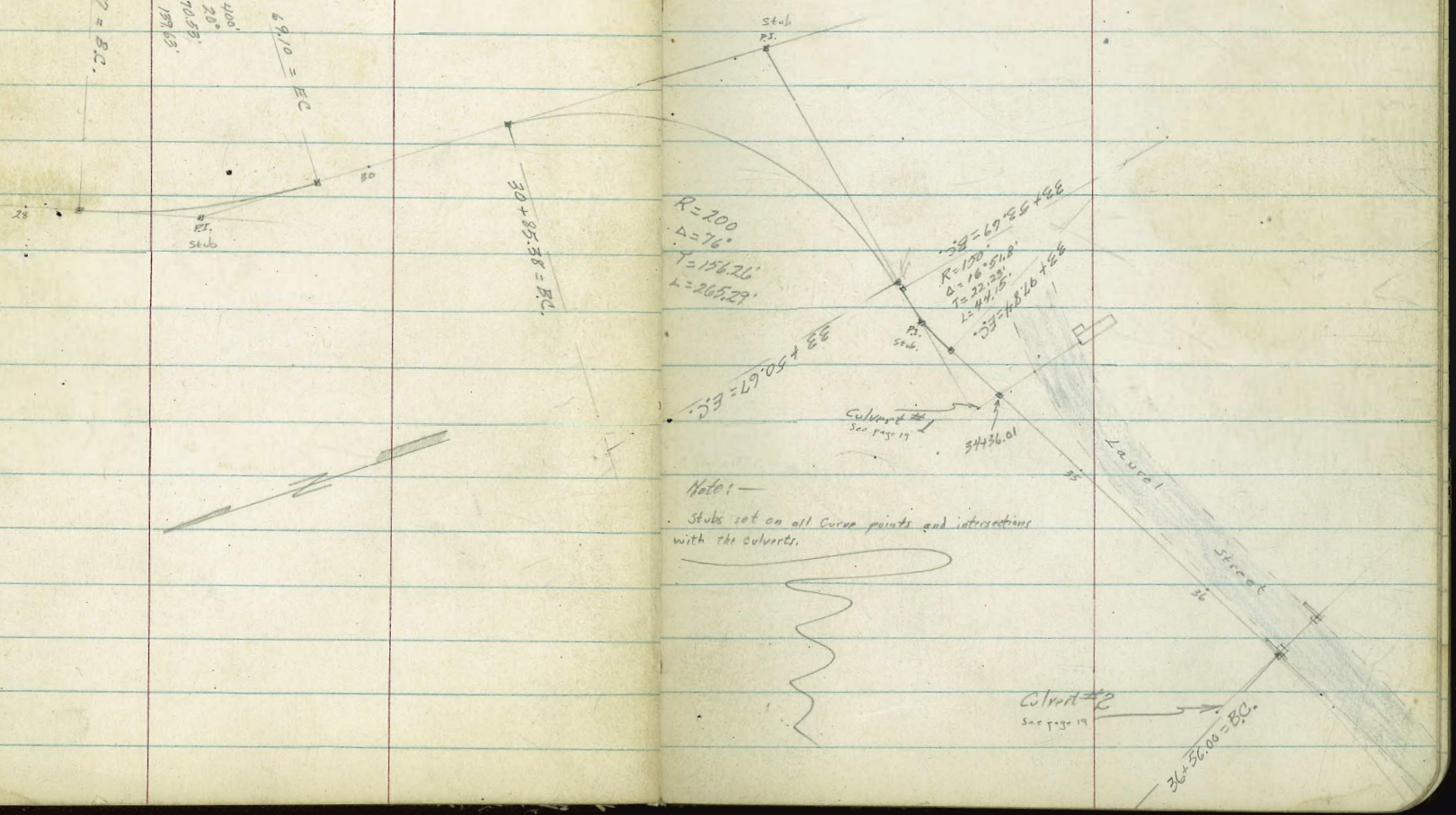
Roberts
Cota
Moore
Pelton
W.O. # 20988
11-29-52

Drainage Ditch and Storm Drain Proposed in Arizona Canyon in Balboa Park.

See F.B. 2208



Contd From Page 16



Note:—

. Stubs set on all Curve points and intersections with the culverts.

Cont'd From Page 17

P.I. (Not Set)

Δ=25°05.8'

R=500'
Δ=25°05.8'
T=111.29'
L=219.08'

38+75.00 = P.C.

La urel

37+50.00 = ℄
3° 34.0' to Right

41+00.00 = BC

40+79.64

Culvert #3
See Page 19

R=1000'
Δ=17° 11.3'
T=151.15'
L=300.00'

Street

P.I. (Not Set)

44+00.00 = EC

44+37.29 ℄
24° 05.0' to Right

Culvert #4
See Page 19

45

46

47

℄ to Right = 0°56.3'
48+11.67

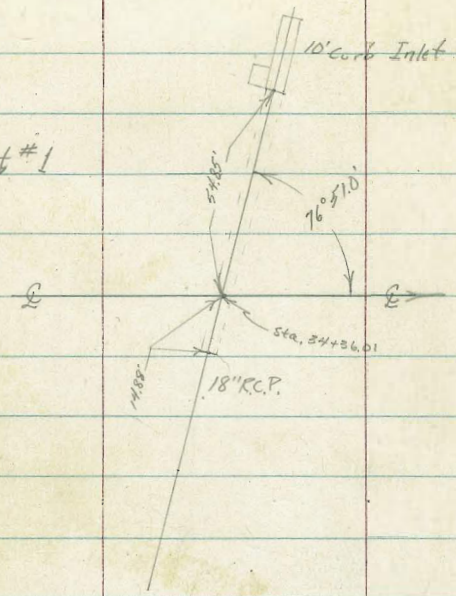
48

Existing Box Culvert 4' Wide 5' High 525'Long

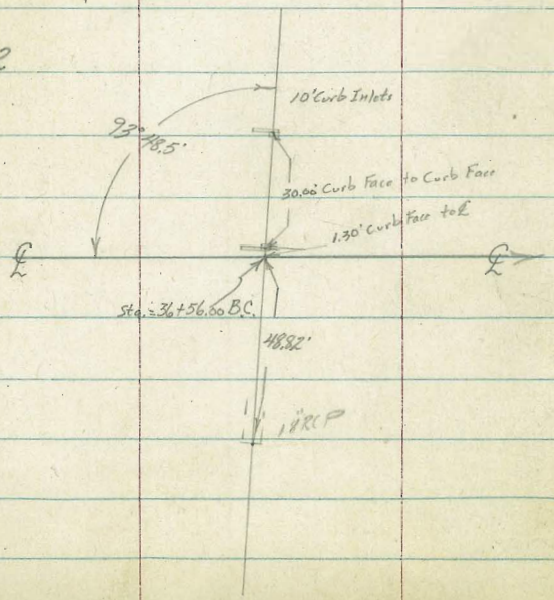
Florida Extension

Contd From Page 18

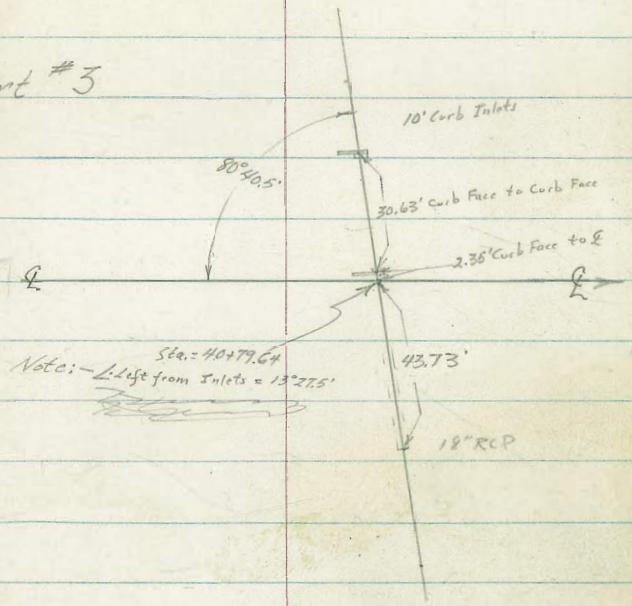
Culvert #1



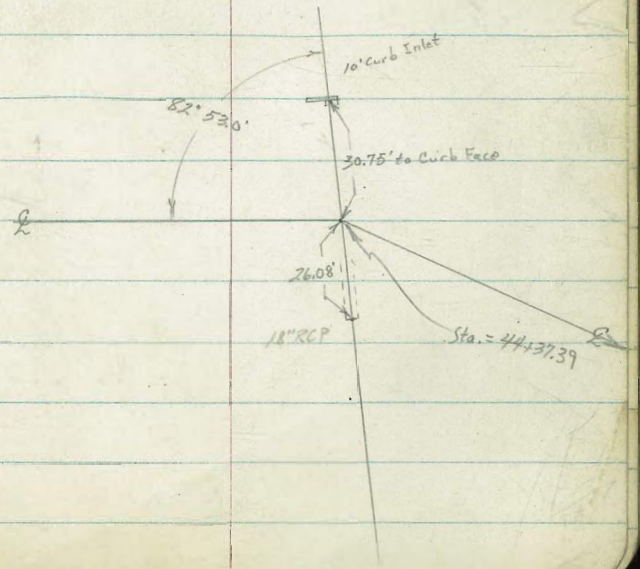
Culvert #2



Culvert #3



Culvert #4



Cont'd From Page 19

			Lt	℄	Rt
22+50			243.1 3.3 20	238.2 8.2	232.1 14.3 20
21+99.16 E.C.			242.1 4.3 20	237.0 9.4	231.1 15.3 20
21+48.54	Midpoint		240.1 6.3 20	234.7 11.7	227.7 18.7 20
20+97.93 P.R.C.			243.4 3.0 20	238.8 7.6	232.0 14.4 20
20+54.29	Midpoint		246.9 +0.5 20	242.1 4.3	234.2 12.2 20
20+10.66 B.C.			248.6 +2.2 20	243.7 2.7	236.0 10.4 20
TBM	2.32	246.42 T	244.10 ℄ Cut Stub Sta. 30+00.		246.42 T

Cont'd From Page 20

25+00				
24+75				
24+35				
T.P.	7.10	245.43℄	8.09	238.33
24+00				
23+50				
23+00				

246.42℄

243.6	240.1			241.2
1.8	5.3			11.2
20				20
242.8	239.8		237.6	232.1
2.6	5.8		7.8	13.3
20			8	20
241.0	239.2		237.1	235.4
4.4	9.5		12.7	17.0
20			12	20

245.43℄

242.1	237.5		234.0	230.8
4.3	8.9		12.4	15.6
20			13	20
245.2	241.8		237.6	234.2
1.1	5.0		8.8	11.7
20			14	20
240.5	239.6		235.5	232.1
1.9	6.8		10.9	14.3
20			14	20

246.42℄

Cont'd From Page 21

26+62					
T.P.	0.54	220.73	12.86	220.19	
26+40					
T.P.	0.43	233.05	12.81	232.62	
26+20					
26+00					
25+75					
25+50					
		245.43			

22 — ℄ — R — 22

		207.4		
		13.3		
		220.73		
		220.4		
		12.7		
		233.05		
		229.8		
		15.5		
	239.2	234.5		222.4
	6.2	10.9		23.0
	20			20
242.7	240.0	235.4		223.7
2.7	5.4	10.0		21.7
20	10			20
	244.1	240.1		229.8
	1.3	5.3		15.6
	20			20
		245.43		

Contd From Page 22

Lt | ℄ | Rt | 23

28+29.47 BC					
			242 ℄ 2.0 20	279 ℄ 4.9	293 ℄ 11.0 20
28+00			241 ℄ 2.5 20	278 ℄ 5.8	293 ℄ 11.0 20
27+75			239 ℄ 4.4 20	276 ℄ 7.8	291 ℄ 12.9 20
27+43				273 ℄ 15.7	
T.P.	4.92	24417℄ 6.18	239.23 ✓	T.P. From H.I. after Sta. 24400 Pg. 21	24417℄ ✓ Across wash.
27+12? 26+12				271 ℄ 7.6	
26+79				197 ℄ 23.7	
		220.73℄		220.73℄	✓

Contd From Page 23.

	Lt	℄	Rt
		227.7	
30+52		10.6	
		218.8	
30+23		18.3	
		222.2	
30+13		14.8	
	236.0	237.1	229.8
29+90	1.7	4.6	7.9
	20		20
	237.1	234.3	230.8
29+69.10 EC	0.6	3.4	6.8
	20		20
T.P. 1.40	237.70 ℄ 7.87	236.30	237.70 ℄
	240.2	237.8	233.5
28+99.28 Mid point	4.0	6.9	10.7
	20		20
	244.17 ℄		244.17 ℄

32+40									211.5	22.5	
T.P.	0.98	234.04 ℄	4.64	233.06					234.04 ℄		
32+00					232.6	231.4		224.7			215.7
					5.1	6.3		13.0			22.0
					20	15					20
31+50						235.7		232.1			221.2
						2.0		5.6			16.5
						20					20
31+23						236.3		232.3		232.2	224.1
						1.4		4.4		5.5	13.6
						20				6	20
30+85.38 B.C.						235.5		232.0			225.5
						2.2		5.7			12.2
						20					20
30+69						234.2		230.8			224.1
						3.0		6.8			13.6
						20					20
		237.70 ℄							237.70 ℄		

Cont'd From Page 25

33+97.84 E.C.

33+78 ±14' Lt to center P.P. Pole & C 2405

33+72 ±25 Rt to Deadman

T.P. 4.10 228.13 ℄ 7.01 227.03'

33+53.69 B.C.

33+50.67 E.C.

33+00

32+58

234.04 ℄

2265	2302	2257	2159
+0.4	+2.1	2.4	12.2
20	17		20
Pav. Edge			

228.13 ℄

2326	2298	2262
1.4	4.6	7.8
20		20

2331	2305	2271
0.9	3.5	6.6
20		20

2348	2318	2171
9.2	12.2	16.9
20		20

234.04 ℄

Cont'd From Page 26

36+56.00 BC	Culvert Intersection			
T.P.	0.03	215.55 ↑	12.6	215.52 ↓
36+00				
35+50				
35+00				
34+50	P.E. = Paving Edge			
34+36.01	Culvert Intersection			
		228.13 ↑		

4				6				Rt
203 50	196 58	210 16	211 54	211 4	211 8	200 2		
12.05	± 18.66	5.39	4.01	4.2	4.2	15.4	Elev.= 179.74	
31.3	1.3	1.3	1.3		3	15	48.82	
INVERT	INV.	Gutt	CG				INV.	
				215.55 ↑				
214 0	214 7	214 8	214 8		214 8	205 2		
14.1	14.0	13.2	13.2		13.2	22.9	S.S.	
33	3	1			2	15		
P.E.	P.E.							
217 3	217 4	218 4	218 4		218 2	207 2		
10.8	10.7	9.7	9.7		9.7	20.2	S.S.	
34	3	2			2	15		
P.E.	P.E.							
220 3	221 0	222 0	222 0		222 0	221		
7.8	7.1	6.1	6.1		6.1	16.0		
41	4	2			2	15	S.S.	
P.E.	P.E.							
223 7	224 7	225 6	225 6			215 5		
5.0	3.4	2.5	2.5			12.6	S.S.	
51	7	3				15		
P.E.	P.E.							
South	North							
	220 54		224 8			214 78		
	7.59		3.8			13.35		
	54.95					14.98		
	INVERT					INVERT		
				228.13 ↑				

39+15.5

38+75.00 E.C.

38+50

38+00

37+50

T.P. 2.88 205.97 12.46 203.09 37+50 Rt

37+00

21555

194.7	193.2	194.6	194.6	194.5	185.6
11.3	12.8	11.4	11.4	11.5	20.4
33 PE	6 PE	4		2	15

197.2	195.8	197.0	197.8	196.7	188.6
9.0	10.1	9.0	9.0	9.3	17.4
32 PE	4 PE	2		3	15

198.7	197.3	198.2	198.8	191.2	
7.3	8.7	7.3	7.4	14.8	
30 PE	3 PE		5	15	

201.8	200.2	202.2	201.8	195.4	
4.2	5.3	3.9	4.2	10.6	
27 PE	PE	3	9	20	

204.8	203.8	205.4	205.0	202.1	198.8
1.2	2.1	0.6	1.0	3.9	7.2
28 PE	PE	4	9	15	20

205.97

207.6	207.0	207.2	208.4	208.4	202.0
7.8	8.5	8.3	7.1	7.1	13.6
30 PE	1 PE		3	6	15

215.55

Cont'd From Page 28

41+50				
T.P.	1.06	182.26 ↑	12.35	181.20 ↓
41+00.00 BC				
40+79.67	Culvert Intersection			
40+40				
40+00				
39+50.00	Angle Point Right			
T.P.	0.42	193.55 ↑	12.84	193.13 ↓
		205.97 ↑		

Lt ℄ Rt

177.7	178.3	178.7	179.0	178.8	180.0	
5.2	4.0	3.6	3.3	3.5	12.3	
34	5	3		3	15	
PE	PE					

182.26 ↑

181.0	181.0	181.8	182.2	182.2	181.2	
12.6	12.5	11.7	11.4	11.4	22.4	
3.1	4	2		2	15	
PE	PE					

177.35	176.51	182.67	184.01	183.4	180.0	179.1	
20.20	± 28.0 ↓	10.88	9.54	10.2	10.5	18.9	Elev. = 155.22
32.97	2.35	2.35	2.35		3	15	43.73
INV.	INV.	Gutt	cb				INVERT

183.2	184.8	184.0	181.0	179.5		
8.4	8.7	7.6	7.6	14.5		
34	4		6	15		
P.E.	PE					

184.0	184.4	183.4	183.4	181.8	181.5	
5.5	6.1	5.2	5.0	4.8	11.9	
33	5	2		3	15	
P.E.	PE					

191.8	190.6	192.0	192.0	192.2	194.5	
1.8	3.0	1.6	1.5	1.4	8.9	
34	5	3		3	15	
PE	PE					

193.55 ↑

Contd From Page 29

Culvert Intersection

44+37.29 Angle point Right

44+00.00 E.C.

43+50

T.P. 0.68 170.04 π 12.90 169.36

43+00

42+50

42+00

182.26 π

Lt

Rt

152 41	158 8	159 3	159 3	157 8	
17.63	11.2	10.7	10.7	18.2	Elev.= 144.10
30.75	2		5	15	26.08
INVERT	PE				INVERT

160 3	161 4	162 7	162 5	156 7
9.7	8.6	7.9	7.5	13.3
32	2		6	15
PE	PE			

163 8	165 0	165 8	165 4	161 2
6.2	5.0	4.1	4.6	8.7
33	4		8	15
PE	PE			

170.04 π

167 8	165 2	169 2	169 2	165 8
14.9	14.0	13.0	13.1	16.4
34	4		8	15
PE	PE			

170 6	171 7	172 3	172 8	172 5	166 0
11.7	10.6	10.0	9.5	9.8	16.3
35	5	3		4	15
PE	PE				

173 2	175 0	175 5	175 8	175 8	166 5
8.6	7.3	6.8	6.5	6.5	15.8
35	5	4		3	15
PE	PE				

182.26 π

Contd From Page 30

45+70				
45+50				
T.P.	0.14	145.16	12.66	145.02
45+00				
44+70				
44+49				
T.P.	0.24	157.68	12.60	157.44

170.04

Lt | ℄ | Rt

140 S — est. 4.4 — 15

134 S — 10.4

132 N — 12.5 — 8 — Creek

133 N — 12.0 — 11

134 S — 10.7 — 13

143 S — est. 1.4 — 10

138 S — 6.4

138 S — 11.4 est. — 10 — creek

145.16

155 N — 2.4 — 15

154 N — 3.0 — 9

148 N — 9.0

143 N — 14.0 estimate — 15

156 S — 1.2 — 18 — PE

157 S — 0.1 — 14

157 N — 0.6 — 9

153 S — 4.6

150 S — 7.6 — 5

146 N — 11.0 — 15

159 N — 4.5

157.68

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		Lt	℄	Rt
			130.2	
		131.9	132.6	132.2
		4.4	3.7	5.6
		20	6	creek
				132.2
				5.6
				creek
				132.0
				4.3
				10
				132.0
				4.3
				20
47+29				
			131.3	
			5.0	
			creek	
47+00				
		132.6	132.7	131.5
		2.7	3.6	4.8
		20	4	creek
				133.3
				3.0
				7
				133.2
				2.6
				12
				132.4
				3.9
				20
46+70				
			132.8	
			3.5	
46+62				
			133.8	
			2.5	
46+20				
T.P.	1.80	136.34 ℸ	10.62	134.54
			136.34 ℸ	
		136.8	137.8	135.8
		8.4	7.4	9.3
		20	8	3
				135.0
				9.4
				134.2
				11.0
				1
				132.4
				12.8
				11
				creek
				133.9
				11.3
				15
46+10				
	145.16 ℸ		145.16 ℸ	

Reduced By Lochhead

48+64.17 Existing Box Culvert Outlet

127.94

8.40
INVERT

48+11.67 Angle Point Right
Existing Box Culvert Inlet

32.5
+64.17

135.8
0.5
5

128.59 Elev.
7.75
INVERT

135.7
0.6
5

47+67

126.3 126.2 126.4 126.4 126.4 127.2 127.8
0.0 0.0 6.9 6.9 6.9 +1.0 +1.5
20 6 2.5 creek 2.5 6 20

47+62

132.5 132.4 129.4 131.9 132.9
3.8 3.9 6.9 4.4 3.4
20 8 creek 6 20

47+42

122.0
4.3
creek
7

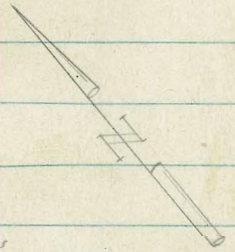
136.34

136.34

Roberts
Cota
Moore

6-8-53
W.O.# 21111

Survey For Proposed Storm Drain
In Pirotte and Hanaman Drives
From 54th to 52nd Ct.

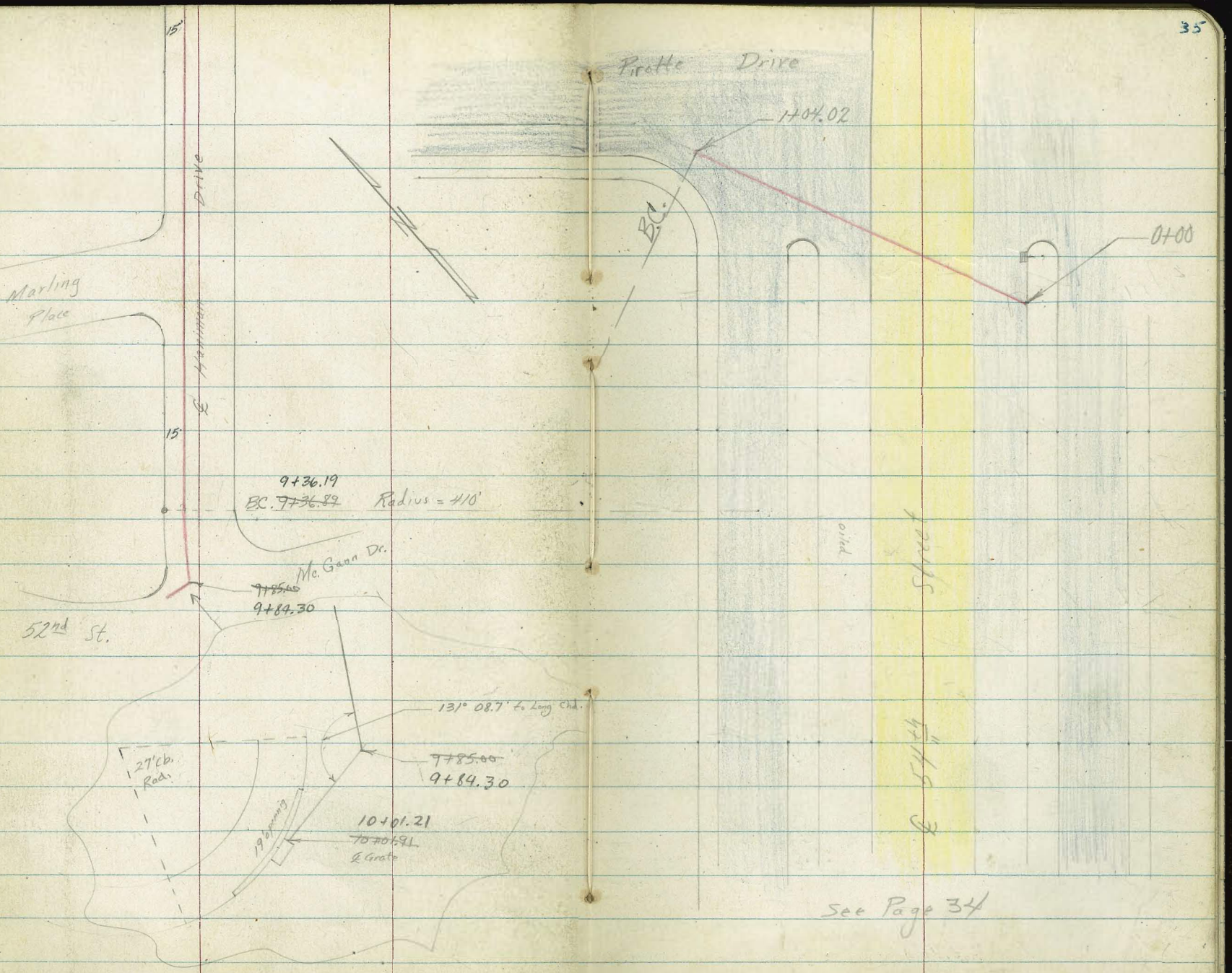


Hanaman } A.C. Paving
Pirotte } 7' Prop. Line to Curbs
No Walls

CLEARVIEW MANOR
WESTWOOD HILLS
UNIT No. 1

(o On Prop. Line Denotes Pipe Found.)
(Set Nails in A.C. at all Controll Pts)

3+32.17 Set Spike
3+35.0 Chisel +
18" R.C.P.
115° 36.0'
112° 19.0'
Cl. Pipe
2467.92 Set Stub
1471.23 Set Stub
109° 03.7'
Lot 6
Lot 7
Fd. Pipe 0+48.00
98° 54'48" to Long Chord
Drive
Pirotte
2456.79
0+00 Set Nail
1+59.03
1443.73
B.C. Hanaman
E.C.
Radius = 91'
Δ = 26° 00'
L = 39.77'
T = 20.17'
0+0.0
See Page 35
54th St.
Street
4+80.25
3+78.55 B.C.
5+76.08
3+78 E.C.
Radius = 140'
Δ = 38° 58.5'
Radius = 36'
Δ = 90° 00'
B.C. Hanaman
E.C. Hanaman
4+10.76
3+72.48


Pirette Drive
1+04.02
0+00
BC
Marling Place
St. Marlin Drive
15'
15'
9+36.19
BC. ~~9+36.89~~ Radius = 410'
Mc. Gann Dr.
~~9+85.00~~
9+84.30
52nd St.
131° 08.7' to Long Chd.
~~9+85.00~~
9+84.30
27' Cb. Rad.
10+01.21
~~10+01.91~~
℄ Grate
Patio
Street
St.
See Page 34

Contd From Page 35

Lt ℄ Rt

Reduced by
R. Barber
7-20-53

		Lt	℄	Rt
0+95	9½' Lt to center 1.75'x2.6' Inlet.	254.09 6.67 9 INVERT	254.98 5.78 9 Grate	
0+77		254.48 4.28 10	257.03 3.73	257.40 3.36 10
0+66	11⅔ Lt to Midpoint Curb of Island			
0+50	Wly Edge Conc. Paving	257.61 3.15 10	257.63 3.13	257.77 2.99 10
0+33.2	℄ Conc. Paving	257.95 2.81 10	257.91 2.85	257.98 2.98 10
0+16.4	Ely Edge Conc. Paving	257.54 3.22 10	257.64 3.10	257.79 2.97 10
0+00	West Curb of East Island Section Parallel to 54th	257.71 3.05 15 Cb	257.07 3.69 15 Gutt	257.93 2.83 Cb

Sections Parallel to 54th

		Lt	℄	Rt
		257.20 3.56 Gutt	257.28 3.48 13.4 Gutt	256.89 2.67 13.4 Cb.	256.36 1.40 13.4 INVERT

BM 2.68 260.76 T ✓ 258.08 B.P. N'ly END ISLAND SE Corner of 54th & Pickett 260.76 T ✓

Cont'd From Page 36

					Lt	℄	Rt
T.P.	5.21	253.10 ✓	12.87	247.89 ✓			
2+00					248.49 12.27 8 cb	249.82 12.94 8 Gutt	248.16 12.60	248.43 12.33 8
~~1+59.75~~ 1+59.03 BC					250.92 9.84 8 cb	250.26 10.5 8 Gutt	250.60 10.16	250.84 9.92 8
~~1+44.43~~ 1+43.73 E.C.					252.16 8.60 8 cb	251.45 9.31 8 Gutt	251.78 8.98	252.01 8.75 8
1+25	4'	Lt Outlet 6" V.C. Drain			253.51 7.25 4I cb	252.75 8.01 4I INVERT	253.32 7.44	253.80 6.96 8
1+13	6'	Lt to Curb (from ~~road~~)						
1+04.02 BC					254.90 5.86 7 cb	254.35 6.41 7 Gutt	254.78 5.98	255.29 5.47 8
0+98	28'	Rt to rear corner Gas Co. N.H.						
		260.76 ℄						260.76 ℄

Cont'd From Page 37

T.P.	0.70	243.35	10.45	242.63	
4+25					
4401.76					
~~4402.46 B.C.~~					
3+61.76					
~~3+62.46 E.C.~~					
3+50					
3+00					
2+50					
		253.10			

Lt			℄		Rt
			242.27	242.47	242.66
			10.83	10.63	10.44
			8		8
243.05	242.47		242.76		242.94
10.05	10.63		10.34		10.16
10	10				8
CB	Gutt				
243.92	243.27		243.54		243.64
9.18	9.83		9.56		9.46
8	8				8
CB	Gutt				
244.17	243.51		243.76		243.88
8.93	9.59		9.34		9.23
8	8				8
CB	Gutt				
245.07	244.44		244.79		244.97
8.03	8.66		8.31		8.13
8	8				8
CB	Gutt				
246.45	245.85		246.15		246.39
6.65	7.25		6.95		6.71
8	8				8
CB	Gutt				
			253.10		

Cont'd From Page 38

5+76.08
~~5+76.78~~ EC

5+50

5+25

5+00

4+80.85
~~4+81.55~~ BC

4+72.45
~~4+73.15~~ EC

4+58

24335 ✓

Lt | ℄ | Rt

237.65
5.70

238.66
4.69

239.64
3.71

240.64
2.71

241.29
2.06

241.69 | 241.56 | 241.39 | 242.05
1.71 | 1.79 | 1.96 | 1.30
8 | 8 | 8 | 8
cutt | | cutt | cutt

242.22 | 242.28 | 242.26
1.13 | 1.07 | 1.07
8 | | 8

24335 ✓

Cont'd From Page 39

				Lt	Rt
8+50				226.99 4.83	
8+00				229.89 3.53	
7+50				231.51 1.91	
I.P.	2.16	233.42 ℄	12.09	231.26	233.42 ℄
7+00				233.24 10.11	
6+50				234.95 8.40	
6+00				236.89 6.51	
		243.35 ℄			243.35 ℄

Cont'd From Page 40

T.P.	8.37	250.83 ✓	0.40	242.46 ✓
T.P.	11.60	242.86 ✓	2.16	231.26 ✓

10+01.21
~~10+01.91~~ ℄ Box of 19" Curb Inlet

9+84.30
~~9+85.00~~ E.C. Storm Drain and Angle Point

9+75

9+50

9+36.19
~~9+36.87~~ BC

9+00

233.42 ✓

Lt	℄	Rt
	227.30 / 11.12 Invert	228.41 / 7.01 Grate
6.89	226.53	
6.71	226.71	
6.43	226.99	
6.33	227.09	
5.89	227.53	

233.42 ✓

Contd From Page 41

T.P.	6.73	257.42	0.17	250.69
1+40				
1+00				
0+45 End A.C. Paving & Curbs (Waterway Lined with thin A.C.)				
0+38				
0+15				
0+00 = 2+56.79 ~~2+57.49~~ on Main Line				
		250.83		

		250.23	248.93	247.73	247.13	247.83
		0.6	1.9	3.1	3.7	3.0
		5		3.5	10	15
	249.73	247.13	246.93	246.93	247.43	
	3.1	3.7	3.9	3.9	3.4	
	5	2		6	8 5	
	246.57	246.15	246.18	246.47	246.92	
	4.26	4.68	4.65	4.36	3.91	
	5	5		5	5	
	Cb	Gutt		Gutt	Cb	
			246.06			
			4.77			
			246.24			
			4.59			
			245.93			
			4.90			
			250.83			

Cont'd From Page 42

		Lt	℄	Rt
		254.82 / 254.92 / 253.52	251.72	254.02 / 257.42
3+20	41' Rt to center P.Pole ℄ 470272	2.6 / 3.0 / 3.9	5.7	3.4 / 0
		15 / 5 / 35		2 / 8
3+02	45' Rt. to Deadman			
		253.02 / 251.62	250.02	251.72
2+84		4.4 / 5.8	7.4	5.7
		15 / 3		3
		252.82 / 249.32 / 249.42	252.22	252.22
2+67.92	Angle Point (section on Split)	5.2 / 8.1 / 8.0	5.2	5.2
		22 / 11 / 5		5
		251.72 / 249.62	249.52	251.52
2+45		5.7 / 8.8	8.9	5.7
		15 / 5		5
		249.62 / 247.92 / 247.72 / 248.12 / 250.22		
1+93		7.8 / 9.5 / 9.7 / 9.3 / 7.2		
		5 / 4 / 7 / 13		
	Pole 0.5' West of Lot Corner Pipe			
		254.12 / 252.52 / 249.12 / 247.52 / 247.62 / 248.12 / 250.02		
1+71.23	Angle Point (Section on Split)	3.3 / 4.9 / 9.3 / 9.9 / 9.8 / 9.3 / 7.4		
		5 / 10 / 12 / 19 / 21 / 25		
		257.42 T		257.42 T

Contd From Page #3

					Lt	℄	Rt
Check			2.31	258.09 = 258.08			
T.P.		11.61	260.46	8.63 248.79			
3+35.0 Headwall End 18" RCP Drain						5.14 INVERT 252.28	
3+32.17 Angle Point (Section on Split)					10 257.42 7	2.2 252.22	3.5 253.92 4
			257.42 T			257.42 T	

SURVEY PROPOSED DRAIN (TEMPORARY) (INLET)

Blk 2 Paradise Hills

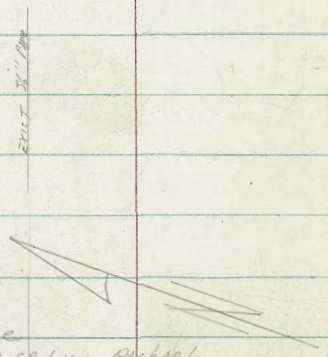
Clark
Shephard
Bruner
O'Neil

3-10-54

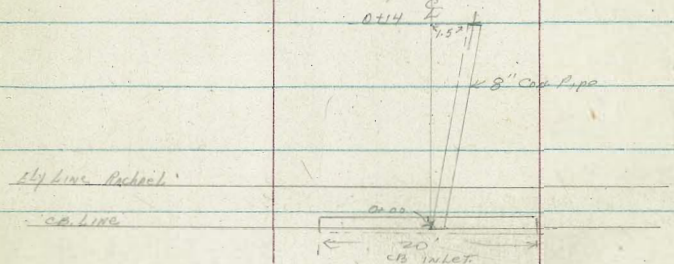
W.O: 21227

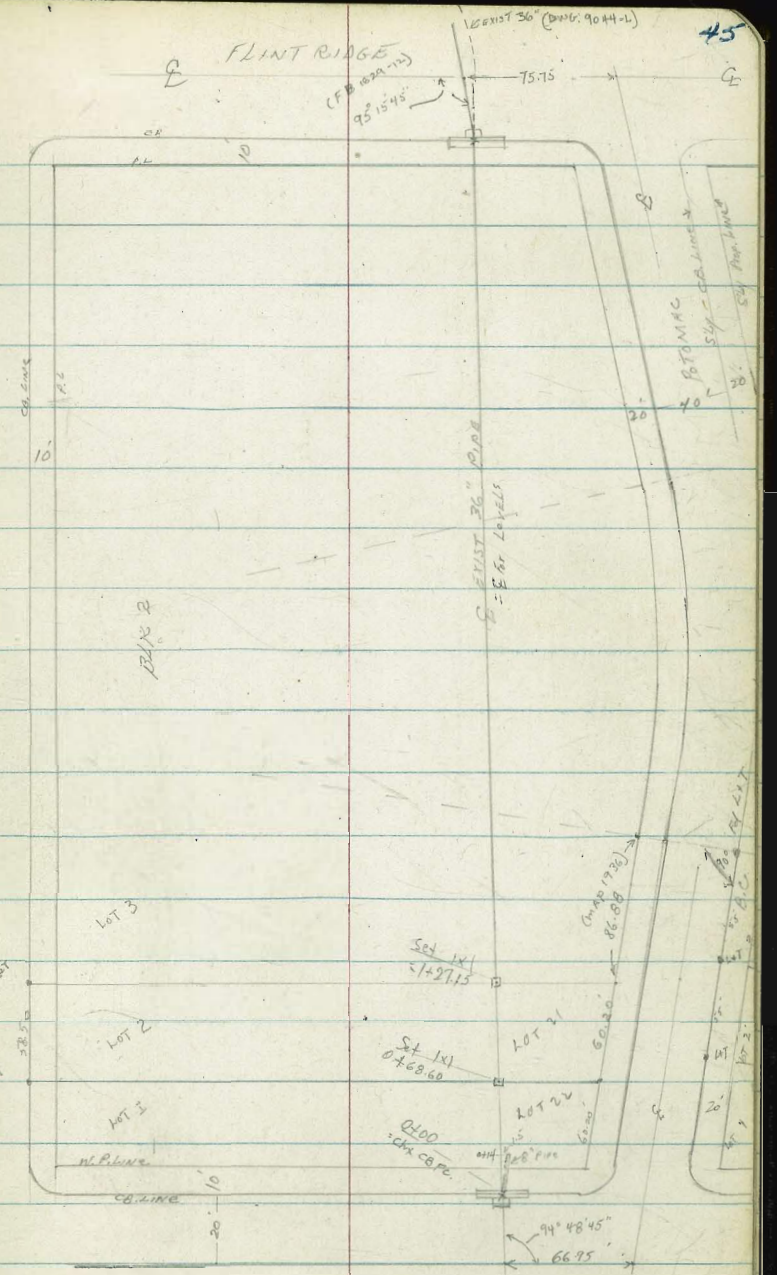
Ref: "FB" 1829
DWG: "9044-L (Sheet 14)
MAP 1936 Paradise Hills

Notes Levels Pg 46



DETAIL OF TEMPORARY 8" Pipe
AT CB INLET (0+00) ELY CB LINE RACHAEL





45

LEVELS - PROPOSED INLET - BIR 2
PARADISE HILLS

3+00			
2+00	(Shots taken ahead to show gradient of EXIST. Fill, Both. CANYON)		
1+27.15 = PT. INT. LOT 2			
0+68.60 = PT. INT. LOT 1			
0+50			
0+25			
0+14	1.5 RT END 8" Conc. Pipe (Temporary Pipe)		
0+10	E. Line Rachael		
0+00 = CL CB FC, E/y RACHAEL			
B.M.	1.27	162.91	161.64 S.E. B.P

LT.	℄	RT
162.7 0.2 10	161.2 1.7	158.4 4.2 20 Low pt. Bott. Canyon 159.4 3.5 40
157.9 5.0 10	157.3 3.6	156.3 6.6 20 Low pt Bott Canyon 158.6 4.3 45
158.2 4.7 35	155.5 7.6	157.0 5.9 25 154.9 8.0 60 Toe 162.5 0.4 78 Top
156.4 6.5 35	154.4 8.5	155.3 7.6 25 154.2 8.7 46 Toe 160.4 2.5 62 Top
156.1 6.8 35	154.7 8.2	155.1 7.8 25 154.8 8.1 49 to Canyon 159.8 3.1 56 grd top canyon
156.6 6.3 35	154.8 8.1	155.1 7.8 25 155.0 7.9 25 to Canyon 160.1 2.8 50 grd top canyon Approx. Level with N'LY CB Potomac
	155.0 7.9 grd 153.96 8.83 1.5 F. Line	
155.9 7.0 35	155.3 7.6	155.4 7.5 25 155.5 7.4 10 156.5 6.4 10
155.13 7.78 10 TPCB	154.47 (F.L. CB inlet) ℄	155.1 7.8 ground ℄ 155.20 7.71 TP CB ℄ 154.11 8.80 Gut. grade ℄ 152.70 10.21 ℄ F. Line 8" Pipe at CB inlet 156.49 6.42 10 TPCB
RACHAEL + POTOMAC	162.91	

PROPOSED INLET (CONT.)

			LT.	℄	RT. (-54)
CHK:	1.27	161.64 (See B.M)			
4+00			165.4	159.7	160.0
			+2.5	3.2	2.9
				30	50
				LOW PT. BOT. CANYON	

Bon Air St. Storm Drain.

From Neptune to Fay Ave. south of Rushville St.

9-10-54

W.O. 20841

C.H.S. See FB 2242-47

Map 887

B099

Scholin

1216

1729

□ = Set ½ Hub + Tack.

● = " Nail - (good Line + Station)

× = Cut Cross

• = Nail - (Rough line but good station).

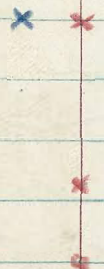
P.I. of Curbs.

1+10.94 = 10' Lt. = Fd. cross in Pave. =

0+71.45 = Cross on curb.

0+50 = ½

2~



5+00

4+00

3+00

2+00

5'

1'

3'

2'

8 ~

7 ~

6 ~

5+26 96 = P.O.T.

11~

10~

9~

8~

See page 79
for ol. Returns

12+94 65 = E.C.

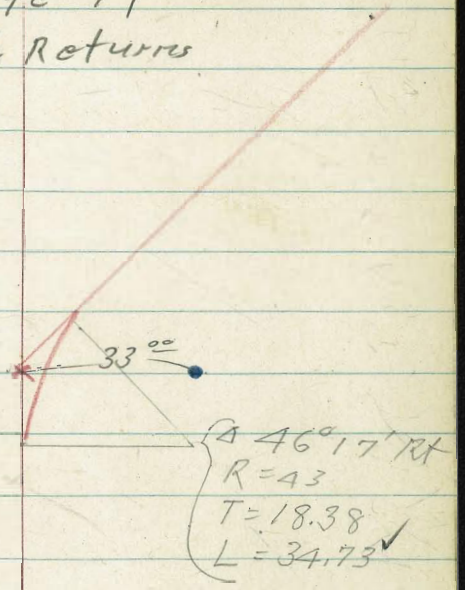
= P.I.

~~12+79 30~~ = 90° to L+T.

12+59.92 = B.C.

12~

11~



1259.92
19.38
1278.30

16+95.93

15+95.93

15+08.05 = E.C.

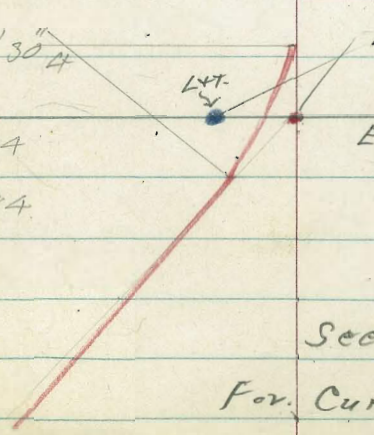
14+73.21 = B.C.

Δ 46°25'30" Lt.

R=43

T=18.44

L=34.84



P.I. is on Ely line Tyrian St.

See page 79 For Curb returns.

19+95.93

18+95.93

17+95.93

16+95.93

23 ~

22+53 50 = Ely 7' line Draper

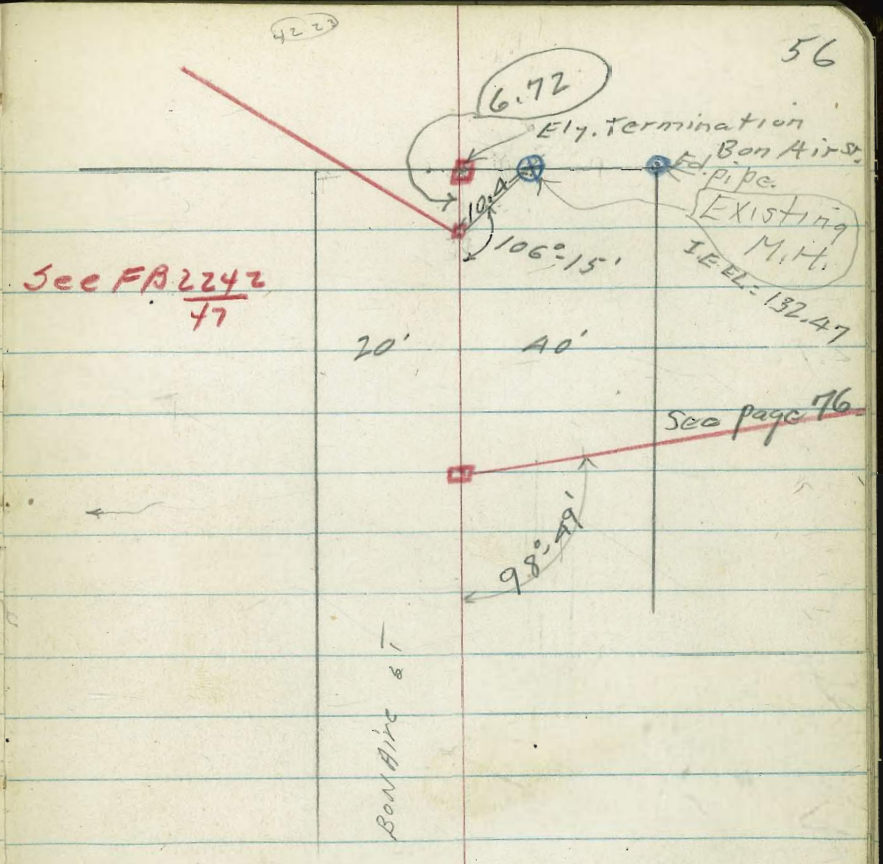
21+95.93

20+95.93

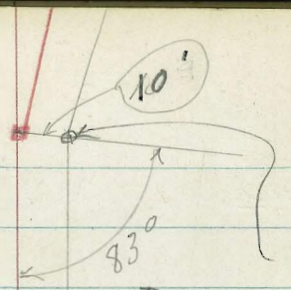
19+95.93

26+73.78 = Δ 58°-50' Lt.

26+25.50 (= 0+00 - Branch line to S.E.)



29+68$\frac{55}{}$ = Δ 2°-10'-30" RX.



I.E. EL. = 134.20
Rim EL. = 147.00

← Existing Sewer

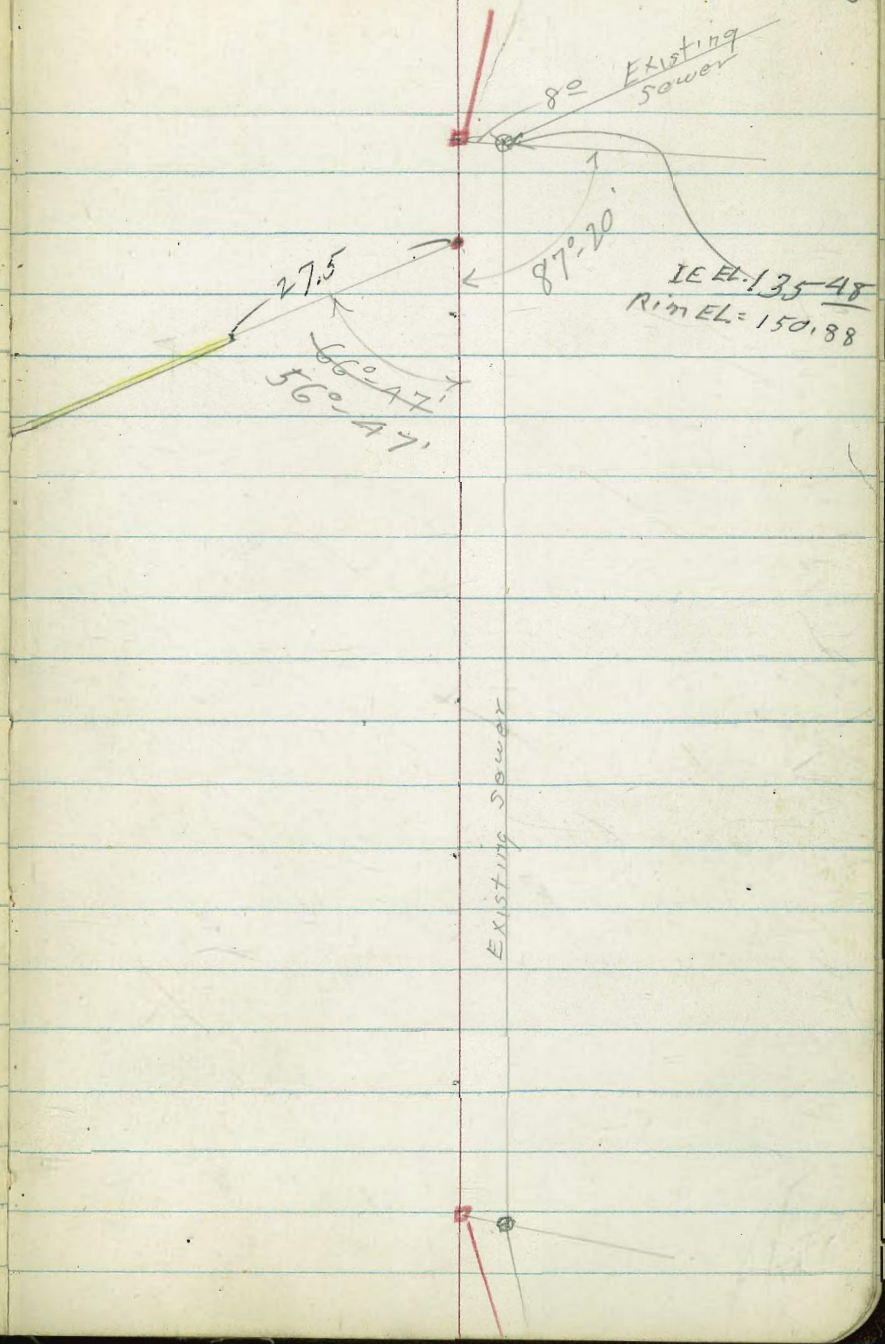
26+73.78 = Δ 58° 50' Lt.

10+ (P-56)
I.E. El. = 132.47
EL. Rim = 140.47

32+42.89 = Δ 8°-07' Rt.

32+19 = Intersect line of curb produced from S. west.

29+68.55 Δ 2°-10'-30" Rt.



34+36.49 = Δ 34°-17' Lt.

check from 33+00 on
for underground in place.
May require curve.

under construction
Note - Nautilus St. to East. is

32+42.89 = Δ 8°-07' Rt.

base line only
Not ℄ drain

33+00

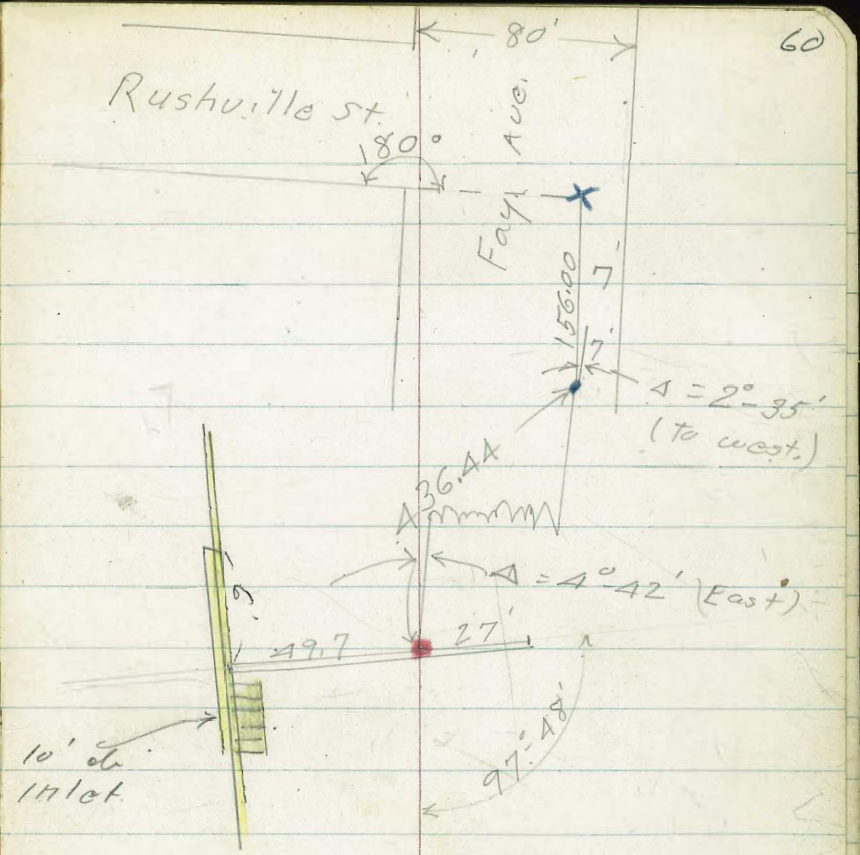
Fd. cross. on { Produced from west. + Sly. line Rushville St. / Ely. 7' line Fay Ave.

Fd. L.t.t. on Ely. 7' line Fay Ave.

3

$36+80^{55}$ conc. Pipe. = Aprox. ℄ of 34" Ely. & Wly. Drain

35+00



Bon Air St. Storm Drain
From Ocean to Fay. Ave. East of Rushville.

9-15-54
W.O.# 20841

T.P.	12.35	3 1.22	1.42	18.87

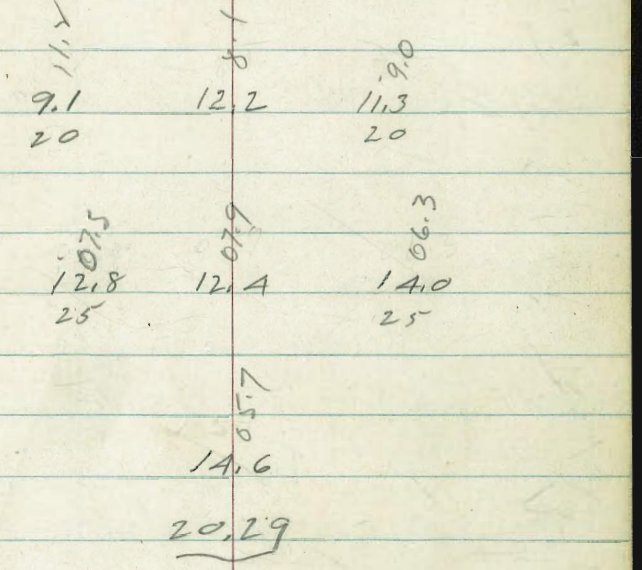
soft. sand stone

0+00 = Toe of fill for Neptune Place

0-25 - on soft. sand stone

0-50 on sand

T.P.	1.42	20.29	12.15	18.87
B.M.#3	2.46	31.02	3.68	28.56
T.P.	1.43	32.24	11.70	30.81
T.P.	0.97	42.51	12.22	41.54
B.M.#2	S.S.		1.18 ~~1.13~~	52.58
T.P.	1.30	53.76	10.76	52.46
T.P.	0.86	63.22	9.87	62.36
B.M.#1	0.25	72.23	-	71.98



+ Bon Air.
chisel ☐ N. end, N.E. ch. Ret. Neptune Pl.

= cross sta. 5+26.96 - Page 50.

S.W.B.P. Bon Air & La Jolla Blvd.

℄

1+10.94 20' Lt. = B.C. 10' Rad. cb.
Rat.

28.56	28.00	28.52	28.58	28.57
2.66	3.22	2.70	2.64	2.65
20	20	5		5
cb	G.			

1 ~

0+98 - 3' Rt. = Cap. over 8" water gate

28.10	28.10	28.12
3.12	3.12	3.10
5		5

30' Rt. = ctr. cb. inlet
$0+77^{8}$ 11' Lt. = ctr. cb. inlet

23.86	26.79	27.80	27.04	26.94	25.96	24.20
7.36	4.43	3.42	4.18	4.28	5.26	7.02
11	11	11		30	30	30
I.E	G	Cb		cb.	G.	I.E.

(Check Const. Plans for detail)

$0+71^{5}$ = Face of curb.
= start conc. pave.

26.60	27.56	26.62	27.42	27.30	26.66
4.62	3.66	4.60	3.80	3.92.	4.56
5	5	℄	cb.	5' cb.	G
G.	cb.	G.		along curb	

along curb.

$0+59^{5}$ = {also 7.0 Rt. = Face of cb.
{cross guard fence.

pile butts - 6' apart.

0+51 - 1^{5} Lt. = sly end of row of.

4' Rt. = line of fence.
0+50 10^{2} Rt. = Face of curb.

26.1	26.32	26.47	25.82
5.1	4.91	4.75	5.40
10	½	10^{2}	10^{2}
		curb	G.
			conc. pave.

Post guard fence.
8' Rt. = line of chain line & 8"x8"
0+38 = Top of fill, on ℄

25.3	25.6	25.7
5.9	5.6	5.5
15		15

31.22

4

4+00.				46.78 7.05 5	46.91 6.91	47.03 6.80 5
3 —				42.35 11.48 5	42.43 11.40	42.52 11.31 5
					53.83	
T.P.	12.22	53.83	0.40	41.61		
2+50					39.76 2.25	
2 —				35.60 6.35 5	35.78 6.23	35.83 6.18 5
1+50					31.60 10.40	
					42.01	
T.P.	12.80	42.01	2.07	29.15		
1+21.	10' Lt. = E.C. el. Ref.			29.37 1.90 10 el.	28.78 2.44 10 C	28.97 2.25
					31.22	

9+00				
T.P.	8.78	71.52	0.36	62.74
8+00				
7+00				
6+00				
5+58				
T.P.	10.52	63.10	1.25	52.58
5+00				

4

63.10	63.16	63.17
8.42	8.36	8.35
5		5

71.52

60.64	60.74	60.77
2.46	2.36	2.33
5		5

58.07	58.19	58.70
5.08	4.91	4.90
5		5

55.77	55.33	55.40
7.87	7.77	7.70
5		5

53.89	54.10	54.14
9.21	9.00	8.98
5		5

63.10

51.79	51.38	51.48
2.64	2.45	2.35
5		5

53.83

Start A.C. Pave.
13+12.5 = end Conc. pave. ℄

77.31 4.88 5 | 77.09 5.10 | 71.81 5.38 5

12+94.65 E.C.

77.39 4.80 5 | 77.31 4.88 | 77.19 5.00 5

Mid curve

71.94 5.25

12+59.92 B.C. R℄.

71.73 5.96 5 | 71.44 5.75 | 71.59 5.60 5

77.19

T.P. 6.45 77.19 0.78 70.74

12+00

69.77 1.80 5 | 69.85 1.67 | 70.01 1.51 5

11+00

67.16 4.36 5 | 67.74 4.28 | 67.37 4.20 5

10+00

65.09 6.43 5 | 65.73 6.29 | 65.77 6.30 5

71.52

15+08.05 = E.C.

Mid. curve

14+73.21 = B.C. Lt.

14+40

T.P. 7.68 | 80.56 | 4.31 | 72.88

14+00

13+85

13+50

74.94 / 5.62 / 5 — 75.74 / 5.32 — 75.47 / 5.14 / 5

74.96 / 6.20

73.88 / 6.68 / 5 — 73.96 / 6.60 — 73.99 / 6.57 / 5

73.71 / 6.85 / 5 — 73.58 / 6.98 — 73.47 / 7.14 / 5

80.56

73.11 / 4.08 / 5 — 77.85 / 4.34 — 77.61 / 4.58 / 5

77.79 / 4.40 / 5 — 77.61 / 4.58 — 77.44 / 4.75 / 5

72.51 / 4.67 / 5 — 72.39 / 4.80 — 77.29 / 4.90 / 5

77.19

21+00				
20+00				
T.P.	13.29	106.01	0.61	92.72
19+00				
18+00				
17+00				
T.P.	13.02	93.33	0.25	80.31
16+00				

± 100.03 5.98 / 5 = 5.84 ± 100.17 5.84 ± 100.31 5.70 / 5

95.51 10.50 / 5 = 10.30 95.71 10.30 95.86 10.15

106.01

90.89 2.44 / 5 = 2.20 91.13 2.20 91.76 2.07 / 5

85.19 7.14 / 5 = 6.94 86.39 6.94 86.50 6.83 / 5

81.83 11.50 / 5 = 11.23 82.10 11.23 82.35 10.98 / 5

93.33

78.11 2.45 / 5 = 2.18 78.38 2.18 78.39 2.17 / 5

80.56

4

23+00

22+60 ± 28' Rt / 8' Lt } = E.C. 10° Rad. Cl. Rot.

22+50 ± 38' Rt / 18' Lt } = B.C. 10° Rad. Cl. Rot.

22+10 ± 38' Rt / 18' Lt } E.C. 10° Rad. Cl. Rot.

S.W.B.P. { Drapor + Bon Air 12.10 105.41

22+00 ± 28' Rt / 8' Lt } = B.C. 10° Rad. Cl. Rot.

T.P. 12.30 117.51 0.80 105.21

22+00

109.65 109.81 110.04

7.86 7.70 7.47
5 5

106.00 105.71 105.97 106.29 106.53 106.49 106.81

11.51 11.80 11.54 11.22 10.98 11.02 10.70
8 8 5 28 28
cl G G cl

105.91 105.51 105.61 105.91 106.70 106.71 106.81

11.60 12.00 11.90 11.60 11.31 11.30 10.70
18 18 5 38 38
cl G 5 G cl

105.38 104.81 104.88 105.01 105.11 105.48 105.88

12.13 12.70 12.63 12.50 12.40 12.03 11.63
18 18 5 5 38 38
cl G G cl

105.71 104.50 104.93 105.68

12.30 13.01 12.58 11.83
8 8 28 28
cl G G cl

117.51

104.56 104.71 104.78

1.45 1.30 1.23
5 5

106.01

℄ 26+25.50

T.B.M.	9.94	146.93	3.72	136.99
26+00				
25+50				
T.P	12.44	140.71	1.86	128.27
25+00				

oil spayed dirt
24+70 = end rock + oil + start

24+00				

2" thick rock & oil
23+75 = End A.C. Pave Start 1"-to

T.P.	12.75	130.13	0.13	117.38
23+50				

℄

134.6	134.9	135.1
6.1	5.8	5.6
5		5
129.8	130.0	130.3
10.9	10.7	10.4
5		5

140.71

126.4	126.7	127.0
3.7	3.4	3.1
5		5
119.73	120.13	120.5
10.4	10.0	9.6
5		5
118.41	118.53	118.71
11.72	11.60	11.42
5		5

130.13

115.04	115.34	115.63
2.47	2.17	1.88
5		5

117.51

(on split of Δ)

29+68 55 Δ 2°-10'-30" Rt

29+00

T.R 7.39 151.64 2.68 144.25

start fill on left.

28+00 = start cut bank on Rt.

27+00

high Conc. wall.

26+93 4 Lt. = Ely end. E+W. 1'

Sec. on split of Δ

26+73 78 = Δ 58°-50' Lt.

26+25 50 = P.O.T. = (0+00 To S.E. Page 56)

℄

144.9	145.64	146.9
6.7	6.00	4.7
30		18
Top of fill		Toe of bank

143.5	144.1	145.6
8.1	7.5	6.0
37		18
Top-fill		Toe bank

151.64

140.6	147.6	143.7
6.3	4.3	3.2
50		14
Top of fill		Toe of bank

139.6	139.8	140.9
7.3	7.1	6.0
10		30

140.0	140.1	140.3
6.9	6.8	6.6
10		10

137.3	137.3	137.4
9.6	9.6	9.5
5		5

146.93

T.P.	6.86	158.89	3.89	152.03

33+00 2^{5} Lt. = start class room school ~~shop~~ strip.

33+00 = start 16' wide light A.C.

32+42.89 = Δ 8°-07' Rt.

32+19 = s/y ℄ line from west (see page 58)

Check T.B.M. Fd. in Pole # 6898 (shown as 150.97) 5.42 150.50

T.B.M. Nail in pole.	4.43	155.92	0.15	151.49

32+05 · 5^{3}' Rt. = Pole # 6898

32+00

31+00

30+58 5' Lt. = pole # JR 6874

30+00 4' Lt. = Δ Lt in fill

℄

150.7 5.2 10

151.1 4.8

151.3 4.6 35 start bank

150.9 5.0

155.67 0.3 90 along line of Nautilus

147.97 8.00 77.5 ℄

147.37 8.55 77.5 ℄

147.74 6.68 27.5 ℄

146.80 7.12 27.5 ℄

155.92

149.1 2.5 20

149.3 2.3

150.0 1.6 35 = end of bank

146.5 5.1 40

147.1 4.5

149.9 1.7 30 Top of bank

145.0 6.6 42 Top of fill

146.0 5.6

148.0 3.6 .19 Toe - bank

151.64

35+00

34+95 16 4 Lt. = Pole # 6954
+ start 8' high chain link Fence.
34+82 27' Lt. = end Auto shop.

Taken on split of Δ
34+36 49 = Δ 34°-17' Lt.

34+00

33+90 = leave pave.

33+87 37' Lt. start school Auto shop.
33+86 19' Lt. = pole # 6926
33+67 - 12 3 Lt. = end school classroom.

	157.5	157.1	157.7	154.0
	6.4	6.8	6.7	4.9
	14	1		11
	E.P.	E.P.		Toe of bank
152.4	157.4	157.1	153.7	153.6
6.5	6.5	6.8	5.7	5.3
27	19	6		9
End.	E.P.	E.P.		Toe of bank
157.5	157.0	154.14	154.9	
6.4	6.9	4.75	4.0	
29	16	1×1 stk.	3	
E.P.	E.P.		Toe of bank	
152.3	151.9	157.3	154.5	
6.6	7.0	6.6	4.4	
18	3		15.	
E.P.	E.P.		Toe bank	
		154.7		
		7.2		
151.5	157.3	151.8	151.7	
7.4	6.6	7.1	7.2	
37	16		1	
End	E.P.		E.P.	
	157.0	151.8	151.6	
	6.9	7.1	7.3	
	11		6	
	E.P.		E.P.	

158.89

13 L.

T.P.	4.75	157.61	6.03	152.86					
36+40					157.8 / 151 G.1 22 E.P.	157.8 / 151 6.1	157.7 / 151 G.2 5 E.P.	157.6 / 151 5.3 30	
36+02	10.9 Lt. = Pole # 69.80								
36+00					157.5 / 151 G.4 30	157.7 / 151 G.2 8 E.P.	157.7 / 151 G.2	157.6 / 151 G.3 7 E.P.	157.7 / 151 5.2 30
	29' Rt. = end bank								
35+82	9' Lt. = end fence				157.6 / 151 G.3 9	157.4 / 151 G.3 6 E.P.	157.5 / 151 G.4	157.3 / 151 C.C 7 E.P.	154.0 / 150 4.9 29 Toe of bank
35+50					157.5 / 151 G.4 7 E.P.	157.3 / 151 G.6	157.1 / 151 G.7 6 E.P.	153.4 / 147 5.5 22 Toe of bank	
35+12	12' Lt. = Δ in fence				157.6 / 151 G.3 12	157.5 / 151 G.4 11 E.P.	157.1 / 151 G.8	157.1 / 151 G.8 1 E.P.	157.6 / 151 5.3 13 Toe of bank
35+07	start Pave						157.1 / 151 G.8		
				158.89					

Bon Air Storm drain.

T.P.	8.77	84.04	2.17	75.27
T.P.	6.90	77.44	10.05	70.54
T.P.	0.37	80.59	13.34	80.22
T.P.	0.80	93.56	12.55	92.76
T.P.	1.02	105.31	6.50	104.29
T.P.	3.52	110.79	13.13	107.27
T.P.	0.34	120.40	12.59	120.06
T.P.	1.75	132.65	11.42	130.90
T.P.	1.08	142.32	12.58	141.24
T.B.	0.75	153.82	5.03	153.07
Set B.M. #3	5.64	158.10	5.15	152.46

Lt + Nail in wly end S.W. curb Rct. Rushville + Draper. (104.62 - Bench book)

(131.05 - Bench book)
NE. B.P. Eads + Rushville

Chiseled □ - Ctr. C.I. 49' Lt of 36+80 55

144.36
13,25
49'
I.E.
34" pipe

147.46
10.15
49'
I.E. C.I.
Box.

36+80 55 — Intersect 34" drain (see page 60.)

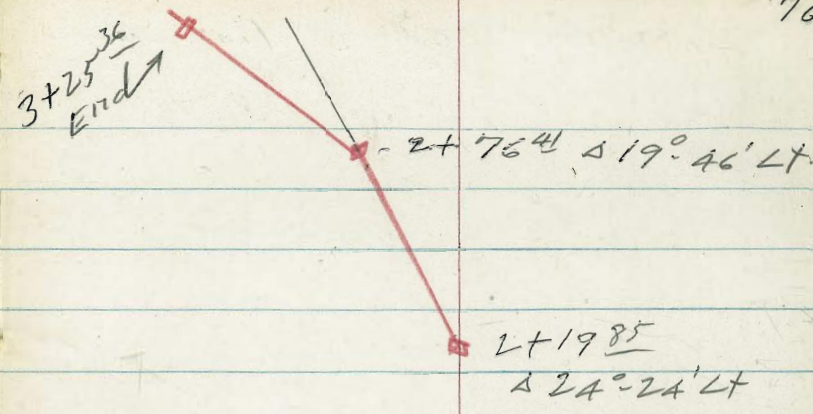
157.46 5.15 49' ol
151.43 6.18 49' C
152.9 4.7 20
157.7 4.9
157.6 5.0 3 E.P.
157.3 5.3 25
147.15 10.46 2.7 I.E. Pipe

157.61

				0.07		
			9.88	71.91	(71.98)	B.M. #1 - 961
T.P.	3.27	81.79	5.52	78.52		
		84.04				

Branch S.Ely off Bon Air St.

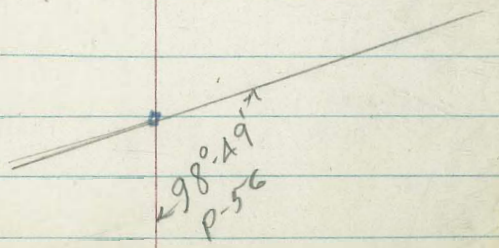
9-16-54



1+56.07 ℄ P.O.T.

= 0+00

26+25.50 Bon Air Line (P-56)



Branch line S.Ely. off Bon Air St. sketch P 76.

℄

1+56.07 ½ P.O.T

153.8 / 3.0 / 10 — 149.64 / 7.15 — 146.3 / 10.5 / 10

1+30

157.8 / 4.0 / 10 — 149.8 / 7.0 — 145.7 / 11.1 / 10

156.79

T.P. 6.65 156.79 0.05 150.14

1+00

147.7 / 3.0 / 10 — 145.5 / 4.7 — 143.9 / 6.3 / 10

0+80

144.5 / 5.7 / 10 — 142.9 / 7.3 — 141.4 / 8.8 / 10

0+60

140.4 / 9.8 / 10 — 139.6 / 10.6 — 139.7 / 11.0 / 10

0+28 = end oil sprayed ground

0+00 on oiled ground

137.7 / 12.5 / 5 — 137.3 / 12.9 / 150.19 — 136.9 / 13.3 / 5

13.20 150.19 − 136.99

26+25℄ (P. 56 + P 69)

26+25℄ P56 = 0+00

136.99

Check 0+00 Hub		10.49	136.98	
T.P.	0.36	147.47	9.68	147.11

3+25 35

Taken on split of Δ

2+76 41 = Δ 19°-46' Lt.

Taken on split of Δ

2+19 85 Δ 24°-24' Lt.

2+08

W = Ctr. of wash.

2+00

153.9 151.4 150.6 154.4 155.4
2.9 5.4 6.14 4.4 1.4
10 1 W 1/2 1 10

151.8 150.0 147.7 147.49 150.5 153.1
5.10 6.8 9.6 9.30 6.3 3.7
20 6 W 4 10

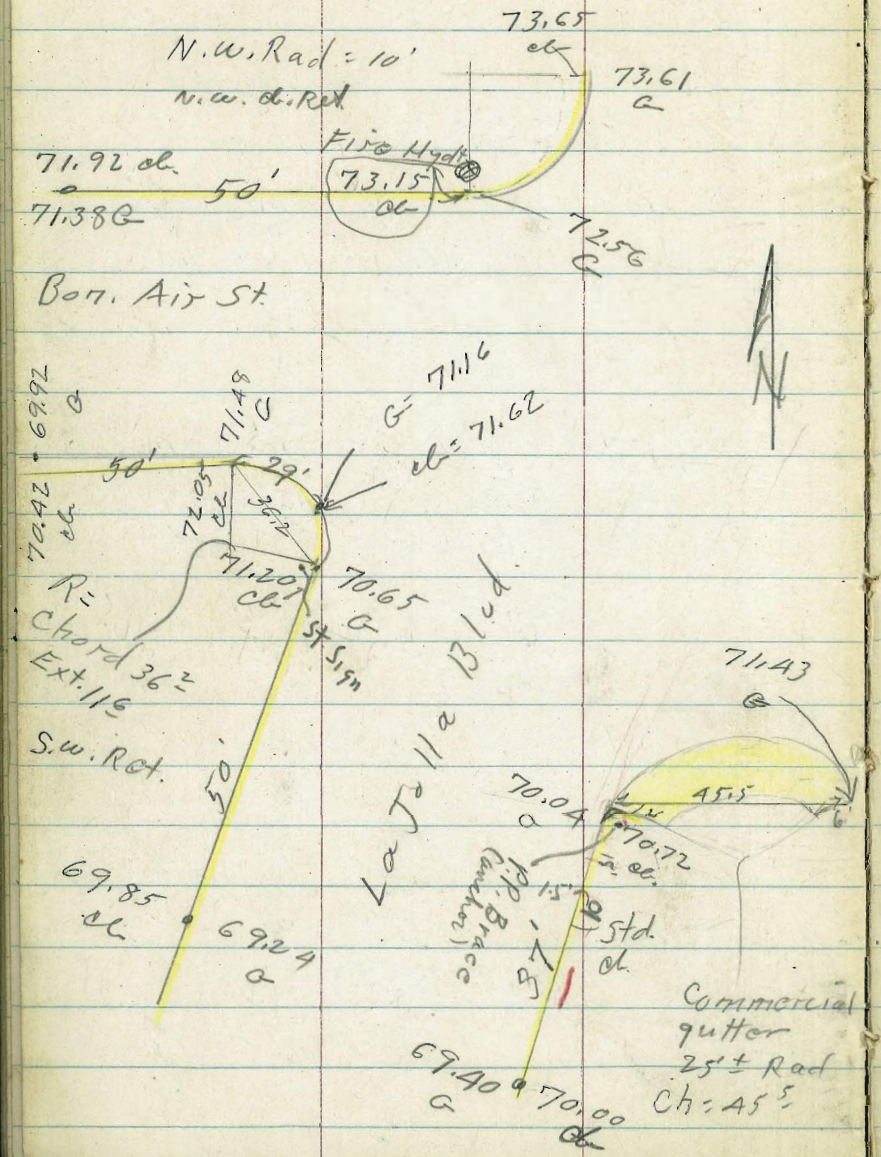
147.8 146.8 143.93 146.5 146.5
9.0 10.0 12.86 10.3 10.3
15 5 1/2 W 7 17

148.4 146.0 143.8
8.6 10.8 13.0
10 8 W

150.7 148.0 146.0 147.3
6.6 8.8 10.8 14.5
10 10 24 W

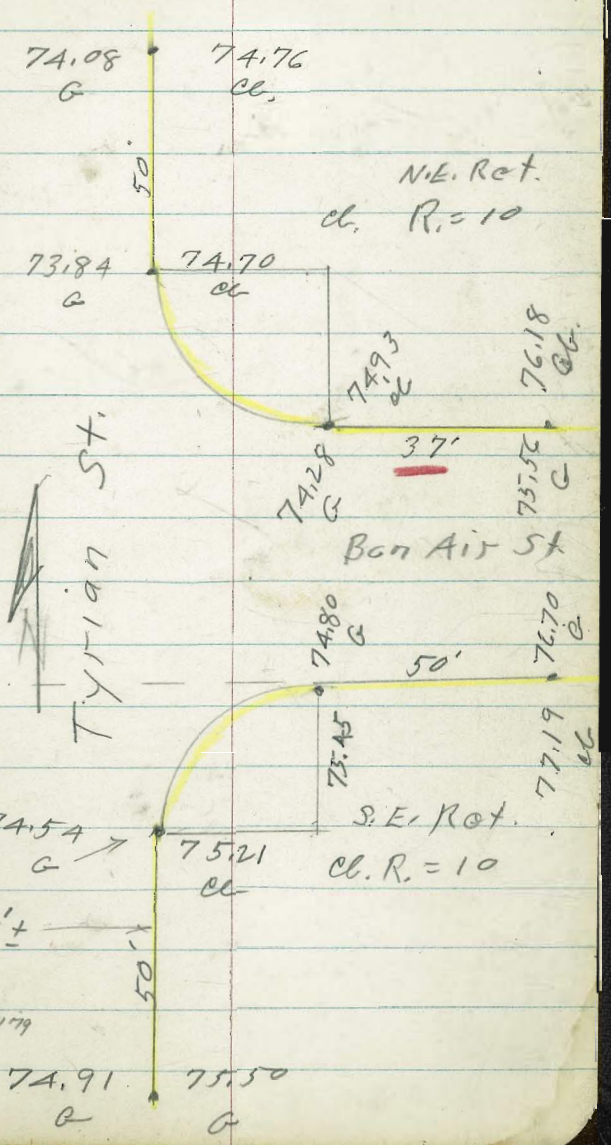
156.79

Ch. Returns
Bon Air + La Jolla Blvd.



Curb returns
Bon Air St. + Tyrian St.

79



146.93
1446
13247
790
140.37

6.56
1446.

71.92
71.38

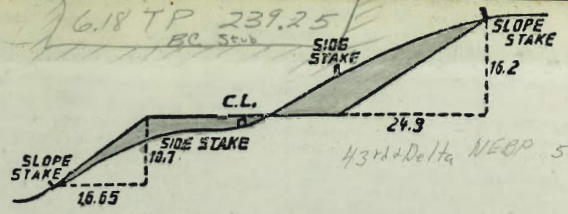
Bon.

2676
1442
R=
Chora
Ext.11
S.W.R

69.

624 – Bon Air – New House & Lateral.

605+



43rd+Delta NEBP 58.00

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.

SLOPE 1½ 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	71.20	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

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