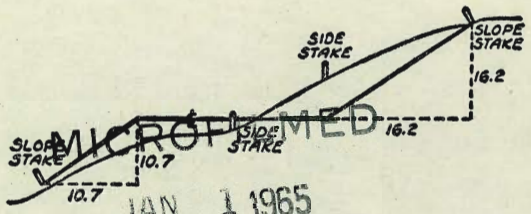
2239

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

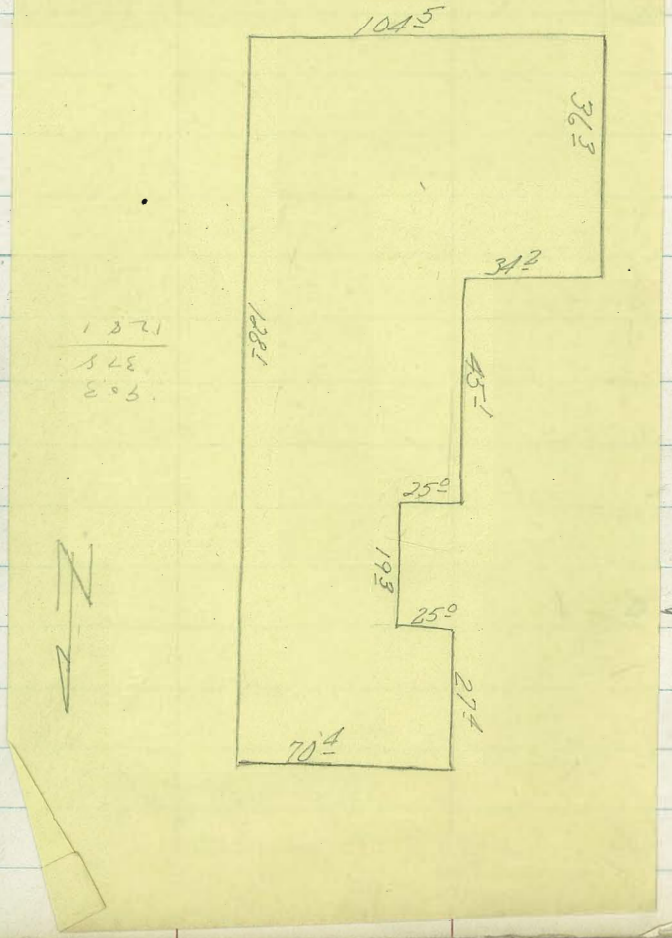
Pgs

Roberts
Cota
Moore
Pillen
4-14-52
W.O. 20981

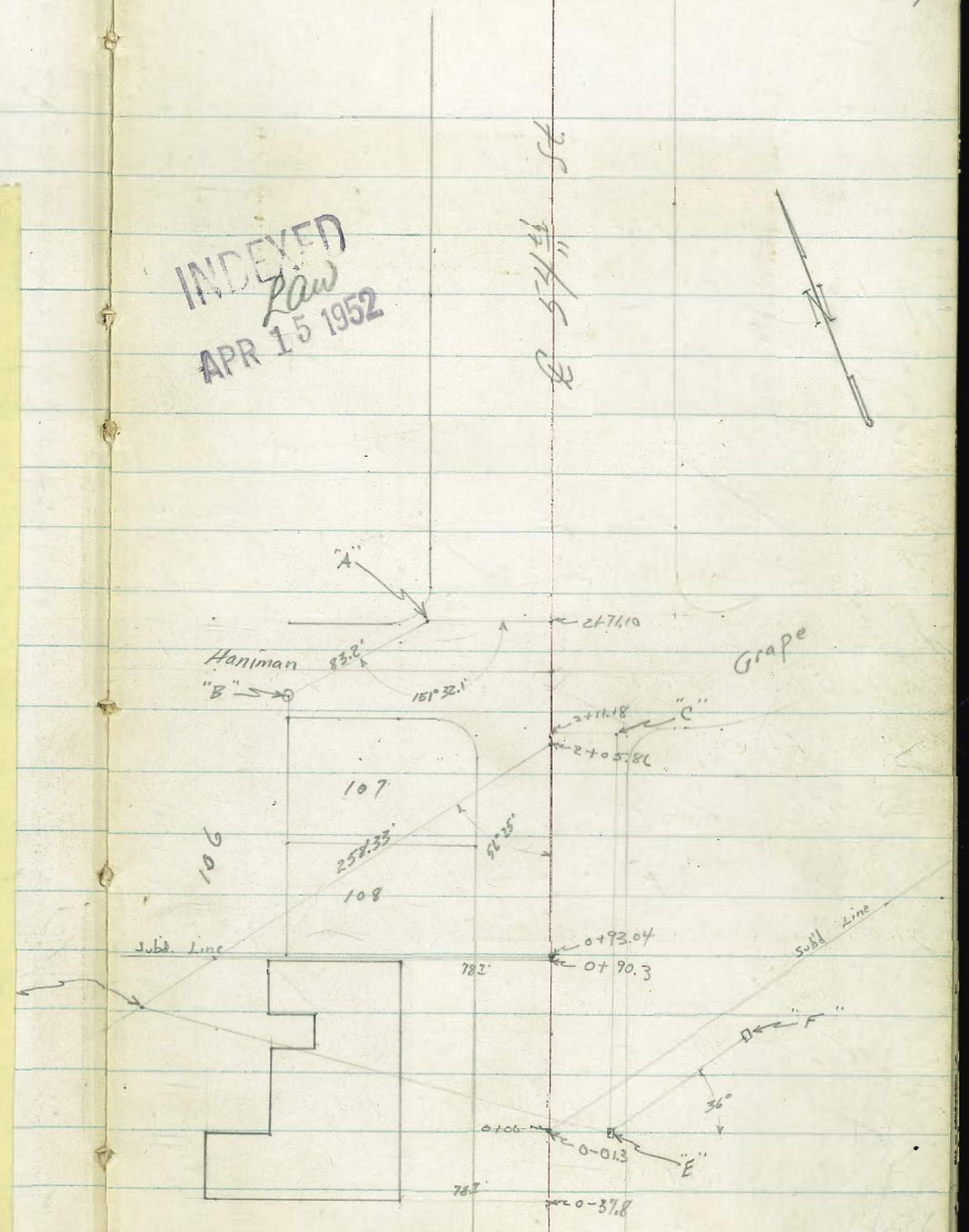
Survey of Existing Storm Drains at 54th & Grape

Map 2621 & 2505

56° 25' RT FROM SO.



INDEXED
Law
APR 15 1952



Contd From Page 2

"D" to E" "D" is End of 42" R.C.P. equals 0+00 for this narration.

0+00 = begin of 42" RCP 0+92 and 1+00 pipe sections cracked badly! This 42" RCP is laid on a slight curve to Right. 1+93.3 end of 42" RCP and begin 48" CMP 2+46 end of 48" CMP and begin 30" R.C.P. Slight angle Left at this point. 2+54 end 30" RCP and begin junction box and inlet.

"E to "F" Two 15" RCP one over the other.

"F" Homemade inlet 1.75'x1.75" Broken conc. Hunk construction.

"C" to "E" 24" RCP

"E" Homemade Junction Box & Inlet 2'x2' Conc. Block Construction.

"A" to "B" 24" RCP "B" = Std. MH. From "B" pipe follows Lot Line and somewhere curves to point alongside 42" RCP at "D."

2+71.10 66.9' Lt to Center 10.5' Cb. Inlet = "A"

2+11.18 34.3' Rt. to Center 15' Cb. Inlet = "C"

2+05.86 Turned ∠ to End Pipe see pg. 1 = "D"

0+93.04 Fd Disc RE 1534 Subd. Corner Westwood Hills No. 1

0+90.3 78.1 Lt. to Corner Store Bldg.

0+00 Fd Disc RE 1534 Subd. Corner Westwood Hills No. 2

0-01.3 31.9' Rt to Inlet & Junction Box = "E"

0-37.8 78.1 Lt to Corner store Bldg =

Contd From Page 2

"A" 10.5' cb inlet	cb - 217.47 +?	
	Gutter - 222.64	
	Invert - 218.20	
"B" Manhole	Invert - 218.20	
"C" 15' cb Inlet	cb - 223.76	
	Gutter - 222.87	
	Invert - 218.17	
"D" Outlet 42" RCP	Invert 210.78	
24" RCP	Invert 211.06	
"E" Junction box and Inlet	Grate - 223.40	
	Approx Invert - 215.30	
"F" Inlet	Invert of Lower pipe 216.52	
	Lip of Inlet 223.40	
B.M.	223.79	SEBP, 5th & Grape

Proposed storm drain
Upas + 30th

INO 21007
7-22-52

C.H.S.
Begg.
Oltman
Johns

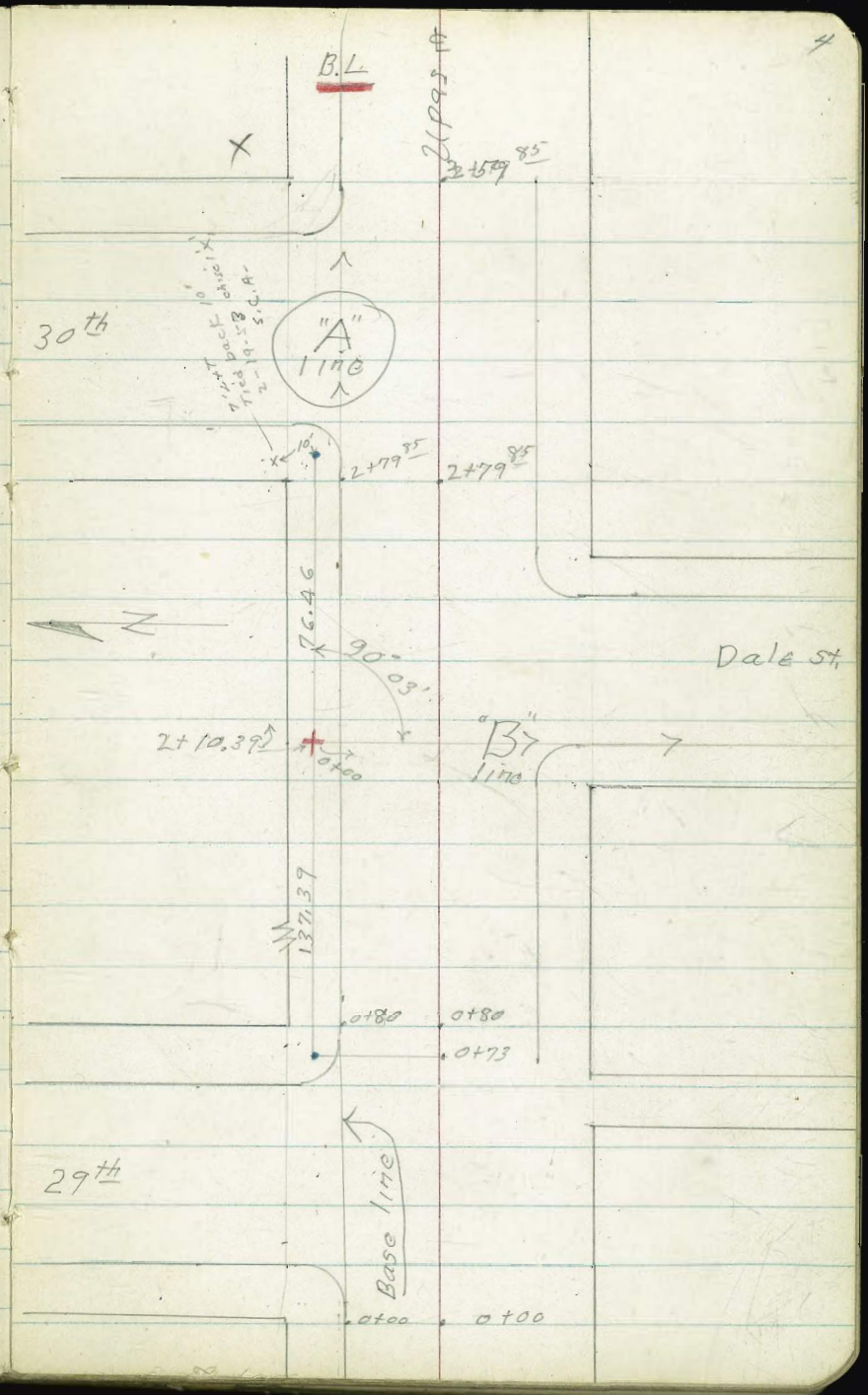
B.M. = B.P. N.E. Rot. Myrtle + 30th EL. = 331.90

Direct elevation rod used.

the hundred (which is 3) is not shown in rods in notes.

N.W. 7'L+T Upas + 30th (Nly. 7' line)	El. 325.08
Cross in walk (sta. 2+10.39 on	El. 324.93
N.E. 7'L+T. Upas + 29th	El. 325.36

Base line for Upas St drain = Nly gutter line Upas.



B.L.

1+50		24.72 Cl	24.97 G	24.81 5
1+25		24.95 Cl	24.34 G	24.51 5
1+00		25.10 Cl	24.52 G	24.70 5
0+80	= Ely. Diff. Line 29 ft	25.31 Cl	24.67 G	24.76 5
0+76	= E.C. 10' Rad. Cl. Rot.	25.27 Cl	24.67	24.80 5
0+66	10' Lt. = B.C. 10' Rad. Cl. Rot.	25.37 10 Cl	24.82 10 G	24.77 24.90 5
0+40	= ℄ 29 ft	25.00 5	24.88	25.08 5
0+14	10' Lt. = E.C. 10' Cl. Rot.	25.78 10 Cl	25.21 10 G	25.08
0+04	= 10' Cl. Rot. B.C.	25.71 Cl.	25.21 G	
			~~25.7~~	
0+00	= Wly Prop. 29 ft	25.77 Cl	25.25 G	

2+30

2+29 - 2' Lt. ₂ Ctr. water 2'x2' meter vault.

2+24.7 = ℄ 5" diam roof drain thru curb.

2+18 = end throat of grate covered channel.

2+16

2+12 2± Rt. = ℄ 2' wide + 10" high N.+S. box drain

2+10.39 = W.U. cl. pole.

2+07.7 = start grate

2+05.5 = start throat to grate covered channel.

2+00

1+75

Station					
2+30	24.49 cl	23.74 G	23.60 1	23.73 2	23.92 5
2+24.7		23.80 I.E. 5" pipe			
2+18	24.42 cl	23.60 G	23.55 1	23.78 2	24.10 5
2+16	24.43 cl	23.52 0±	23.49 1	23.55 2	
2+12		23.46 0± G	23.37 2± ℄ Box drain		
2+10.39		23.45 0± G	24.36 0± grate		
2+07.7	24.21 0.5 grate	24.48 cl	23.54 0.2 G	23.55 2¹	24.11 2²	24.26 5
2+05.5	24.44 cl	23.66 G	23.60 1	23.81 2¹	24.16 5
2+00	24.35 cl	23.65 G	23.91 5		
1+75	23.93 Drive cl	23.82 G	24.07 5		

2+94 = 19' Lt. = N.wly. cor. drain throat to 9" high box drain
14' Lt. = S.wly. cor. throat to 2' wide wly cb. line 30th

2+80 = end grate + start 2' wide 8" high

2+76½ start grate

also = ℄ 2" drain thru curb.
2+74½ start throat to drain outlet

2+65

2+56½ = ℄ 4" drain thru. curb.

2+55 16' Lt. = deadman

2+50

2+39½ 2' Lt. = Ctr. #54958H 10" diam pole

Gas. Co service vault.
2+35½ 2½ Lt. = Ctr. 2'x2' conc. wall of

24.77 25.17 24.40 24.94
40 40 19 19
G Cb C W

25.16 24.98
23.81 25.07 ~~25.06~~ ~~24.88~~ 25.05
14 14 10 5
G Cb. E.C.
℄ pave Cb. + Pave

24.92 23.52 25.00 25.02
~~24.83~~ ~~23.47~~ ~~24.86~~ ~~24.91~~
Cb. grate 1 2 5
+ pave. I.E. grate
℄ Box drain
24.20
~~24.12~~
1
℄ grate

24.45
24.90 24.60 23.96 23.70 23.76
~~24.83~~ ~~24.55~~ ~~23.88~~ ~~23.64~~ ~~23.70~~ 24.27
Cb I.E. 2" pipe G 1 2 3 5

24.65 23.65 23.94 24.10
~~24.70~~ 24.18 ~~23.58~~ ~~23.92~~ ~~24.15~~
W C 1 3 5

24.22
I.E. 4" drain

24.62 24.05 23.65 23.91 24.00
Cb G 1 3½ 5

22.43 22.3
2³ top of 2½ Ord
2" pipe No Conc.
runs to floor
west

B.L.

3+59 $6^{\pm}$ Rt. = Ctr. M.H. Marked "T PT T C." + Fire Dept.

3+56 - See page 9

3+47.5 $15^{\pm}$ Lt. = Pole for Police Dept drain

3+46 = $19^{\pm}$ Lt. = N.Ely Cor. throat to Into box drain
also 14' Lt. = S.Ely. Cor. throat
Ely cb. 30 Rt
10' Lt. = E.C. 10' Rad. Cb. Ret.

3+45 14' Lt. = ℄ Nly end drain

into 2'-X 6" box drain

3+43.7 14' Lt. = S.W. Cor. throat
$19^{\pm}$ Lt. = N.Wly " "

3+33

3+20

3+07

2+96 14' Lt. = S.Ely. Cor. throat.

+ ℄ grate

2+95 14' Lt. = ℄ drain Intake.

26.01 25.40 25.95 25.75
30 30 $19^{\pm}$ $19^{\pm}$
cb G cb cb.

25.14 24.68 25.90 25.90 25.81 25.90
$19^{\pm}$ 14 14 10 5
N.E. cor. throat 17 throat Pave cb + Pave.
Throat

24.66 25.89
14 Pave
I.E. 14
drain

25.19 24.73 25.80
$19^{\pm}$ 14 14
Pave Throat Pave + Grate
+ grate

25.98 26.00 26.00
5 5

25.85 25.81 25.73
5 5

25.35 25.34 25.30
5 5

24.42 23.87 24.97
19 14 14
End of I.E. Pave
throat drain
+ pave.

24.41 24.65 23.77 24.94
19 16 14 14
End grate I.E. Pave.
of drain + grate
Throat ℄

4+00

26.26 cb | 25.70 C | 25.87 5

3+65 = N.Ely Cor. throat to drain

25.95 cb | 25.30 C | 25.35 2 | 25.55 5

also N.W. Cor throat to drain

3+60 = N.E Cor 2' x 6" box drain

25.90 pave + cb | 24.70 1 I.E. drain | 25.85 2 pave | 25.80 5

3+56 = E.C. 10' Rad Ob. Rot

25.92 5 on walk | 25.87 cb. & pave | 25.85 5

"B" line

B.L.

22.92 23.38 23.08 23.62
30 30 50 50
C Ch C Ch

0+59 01 Sly. Ch. line Upas.

23.51 23.35 23.34 23.27 22.64
5 10 14 14
Ch. Ch C

box drain.

0+59 10' Rt. = S.E. Cor. throat to

23.51 23.35 23.24 22.32 22.64
5 10 10 14
pave Throat S.W. Cor throat.

0+58 10' Rt = ℄ 2'x8" box drain

22.31
10
I.E.

2'x8" box drain

0+57 10' Rt. = N.E. Cor throat to

23.57 23.48 23.23 22.35 22.84
5 10 10 14
pave Throat N.W. Cor. throat

0+46

24.05 24.01 23.97
5 5

0+33 ℄ Upas

24.32 24.31 24.30
5 5

0+20

24.31 24.34 24.35
5 5

0+09 2 = { 16' Lt. = ℄ drain
I.E start 2'x10" box drain

24.31
5
24.41 23.37 24.41 24.40 23.76
3 16 16 5
I.E.

= 7' Lt. of 2+10.39 "A" line page 4

0+00 = cross in walk on tie in line

24.93

"B" line

2+50 — 21.15 G — 21.80 cl

2+00 — 21.58 G — 22.20 cl

1+50 — 21.90 G — 22.71 cl

1+25 — 22.05 G — 22.91 cl

1+00 — 22.68 5 — 22.14 G — 23.09 cl

0+78 = S.W.I. Cor throat to drain — 23.10 5 — 22.59 3 — 22.09 2 — 22.04 G — 23.24 cl

0+73 = 1° Lt. = ± 2'x 9" conc. box drain — 23.33 5 — 23.13 2+ pave — 22.11 2 — 22.07 1 I.E. — 23.07 ± pave — 23.31 cl

0+69 = E.C. 10' Rad cl. Rt. — 23.39 5 — 23.35 cl — 23.21 G

Roberts
Cota
Moore
Pullen
12-26-52
W.O. 25020

X-Section Alley Block 4, College Park #1

Montezuma Rd. to College Place
Westerly of College Avenue

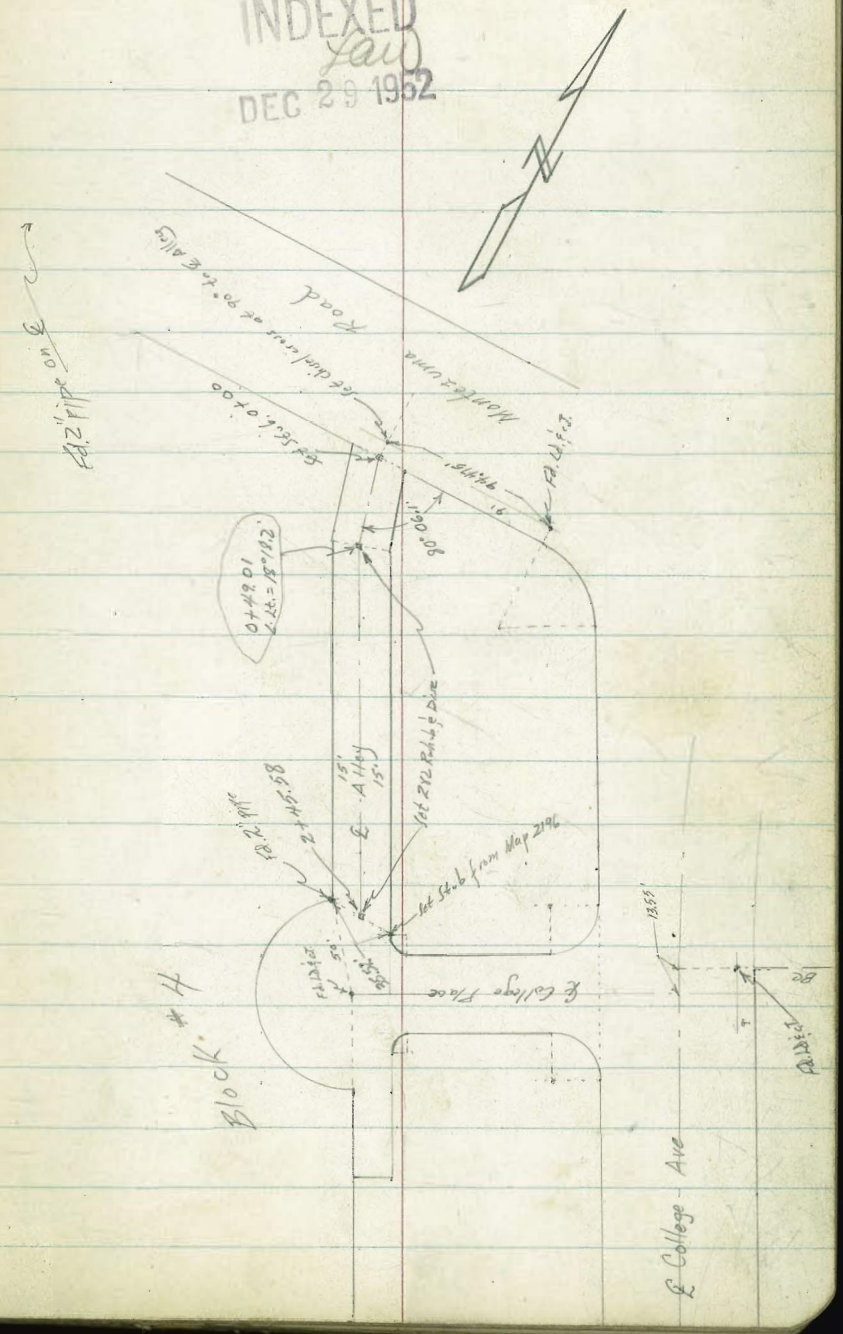
TP 23 pg. 30 Map 2196 sheet #

Montezuma :—

No opening in Curb at Alley
A.C. Paving
52' Roadway
3½' Curb to Walk
5' Walk
14' Curb Face to Prop. Line
40' Street

College Place :—

40' Street
A.C. Paving
30' Roadway
5' Combination Curb & Walk to Banjo
In Banjo curb Radius 45'
No Walk in Banjo.



Cont'd From Page 12

Lt — ℄ — Rt

1+00

446.9	446.5	445.9	446.3	445.3	438.6
5.0	5.4	6.0	5.7	6.6	13.3
25	15		15	28	50 Not Bottom!

0+49.01 Angle Point (section on split)

447.3	446.2	446.3	445.7	445.8	438.9
4.6	5.7	5.6	6.2	6.1	13.0
30	15.3		15.3	20	30 Not Bottom!

0+15

446.9	446.8	446.8	446.6	446.3	440.6
5.0	5.1	5.1	5.3	5.6	11.3
30	15		15	20	30 Not Bottom!

0+00 Sly. Property Line Montezuma

448.3	446.8	446.7	446.7	445.6
3.6	5.1	5.2	5.2	6.3
50	15.3		15.3	50

Sly. Curb Line Montezuma

449.39	448.97	448.05	447.50	447.16	446.61	446.16	446.80	445.82	446.37	444.80	445.41	443.53	444.14
2.48	2.90	3.82	4.37	4.71	5.26	5.71	5.07	6.05	5.50	7.07	6.46	8.34	7.73
100	100	50	50	15.3	15.3	Gutt	cb	15.3	15.3	50	50	100	100
cb	Gutt	cb	Gutt	cb	Gutt			Gutt	cb	Gutt	cb	Gutt	cb

℄ Montezuma Road

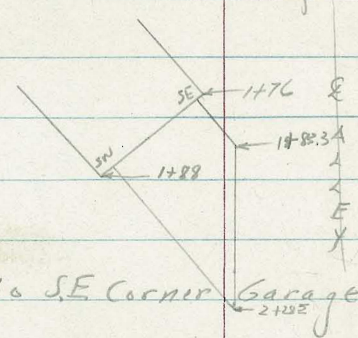
449.31	448.12	446.74	445.44	444.04
2.56	3.75	5.13	6.43	7.83
100	50		50	100

Sections taken Parallel to Montezuma.

BM 2.04 451.87 — 451.87 — 449.83 NEBP. College Ave. and Montezuma Road

Cont'd From Page 13

			Lt	℄	Rt
1+83.3	12.5 Rt to Cor. Conc. Apron.				448.00 4.55/12.5 Conc; 448.31 4.24/15 Conc; 448.85 3.70/25 Conc
1+76	15.5 Rt to S.E Corner Garage				448.96 3.59/15.5 Floor
1+70			448.4 4.1/15; 447.0 5.6/5	446.8 5.8	448.0 4.5/15
T.P.	4.99 452.55	4.31 447.56		452.55 Λ	
1+65.1	15' Lt begin Conc. Block wall		455.9 +4.0/15 Top; 448.1 3.8/15 GRD; 447.6 4.8/15 Footing		
1+50			448.3 3.6/30; 447.5 4.4/15	446.6 5.3	446.8 5.1/15; 447.0 4.9/30



Cont'd From Page 14

Station	Description	Lt	℄	Rt
2+51	14.5 Lt at Rt. angles to ℄ 3" Lemon Tree			
2+41	12.0 Lt to center 4" Grapefruit Tree			
2+35	15.3 Lt End Conc. Ret. Wall	450.6 1.9 15.3 Top · 449.6 2.9 15.3 GRD. · 447.2 5.3 15.3 Foot.		
2+28.5	End Conc. Apron			447.68 4.87 12.1 Conc.
2+25	12' Lt to center 4" Peach Tree			
2+14	End Conc. Block Wall Begin Conc. Ret. Wall			
2+00		448.8 3.8 15 · 448.8 3.8 10 · 447.0 5.6 6 · 447.0 5.6		447.86 4.69 12.6 conc · 448.21 4.34 15 conc · 446.75 3.80 22 conc.
1+88	32' Rt to S.W. Cr. Garage			348.96 3.59 32 Floor

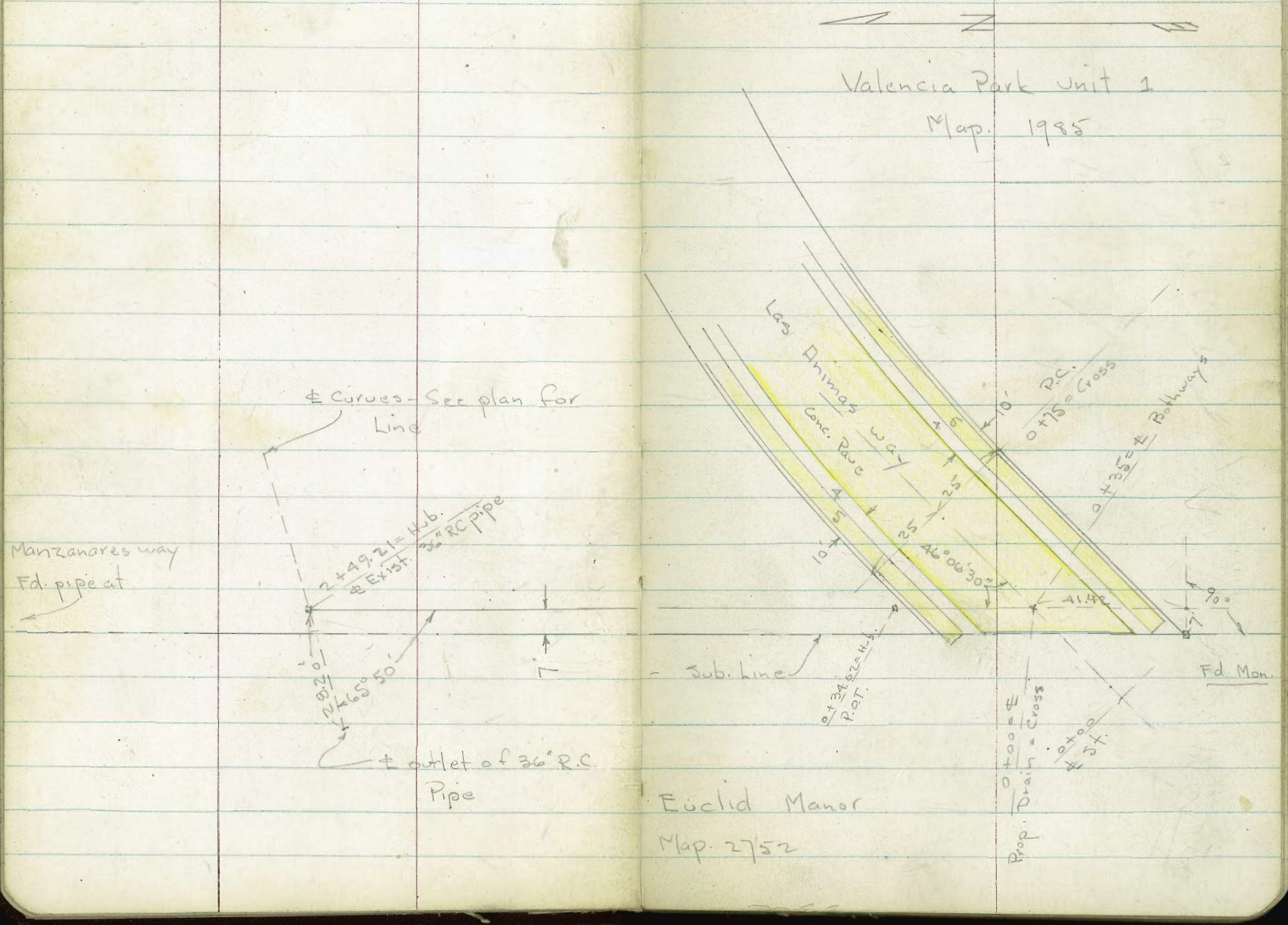
Cont'd From Page 15

Lt ℄ Rt

Revised By Lockhead 12-30-52

						Lt	℄	Rt
check		3.29	449.82	= 449.83 (0.01)	Starting B.M			
T.P.	6.49	453.11	5.93	446.62				
2+85.2	℄ College Place					4.63 (447.82) 100	4.74 (447.81) 50	5.17 (447.55)
2+70.2	N'ly Curb Line College Place					4.22 (448.33) 60 Cb; 4.85 (447.70) 60 Gutt; 4.45 (448.10) 35 Cb; 5.03 (447.52) 35 Gutt	5.13 (447.42) 15	5.23 (447.32)
	(Section taken on Line from 2" pipe to Stub)							
2+45.58	Limits College Place (AC Paving)					4.54 (448.01) 13.75 Cb	5.02 (447.53) 13.75 Gutt	5.33 (447.22)

	Lt	℄	Rt
2+85.2			4.80 (447.25) 50 Gutt; 4.27 (448.28) 50 Cb
2+70.2	5.03 (447.52) 15	4.91 (447.64) 40	
2+45.58	5.04 (447.51) 13.25 Gutt	4.53 (448.02) 13.25 Cb	



X-Sect. Swly. end of Las Animas Way for Prop. turnaround + Inlet.

238 2-9-53 7.0.

W.O. 21068.

0+63.2 - 24' Rt. = Beg. Conc. Block wall at edge of walk

0+59.3 = ℄ 17' Conc. Dr. on Rt

0+44.9 = end of walk on Lt. - No Support

0+43 - 17.2 Lt. - ℄ P. pole # J.P. 371986

0+39.1 = opp. end of cb. on Lt.

0+29 - 15' Rt = ℄ Sewer M.H. Top = 188.36 I.E. = 180.24

0+25.3 = edge of Pave on ℄

0+10.5 = opp. end of cb. on Rt.

℄ of Prop. Drain - See Sketch - P. 17

0+00 = 35' Swly. along ℄ of Las Animas from ℄ Sly. Line Las Animas

B.M. on Mon. - Sub Line	185.71
B.M. on H.b. 0+34.02	190.68
B.M. = ℄ ct. San Jacinto + Churchward	189.45

Lt. ℄ Rt.

91.67 = walk (24) 96.53 = Top wall

884	90.97	90.86	90.82	90.22	90.84	90.46	91.18	91.35	92.33
(30)	(24.2)	(19.2) walk	Top	(15.1) gut.		(14.9 = gut. in Dr.	(19) walk	(24)	(30 = Dr.

89.90 (24.1) cor walk — 89.73 (19.1)

85.1 (25)	89.13 Top end cb.	88.55 (15.1) gut	89.30	88.86 (15) gut.	89.48 Top	89.62 (19) walk	89.69 (24)	

79.1 (25.)	88.0 (9)	88.11	87.62 (14.9) gut	88.20 Top	88.38 (18.9)	88.37 (23.9) walk	

88.1 (15)	87.6	86.14 (15) gut	86.25 Top end cb.	87.00 (19) cor. of walk	87.6 (25)	

77.1 (10)	83.8	86.2 (5)	85.5 (15)	86.1 (25)	88.1 (30)	

100' Sta. not Noted.

Actual Elev. Shown.

				Lt.	℄	Rt.
0+75 = approx	P.C	= end	88.4 30	91.89 91.95 91.96 91.34 91.92 24.2 19.3 Top 15.2 walk gut.		91.47 92.08 92.20 92.32 15 Top 19 24=at wall gut walk

Beg. Levels along ℄ of Prop. Drain along Wly. Sub. line of Valencia Park Unit 1 to Las Animas Way

See sketch - P. 17

1+40

1+26 - 7' Lt. - ℄ P. pole # J.P. 371985 = T.P. 172.26 = Spike

1+10

0+90

0+739' - 4' Lt. - ℄ Sewer M.H. - 6" Line paralell

0+53

0+33.7 - Nly. of walk

0+26.7 - Sly. of walk

0+21 - ℄ at Nly. curb

0+00 - ℄ Las Animas - 7' E. of Sub. line

Lt.	℄	Rt.
70.7 15	70.8 7	69.7 68.3 15
71.2 15	72.0 7	71.8 70.9 15
76.7 15 Top	75.7	74.3 15
78.7 15	81.7 10 Top	78.60 I.E. 4' 82.39 Rim + Dirt 79.7 79.8 15
80.7 15	84.5 9 Top	85.1 86.2 7 92.2 20 = Top
86.2 10	90.3 3	90.87 walk
		90.37 walk
		89.42 90.01 Top
88.37 7 edge Conc.	88.93	

4.32 | 6122
13.78 | 1801
18.01 | 4321

		Lt.	℄	Rt
2+49.21 = ℄ of 36" RC. Culvert.		48.39 = I.E. of outlet. 58.7 62.0 61.91 60.7 60.6 28.2 along ℄ 36" = outlet 15 7 on Hub. 7 15		
2+38		49.1 57.2 61.4 62.1 60.2 60.9 26 15 7 7 15 ℄ wash by outlet.		
2+28.5 - 4.6 Lt. = ℄ Sewer M.H.	161.22 = + on E Rim	4321 = I.E. of M.H 53.2 52.9 56.2 59.5 61.0 61.4 30 15 6.1 4.6 7 15 Bot. of wash		
2+20		56.2 59.5 62.3 62.3 62.4 25 15 7 15		
1+85		65.9 66.1 65.7 64.8 15 7 15		
1+70		70.2 70.2 66.9 66.0 15 7 15		

Survey for storm drain in Walnut Ave,
India ST to Kettner Blvd.

Ref. 2565-L- Sheet 2.

24" Corg iron pipe between station 6+15± and
1+30.7 appears to be on a curve.

WO # 21155- 8-12-53-

C. Allen, D. Sisson, C. Powell.

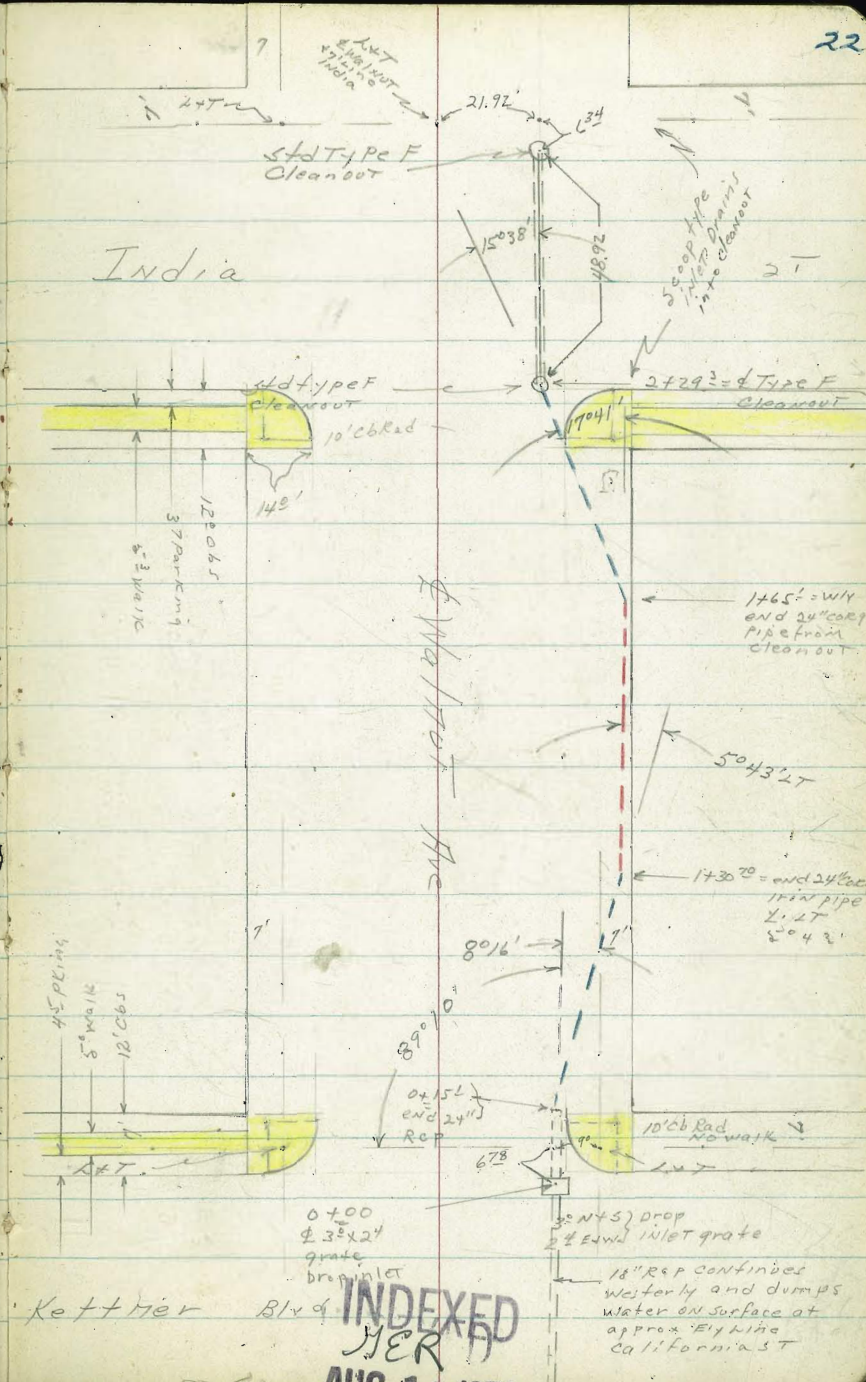
- - - - - - - - = RCP

– – – – – – = Corg iron pipe in place

– – – – – – = Proposed Line to Connect Corg IP

▬▬▬ = Portland Conc.

See page 23 for Levels.



Proposed Storm Drain in Walnut Ave
India Ave + Kettner Blvd

					LT	℄	RT
TP,	8.29	53.89✓	0.80	45.60✓		53.89✓	
0+26					43.4 / 3.0 / 10	43.7 / 2.7	43.2 / 3.2 / 10
0+15 = approx end 24" RCP + begin 24" Corg Metal pipe (∠ 8°16' Rt - underground -)					41.5 / 4.8 / 10.0	41.2 / 5.2	41.7 / 4.5 / 10
0+13.8 2.0 Rt = Ely end Curb Return + Ely edge AC						40.90 / 5.50 / AC	40.86 / 5.54 / 2.0 gut ; 41.48 / 4.92 / 2.0 cb
0+11.8 2.0 Rt = EC Curb Return							40.86 / 5.54 / 2.0 gut / EC ; 41.48 / 4.92 / 2.0 cb / EC
0+01.5 ± = Ely Curb Line Kettner Blvd					44.18 / 2.22 / 16.0 cb ; 43.57 / 2.83 / 16.0 gut ; 42.10 / 4.30 / 6.0 cb / BC ; 41.36 / 5.04 / 6.0 gut / BC	40.51 / 5.89	40.43 / 5.97 / 12.0 gut / BC ; 41.06 / 5.34 / 12.0 cb / BC ; 40.25 / 6.15 / 5.0 gut ; 40.89 / 5.51 / 5.0 cb ; 39.92 / 6.48 / 10.0 gut ; 40.72 / 5.68 / 10.0 cb
0+00 = ℄ 3.0 N+S + 2.4 E+W Drop Inlet, SE Cor Kettner + Walnut						40.52 / 5.88 / grate	37.75 / 8.65 / IE 24" RCP To ely. ; 37.75 / 8.65 / IE 18" RCP To Wly.
BM	4.76	46.40✓		41.64		46.40✓ ± 336033-4.	

S.E. spike in Power Pole (Bench Book)

Proposed Storm Drain - Walnut Ave between India + Kettner -

					LT			Rt.
TP_2	12.31	65.19 ↓	1.01	52.88 ↓			65.19 ↑	
1+80 toe cut to Rt.					67.7 / 13.2 / 16 Top Fill	58.7 / 4.2 / 10	47.7 / 7.3 / 7 toe Fill	47.7 / 7.8 / 10 Elyedge Lightly oiled parking Area
1+65 L = 17°41 LT = Wly end 24" CorG pipe from typ Rt				clean out in India St	63.0 / 9.1 / 25 Top Fill	53.7 / 0.2 / 10	49.5 / 4.4 / 3	45.2 / 8.7 / 2	45.5 / 8.6.4 / 1E	45.7 / 8.2 / 11.0 edge oiled Parking Lot	45.5 / 8.6 / 10
1+30 Ely L = 5°43' LT = end 24" CorG Metal pipe					57.6 / 3.7 / 23 Top Fill	51.2 / 2.7 / 10	47.6 / 6.3 / 3	43.7 / 10.2 / 2	47.80 / 10.09 / 1E	44.8 / 9.0 / 4 Edge oiled Park area	44.9 / 9.0 / 10
1+00 - 7' Rt = Nly edge lightly oiled parking area.					53.4 / 0.5 / 17 Top Fill	49.8 / 4.0 / 10 on slope			45.5 / 8.4	44.3 / 9.6 / 7	44.3 / 9.6 / 10
0+75					50.4 / 3.5 / 15	50.3 / 3.6 / 12.0 Top Fill			45.0 / 8.9		44.4 / 9.5 / 10
0+74 - 4.8 LT - ℄ 12" power pole # 1851					46.5 / 7.4 / 10	46.4 / 7.5 / 8 Top Fill			44.0 / 9.9		43.9 / 10.0 / 10
0+50											

53.89 ↑

TP6	starting	13.11	8.81	41.63 (41.64)	
TP5	0.71	50.44√	13.00	49.73√	
TP4	0.16	62.73√	12.80	62.57√	

2+29³ = ℄ type F Cleanout - intake from Ely - accross the street
There is also 3" water line running through drain

2+26-17² Rt at 90° to ℄ = opening curb inlet scoop type

2+18⁵ 1' Rt = Wly end curb return - ℄ intersects A.C. pave - India St

2+17 = Top India St. Fill -

2+00 - 5' LT = ℄ Low 6" pepper tree

TP3	10.40	75.37√	0.22	64.97√	

1+90

LT ℄ Rt

2+29³: 68.62 6.75 IE from scoop type inlet sweep; 63.55 11.82 IE 24" corrugated metal pipe to Wly; 70.18 5.19 Rim MH cleanout

2+26: 64.92 5.45 17² flowline; 70.58 4.79 17² top cb; 70.05 5.32 17² gutter

2+18⁵: 70.17 5.20 AC; 70.27 5.10 1' gut; 70.61 4.76 1' cb

2+17: 70.5 4.9 10; 70.2 4.5; 70.6 4.8 10

2+00: 68.6 6.8 19 Top fill; 62.4 13.0 10; 62.0 13.4; 62.0 13.4 10

75.37√ R

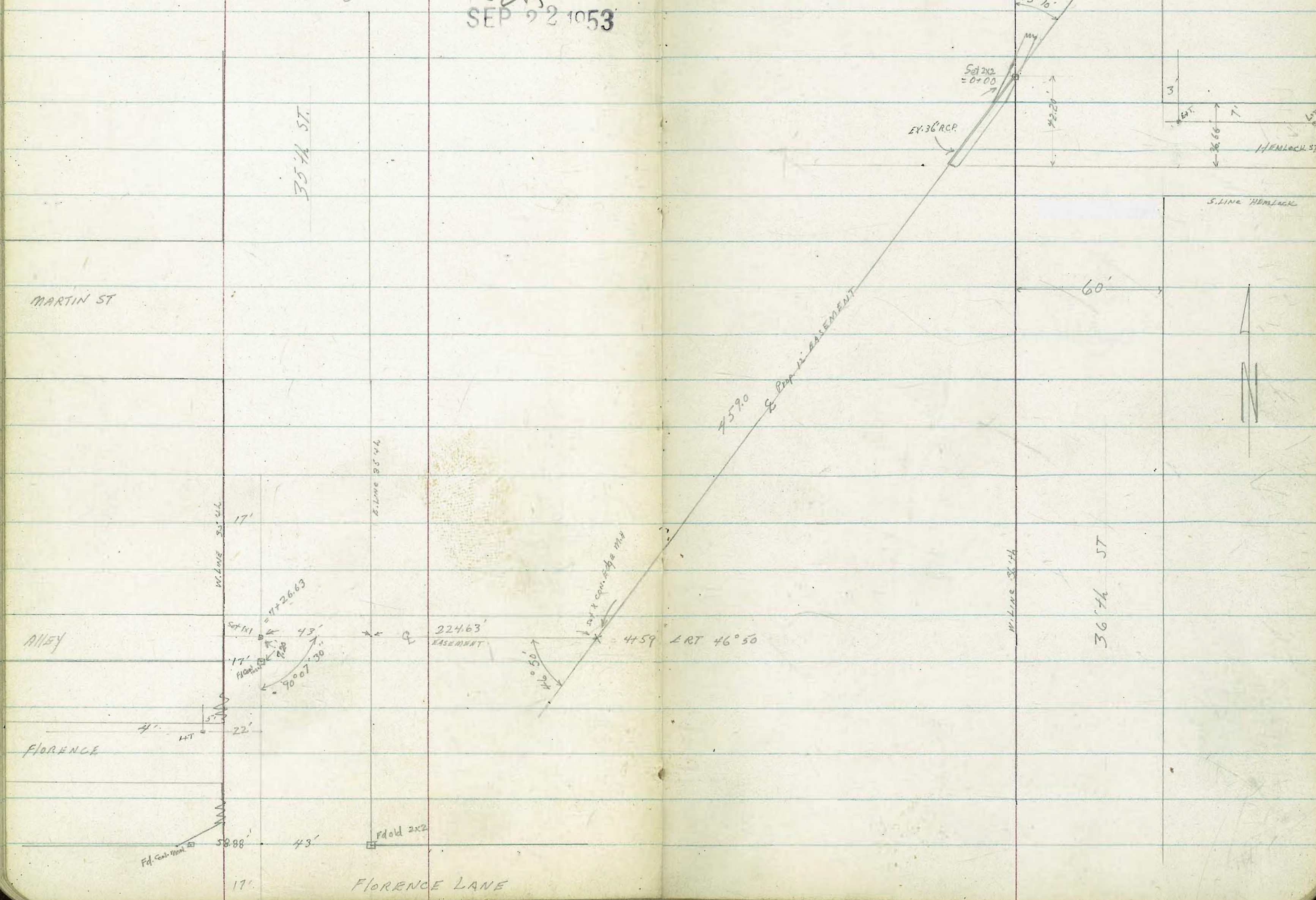
1+90: 67.5 + 2.3 20 Top fill; 61.4 3.0 10; 57.5 7.7; 57.3 8.0 10

65.19 R√

Clark
Shephard
Bruner
O'Neil
9-17-53
W.O. 20467

SURVEY Proposed Drainage-Ditch
W'ly 36th & S'ly OCEAN VIEW BLVD.

Ref: F.B. # 2029
DWG: 3753-B
4201-B



Levels for drain Page 26.
Notes by Allen.

			Lt		Rt
2+00			32.0 10.7 15	31.8 10.9	31.7 11.0 15
1+50			33.7 9.0 15	33.2 9.5	32.6 10.1 15
1+00			34.5 8.2 36	34.2 8.0 10	34.2 8.5 / 8.7 15
0+62			35.8 6.9 30	37.3 5.4 5	36.6 6.1 / 37.1 5.6 / 36.7 6.0 15
0+56.7 = 0.9 Lt = ℄ existing 36" RCP			35.8 6.8 30	37.2 5.5 5	30.08 30.2 12.5 4 / 30.7 12.6 IE / 30.7 12.6 4.5 / 37.0 5.7 5 / 36.7 6.0 15
0+00. Sections taken down ℄ easement line					28.2 4.5 3 on Hub or some
TP2 4.36	42.74 ✓	0.60	38.38 ✓		42.74 ✓
TP1 6.32	38.98 ✓	1.97	32.66 ✓		
BM. 8.19	34.59 ✓		26.40		

stub on original line 4+66.90 FB 2029. Page 3.

Drain Con't

Sta.				
4+50				
4+00				
3+50				
3+00				
T/3	2.39	33.44 ✓	11.69	31.05 ✓
2+50				

2+33 - 1^{6} Rt = ℄ S.M.H. - Sewer Runs from NE to SW

Sta.	LT		℄	Rt
4+50		27.2 / 6^{2} / 36 Toe canyon slope	27.2 / 6^{2}	27.1 / 6^{3} / 15
4+00		27.9 / 5^{5} / 31 Toe canyon slope	28.3 / 5^{1}	28.1 / 5^{3} / 15
3+50		28.3 / 5^{-} / 35 Toe canyon slope	29.1 / 4^{3}	29.4 / 4^{0} / 15
3+00	28.7 / 4^{7} / 50	29.4 / 4^{0} / 15	30.1 / 3^{3}	30.7 / 2^{7} / 15
T/3			33.44 ✓	
2+50	29.1 / 13^{0} / 50	29.1 / 12^{00} / 25	30.6 / 12^{1}	30.7 / 12^{0} / 15
2+33			22.84 / 19^{85} / 1^{6} / IE	30.58 / 12^{16} / 1^{6} / Rim

42.74 ✓

Drain cont

6+50

23.2 / 10.4 / 35

23.4 / 10.0 / 15

23.3 / 10.1

23.6 / 9.0 / 10 Toe

24.4 / 9.0 / 15

6+00

23.9 / 9.5 / 30

23.9 / 9.5 / 9.0 Toe

25.3 / 8.1

27.1 / 6.3 / 10

5+50

25.1 / 8.3 / 15

25.2 / 8.0

27.7 / 6.3 / 15

5+00

26.4 / 7.0 / 45 Toe Canyon Slope

26.2 / 7.2 / 15

26.2 / 7.2

26.2 / 7.2 / 10

27.2 / 6.2 / 15

4+59 = L. et - 46°50' - Section on split

27.2 / 6.2 / 15

27.0 / 6.4

26.8 / 6.6 / 15

4+58.5 - 1.1 Rt = ℄ SMH-

18.84 / 14.40 / I.E. 1'-

27.14 / 6.30 / Rim 1'-

30.44

Drain. Cont

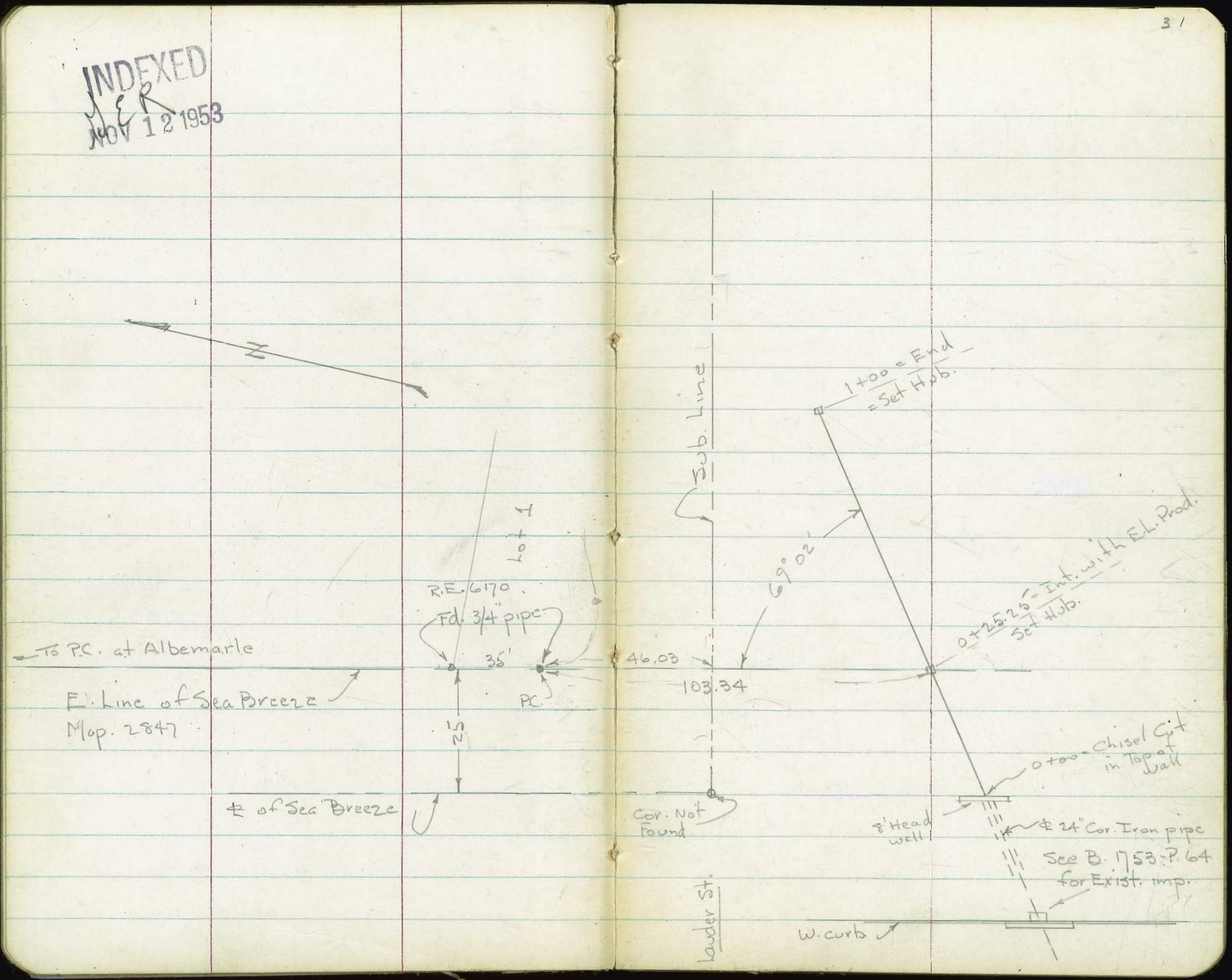
6	Start BM page 27	7.04	26.40 ✓
6	7+43.63 = Wly Line 35 Th ST		
	7+40 = Ely edge 3' wooden foot Bridge		
5	7+34 - 4.5 rt = ℄ 10" tel pole S-9203 5 H.		
	7+25 - 4' rt = ℄ Deadman		
	7+13 3 1.0 rt = ℄ SMH		
	7+05 - ℄ Proposed drain crosses N+S Main Water		
	6+82.63 = Ely Line 35 Th ST		

30

LT	℄	RT
12.2 / 10	21.2 / 12.2	22.2 / 11.7 / 10

REDUCED BY LUCHARELLO P-23-53

	15.0 / 18.34 / 1.0 IE	21.86 / 11.50 / 1.0 Rim
	18.3 / 15.1 water pipe	21.8 / 11.6 ground
22.1 / 11.1 IW / 30	22.3 / 11.1 / 15	22.5 / 10.9 / 33.44 ✓
22.4 / 11.0 / 25 Toe	24.3 / 9.1 / 40	



Levels along ℄ of prop. Drain in
Sea Breeze - S. of Lauder St.
See Sketch - P. 31
W.O. 21195 - 11-10-53 - 7.0,

		Lt.	℄	Rt.
Set B.M. - spike in SW Pole Lauder + Sea Breeze	232.48			
1+00 = end		32.2 8	30.26 at Hub	29.9 5 ℄ wash 30.3 10
0+70		30.1 10 = Toe of Fill	30.0 ℄ wash	31.3 10
0+35		34.3 18 Top	29.7 7 ℄ wash 30.9 4	30.6 32.4 5
0+15		32.0 18 Top	28.6 6 ℄ wash	29.8 31.5 5
0+05			30.7 8 edge Rd.	26.9 30.2 10
0+00 = ℄ inlet 24" Cor. Iron pipe + Headwall		28.84 Top of wall	25.28 I.E. of pipe	
B.M. = SW B.P Sea Breeze + Cumberland.	241.95			

200' figure not Noted.
Actual Elev. Shown

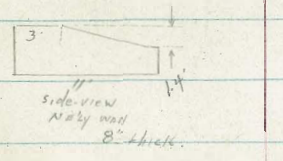
Clark
Shephard
Bruner
O'Neil

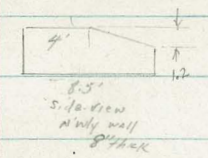
12-24-53
W.O. 21211

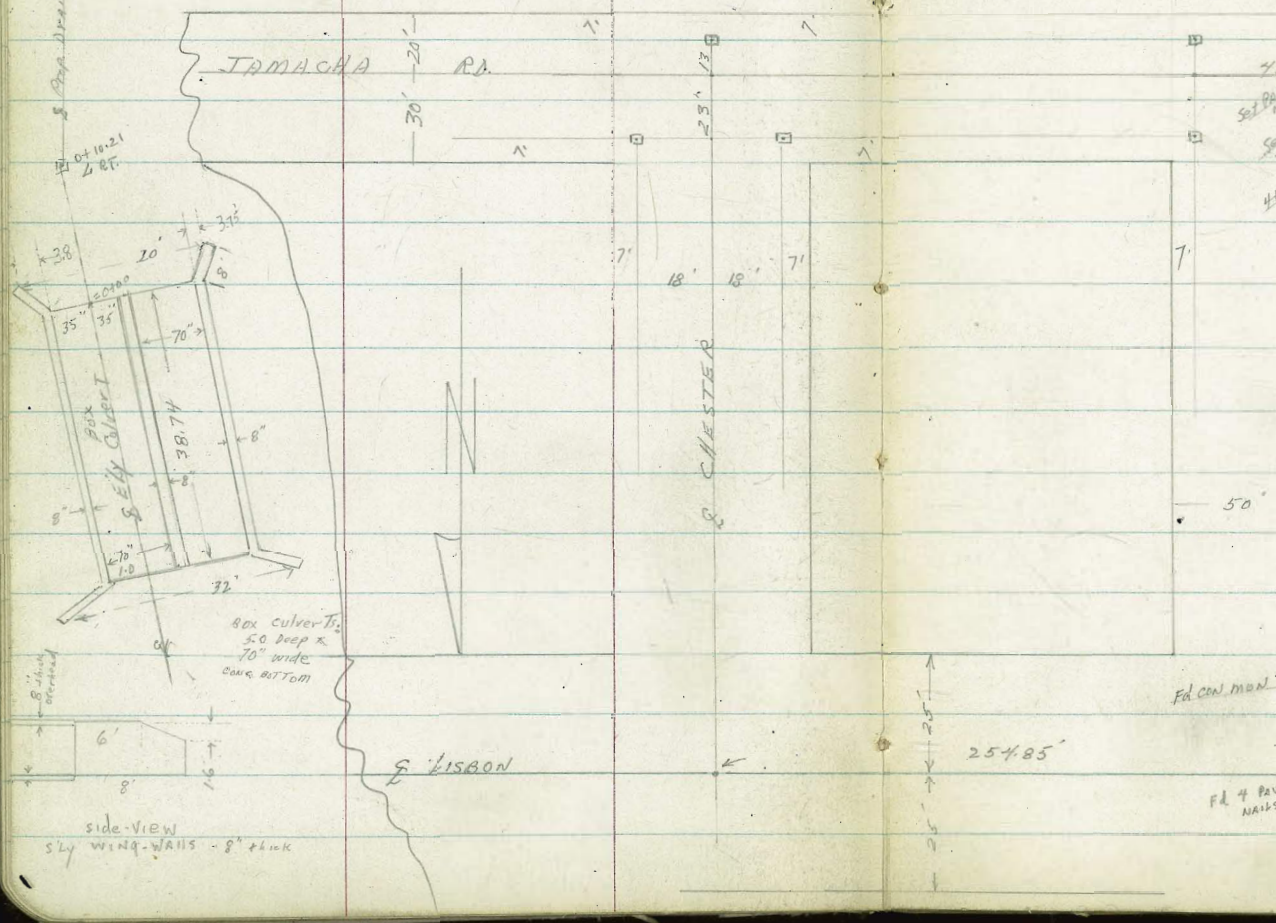
PROPOSED DRAIN: 69+42
IMPERIAL S'Ly to CANYON
S'Ly JAMACHA RD.

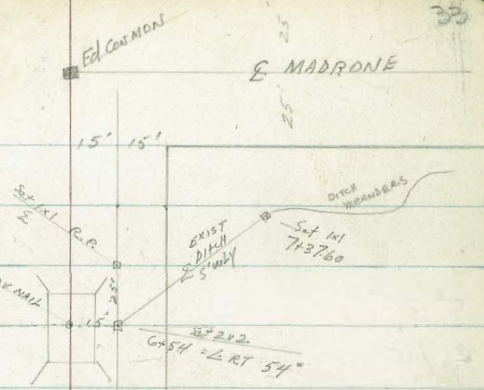
REF: F.B. # 1681-32
T.P. Sheet # 3242

NOTE: See sketch Pg 38 for Detail Bridge









Proposed Drain: 69th & Imperial S'ly

Station	Remarks	(E'ly) LT			℄	RT. (W'ly)	
0+23.5	12.0 RT End 6' high Wooden continuation of Conc. Wing-Wall						
0+10.21	Sect at ⊥ to Forward tang.		251.06 / 1.80 / 13 / TP Bank & Road level	247.7 / 5.2 / 5 / Toe	247.2 / 5.7	247.3 / 5.6 / 12.9 / ground at wall	
0+07	(opp. End Wing-walls) See sketch	252.56 / 0.30 / 12 / TP Bank Bk. Wing-wall	250.01 / 2.85 / TP. S'w'ly Wall		247.5 / 5.4	249.78 / 3.08 / TP S'E'ly Wall	252.76 / 0.10 / 14 / TP Bank Back wing wall
0+00	= S'ly End Box Culvert ℄ E'ly			247.2 / 5.7 / Dirt E'ly	245.87 / 6.99 / F.L. E'ly	245.99 / 6.87 / F.L W'ly	247.3 / 5.6 / Dirt W'ly
0-04	= ℄ 12" C.I. Water-Pipe				250.12 / 2.74 / Elev Bott. of 12" C.I. Pipe (Passes through con		
T.P.	5.74 (~~4.74~~) · 252.86 (~~251.86~~) · 10.83 · 247.12				252.86 (~~251.86~~)		
0-17	on ℄ Pav. Imperial				253.07 / 4.88 / on A.C		
0-38.74	= N'ly End Exist. Box Culvert			247.4 / 10.6 / ℄ E'ly on Dirt in Culvert	245.91 / 12.04 / F.Line E'ly Culvert	245.05 / 12.90 / 6 / F.L Line W'ly culvert.	246.8 / 11.2 / ℄ Dirt W'ly culvert
T.P.	4.81 · 257.95 · 1.26 · 253.08				257.95		
B.M.	5.03 · 254.34 · 249.31 = Top S.W. Fire-Hyd. 68th & Imperial						

Note: Tp's wing walls approx. flush with Bott. of overhead & Foot'gs walls approx. .50' higher than F.Line Culvert.

DRAIN: 69th & IMPERIAL (CONT.)

3+00				
T.P.	7.29	251.44	8.11	244.15
2+90	14.3 RT ℄ Pole # 370478			
2+50				
2+00				
1+50				
1+45	14.5 RT ℄ Anchor (deadman)			
1+04	14.3 RT ℄ Pole # 370479			
1+00				
0+50				

Sta.	LT.			℄	RT.			
3+00	2467 / 4.7 / 15 Rd Level	2467 / 4.7 / 11 TP BANK (Shoulder)	2441 / 7.3 / 6 toe	2438 / 7.6	2441 / 7.3 / 7 Toe	2468 / 4.6 / 10 TP BANK	2478 / 3.6 / 25' Level grd	
T.P.				251.44				
2+50	2472 / 5.7 / 15 Rd Level	2479 / 5.0 / 11 TP BANK	2432 / 9.2 / 5 Toe	2435 / 9.4	2438 / 9.1 / 8 Toe	2501 / 2.8 / 18 TP BANK	2471 / 5.8 / 25 Level grd	
2+00	2472 / 5.2 / 15 Rd. Level	2484 / 4.5 / 11 TP. BANK	2443 / 8.6 / 5 toe	2440 / 8.9	2445 / 8.4 / 7 Toe	2486 / 4.3 / 13 TP BANK	2470 / 5.9 / 20 Level grd	
1+50	2476 / 5.3 / 15 Road Level	2484 / 4.7 / 12 TP BANK	2447 / 8.2 / 6 Toe	2446 / 8.3	2449 / 8.0 / 6 Toe	2477 / 5.2 / 10 Shoulder	2506 / 2.3 / 18 TP BANK	2476 / 5.3 / 25 Level grd
1+00	2481 / 4.8 / 15 Road Level	2489 / 4.0 / 12 TP BANK	2449 / 8.0 / 5' Toe	2451 / 7.8	2453 / 7.6 / 6 Toe	2481 / 4.8 / 14 Shoulder	2483 / 4.6 / 15 TP. BANK (15' CUT IN BANK here)	2489 / 4.0 / 25' Level grd
0+50	2491 / 3.8 / 10 Rd. Level	2497 / 3.2 / 15 TP BANK	2459 / 7.0 / 4 Toe	2460 / 6.9	2457 / 7.2 / 9 Toe	2491 / 3.8 / 13 Shoulder	2521 / 0.8 / 20 TP BANK	
				252.86				

DRAIN 69-L & IMPERIAL (CONT.)

Station	Description	LT.	℄	RT.
4+91.07	6.6' RT ℄ END 24" Conc. Pipe 13.5' RT ℄ Pole # 370477	2465 — 4.9 / 5 Rd. Level 2472 — 4.8 / 3 TP BANK	2952 — 5.5	29260 — 8.84 / 6.6 F.L. Pipe 2426 — 8.8 / 6.6 DIRT 2952 — 5.7 / 14 TP BANK 2469 — 5.0 / 15 Level grd
4+88				
4+86	3.3' LT = W'ly End Wood Rail Barricade; 17' Long approx. ∥ to Tamacha.	2466 — 4.8 / 15	2469 — 4.5	2462 — 5.2 / 15
4+79	= Approx. S'ly Edge Clay Jamacha	2465 — 4.9 / 15	2461 — 5.3 C. LAY	2952 — 5.7 / 15
4+67.42	= ℄ Drain & ℄ Jamacha Rd.	23897 — 12.47 / 15 Flow Line M.H. 24695 — 4.99 / 15 RIM M.H. 2462 — 4.7 / 15 M.H. Covered With C.Lay	2462 — 5.0 C.LAY	2461 — 5.3 / 15
4+52	= Approx. N'ly edge Exist. C.Lay Pav. Jamacha	2462 — 4.7 / 15	2462 — 5.2 C.LAY	2958 — 5.6 / 15
4+47.5	3.9' LT to W'ly END Wood Rail Barricade; 25' Long & Approx ∥ to Jamacha			
4+45		2466 — 4.8 / 15	2468 — 4.6	2460 — 5.4 / 15
4+42.42	= END open Ditch Beg. 24' Conc. Pipe 4.7 RT See sketch	2964 — 5.0 / 10 Rd Level 2474 — 4.0 / 6 TP BANK	2958 — 5.6	29274 — 8.70 / 4.7 F.Line 2928 — 8.6 / 4.7 DIRT 2968 — 4.6 / 13 TP BANK 2952 — 6.0 / 15 Level
4+00		2468 — 4.6 / 15 Rd. Level 2962 — 4.7 / 9 TP BANK 2930 — 8.4 / 3 toe	2934 — 8.0	2931 — 8.3 / 7 Toe 2464 — 5.0 / 13 TP BANK 2953 — 6.1 / 21 Level grd
3+50		2467 — 4.7 / 15 Rd Level 2968 — 4.6 / 10 TP BANK 2932 — 8.2 / 5 Toe	2929 — 8.5	2931 — 8.3 / 7 toe 2458 — 5.6 / 11 TP BANK 2940 — 7.4 / 20 Level grd
3+08	14' RT ℄ Ornamental Shrub 6' high			

251.44

DRAIN - 69th & IMP. (CONT.)

Station	Notes
6+61	12.7 LT (90° to Fr. TANG.) End Conc. Encasement.
6+54 = ∠RT. 54°	Section at 90° BK TANG.
6+46	{3.6 LT Beg. Bridge / 7.0' LT ℄ 1.5 wide Conc. encased water line?
6+41.5	
6+41	0.30 LT ℄ 10" Pile
6+38 =	{1.4 RT to ∠ Wing Wall
6+35	1.7 RT ℄ 12" Pile
6+30	1.8 RT ℄ 12" Pile
6+28	1.2 RT to Face Wooden Wingwall
6+20	15.0 RT = B.C. in Wire Fence. Fence curves RT (W'ly) & stays approx. 3' BK shoulder Ditch
6+00	
5+50	
T.P.	6.99 249.06 9.31 242.07
5+16	15.2 RT Beg 4' Steel-wire Fence

37

Cross sections (LT. | ℄ | RT.) — reading / distance / description, elevation:

6+61 / 6+54:

LT			℄	RT		
8.5 / 60 Fl. Line Ditch E'ly (240.56)	8.16 / 12.7 TP Conc. (240.90)	8.12 / 7 TP Conc. (240.94)	8.6 (240.5)	7.9 / 12 Toe (241.2)	3.6 / 17 TP Bank (245.5)	5.0 / 25 (244.1)
8.08 / 7 TP Conc. (240.98)	2.00 / 3.6 TP Bank (247.06)		6.9 grd (242.2)			
			3.0 TP Wall-Pile (246.1)			

6+38:

		℄						
2.3 / 6 Rd Level (246.8)	1.5 / 4 TP Bank (247.6)	3.0 (246.1)	3.3 / 1.4 TP Wall (245.8)	6.7 / 1.5 toe (242.4)	7.7 / 7 ℄ Ditch (241.4)	7.2 / 10 Toe (241.9)	4.3 / 15 Shoulder (244.8)	5.2 / 20 (243.9)

6+28:

		℄						
2.6 / 6 Rd Level (246.5)	2.4 / 4 TP Bank (246.7)	4.8 (244.3)	3.2 / 1.2 TP Wing Wall (245.9)	7.0 / 3 toe (242.1)	7.4 / 6' ℄ Ditch (241.7)	7.2 / 9 toe (241.9)	4.1 / 13 TP Bank (Shoulder) (244.9)	4.9 / 15 Level (244.2)

6+00:

		℄					
3.1 / 6 Rd. Level (246.0)	3.4 / 3 TP Bank (245.7)	5.8 (243.3)	7.0 / 1 toe (242.1)	7.5 / 4 ℄ Ditch (241.6)	7.4 / 7 toe (241.7)	4.1 / 11 TP Bank (245.0)	4.4 / 20 Level (244.7)

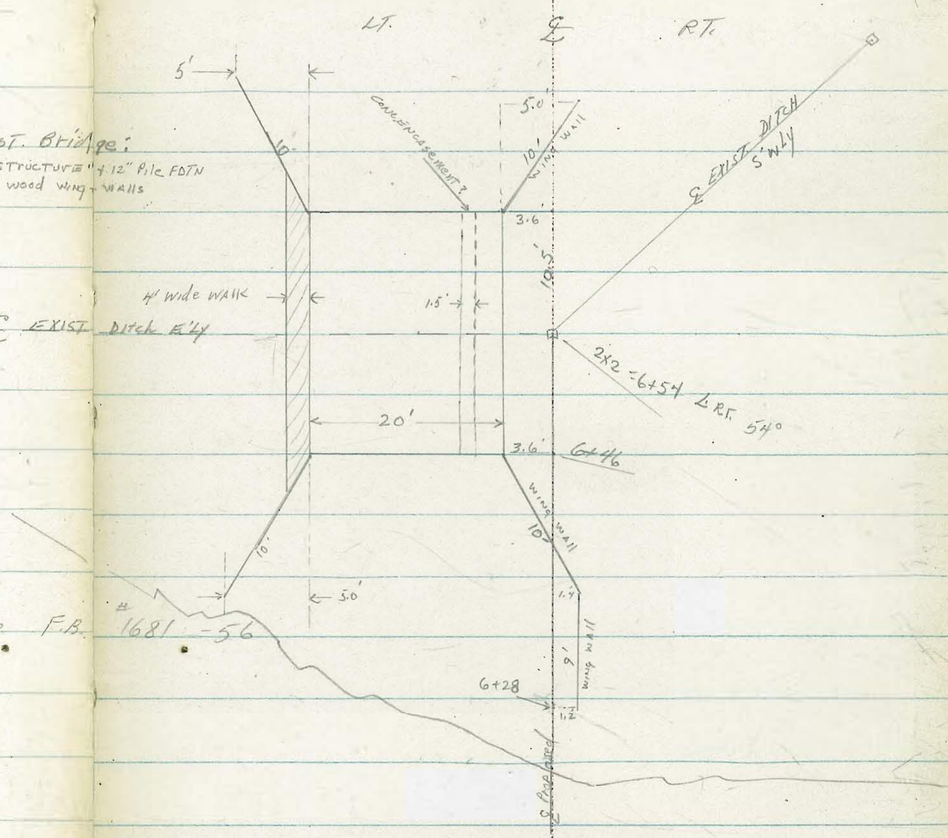
5+50:

		℄					
3.2 / 5 Rd. Level (245.9)	3.3 / 2 TP BK (245.8)	3.9 (245.2)	6.6 / 2 toe (242.5)	6.8 / 5 ℄ Exist Ditch (242.3)	6.5 / 8 toe (242.6)	4.5 / 11 TP BK (244.6)	4.5 / 20 Level (244.6)

249.06

DRAIN- 69th + IMPERIAL (CONT.)

Detail Exist. Bridge:
Wooden structure + 12" Pile FDTN
2" thick wood wing + walls



chk: TP. Deck-S'ly ON Bridge 2.04 247.02 = 247.06 F.B. #1681-56

6+67	246.7 / 2.4 / 15 / grd. BK wingwall	246.0 / 3.10 / 14 / TP wing wall	243.1 / 5.4 / 14 / grd LT. FT. of wingwall	238.2 / 9.2	240.8 / 8.3 / 6 / Toe	243.7 / 5.4 / 9 / Shoulder	243.1 / 6.0 / 20
7+37.60 = ∠ RT Ditch	243.2 / 5.9 / 15	243.2 / 5.9 / 5 / Shoulder	238.3 / 10.8 / 2 / Toe	238.2 / 10.9	238.6 / 10.5 / 5 / Toe	243.1 / 6.0 / 8 / Shoulder	243.2 / 5.9 / 15
7+00	243.2 / 5.9 / 15	243.5 / 5.6 / 10 / Shoulder	238.5 / 10.6 / 4 / Toe	238.4 / 10.7	238.4 / 10.7 / 1 / toe	243.4 / 5.7 / 4 / Shoulder	242.4 / 6.7 / 10

(Ditch curves slightly)

6+67 See above For Sect.

249.06

D.A. SMITH
+ PARTY
4-1-54
(DB)

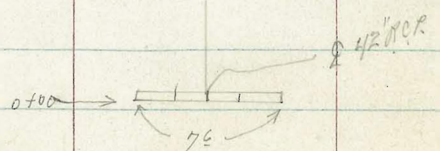
× existing picket + ×
+ × fence

× 0+38 end (w'ly) fence

MIDWAY (WLY END) Street

Top of Bank to Beach

poor 16" high con cutoff wall washed out under it



	Lt = N'ly	Base Line	Rt = S'ly
0+68			34.6 7^{8} 20 Existing inlet grate
0+38	top Bank 37.7 / 37.4 / 37.5 4^{7} 5^{0} 4^{9} 30 20 10	36.9 5^{5}	36.7 / 36.7 / 36.7 5^{7} 6^{2} 6^{2} 10 20 30
TP_3	7^{2} π 42^{4}		0^{9} 34^{2}
0+22	31.3 / 28.7 / 28.0 / 25.1 4^{3} 7^{4} 7^{6} 10^{5} 26 18 13 8	23.5 12^{1} top wall	24.7 / 26.6 / 29.4 / 31.1 10^{9} 9^{0} 6^{2} 4^{5} 4 7 24 29
0+20	31.5 / 26.0 / 25.7 / 19.6 4^{1} 9^{5} 10^{4} 16^{0} 27 19 9 6	19.0 16^{6}	19.1 / 23.7 / 25.4 / 27.7 / 31.0 16^{5} 12^{4} 10^{2} 8^{4} 4^{6} 2 4 13 20 29
TP_2	10^{5} π 35^{6}		0^{4} 25^{1}
0+10	26.7 / 17.7 $+1^{2}$ 12^{8} 16 3	12.0 13^{5}	12.7 / 15.1 / 16.8 / 23.4 / 29.1 12^{8} 10^{4} 8^{7} 2^{1} $+3^{6}$ 4 6 10 19 24
TP_1	13^{0} π 25^{5}		0^{8} 12^{5}
0+00	11.3 / 5.5 2^{0} 7^{8} 8 5	5.6 7^{7} Top Hdwall	4.3 / 10.3 9^{0} 3^{0} 5 10
BM	13^{3} π 13^{3}		0^{00} ie 42" RCP at outlet.

D. Smith
J. Rorer
N Taylor
B. Fish

INDEXED
JUN 28 1954

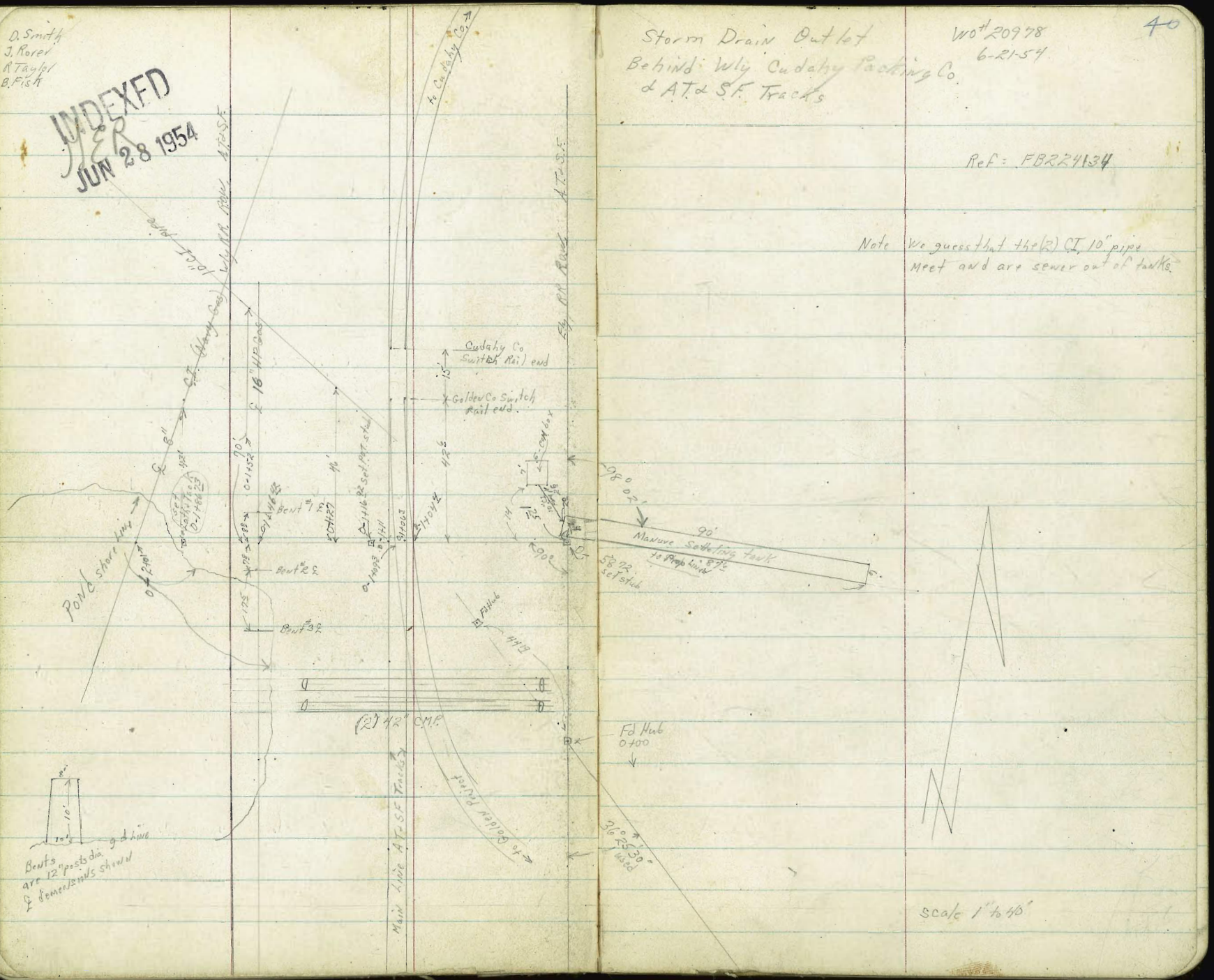
Storm Drain Outlet
Behind Wly Cudahy Packing Co.
& A.T. & S.F. Tracks

Wo# 20978
6-21-54

40

Ref: FB224134

Note We guess that 4+0 (2) CI 10" pipe meet and are sewer out of tanks



Lt = Wly 2Sly — Base Line — Rt = Ely 2Nly

0-94: 7.5 / 4.2 / 16; 7.8 / 4.6 / 8; 7.8 / 4.6; 7.8 / 4.6 / 10

0-76: 6.3 / 6.1 / 16; 6.4 / 6.0 / 8; 6.7 / 5.7; 7.3 / 5.1 / 10

0-70: 5.4 / 7.0 / 16; 5.9 / 6.5 / 8; 6.4 / 6.0; 7.2 / 5.2 / 10; 9.32 / 3.05 / 14 top conc bx

0-58.72 ∠ Lt 90°: 6.7 / 5.62 on stub

0-43: 6.6 / 5.8 / 20; 5.8 / 6.6 / 15; 4.7 / 7.7 / 8; 5.4 / 7.0; 5.9 / 6.5 / 10; 6.0 / 6.4 / 20

0+25: 6.4 / 6.0 / 20; 6.3 / 6.1 / 14; 6.7 / 5.7 / 12; 5.0 / 7.4 / 6; 2.1 / 10.3 / 4; 4.3 / 8.1; 3.6 / 8.8 / 5; 4.7 / 7.7 / 10; 5.2 / 7.2 / 20

1/2

0+00: 6.1 / 6.3 / 20; 6.2 / 6.3 / 10; 6.8 / 5.6 / 8; 2.4 / 10.0 / 3; 2.0 / 10.4 / 9R; 1.44 / 10.81 on Hub; 2.5 / 9.9 / 3; 5.4 / 7.0 / 6; 2.1 / 10.3 / 14; 2.8 / 9.6 / 20; 5.4 / 7.0 / 25

BM 10.43 ⊼ 12.37 1.94 ie Sly 42" C.M.P. per F.B. 2241-37

Lt-Sly — Base — Rt-Nly

1+89 water edge: water; -3.1 / 15.5; -3.1 / 15.5 / 10 water

1+60: -3.1 / 15.5 / 6 water edge; -1.3 / 13.7; 2.1 / 10.3 / 10

1+46.42 ℄ crosses 16" H.P. Gas: 10.46 / 1.91 top Pipe

1+42: -3.1 / 15.5 / 16 water edge surface; -1.5 / 13.9 / 8; 1.4 / 11.0; 3.3 / 9.1 / 10

8.3

1+32: 1.2 / 11.2 / 16; 2.4 / 10.0; 3.4 / 9.0 / 10

6.3

1+18: 8.8 / 3.6 / 16; 9.2 / 3.2; 9.2 / 3.2 / 10

1+11 Wly Main rail top shots: 10.78 / 1.59 / 16; 10.72 / 1.65; 10.73 / 1.64 / 10

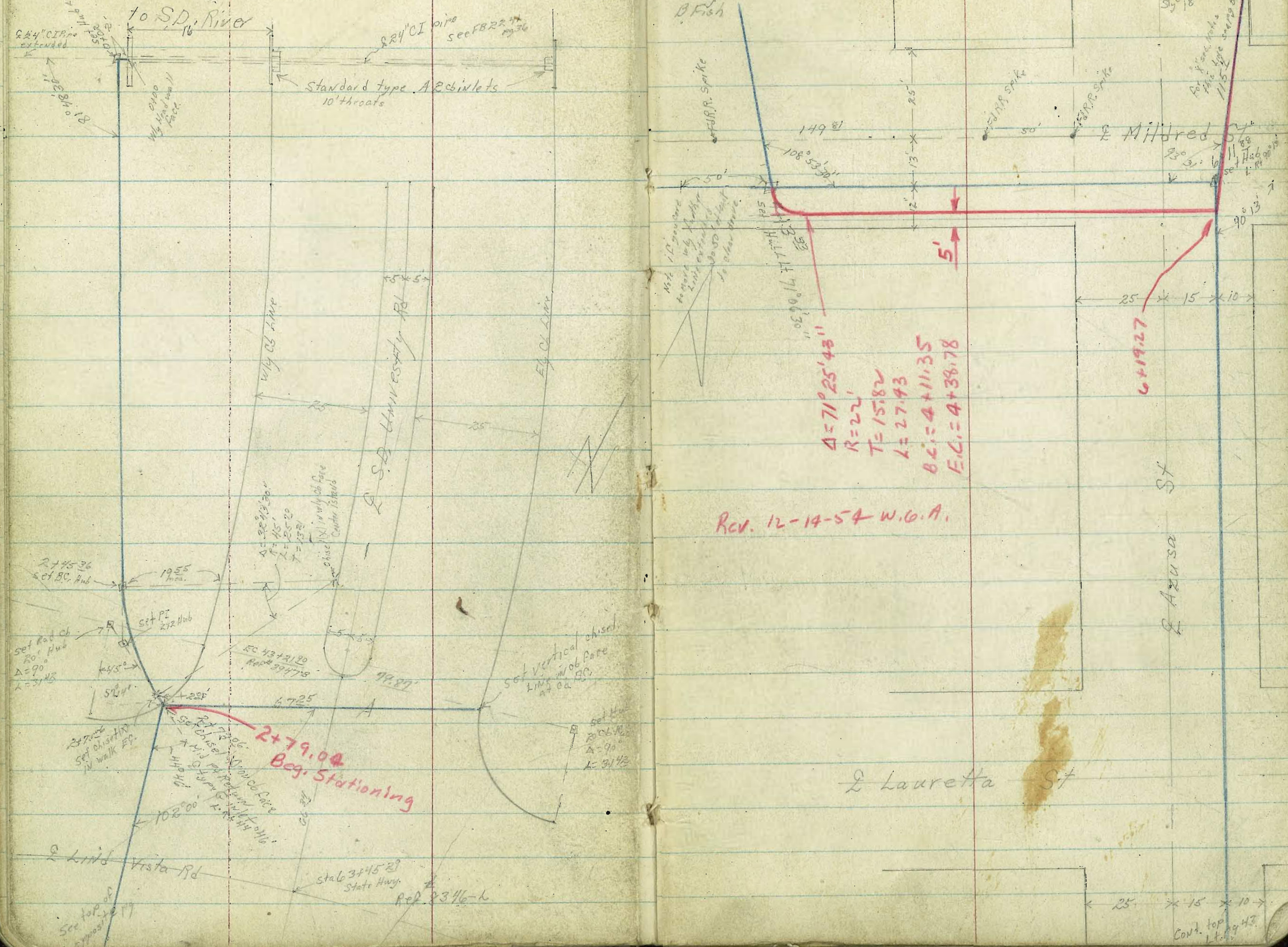
6.2

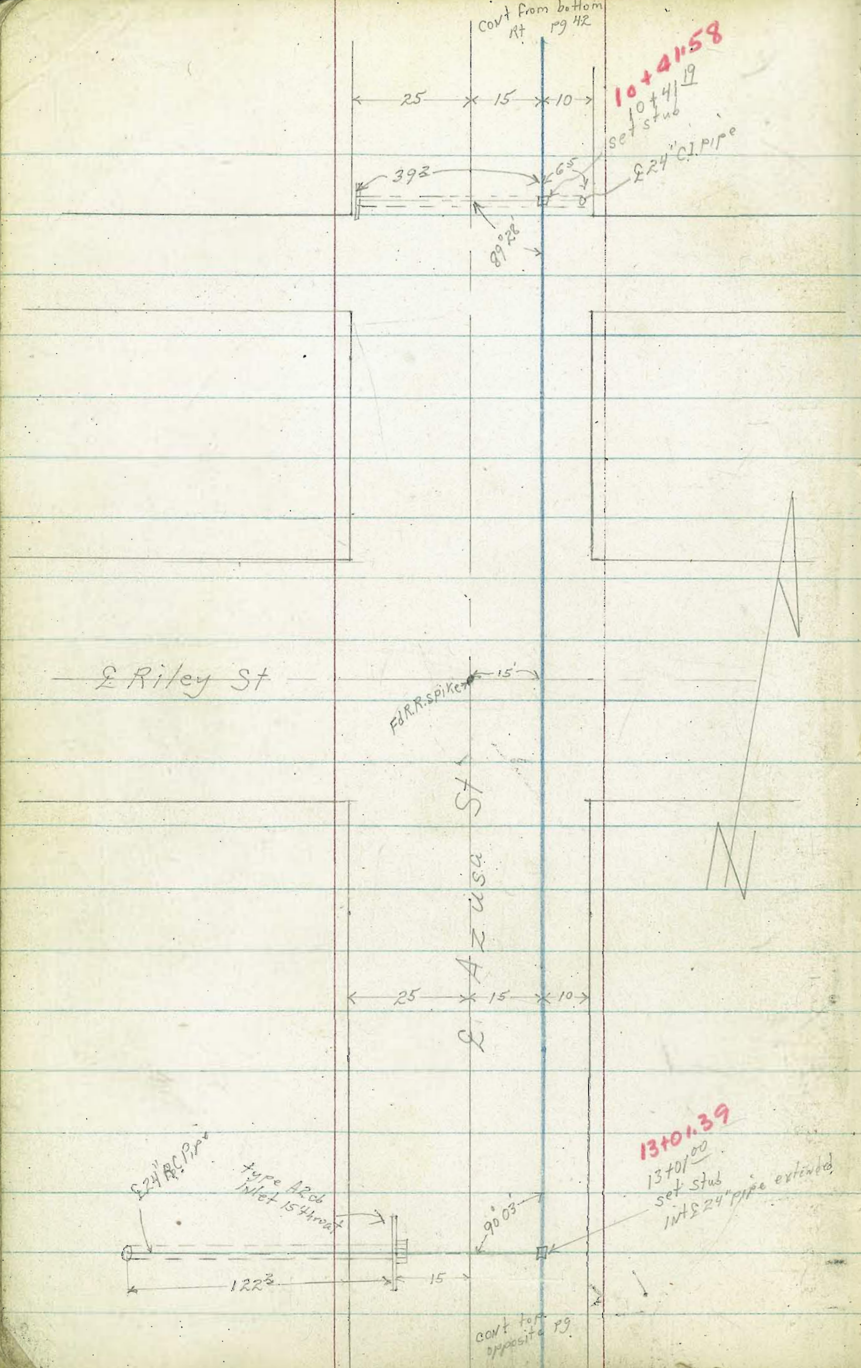
0+99: 9.5 / 2.9 / 16; 9.7 / 2.7 / 8; 9.9 / 2.5; 10.0 / 2.4 / 10

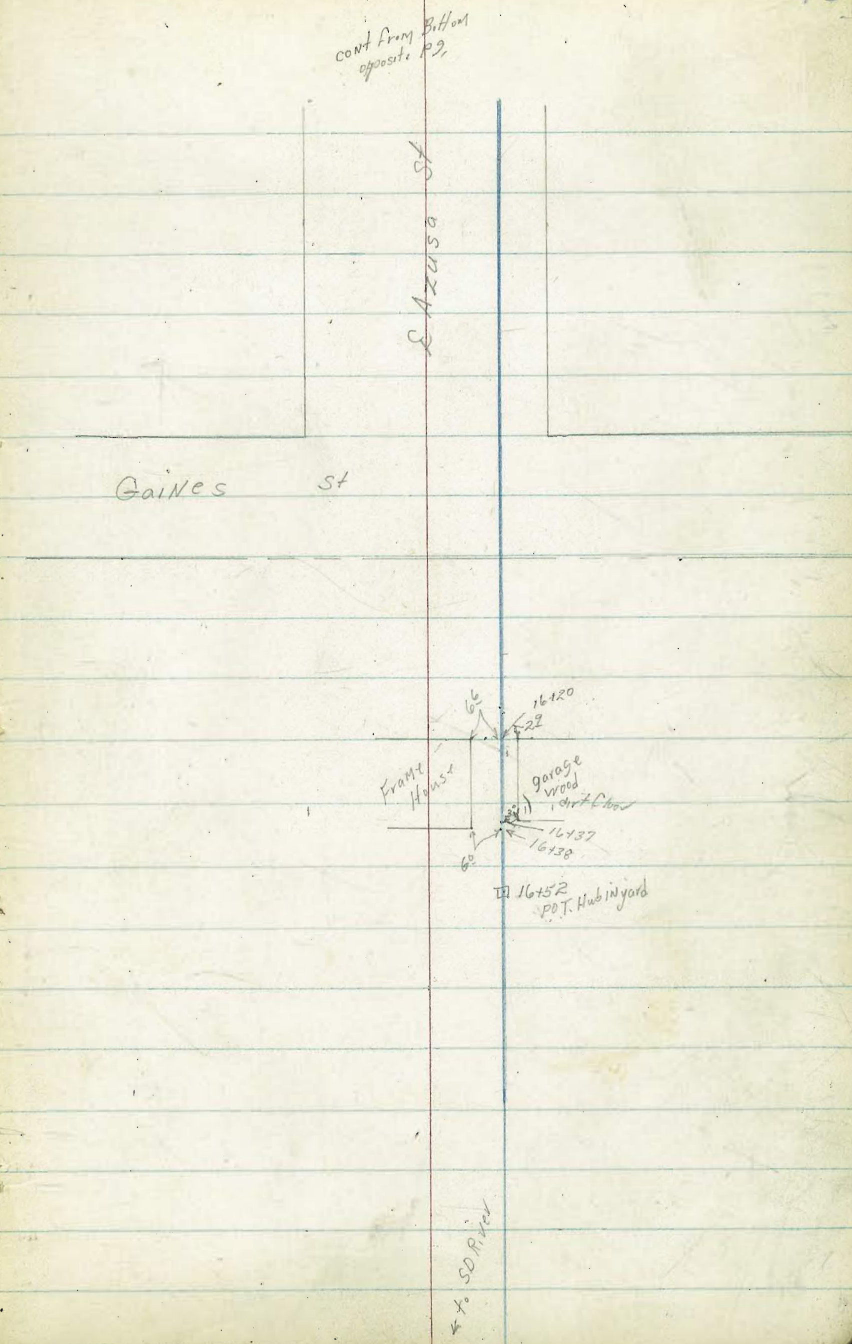
⊼ 12.37

Storm Drain From S.D. University Rd & Linda Vista Rd Down Azusa St to S.D. River

D. Smith
J. Rorer
R. Taylor
B. Fish




cont from bottom Rt pg 42
25
15
10
10+41.58
10+41.19
set stub
℄ 24" C.I. pipe
39.3
6.5
89°28'
℄ Riley St
Fd R.R. spike
15'
℄ Azusa St
25
15
10
13+01.39
13+01.00
set stub
Int ℄ 24" pipe extended
℄ 24" R.C. Pipe
type A2cb inlet 15 throat
90°03'
122.3
15
cont top opposite pg


cont from Bottom opposite pg.
℄ Azusa St
Gaines St
16+20
6.6
2.9
Frame House
garage wood dirt floor
16+37
16+38
6.0
16+52
P.O.T. Hub in yard
to SD River

X Sec Proposed Storm Drain University Rd down Azusa St to SD River.

Lt=Ely ℄ Rt=wly

1+25
54.6 54.5 53.6 52.9
8^{2} 8^{3} 9^{2} 9^{9}
10 4 10

1+00
55.3 55.1 54.5 54.2 54.5
7^{5} 7^{1} 8^{3} 8^{6} 8^{3}
10 4 5 10

0+75
56.8 57.2 55.6 55.5 55.4
6^{0} 5^{6} 7^{2} 7^{3} 7^{4}
10 4 4 10

0+50
59.0 59.0 57.4 56.2 56.5
3^{8} 3^{8} 5^{4} 6^{6} 6^{3}
10 4 4 10

0+10
63.5 59.5 57.5 57.5 58.7
$+0^{7}$ 3^{3} 5^{3} 5^{3} 4^{1}
8 .5 8 10

0+02 ∠ Lt 81°43′30″
90° to Line ahead
57.93 57.8 59.2 59.2
4^{83} 5^{0} 3^{6} 3^{6}
Hub 3 4 10

0+00 outlet 24″ C.I.P.
58.1 58.74 57.43 61.89
4^{2} 4^{03} 3^{33} 0^{87}
dirt; con step below pipe; 18; top head wall

BM 12^{87} ⊼ $62.^{76}$ 49^{89} top cb end 37+40± 27.81 FB 2241

2+68^L ℄ crosses Bk walk
50.76
12^{00}

$2+58^{21}$ Mid Pt.
51.42 50.9 50.4 49.7
11^{34} 11^{9} 12^{4} 13^{1}
8 wlk Bk 4 10

$2+45^{36}$ BC, Lt
51.6 51.1 50.78 48.5
11^{2} 11^{7} 11^{98} 14^{3}
10 2 Hub 10

2+25
52.0 51.9 50.9 48.3
10^{8} 10^{9} 11^{2} 14^{5}
10 3 10

2+00
52.4 52.2 51.2 49.4
10^{4} 10^{6} 11^{6} 13^{4}
10 6 10

1+75
53.0 52.0 50.4 51.1
9^{8} 10^{8} 12^{4} 11^{7}
10 8 10

1+50
53.9 54.1 53.0 51.9 52.1
8^{9} 8^{7} 9^{8} 10^{9} 10^{7}
10 3 8 10

pg 56 ⊼ 62^{76}

		Lt = Ely	℄	Rt = Wly
TP;	0^{29}	⊼ 51^{82}	11^{23} 51.53	Chisel ⊓ 5' Nly of C Nly of BC on Wly of University Rd.
67^{25} B.C. Ely Return	52.35 / 10^{41} / 50 cb; 51.89 / 10^{88} / 50 gut; 52.19 / 10^{57} / 75 cb	51.71 / 11^{05} / 25 gut; 51.65 / 11^{11} / 10 gut; 52.10 / 10^{66} / 10 cb Nly	51.69 / 11^{07} / gut	52.11 / 10^{65} / cb; 51.82 / 10^{94} / 10 gut r cb Sly; 52.25 / 10^{51} / 10
51 along A side line			51.53 / 11^{23}	
34 along A side line			51.24 / 11^{52}	
17 along A side line			50.85 / 11^{91}	
2+73.06 Mid Pt return (∠ Rt 44° 46')			50.64 / 12^{12} / cb	50.16 / 12^{60} / gut
2+71.06 F.C.			50.71 / 12^{05}	
			⊼ 62^{74}	

	Lt = Ely	℄	Rt = Wly
3+88	43.90 / 7^{92} / 10	43.1 / 8^{2}	42.4 / 9^{4} / 25; 41.25 / 10^{55} / 50
3+83	44.22 / 7^{60} / 10; 44.06 / 7^{76} / 6 pav edge	45.0 / 6^{8}	42.7 / 9^{1} / 10; 42.3 / 9^{5} / 25; 41.6 / 10^{3} / 50
3+67	44.69 / 7^{13} / 10; 44.22 / 7^{60}	44.7 / 7^{2} / 2	43.8 / 8^{0} / 23; 42.3 / 9^{5} / 30; 41.7 / 10^{2} / 50
3+48 Sly Line Via Vista Rd. gutter	45.09 / 6^{73} / 10; 44.57 / 7^{25}		43.80 / 8^{03} / 15; 43.08 / 8^{74} / 30; 41.86 / 9^{96} / 50
3+35	46.32 / 5^{48} / 10; 45.93 / 5^{89}		45.20 / 6^{62} / 15; 44.27 / 7^{55} / 30
3+10	49.07 / 2^{93} / 10	48.59 / 3^{23} / 1	48.07 / 3^{25} / 10
3+00	49.18 / 2^{80} / 10	49.37 / 2^{45}	48.89 / 2^{93} / 10
	⊼ 51^{82}		

Lt = Nly ℄ Rt = Sly

5+25 — 49.31 / 2.51 / 10 — 48.35 / 3.47 / gut — 49.2 / 2.6 / 3 — 49.1 / 2.7 / 10

5+00 — 47.41 / 3.21 / 10 — 47.21 / 4.61 / gut — 47.8 / 4.0 / 3 — 48.0 / 3.8 / 10

4+75 — 46.54 / 5.28 / 10 — 46.09 / 5.73 / gut — 46.8 / 5.0 / 3 — 46.5 / 5.3 / 10

4+50 — 45.28 / 6.54 / 10 — 44.88 / 6.94 / 1 gut — 45.1 / 6.7 / Berm — 45.3 / 6.5 / 3 — 45.0 / 6.8 / 10

4+41 4.7 Rt ℄ bush

4+29 4.3 Rt ℄ bush

4+25 — 44.12 / 7.20 / 10 — 43.79 / 8.03 / 1 gut — 44.1 / 7.7 / berm — 44.2 / 7.6 / 0.5 berm — 44.2 / 7.6 / 5

4+18 4.3 Rt ℄ Bush

50' wly Line extended — 41.65 / 10.17 / 10 — 41.49 / 10.33 / 2 pav — 41.0 / 10.8 — 41.7 / 10.1 / 5 — 41.5 / 10.3 / 10

7' wly 4.0 Rt ℄ Bush

90° to Line ahead

4+13.33 ∠ Lt 71°06'30" — 43.57 / 8.25 / 10 — 43.20 / 8.62 / 2 pav — 43.07 / 8.75 — 43.8 / 8.0 / 4 — 43.3 / 8.5 / 10

⊼ 51.82

46

Lt = Nly & Ely ℄ Rt = Sly & wly

7+00 — 48.0 / 7.2 / 10 — 46.7 / 8.5 / 4 — 45.3 / 9.2 / 3 ℄ ditch — 45.8 / 9.4 / 2 — 45.8 / 9.4 — 45.90 / 9.29 / 10

6+75 — 48.2 / 6.0 / 11 — 47.2 / 8.0 / 8 ℄ ditch — 48.5 / 6.3 / 6 — 49.1 / 6.1 / 4 — 47.6 / 7.6 — 47.79 / 7.40 / 10

6+50 — 50.9 / 4.3 / 14 — 49.9 / 5.3 / 10 ℄ ditch — 51.4 / 3.8 / 6 — 50.3 / 4.2 / 3 — 50.0 / 5.2 — 49.55 / 5.64 / 10

6+25 — 52.6 / 2.6 / 14 — 51.6 / 3.6 / 10 4 ℄ ditch — 53.1 / 2.1 / 7 — 53.4 / 1.8 / 5 — 52.6 / 2.6 — 51.66 / 3.53 / 10

6+18 7.4 Lt 16" P Pole 2099

on split.

6+11.88 ∠ Rt 90°13' — 53.0 / 2.2 / 20 — 52.6 / 2.6 / 14 ℄ ditch — 53.0 / 2.2 / 10 — 54.0 / 1.2 / 4 — 53.63 / 1.56 on hub — 52.55 / 2.64 / 10 — 51.38 / 3.81 / 20

drain Linda Vista Rd

5+78 2 Lt ℄ SMH Flows Ely to Sly — 44.07 / 11.12 / 13.3 / 1E — 52.36 / 2.83 / 13.3 rim

5+75 — 52.04 / 3.15 / 10 — 51.08 / 4.11 — 50.53 / 4.66 / 6 gut — 51.3 / 3.9 / 10

TP2 4.51 ⊼ 55.19 1.14 50.68

5+50 — 50.54 / 1.23 / 10 — 49.88 / 1.94 / gut — 50.5 / 1.3 / 3 — 50.5 / 1.3 / 10

⊼ 51.82

Sta.	Lt=Ely			℄	Rt=Wly	
8+75	33.5 11^{5} 10	33.4 11^{2} 3	32.7 11^{2} 2	32.9 11^{7}	33.57 11^{00} 6	33.62 10^{95} 10
8+50	35.0 9^{6} 10	34.8 9^{8} 3	35.1 9^{5} 3	34.0 10^{6} 2	34.1 10^{5}	34.77 9^{80} 10
8+25	37.0 7^{6} 10	37.5 7^{4} 3	35.8 8^{8} 2	35.9 8^{7}	36.26 8^{31} 6	36.34 8^{23} 10
8+00	38.7 5^{9} 10	39.3 5^{3} 3	37.7 6^{9} 2	37.9 6^{7}	38.23 6^{34} 41	38.14 6^{43} 10
7+75	41.1 3^{5} 10	41.9 2^{7} 3	40.0 4^{6} 2	39.9 4^{7}	40.00 4^{57} 10	
7+50	44.5 0^{1} 10	44.5 0^{1} 4	41.7 2^{9} 2	41.7 2^{9}	41.94 2^{63} 10	
TP_3	1^{61} ⊼ 44^{57}		12^{23}	42^{96}		
7+25	46.4 8^{5} 10	46.4 8^{8} 4	43.3 11^{2} 2	43.7 11^{5}	44.01 11^{18} 25	43.95 11^{34} 10

⊼ 55^{19}

Lt=Ely ℄ Rt=Wly

10+41⁹ ℄ int ℄ 24" Cul.

27.1	26.5	25.9	25.0	23.4	22.4	22.06	29.6	29.04	29.54	29.52	29.37	29.1	22.78	17.9
6^{6} 74	7^{2} 60	7^{8} 40	8^{2} 22	10^{3} 10	11^{3} 6^{5} 9b	11^{61} 6^{5} ie inlet	4^{6} 3	4^{63} o/stab	4^{08} 10	4^{15} 20	4^{30} 20	4^{9} 30	10^{89} 3^{93} top headwall	14^{18} 39^{2} ie outlet

Sta.				℄	Rt=Wly
10+25		26.2 7^{5} 10	29.8 3^{9} 2	29.5 4^{3}	29.72 3^{95} 10
10+00	27.2 6^{5} 10	28.2 5^{5} 5	31.1 2^{6} 1	30.2 3^{5}	30.32 3^{35} 10
9+75	28.3 5^{4} 10	28.4 5^{3} 6	31.5 2^{2} 1	30.7 3^{0}	31.01 2^{66} 10
9+50		29.3 4^{4} 10	32.3 1^{4} 1	31.3 2^{4}	31.67 2^{00} 10

9+44 8^{5} Lt ℄ Fire Hyd.

9+35 { 11^{5} Lt ℄ 16" P Pole # 5401; 10^{4} Lt ℄ (3) 4" Elec conduits going up p Pole

9+25 31.4 2^{3} 10 | 32.1 1^{6} | 32.31 1^{36} 10

9+18 3^{3} Rt ℄ 8" water gate

TP_4 1^{13} ⊼ 33^{67} 12^{03} 32^{54}

9+14 7^{1} Rt ℄ 8" water gate

9+00 31.9 12^{7} 10 | 32.4 12^{2} | 32.93 11^{64} 10

8+94 4^{5} Lt ℄ 20" P Pole # 2001

⊼ 44^{57}

Lt=Ely ℄ Rt=Wly

12+31 8.6 Rt ℄ Elec vault. 27.7 27.6 27.48

12+25 6.0/10 6.L 6.19/10

Power yard

12+15 9.8 Lt Begin conc wall + 6' cyclone fence around

12+00 28.15 5.52/10 28.01 5.66 27.89 5.78/10

11+75 28.49 5.18/10 28.40 5.27 28.21 5.46/10

11+53 5.5 Lt ℄ 18" P Pole #1943

11+50 30.4 3.3/10 27.8 5.9/6 28.0 5.7 28.23 5.44/10

11+25 30.9 2.8/10 29.0 4.7/3 27.7 6.0 27.7 6.0 28.24 5.43/10

11+00 30.7 3.0/10 29.7 4.0/3 27.L 6.L/1 27.6 6.L 28.56 5.11/10

10+75 30.2 3.5/10 28.2 5.5/5 27.3 6.4/4 28.8 4.9/3 28.1 5.6 28.96 4.71/10

10+59 8.4 Rt ℄ Elec vault.

⊼ 33.67

Lt=Ely ℄ Rt=Wly

14+50 10.0 Lt end conc wall 29.1 6.5/10 29.4 6.2 29.54 6.64/10

TP5 6.34 ⊼ 35.58 4.43 29.24

14+25 28.6 5.1/10 28.8 4.9 28.87 4.80/10

14+00 27.9 5.8/10 28.2 5.5 28.17 5.50/10

13+89 8.2 Rt ℄ Elec vault.

13+75 27.6 6.L/10 27.7 6.0 27.61 6.06/10

13+50 27.5 6.2/10 27.4 6.3 27.21 6.46/10

13+25 27.1 6.6/10 27.2 6.5 26.96 6.71/10

13+08 7.4 Lt ℄ water meter box

13+01.00 ℄ int ℄ 24" RCP extended 27.1 6.6/10 27.17 6.50 0.0 Stub 26.94 6.73/10 26.94 7.43/25 25.94 7.73/30 grate 26.88 6.79/30 CB 20.46 13.21/30 18

12+75 27.1 6.6/10 27.1 6.6 26.90 6.77/10

12+50 27.3 6.4/10 27.22 6.45 27.12 6.55/10

⊼ 33.67

		Lt=Ely	℄	Rt=Wly
				on P.O.T. Hub 16+52
TP6	1.96	31.24	6.30	29.28
16+20 wire fence & gate crosses ℄		30.7 / 4.9 / 10	30.4 / 5.2	30.0 / 5.6 / 10
16+00		30.8 / 4.8 / 10	30.5 / 5.1	30.3 / 5.3 / 10
15+75		31.1 / 4.5 / 10	30.8 / 4.8	30.5 / 5.1 / 10
15+50		31.4 / 4.2 / 10	31.3 / 4.3	31.1 / 4.5 / 10
15+36 5.3 Rt ℄ water meter				
15+25		31.6 / 4.0 / 10	31.7 / 3.9	31.8 / 3.8 / 10
15+22 11.1 Rt ℄ Elec vault.				
10.6 Lt ℄ 12" P Pole #5400				
15+12 9.3 Lt ℄ 4" conduits up pole				
15+07 9.8 Lt curb by close fence				
15+05 8.1 Lt ℄ Fire Hyd.				
15+00		30.6 / 5.0 / 10	30.6 / 5.0	30.65 / 4.93 / 10
14+75		29.7 / 5.9 / 10	30.0 / 5.6 / 10	30.11 / 5.47
			π 35.58	

		Lt=Ely	℄	Rt=Wly	
18+05 13.0 Rt ℄ 6" Sycamore tree					
18+03 9.5 Lt 10" Sycamore tree					
18+00		6.0 / 7.2 / 10	5.8 / 7.4	6.1 / 7.1 / 10	
17+75		6.7 / 6.6 / 10	6.7 / 6.5	6.7 / 6.5 / 10	
17+55		6.2 / 7.0 / 10	6.2 / 7.0	6.2 / 7.0 / 10	
17+40		7.0 / 6.2 / 10	7.0 / 6.2	7.0 / 6.2 / 10	
TP8	3.99	π 13.22 O.K.		12.18	9.23 O.K.
17+10		10.9 / 10.5 / 10	10.9 / 10.5	10.4 / 11.0 / 10	
TP7	2.42	π 21.41		12.25	18.99
16+85		22.6 / 8.6 / 10	21.9 / 9.3	20.5 / 10.2 / 10	
16+73		25.9 / 5.3 / 10	25.4 / 5.8	23.1 / 8.1 / 10	
16+72 wire & wood fence crosses line 5' high					
16+54		29.6 / 1.6 / 10	29.2 / 2.0	28.6 / 2.6 / 10	
		π 31.24			

Station	Lt = Ely	℄	Rt = Wly
21+50	10.7 $\frac{2^5}{10}$	10.7 2^5	10.7 $\frac{2^5}{10}$
21+29 ℄ crosses 4' wire fence			
21+00	10.7 $\frac{2^5}{10}$	10.7 2^5	10.8 $\frac{2^4}{10}$
20+50	10.0 $\frac{3^2}{10}$	10.1 3^2	10.1 $\frac{3^2}{10}$
20+00	9.6 $\frac{3^6}{10}$	9.6 3^6	9.9 $\frac{3^3}{10}$
19+50	9.2 $\frac{4^0}{10}$	9.2 4^0	9.1 $\frac{4^2}{10}$
19+00	8.1 $\frac{5^2}{10}$	8.1 5^2	8.4 $\frac{4^8}{10}$
18+75	8.2 $\frac{5^0}{10}$	8.2 5^0	8.4 $\frac{4^8}{10}$
18+50	8.0 $\frac{5^2}{10}$	7.9 5^3	8.0 $\frac{5^2}{10}$
18+35	6.5 $\frac{6^7}{10}$	6.4 6^8	6.4 $\frac{6^8}{10}$
18+15 ℄ crosses 4' wire fence			

π 13^{22}

BM starting pg 44	Lt = Ely		℄	Rt = Wly 1^{27}	49^{87}
TP 14	2^{00}	51^{14}		2^{52}	49^{14}
TP 13	13^{30}	51^{66}		6^{13}	38^{36}
TP 12	10^{13}	38^{49}		4^{44}	28^{36}
TP 11	11^{67}	32^{80}		0^{38}	21^{13}
TP 10	11^{55}	21^{71}		3^{62}	10^{16}

5.0
-0.5

Station	Lt = Ely	℄	Rt = Wly
24+80	9.4 $\frac{9^4}{10}$	9.3 9^5	9.2 $\frac{9^6}{10}$
24+69	9.0 $\frac{4^8}{10}$	9.0 4^8	8.7 $\frac{5^2}{10}$
24+67± ℄ crosses 4' wire fence			
24+33 Nly edge con rubble cut of wall	6.1 $\frac{7^2}{10}$	5.9 7^9	5.5 $\frac{8^3}{10}$
24+00	5.4 $\frac{8^4}{10}$	5.7 8^2	6.0 $\frac{7^8}{10}$
23+50	7.8 $\frac{6^0}{10}$	7.7 6^2	7.6 $\frac{6^2}{10}$
23+00	8.1 $\frac{5^2}{10}$	8.0 5^8	8.0 $\frac{5^8}{10}$
22+50	8.5 $\frac{5^3}{10}$	8.5 5^3	8.4 $\frac{5^4}{10}$
22+00	9.7 $\frac{4^1}{10}$	9.6 4^2	9.6 $\frac{4^3}{10}$

TP 9 1^{99} π 13^{78} 1^{43} 11.79

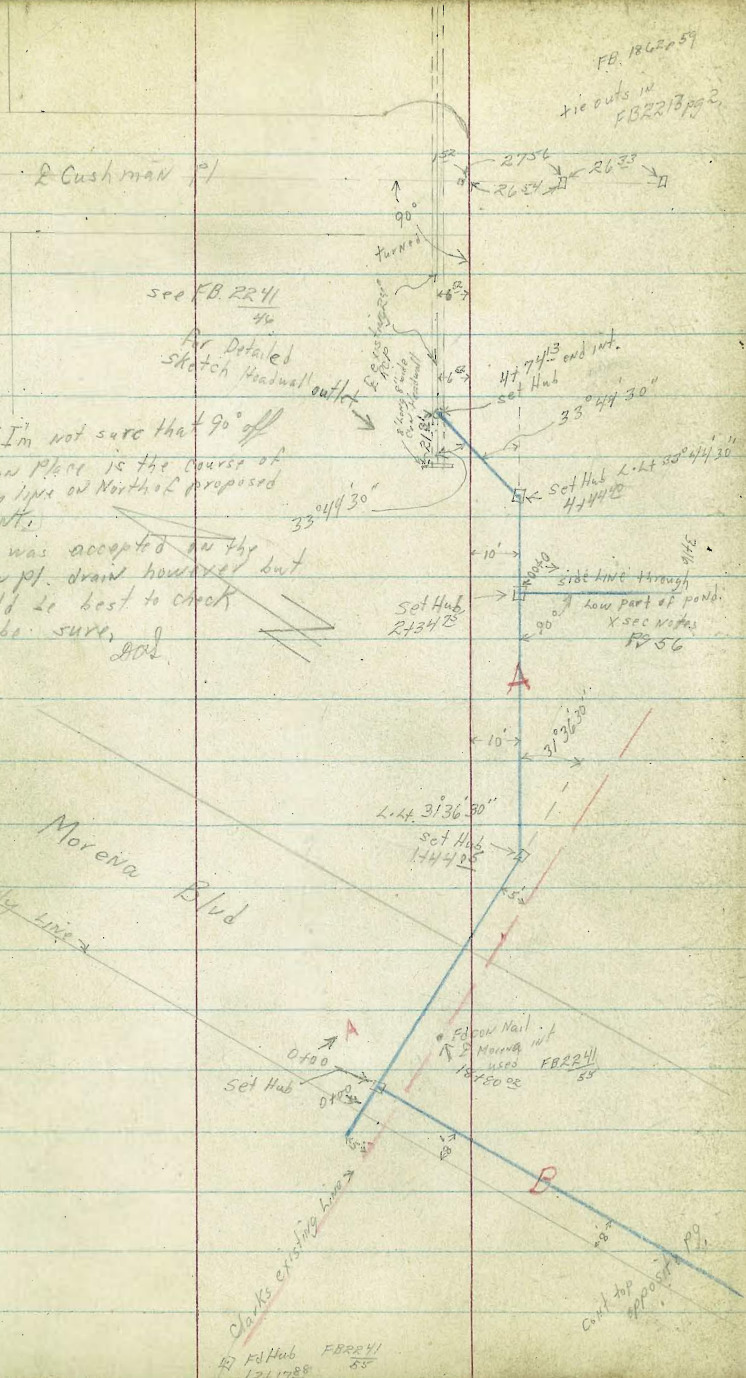
Cont from bottom lt pg.

Storm Drain Morena Blvd and Lind Vist Rd Area

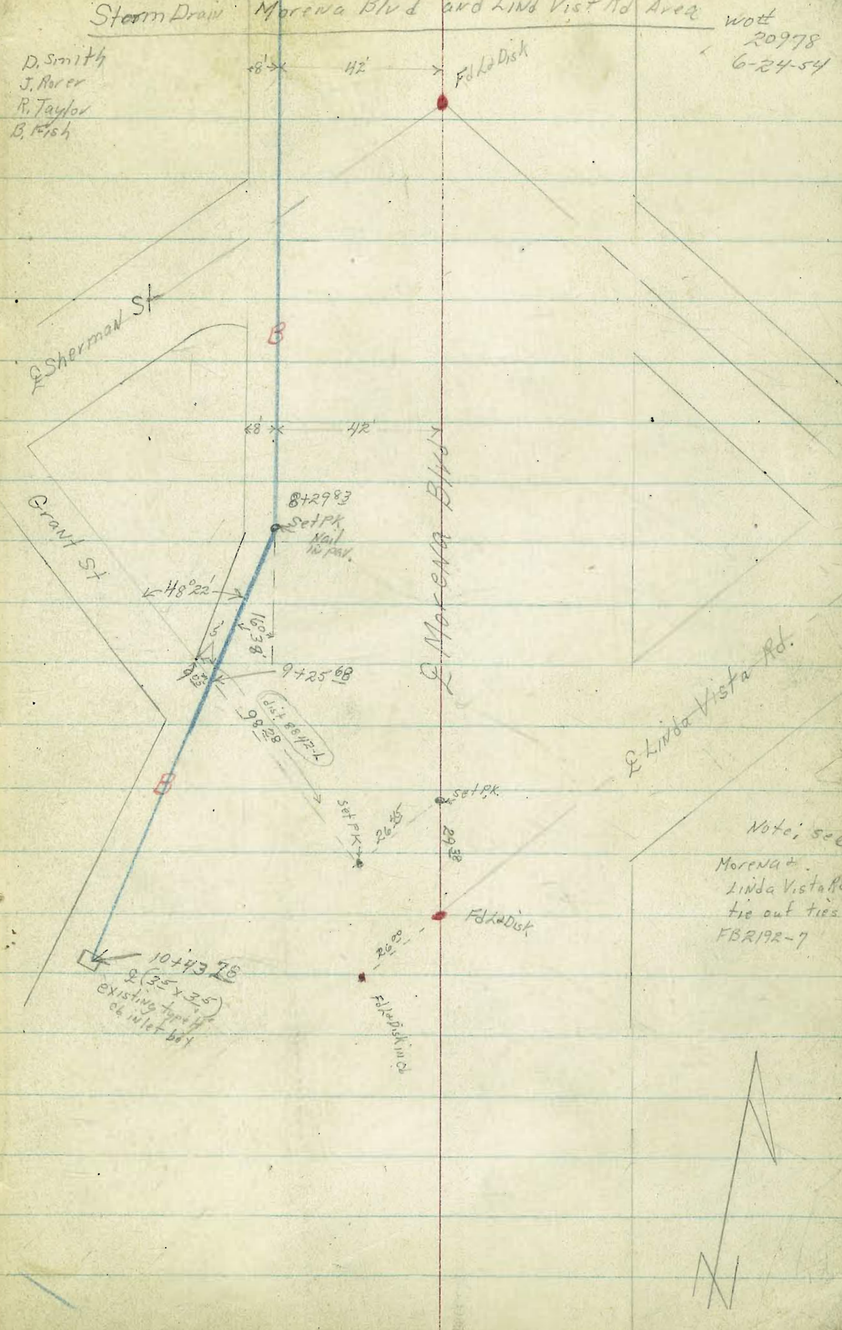
wo# 20978
6-24-54

D. Smith
J. Rorer
R. Taylor
B. Fish

Note: I'm not sure that 90° off Cushman Place is the course of property line on North of proposed easement; this was accepted on the Cushman Pl. drain however but it would be best to check and be sure, DAS



FB. 1862 pg 59
tie outs in FB2213 pg 2.
℄ Cushman Pl
℄ Cushman Av
27.56
26.54
26.33
90° turned
see FB. 2241 / 46 for detailed sketch Headwall outlet
4+74.13 end int. Set Hub
33°49'30"
Set Hub L.t 33°49'30" 4+44.15
10'
side line through low part of pond. x sec notes Pg 56
Set Hub 2+34.75
90°
A
31°36'30"
L.t 31°36'30"
Set Hub 1+44.05
Morena Blvd
Wly Line
Fd cow Nail ℄ Morena int used 18+80.05 FB2241 / 55
0+00
Set Hub
A
B
Clarks existing line
Cont top opposite pg.
Fd Hub 13+17.88 FBR2241 / 55



Note: see Morena & Linda Vista Rd tie out ties FB2192-7

X Sec "A" Line Morena Blvd

Station		Lt=Nly			℄	Rt=Sly	
1+44^{05} L. Lt 31° 36' 30"	on split			16.2 / 5-3 / 10	16.1 / 5^{4}	15.9 / 5^{6} / 10	
1+00				16.0 / 5^{5} / 10	15.9 / 5^{6}	15.7 / 5^{8} / 10	
0+75				15.9 / 5^{6} / 10	15.9 / 5^{6}	15.9 / 5^{5} / 10	
0+72				17.6 / 3^{9} / 10	17.5 / 4^{0}	17.7 / 3^{8} / 10	
0+66 Ely pav.		18.39 / 3^{14} / 10 / Berm	17.82 / 3^{71} / 10 / Gut	18.38 / 3^{15} / berm	17.77 / 3^{76} / Gut	17.73 / 3^{80} / 10 / Gut	18.31 / 3^{22} / 10 / Berm
0+42				18.45 / 3^{08} / 10	18.35 / 3^{18}	18.26 / 3^{27} / 10	
0+16 Wly edge Pav.				17.92 / 3^{61} / 10	17.83 / 3^{70}	17.74 / 3^{79} / 10	
0+00	8' East of w/line Morena Blvd. & 5' Wly of Clark's Line.			18.5 / 3^{0} / gd	18.21 / 3^{32} / ON Hub		
BM	6^{02} ⊼ 21^{53}				15^{51}	on stub 20+45^{87} pg 45 FB2241	

Storm Drain.

Station	Lt=Nly		℄	Rt=Sly
4+00	14.0 / 7^{5} / 10		13.9 / 7^{6}	13.7 / 7^{8} / 10
3+70	12.6 / 8^{9} / 10		13.3 / 8^{2}	12.3 / 9^{2} / 10
3+35	11.4 / 10^{1} / 10		11.2 / 10^{3}	10.9 / 10^{6} / 10
3+00	12.5 / 9^{0} / 10	11.1 / 10^{4} / 8	10.0 / 11^{5}	10.5 / 11^{0} / 10
2+60	10.6 / 10^{9} / 10		9.9 / 11^{6}	9.2 / 12^{3} / 10
2+39	16.5 / 5^{0} / 10		16.6 / 4^{9}	16.5 / 5^{0} / 10
2+34^{75} = 50+00 Sly POT.			16.62 / 4^{91} / on Hub	
2+00	16.6 / 4^{9} / 10		16.6 / 4^{9}	16.1 / 5^{4} / 10
1+75	16.5 / 5^{0} / 10		16.2 / 5^{3}	16.2 / 5^{3} / 10
	⊼ 21^{53}			

	Lt=Nly	℄	Rt=Sly
BM starting		11.52	15.53 ✓
		14.73 ✓	14.71 FB2241-47 ✓
Flow line end existing 24" R.C.P.		12.32 FL end	
4+74.13 end ℄ int ℄ 24" RCP existing	20.4 6.2 10 / 23.3 3.8 5	23.28 3.77 on Hub	22.4 4.7 10
4+60	20.0 7.1 10	21.6 5.5	21.6 5.5 10
TP,	8.95 ⊼ 27.05	3.43	18.10 on Hub 4+44.40
4+44.40 ∠ Lt 33°44'30" on split	15.1 6.4 10 / 18.1 3.4 5	18.10 3.43 on Hub	20.1 1.4 10
4+28	14.7 6.8 10	16.4 5.1	16.3 5.2 10
4+25 ℄ crosses 3.5 barbwire fence			
4+20	14.2 7.3 10	15.0 6.5	15.3 6.2 10
		⊼ 21.53	

X Sec Morena ℄ 8' Ely of W Line

	Lt=Ely	℄	Rt=Wly
1+61 1.8 Rt ℄ 14" P Pole # 4704			
1+50	16.31 4.92 17.8 Gut / 16.98 4.33 12.5 Berm / 16.4 4.9 10 / 17.5 3.8 7	17.5 3.8	17.1 4.3 8
1+47 Sly water vault		17.41 3.90 top	
1+41 {1.2 Lt, 6.7 Rt} Nly corners Water Vault			3.74 top
1+00	16.79 4.52 14 Gut / 17.40 3.91 13.2 Berm / 17.0 4.3 10 / 17.9 3.4 7	17.8 3.5	17.5 3.8 8
0+73 {5.5 Lt, 4.6 Rt} 4"x4" posts to direction sign			
0+53 11.3 Lt ℄ 4"x4" Speed Limit Sign			
0+50	17.31 4.00 15.1 Gut / 17.88 3.43 13.8 Berm	17.9 3.4	17.6 3.7 8
0+35' ℄ crosses Sly A.C. drive	17.62 3.69 10	17.58 3.73	17.45 3.86 8
0+15' ℄ crosses Nly A.C. drive	17.68 3.63 10	17.66 3.65	17.55 3.76 8
0+09 2.1 Rt ℄ 12" P Pole # 4736			
0+00 8' East of Wly Line Morena 5' Nly of Clarks Line	18.5 2.8 gd	18.19 3.12 on Hub	
BM	5.80 ⊼ 21.31		15.51

on stub Ro 44.5 97 pg 45 FB2284

	Lt = Ely	℄	Rt = Wly
4+25	14.51 15.0 14.8 / 6 80 6 30 6 5 / 8 2 7 4 4 / Gut Berm	12.1 9.3 / 9 2 12 0 / 8	
4+00	14.58 15.04 14.5 / 6 73 6 27 6 8 / 12 0 11 3 9 / Gut Berm	9.8 8.8 / 11 5 12 5 / 8	
3+50	14.64 15.14 14.8 14.8 / 6 67 6 11 6 5 6 5 / 13 3 12 5 10 8 / Gut Berm	9.6 8.4 8.2 / 11 7 12 2 13 1 / 4 8	
3+01 2 3 Rt ℄ 14" P Pole # 4674			
3+00	15.01 15.63 15.0 / 6 30 5 68 6 3 / 13 3 12 5 10 / Gut Berm	10.1 9.7 / 11 2 11 6 / 8	
2+95 7 0 Rt ℄ dead man			
2+65	15.34 15.96 15.5 / 5 97 5 35 5 8 / 13 12 9 / Gut Berm	13.7 13.9 / 7 6 7 4 / 8	
2+40	15.66 16.28 15.8 / 5 65 5 03 5 5 / 13 3 12 5 11 / Gut Berm	16.16 15.6 / 5 5 5 7 / 8	
2+00	15.93 16.48 16.0 16.6 / 5 38 4 83 5 3 4 7 / 13 3 12 5 10 8 / Gut Berm	16.5 16.3 / 4 8 5 0 / 8	

⊼ 21 31

	Lt = Ely	℄	Rt = Wly
5+53 ℄ cross berm		15.16 / 6 57	
5+50 ℄ crosses gutter	14.86 / 6 87 / 10	14.64 / 7 09	15.22 15.2 14.2 / 6 51 6 5 7 5 / 1 2 5 8 / Berm
5+30	6 9 / 14.98 / 6 75 / 10	14.65 / 7 08	14.42 / 7 31 / 8
TP1	7 14 ⊼ 21 73		6 72 14 59 — on con nail 5+00
5+00	14.84 / 6 47 / 10	14.59 / 6 72	14.33 / 6 98 / 8
4+81 ℄ crosses gutter		14.57 / 6 74	
4+77 ℄ crosses berm		15.14 / 6 17	
4+50	14.58 15.07 14.7 / 6 73 6 24 6 6 / 6 2 5 5 3 / Gut Berm	14.7 / 6 6	12.5 / 8 8 / 8
4+35 3 5 Lt ℄ Mercury vapor lamp. Standard con. base			
4+33 3 0 Lt ℄ dead man			
4+30 2 4 Rt ℄ 16" P Pole # 4644			

⊼ 21 31

Lt=Ely ℄ Rt=Wly

on split

8+29.83 ℄ Rt 16°38'

15.85 15.27 14.96 15.51 14.8 12.1
5.88 6.46 6.77 6.30 6.9 9.6
10 5.5 gut 6.6 Berm 8 15

8+00 ℄ crosses gutter

15.52 15.02 15.60 15.0 14.0
6.31 6.71 6.13 6.7 7.7
10 0.8 Berm 2 8

7+95 ℄ crosses berm

15.64
6.09

7+64 2.0 Rt ℄ 16" P Pole P# 4554

7+50

15.18 15.76 15.0 14.3 13.9
6.55 5.97 6.7 7.4 7.8
6.3 gut 5.5 Berm 3 8

7+00

15.11 15.69 14.9 13.5 13.9
6.62 6.04 6.8 8.2 7.8
10.5 gut 9.5 Berm 6

6+55 1.9 Rt ℄ dead man

6+50

15.07 15.67 15.0 13.9 13.9 14.0
6.66 6.06 6.7 7.8 7.8 7.7
12 gut 11 Berm 8 4 8

6+46 2.3 Rt ℄ dead man

6+15 2.8 Rt ℄ 16" P Pole # 4614

6+00

14.83 15.46 14.5 13.6 13.6
6.90 6.27 7.2 8.1 8.1
9.0 gut 8.0 Berm 5 8

π 21.73

Lt=Ely ℄ Rt=Wly

✓ .001

BM starting 4.79 15.50

TP2 5.26 20.29 6.20 15.03

10+43.78 ℄ of 3.5 x 3.5 type "H" inlet

7.59 13.91 14.74
14.14 7.82 6.99
12 grate CB

10+00

14.56 14.16 14.75 14.1 10.0 8.6
7.17 7.57 6.98 7.6 11.7 13.1
10 3.9 gut 2.0 Berm 8 15

9+55 2.8 Rt ℄ 16" P Pole # 4520

9+50

14.78 14.42 15.03 14.3 13.0 9.5 9.2
6.95 7.31 6.70 7.4 8.7 12.2 12.5
10 3.3 gut 2.0 Berm 4 8 15

9+00 ℄ crosses Berm

15.15 14.59 15.15 14.5 13.5 11.7 8.7
6.58 7.14 6.58 7.2 8.3 10.0 13.0
10 12 gut Berm 1 7 8 15

8+60

15.54 14.89 14.83 15.13 14.6 11.7 9.3
6.19 6.84 6.90 6.30 7.1 10.0 12.4
10 15 gut 2.4 Berm 4 8 12

π 21.73

"" X Sec Side Line into Pond

Lt = Ely | Rt = Wly

1+50

	Lt				℄	Rt		
Elev	8.5	8.0	6.6	6.3	5.8	5.6	4.9	5.4
Rod	8.6	9.1	10.5	10.8	11.3	11.7	12.2	11.7
Dist	50	35	25	15		15	30	55

1+00

	Lt				℄	Rt			
Elev	7.4	7.0	6.3	5.9	5.8	5.4	4.9	4.8	4.7
Rod	9.7	10.1	10.8	11.3	11.3	11.7	12.2	12.3	12.4
Dist	50	32	28	10		18	38	58	70

6.7 elev.
10.4
water surface on pond
@ 9:30 AM 6-25-54

0+50

	Lt			℄	Rt	
Elev	8.6	7.3	7.3	6.3	7.3	16.0
Rod	8.5	9.8	9.8	10.8	9.8	1.1
Dist	70	40	20		10	25

0+38

	Lt			℄	Rt
Elev	8.6	7.9	8.0	8.2	17.0
Rod	8.5	9.2	9.1	8.9	0.1
Dist	50	30	10		15

0+16

	Lt			℄	Rt
Elev	8.1	7.2	8.0	16.2	16.4
Rod	9.0	9.9	9.1	0.9	0.7
Dist	30	20	15		10

0+00 Sly = 2+34.75 Ely

	℄
Elev	16.6
Rod	0.5

BM 0.48 HI 17.10 16.62 — 2+34.75 Pot on Hub pg 52.

Lt = Ely ℄ Rt = Wly

BM starting

3+15

	Lt			℄	Rt		
Elev	12.0	10.2	9.5	9.9	9.9	8.8	8.5
Rod	5.1	6.9	7.6	7.2	7.2	8.3	8.6
Dist	50	25	10		10	25	50

3+12

	Lt			℄	Rt		
Elev	11.6	9.6	8.1	8.5	7.3	6.6	6.5
Rod	5.5	7.5	9.0	8.6	9.8	10.5	10.6
Dist	50	25	10		10	25	50

3+00

	Lt			℄	Rt					
Elev	11.0	9.4	8.4	7.7	7.1	7.1	6.1	5.9	5.7	6.9
Rod	6.1	7.7	8.7	9.4	10.0	10.0	11.0	11.2	11.4	10.2
Dist	50	25	10		10	20	30	40	50	75

2+50

	Lt			℄	Rt					
Elev	9.6	8.1	7.2	6.9	6.6	6.3	5.6	5.5	6.6	7.0
Rod	7.5	9.0	9.9	10.2	10.5	10.8	11.5	11.6	10.5	10.1
Dist	50	25	10		10	20	30	40	50	60

2+00

	Lt			℄	Rt		
Elev	8.9	7.9	7.1	7.1	6.8	7.2	6.6
Rod	8.2	9.2	10.0	10.0	10.3	9.9	10.5
Dist	56	25	10		10	30	50

1+75 — ℄ Road to be filled across pond, quote Prop. owner

	Lt			℄	Rt		
Elev	10.5	9.1	7.9	7.2	7.2	7.0	7.1
Rod	6.6	8.0	9.2	9.9	9.9	10.1	10.0
Dist	75	50	25		20	40	60

HI 17.10

X Sec Line Mildred & Azusa St ℄ to Sly end 18" RCP. Linda Vista Rd.

Lt-Wly ℄ Rt-Ely

Station	Notes	Readings (elev. / rod / dist.)
1+00		62.1 / 3.8 / 9 — 53.8 / 12.1 / 2 ditch — 63.2 / 2.2 / 14
0+80		60.5 / 5.0 / 10 — 60.6 / 5.3 / 7 — 55.X / 10.5 — 53.6 / 12.3 / 2 ℄ ditch — 62.3 / 3.6 / 14
0+60		59.3 / 6.6 / 10 — 59.7 / 6.2 / 6 — 56.6 / 9.3 — 53.3 / 12.6 / 4 ℄ ditch — 60.2 / 5.7 / 11 — 61.7 / 4.2 / 17
0+33	14' Rt ℄ 14" Anchor Pole	
0+32		55.3 / 10.6 / 10 — 56.2 / 9.7 — 52.9 / 13.0 / 7 ℄ ditch — 57.2 / 8.7 / 14
0+20		53.8 / 12.1 / 10 — 53.7 / 12.2 — 52.7 / 13.2 / 9 ℄ ditch — 53.5 / 12.4 / 15
6+11.88 = 0+00		53.8 / 12.1
BM	12.31	HI 65.94 — 53.63 — Hub 6+11.88 pg 46

Lt-Wly ℄ Rt-Ely

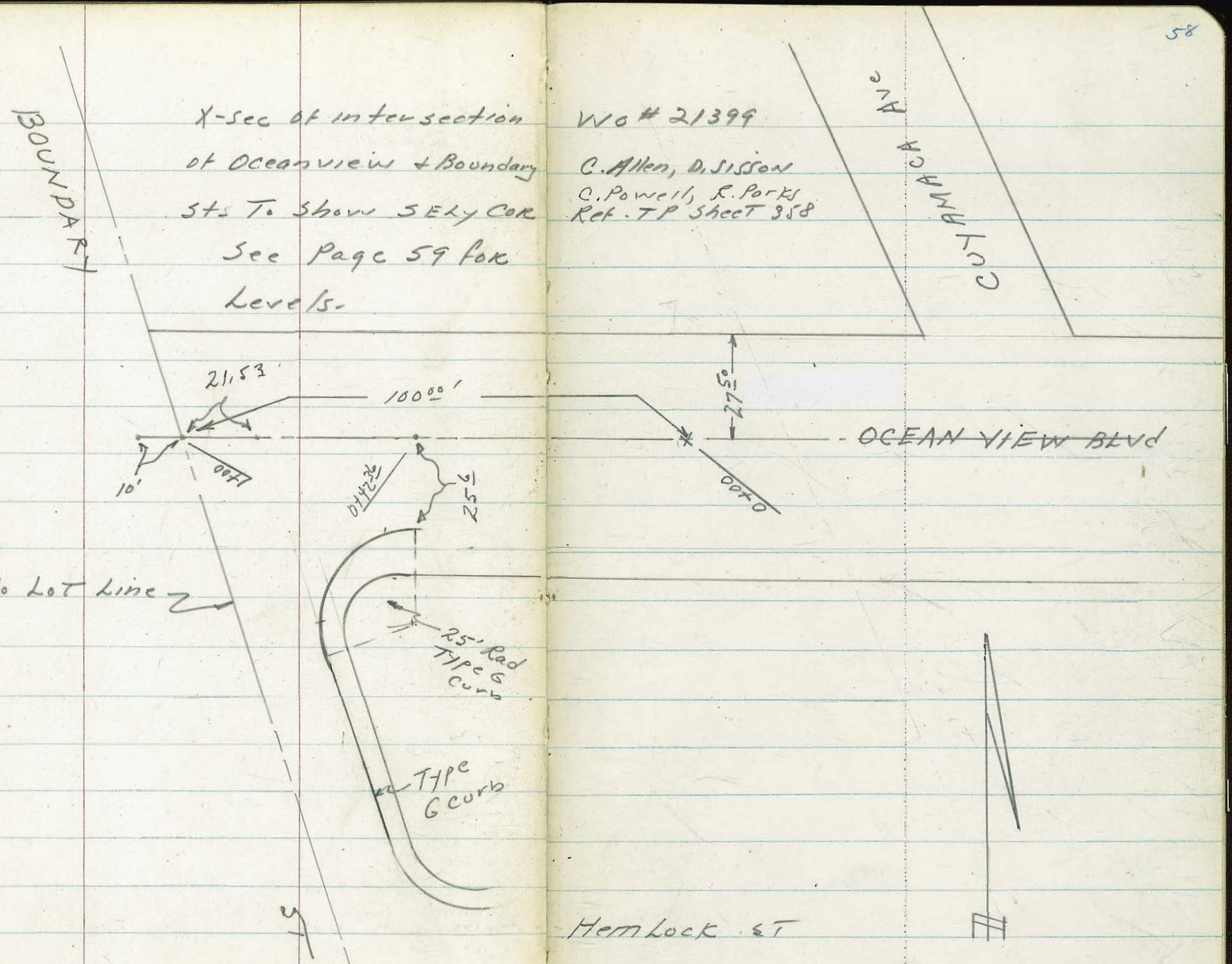
Station	Notes	Readings (elev. / rod / dist.)
1+15.4	Sly end ℄ 18" RCP No headwall	59.9 / 6.0 / 10 — 59.4 / 6.5 / 4 — 54.12 / 11.82 / ℄ — 61.4 / 4.5 / 13
		65.94

X-Sec of intersection of Oceanview & Boundary Sts To show SELy COR

See Page 59 for Levels.

WO # 21399

C. Allen, D. Sisson
C. Powell, R. Parks
Ref. TP Sheet 358



Ocean View Blvd

T.C.= 67.91
G.U.T.= 67.30

T.C.= 68.12
G.U.T.= 67.53

Levels on SEly Curb (Type 6) at Ocean View & Boundary.

R = 25'

L = 46.6

divided into 4 parts of 11.6 each

T.C.= 68.08
G.U.T.= 67.45

T.C.= 67.87
G.U.T.= 67.27

℄ Bc =

℄ Ec.

T.C.= 67.69
G.U.T.= 67.08

25'

Boundary

T.C.= 67.01
G.U.T.= 66.42

BM = NWly 7' L&T Pole + Ocean View Blvd

elevation = 82.18

Direct elev Rod - all elevs are True

Cont on Page 60

X-Sec of Intersection of Ocean View Blvd & Boundary
See Sketch Page 58

LT = Sly B.L. RT = Nly 60

0+60 - 19 Lt = ℄ Fire Hydrant

0+50

68.0 - 67.4 - 68.0 - 67.0 - 67.2 - 67.3 - 67.2
27 - 27 / 19 / 17 / 10 edge Conc / 10 edge Conc
T.C. GUT

+ Ely end of curb (Type G)

0+42.3 25 Lt = B.C. 25' Radius Return

67.9 - 67.3 - 67.6 - 66.9 - 67.0 - 67.0 - 66.9
25 - 25 / 19 / 16 / 10 edge Conc. / 10 edge Conc Pave
Top Conc GUT

0+25

66.5 - 67.5 - 66.9 - 66.7 - 66.6 - 66.7 - 66.6
40 29 / 19 / 17 / 10 edge Pave Conc / 10 edge Pave (Conc)

66.0
40

Base Line + P.L. Lot Line - Ely of Boundary

0+00 = 100' Ely of Lot on intersection of

66.5 - 66.0 - 65.3 - 65.98 - 66.13 - 66.08
28 20 / 18 / 10 Edge Conc / Conc / 10 Edge Conc

Base Line is 27.5 Sly of Nly Line
E. Oceanview Blvd ℄ of Conc Pave
e

BM = NWly 7' Lt 40 ± Oceanview - 8.18

Direct elev e & d.

Intersection Oceanview + Boundary cont

Levels Checked back to Starting BM-

1+00 = LT. P.L. Line + Base Line

Taken on Skew along Curb

0+82⁶ ± = Curb Line Boundary St.

0+79 - 30⁰ LT = ℄ 4"x4" Stop Sign

0+75

0+70 - 38⁶ LT = ℄ 36" Palm tree

#P-70037

0+69 - 20⁰ LT = ℄ 12" Power pole

LT = Sly B.L. RT = Nly.

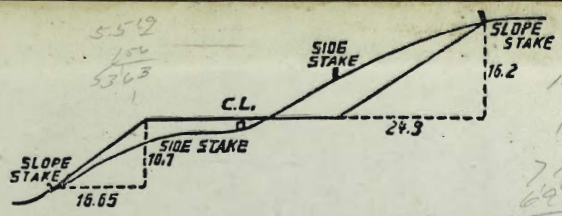
68³² 50 | 68⁸⁷ 25 | 68⁵¹ 10 edge Pave | 68⁶¹ | 68⁵¹ 10 edge Conc Pave

67⁶⁹ 59⁸± T.C. | 67⁰⁸ 59⁸± gut | 68⁰² 10± | 68¹² | 68¹⁶ 10³± edge Conc Pave

67³ 65 | 68⁰³ 50

69² 40 | 69⁵ 31 | 68² 22 | 67⁸⁷ 10 edge Conc Pave | 67⁹⁵ | 67⁸⁰ 10 edge Conc Pave

Direct elev Rod-



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

THE NATIONAL BLANK BOOK COMPANY
HOLYOKE MASSACHUSETTS
NEW YORK CHICAGO BOSTON SAN FRANCISCO