

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.

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3) 3456 (11.52 2 75.00
 3
 39
 33
 25.00
 1.30 25
 75.75

TABLE IX
 MIDDLE ORDINATES OF RAILS
 Length of Rail (feet)

C o'	R Feet	Length of Rail (feet)						C o	Length of Rail (feet)						
		30 Inch	28 Inch	26 Inch	24 Inch	22 Inch	20 Inch		30 Inch	28 Inch	26 Inch	24 Inch	22 Inch	20 Inch	
0-20	17189	.08	.07	.06	.05	.04	.03	8	716.8	1.88	1.64	1.42	1.20	1.01	.84
0-40	8594	.16	.14	.12	.10	.08	.07	9	637.3	2.12	1.84	1.60	1.35	1.14	.94
1-0	5730	.24	.20	.18	.15	.13	.10	10	573.7	2.36	2.05	1.78	1.50	1.27	1.04
1-20	4297	.31	.27	.23	.20	.17	.13	11	521.7	2.59	2.26	1.95	1.65	1.39	1.15
1-40	3438	.39	.34	.29	.25	.21	.17	12	478.3	3.83	2.47	2.15	1.81	1.54	1.26
2-0	2865	.47	.41	.35	.30	.25	.20	13	441.7	3.05	2.66	2.30	1.96	1.66	1.36
2-20	2456	.55	.48	.41	.35	.29	.23	14	410.3	3.30	2.87	2.48	2.10	1.78	1.46
2-40	2149	.63	.55	.47	.40	.33	.27	15	383.1	3.54	3.08	2.68	2.26	1.91	1.57
3-0	1910	.71	.62	.53	.45	.38	.31	16	359.3	3.76	3.28	2.83	2.40	2.04	1.67
3-20	1719	.78	.68	.59	.50	.42	.35	17	338.3	4.00	3.48	3.02	2.57	2.16	1.78
3-40	1563	.85	.75	.65	.55	.46	.38	18	319.6	4.21	3.67	3.18	2.70	2.28	1.87
4-0	1433	.94	.82	.71	.60	.50	.42	19	302.9	4.45	3.89	3.36	2.86	2.41	1.98
4-20	1323	1.02	.89	.77	.65	.55	.45	20	287.9	4.70	4.09	3.55	3.00	2.54	2.09
4-40	1228	1.10	.96	.83	.70	.59	.48	22	262.0	5.16	4.44	3.84	3.30	2.80	2.29
5	1146	1.18	1.03	.89	.75	.63	.52	24	240.5	5.64	4.92	4.20	3.59	3.04	2.50
6	955.3	1.41	1.23	1.06	.90	.76	.62	26	222.3	6.07	5.29	4.58	3.88	3.29	2.70
7	819.0	1.65	1.44	1.24	1.05	.89	.73								

TABLE X
 SHORT RADIUS CURVES

Radius Feet	Chord Feet	Central Angle	Deflection Angle	Deflection for 1 Foot
35	10	16-26	8-13	49.3
45	10	12-46	6-23	38.3
50	15	17-16	8-38	34.5
60	15	14-22	7-11	28.8
75	15	11-30	5-45	23.0
100	20	11-30	5-45	17.3
120	20	9-34	4-47	14.3
150	20	7-39	3-49	11.5
190	25	7-32	3-46	9.15
200	25	7-10	3-35	8.6
225	25	6-25	3-12	7.7
240	25	5-58	2-59	7.2
250	25	5-44	2-52	6.9
275	25	5-12	2-36	6.2
288	50	0-58	4-59	6.0
300	50	0-32	4-46	5.7
350	50	8-12	4-06	4.9
376	50	7-40	3-50	4.6
400	50	7-10	3-35	4.3
410	50	7-00	3-30	4.2

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

TABLE XI

INCLINED DISTANCE OF 100 FT. REDUCED TO HORIZONTAL.

Slope	Horizontal Distance	Correction	Rise	Slope	Horizontal Distance	Correction	Rise
0°00'	100.000	0.000	0.000	8°00'	99.027	0.973	0.139
15'	99.999	0.001	0.004	15'	98.965	1.035	0.143
30'	99.996	0.004	0.009	30'	98.902	1.098	0.148
45'	99.991	0.009	0.013	45'	98.836	1.164	0.152
1 00	99.985	0.015	0.017	9 00	98.769	1.231	0.156
15	99.976	0.024	0.022	15	98.700	1.300	0.161
30	99.966	0.034	0.026	30	98.629	1.371	0.165
45	99.953	0.047	0.031	45	98.556	1.444	0.169
2 00	99.939	0.061	0.035	10 00	98.481	1.519	0.174
15	99.923	0.077	0.039	15	98.404	1.596	0.178
30	99.905	0.095	0.044	30	98.325	1.675	0.182
45	99.885	0.115	0.048	45	98.245	1.755	0.187
3 00	99.863	0.137	0.052	11 00	98.163	1.837	0.191
15	99.839	0.161	0.057	15	98.079	1.921	0.195
30	99.813	0.187	0.061	30	97.992	2.008	0.199
45	99.786	0.214	0.065	45	97.905	2.095	0.204
4 00	99.756	0.244	0.070	12 00	97.815	2.185	0.208
15	99.725	0.275	0.074	15	97.723	2.277	0.212
30	99.692	0.308	0.078	30	97.630	2.370	0.216
45	99.657	0.343	0.083	45	97.534	2.466	0.221
5 00	99.619	0.381	0.087	13 00	97.437	2.563	0.225
15	99.580	0.420	0.092	15	97.338	2.662	0.229
30	99.540	0.460	0.096	30	97.237	2.763	0.233
45	99.497	0.503	0.100	45	97.134	2.866	0.238
6 00	99.452	0.548	0.105	14 00	97.030	2.970	0.242
15	99.406	0.594	0.109	15	96.923	3.077	0.246
30	99.357	0.643	0.113	30	96.815	3.185	0.250
45	99.307	0.693	0.118	45	96.705	3.295	0.255
7 00	99.255	0.745	0.122	15 00	96.593	3.407	0.259
15	99.200	0.800	0.126	15	96.479	3.521	0.263
30	99.144	0.856	0.131	30	96.363	3.637	0.267
45	99.087	0.913	0.135	45	96.246	3.754	0.271

For each foot take one one-hundredth of each reading.

TABLE XII

MINUTES IN DECIMALS OF A DEGREE.

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

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	.79	.89	.99	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	.266	.353	.440	.528	.617	.707	.797	.877	.971	1.07	1.18	1.29
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	.885	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

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Ref DWRS 10916-7-8L
F.B. 2161 10-04-54

Stamper
Huffman
Nordahl
Sherry

①

GRADES STORM DRAIN OLNEY & GRAND

60" R.C.P. W.O. 20822

±
Ground Elev.

1+75

~~-3.29~~

C 0.81

1+50

-2.60

-3.41

-1.4

C 0.98

1+00

-2.68

-3.66

-1.8

C 1.35

Begin 60" R.C.P.
0+56⁵⁵ End Conc. Apron

-2.53

-3.88

-2.1

C 1.70

Begin Conc. Apron
0+46⁵⁵ E.C. End Dirt Ditch

-2.60

-4.30

0+23 P.O.C.

-4.30

0+00 Begin Dirt Ditch

-4.30

Top Rim M.H.

0.11

B.M. (set on 8.36)

-7.64

Ed. 2"x2" Hub & D. 15" 0+00 2161
24

→ 0.5970

60" DRAIN OLNEY & GRAND

10-04-54

⊕
Ground Elev

4+50	1.3%		C 7.83		
40 ⁶⁹			8.39		
			0.56		
4+09 ³¹ Conc. Sewer Enc.	↑		C 7.41		
			7.44		
34 ³¹			0.03	7.2	
3+75			C 8.15		
			7.44		
T.P. Stub Approx 50' Lt.		4.25	-0.71	5.9	3+60
3+50	2.17%		C 5.27		
			4.01		
20 ⁴⁵			-1.26	4.7	
3+29 ⁵⁵ End Rock Bedding	↑		C 5.68		
			3.98		
			-1.70	4.1	
3+00	1.37%		C 6.26		
			4.15		
25.69			-2.11	4.1	
2+74 ³¹ E.C.	↑		C 6.59		
			4.13		
33.59			-2.46	2.3	
2+40 ⁷² P.O.C.	1%		C 5.82		
			3.02		
33 ⁶⁰			-2.80	0.2	
2+07 ¹² B.C.	0.5%		C 1.29		
			-1.84		
			-3.13	-1.0	

60" DRAIN OLNEY & GRAND

10-05-54

③

9+00	1.7			C 11.38
				18.39
8+50	1.7			7.01
				C 11.09
				17.20
8+00	1.7			6.16
				C 10.87
				16.18
7+50	1.7			5.31
				C 10.97
				15.43
7+00	1.7			4.46
				C 11.02
				14.83
6+50	1.7			3.81
				C 10.93
				14.09
6+00	1.7			3.16
				C 10.96
				13.47
5+50 T.P.	1.3	Top Stub	12.26	2.51
				C 10.40
				12.26
5+00	1.3			1.86
				C 9.24
				10.45
				1.21

60" DRAIN OLNEY & GRAND

10-05-54

④

Top Hub 12+54⁰⁵

T.B.M. 2161-30

27.07 ~ 27.06

C 11 44

26.80

15.36 ✓

1/4 P.O.C. $\Delta = 22^\circ 30'$

15.71 C =

 $\Delta = 90^\circ R = 40' L = 62.83$

C 11.61

26.46

14.85 ✓

12+35⁵⁶ Lt.
BC.

C 11.84

25.52

13.68

12+00

C 12 10

24.14

12.04

11+50

C 12.46

23.19

10.73

11+10

C 12.40

22.64

10.24

10+90

C 12 20

21.67

9.47

10+45

21.33

C 11 93

20.64

8.71

10+00

C 11.64

19.50

7.86

9+50

3.25%

1.75%

60" DRAIN OLNEY & GRAND

15+00		C 11.49	
		31.83	
		20.34	
14+50		C 11.24	
		30.88	
		19.64 ✓	
14+00	1.41 %	C 10.73	
		29.66	
		18.93 ✓	
13+80	↓	C 10.65	
		29.30	
		18.65 ✓	
13+60		C 10.91	
		29.10	
		18.19 ✓	
13+30	↑ 2.17 %	C 11.62	C 0.83
		29.16	29.13
		17.54 ✓	13+00 ³⁹ 28.30 ✓
			TOP CO.
13+00 ³⁹ & Type "C" Cleanout		C 8.80	C 8.80
2'		29.15	29.13
		20.35	20.35 ✓
		18" stub Nly	18" stub Sly
		F.L.	101° 46' R of
12+98.39 E.C. 4 = 90°		@ 90° Lt. For Top C 12.21	For Turn
15.70'		From for tan.	R.P. 11" Nly
		R.P. 11 5/4 End	End's stub
		4' stub.	
3/4 P.O.C. 4 = 67° 30'		C 12.32	
15.71'		28.71	
		16.39	
1/2 P.O.C. 4 = 45°		C 11.84	
15.71'		27.72	
		15.88 ✓	

60" DRAIN OLNEY & GRAND

Lt.

±

Rt.

⑥

18+49⁸³ P.O.C. $\Delta = 62^{\circ}30'$ 21⁵18+28³³ P.O.C. $\Delta = 48^{\circ}45'$ 21⁵± Type 'C' Cleared of V₂18+06⁸³ P.O.C. $\Delta = 35^{\circ}$ 25²³17+81¹⁰ P.O.C. $\Delta = 17^{\circ}30'$

25.72

L = 137.44 Δ @ Center $\Delta = 90^{\circ}$ R = 87.5 Rt.17+55³⁸ B.C.

T = 87.5

17+30

TP

33.74

17+00

16+50

16+00

15+50

C 11 00

37 14

26.15

C 10 93

36 60

25.67 ✓

C 11.18 C 8.68 C 0.12 C 10.68

3587 3587 3587 3587

24.69 ✓ 27.19 35.75 25.19

outlet 24" Inlet 30" Top

swly. C 10 94

35 25

24.31 ✓

C 10.66

34 60

23.94 ✓

C 10 41

33 99

23.58 ✓

C 10 58

33 74

23.16

C 10 79

33 23

22.46 ✓

C 11 01

32 76

21.75 ✓

C 11.24

32 29

21.05 ✓

60" R.C.P. DRAIN OLNEY & GRAND

T.B.M.

40.79

Set P.K. S.E. Cor Land Blk Bldg @ N.W. Cor
Grand & Noyes

T.B.M.

35.48 ~ 35.46 2/61
32

C12 98

40 18

27.20 ✓

18+98⁸² End 60" R.C.P. Plug End

6'

C12 77

39.83

27.06

18+92⁸² E.C. $\angle = 90^{\circ}00'$

21⁹⁹

C11 51

38 13

26.62 ✓

18+71³³ R.O.C. $\angle = 76^{\circ}15'$

21⁵

Stamp
 Hoffman
 Rover
 Warrick

Ref Stakes Set. 15' Rt.

10-29-54

30" RCP STORM DRAIN GRAND AVE

WO. 20822

1+50
 1+00
 27¹⁵
 0+72⁸⁵
 E.C. $\Delta = 30^{\circ}00' = 10^{\text{S}9}$ Fly of W. Line Naves St.

$\frac{2}{3}$ P.O.C. $\Delta = 20^{\circ}00'$

$\frac{1}{3}$ P.O.C. $\Delta = 10^{\circ}00'$

$\Delta = 30^{\circ} L = 47.39' R = 90.5' T = 24.25'$
 0+25⁴⁶ = B.C. Rt.

0+19²⁸ Begin 30" Pipe = B.C. Rt.

C 7 37
 35 87
 28.50

C 7 81
 35 81
 28.00

C 8 09
 35 81
 27.72

C 8 34
 35 91
 27.57

C 8 52
 35 93
 27.41

C 8 82
 36 07
 27.25

27.19
 Inlet Elev.

B.M.

40.79

(See Pg 6)

6+00

C 7 36
40 36
33.00

5+50

C 8 40
40 90
32.50

5+00

C 8 12
40.12V
32.00

4+50

C 7 67
39 17V
31.50

4+00

C 7 10
38 10V
31.00

3+50

C 7 36
37 88V
30.50

3+00

C 7 19
37 19V
30.00

2+50

C 7 11
36 61
29.50V

2+00

C 7 07
36 07
29.00

Lt. \$ Rt.

9+50

C 9. 13
45 35
36. 22

9+00

C 9. 28
45 89
35. 81

8+50

C 8. 86
44 26
35. 40

8+00

C 8. 52 ✓
43 52
35. 00

7+50

C 8. 33
42 91 ✓
34. 58

TP.

0.82.90

7+00

C 7. 83
42 00 ✓
34 17

27⁹²

C 6. 25 C 0. 35

6+72⁵¹

↑ 4020 40.20
33.25 39.85
Inlet Wly Top C.O.

Begin 27" R.P.
4 Rt. From For. Jan 7 25" Pipe = 96' 2 22"
6+72⁵¹ 4 Type "A" C.O. No. 3 End 36" Pipe

REVISION
C.O. ONLY

6+50

C 5. 85	C 5. 90	C 6. 50	C 6. 00
4020	4020	4020	4020
34.35	34.30	33.70	34.20
4' End Pipe Plug	Inlet @ 90° Lt.	Outlet Ely	Inlet @ 90° Lt. Rt. of For. Jan Nly
		C 7. 09 40 59 33. 50	

GRAND AVE DRAIN

B.M.

50.33

50.31

13+00

0.8290

12+55.16

12+55.16 C.O. N^o 4 Type "G"

12+30

12+00 P.K. in Part.

11+50

0.8290

11+00

10+50

10+00

B.M.

50.31

Lt.

E

Rt.

(10)

C 9 96

49 05

39 09

C 0 27

48 72

48 45

Top. C.O.

C 0²⁵ C 6⁰⁸ C 6⁰² C 10⁰² Inv. C 7⁸⁰ C 7⁶⁰

49.00 49.00 48.72 48.72 48.80 48.80

48.75 42.92 42.70 38.70 41.00 41.20

Topcb. 6.67' Inlet @ 9' Inlet El. Inlet Nly 4' stub

10' Lt. F.L. Lt. Co. RP 15' Rt. @ 108' 18" Nly

RP 15' sly RP 15' C 10⁰⁸ RP 15' From RP 16'

cb face Nly 38.52 For. Tan Line End stub

C 10 65

49 92

38 27

C 9 21

47 07

37 86

C 9 33

46 78

37 45

C 9 61

46 63

37 04

C 9 40

46 03

36 63

50.37 Listet Bench Book.

NWBP Lamont & Grand used as shown

10 Fb 2161-54

GRAND AVE DRAIN

0.7768

4=90° R=22' L=34.56
17+40⁸⁶ B.C. RL

17+00

16+50

16+00

15+50

15+00

14+50

14+00

13+50

C 7.67

50.34
42.67

C 8.00

50.37
42.37

C 8.19

50.13
41.96

C 8.47

50.02
41.55

C 8.78

49.92
41.14

C 8.95

49.68
40.73

C 9.27

49.59
40.32

C 9.62

49.53
39.91

C 9.90

49.40
39.50

GRAND AVE DRAIN

Lt & Rt (2)

C 0.14

18+60 ¹² & Curb Inlet No. 4 Type B-2 15'

C 7 27 C 7 77

51.63 51.63
44.36 43.86
Inlet @ 90° outlet
lt. R.P. 15' Ely Cb face out Box

51.63
51.49
CBRRISELY

18+30

C 7 77
51.39
43.62

18+00

C 7 07
50.45
43.38

23 ⁰⁸

FD 40

17+76 ⁹²

0.79 %

50.30
50.70
Top C.O.

17+76 ⁹² & C.O. No. 5 Type "G"

C 6 50 C 7 35 C 7 10

50.20 50.30
43.70 42.95
Inlet 18" sub outlet
@ 116° 03' 40" Lt.
of For. tan Inlet
R.P. 20' Wly N 14 15' Rt.
Edge C.O. C 7 30
50.24
42.94

17+75 ⁹² E.C. 4 = 90°

C 7 50

11.52

2/3 P.O.C. 4 = 60°

50.35
42.85

11.52

1/3 P.O.C. 4 = 30°

7.55
50.31
42.76

11.52

T.B.M.

49.82

B.C. Hub 17+17.86 2161-53

51.37

GRAND AVE DRAIN

19+17⁷⁵ End 18" Pipe

C 5 45

51 51

45 06

RP 10' line @ End Pipe

19+00¹⁷

C 0 20

51 59

51 39

Top Cb.

19+00¹⁷ Type B-2 Inlet N^o 5
Face W. Cb. Kendall St.

C 6 69

51 59

44 90

Outlet

RP 15' W Cb face

on E Box

18+80¹⁷ @ Kendall St.

C 6 23

50 86

44 63

18+60¹⁷ @ Curb Inlet N^o 4

C 0 20

51 63

51 49

Top Cb

10-07-54

24" RCP DRAIN MORRELL & GRAND

Type G Curb Inlet N.W. Cor.

Grand & Morrell

End Curb

8.25 Nly P.O.T.

B.C. & Inlet Morrell

A = 15° 22' 30"

P.O.C. Grand Ave Top Cb Type "G"

1+05.70 = 5/4 face Type G Inlet

0+70

0+35

(See P 9 a)

0+00 = 6+72.57 Grand Ave = 96° 12' 22" Rt.

= 1.75 Nly of Of For. Tan. & C.O.

T.B.M.

44.21

B.M.

50.31 ✓

It ♀ Rt.

C 2 84

44 34

41.50

C 879

cb

RP 15 62

43.99

43.99

35.20

41.37

Inlet Ely

cb 257
Wly RP 15 C

23 94

41.37

cb.

C 8 99

43 99

35.00

outlet R.P. face cb 15' Wly

5/4 RP 15' Wly

C 6 75

41.49

34.74

RP 15' Rt.

C 6. 75

41.22

34.47

RP 15' Rt.

34.20

RP 15' 5/4

Top 2x2" Hub N.W. 30' Cb. Radius Pt. Morrell & Grand

N.W. BP Lament & Grand

10-07-54

TYPE B-2 CURB INLET NE. COR
GRAND & MORRELL ST.
Inlet N^o 2

Top S. End Curb

4 Inlet @ cb Face

N. End Curb

REVISED
(See P 9 16)

C 2 00

43.78

41.18

R.P. 15' E/4.
cb

C 7. 78

43.28

35.50

Out let Elev.
R.P. 15' E/4.

C 2 59

44.22

41.63

cb
R.P. 15' E/4.

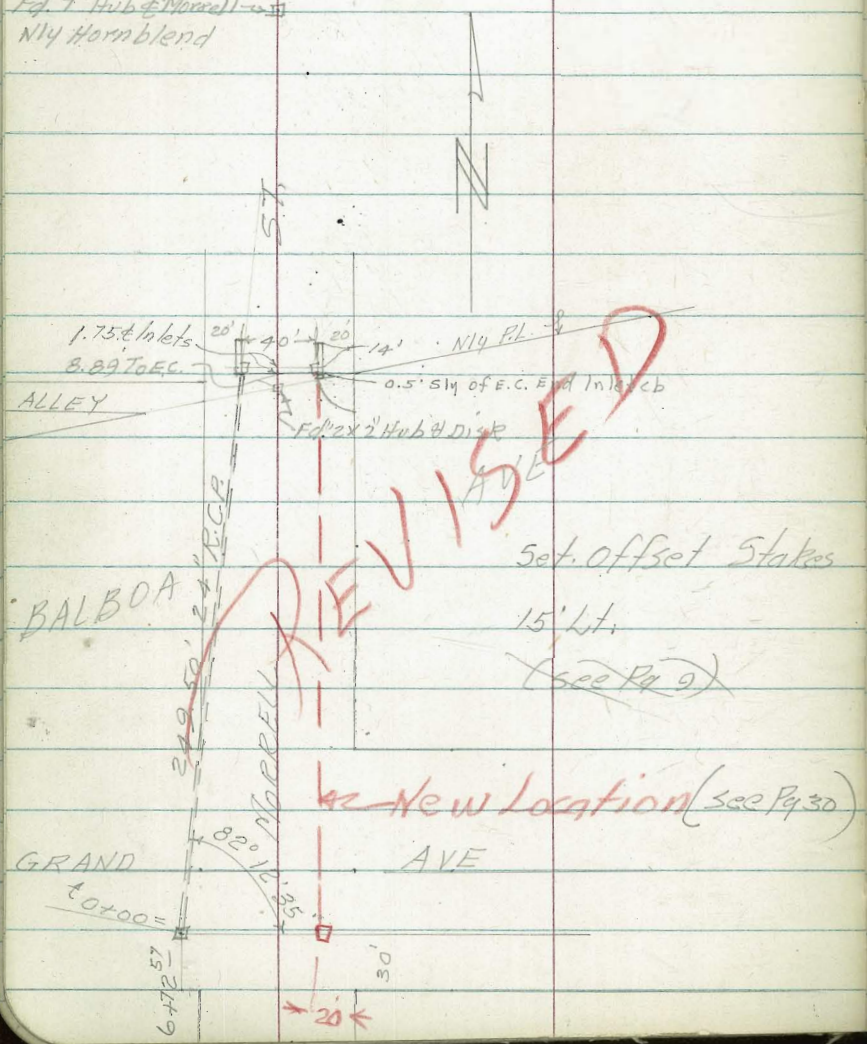
Stampen
Huffman
Rover

10-21-54

GRADES 24" STORM DRAIN FROM S.W.
C.O. @ GRAND & MORRELL TO N.W. COR OF
MORRELL & BALBOA AVE W.O. 20822

Ref F.B. 2342
8

Ed 7" Hub & Morrell
N14 Hornblend



10-21-54

GRADES 24" R.C.P. STORM DRAIN FROM
GRAND AVE NLY ALONG MORRELL

Lt. E Rt

C 1 70
48 83
47. 13

Nly End Top Wly Ch R.P. 15' Wly of Ch Face

C 2 18
48. 51
46. 33

Top Sly End of Wly Curb R.P. 15' Wly of Ch Face

C 11 51
48. 51
37. 00

Cut Set on R.P. Sly End of Ch.
2+49.50 Sly Inside Face Inlet End Pipe

Outlet Sly
C 9 17
45 61
36. 44

2+00

C 8 77
44 60
35. 88

1+50

C 8 90
44 22
35. 32

1+00

C 8 60
43. 36
34. 76

0+50

34. 20

0+00 = Nly Inside of Type "H" C.O.

B. M.

44. 21

Top 2x2" Hub N.W. 20' Rad Pt. Morrell & Grand

REVISSED

10-21-54

Lt. & Rt.

R.P. 15' Ely Nly End Ely Cb Face

C 0 45
47 30
46 85

R.P. 15' Ely E.C. Ch. Ret (Line Only)

REVISED

P.O.C.
R.P. 15' Ely of Sly End Ely Cb Face

C 0 57
46 65
46 08

R.P. 15' Ely & Type B-2 Inlet Outlet Elev.

C 6 22
46 72
40 50
Outlet Elev.

R.P. 15' Wly & Type B-2 Inlet

C 8 38
48 53
40 15
Inlet Ely

NEW LOCATION TYPE "H" C.O. N° 3 42" R.C.P. ONLY

REVISÉD

See pg 30

0+2.5

0+00

39.30
TOP C.O.

N14
0+00 = 6703⁰¹ Ground = 4 Type H.C.O. N°3

33.00
F.L.

33.50

Inlet N14

T.B.M.

44.21

Top 2x2 Hub N.W. 20' Ch. Rod Pt. Maxwell & Ground

PAVING GRADES HAINES ST. GARNET TO

FELDSPAR W.O. 32333

W/4
Curb Gut

CO⁰⁴

69.42

69.38

1+00

CO⁰²

69.32

69.30

0+75

FO⁰⁹

69.12

69.21

0+50

FO⁰⁸

69.04

69.12

0+25

0+00 = N/4 Line Garnet St

69.03

69.03

68.62

68.66

68.66

B.M.

69.17

N.W. T.C.T. Garnet & Haines

NOTE: Matched Existing Curbs
@ Garnet & Grand; Split
Existing Curbs @ Feldspar
as Per Geo. Gilson

Stamp
Huffman
Rorer
Noreahl
10-26-54

Ref. Dwg. 11107-L

F.B. 2293 G-326 For Rough Grades

E/4
Curb

Offsets 4' Bk. Cb.

FO⁰⁶

69.28

69.34

FO.24

68.93

69.17

FO²⁰

68.80

69.00

FO.17

68.66

68.83

Wly
Curb

Ely
Curb

CO.39

CO.09

1+48⁸⁹ Haines
E.C. Wly

69.96
69.87
Haines

69.84
69.80
Haines

CO.33

CO.02

1+44⁸⁹ Alley
B.C. Ely

69.96
69.63
Alley

69.84
69.82
Alley

CO.80

CO.40

1+44⁸⁹ Alley
Prop

70.85
70.05
Prop. Alley

70.38
69.98
Prop. Alley
Wly.

FO.10

FO.41

1+24⁸⁹ Alley
Prop

69.57
69.67
Prop. Alley

69.30
69.71
Prop
Alley Wly

FO.15

FO.33

1+24⁸⁹ E.C.

69.36
69.51
Alley

69.22
69.55
Alley

FO.09

FO.26

cbR=4'4"=90°
1+20⁸⁹ B.C.

69.36
69.45
Haines

69.22
69.48
Haines

Wly
Curb

Ely
Curb

54. Line Feldspar
2+69⁷⁸ Match

70.00
70.00

70.47
70.47

30' Ch. Radius
2+59⁷⁸ B.C. 17.4 ft

FO⁰²
69.94
69.96

FO²¹
70.21
70.42

2+45

FO⁰³
69.88
69.91

FO⁰⁷
70.27 ✓
70.34

2+20

CO⁰⁶
69.88
69.82

CO⁰¹
70.21
70.20

1+95

CO²⁰
69.93
69.73

CO⁰¹
70.07 ✓
70.06

1+70

CO³⁸
70.02
69.64

CO⁰⁷
69.99 ✓
69.92 ✓

Ref DWG
11286-L
F.B. 2155
68

10-27-54

Stamper (23)
Huffman
Rorer
Nordahl

PAVING GRADES E. & W ALLEY BLK N° 3

ALHAMBRA PARK W.O. 31946

lt. E. Et.

1+00

C 0.03
84.95
384.98
2'

F 0.59
84.33
384.98
2'

0+70

1.52990

C 0.13
85.57
385.44
2'

F 0.26
85.18
385.44
2'

0+40

No PA 5146
PK. PP 514 line E & W Alley
TP. APPROX E & S Alley

385.32

C 0.74
86.64
385.90
2'

C 0.98
86.88
385.90
PK. D. 2' BK.

0+20

C 0.93
86.90
385.97
2'

C 0.54
86.51
385.97
PK. D. 2' BK.

0+00 = E. line 51-st St. Meet

385.56
385.56 385.31

385.54
385.53

B.M.

386.82

SWBP 51-st & E/Cajon

GRADES F. & W. ALLEY

2+29⁸⁹

2+09⁸⁹

1+85

1+60

15"

1+44⁸⁹ E. Line N. 45 Alley

1+24⁸⁹ W. Line N. 45 Alley

ct.

e

rt

(3)

CO⁰¹

80.31
380.30
2' BK

CO⁵⁰

81.97
381.47
~~085~~ 1' BK
~~with~~

CO³⁵

82.90
382.55
2'

FO¹¹

83.53
383.64
2' BK

FO⁴⁷

83.83
384.30
2' BK

CO²⁵

84.85
384.60
2' BK

CO⁰³

80.33
380.30
1' BK
chis 1 ⊕

CO¹³

81.60
381.47
2' BK

CO⁰⁸

82.63
382.55
1' BK

FO³³

331
383.64
2' BK

CO⁰⁸

84.38
384.30
2' BK

FO⁴⁷

84.13
384.60
2' BK

lt. & rt

GRADES E. & W. ALLEY

B.M.

2+69.89 Wly line 52-nd St. Meet

376.66

376.46

2+49.89

CO. 58
79 11
378.53
2 BK

CO. 16
78 69
378.53
1'

PAVING GRADES - N. & S. ALLEY BLOCK N^o 3

ALHAMBRA PARK . W.O. 31946

1+00

0+75

0+50

0+20

0+00

B.M.

386.82

Lt.

E

Rt.

(26)

10-27-54

NOTE: Grades Changed on Wly

= Alley to Improve 4-Car Gar.
Grades @ Sta 1+47 by E.F.G.

⁰⁵
C 1.35
86.39
385.04 5.34
2' BE

⁰⁰
C 1.30
86.23
384.93 5.23
2' BE

⁵⁴
C 0.84
85.67
384.83 5.13
2' BE

⁰⁴
C 1.34
86.04
384.70 5.00
0' 6" Inside
Part. Nail Gar.

384.60

C 0.33
85.37
385.04
2' BE
CH 15 (F)

C 0.67
85.60
384.93
2' BE

C 1.63
86.46
384.83
1' 2" BE Nail
Shed

F 0.48
84.22
384.70
2' BE

384.30

SWBP 51- ST & E/ CAJON

GRADES N. 45. ALLEY

2+50

TP

2+20

2+00

1+80

1+50

1+25

1+04

1.11 5/8

↑

0.425 9/16

387.53

1+47 386.96
Floor
15

4-Car Gar

386.91
Gar. Floor
15

C.O. 47
86.65 ✓
386.18
2' BK

C.O. 40
86.25
385.85
2' BK

~~C.O. 55~~
86.31
385.52-76
1' 0" BK

0 77
~~C.O. 07~~
86.45
385.38 68
2' BK

07
C 1.37
86.62
385.25 55
Cap. Room
10
2' chisl ⊕
gut

30
C 1.60
86.75
385.45
2' chisl ⊕
D

386.76
Apron
10

C.O. 44
86.62
386.18
2' BK chisl ⊕

C.O. 35
86.20
385.85
0.80 BK Nail

C.O. 49
86.01 ✓
385.52
0.65 BK Nail

C.O. 18
5.56 ✓
385.38
0.30 BK

C.O. 35
85.60
385.25
2' BK

C.O. 17
85.32
385.15
2' BK

GRADES N. 45. ALLEY

3+85

3+75

3+50

3+25

3+00

2+75

1.11
90

FO¹²
8738
387.50
1' BK.

C1⁰⁶
8863
387.57
1'47 BK
Nail

C1.15
8844
387.29
1.07 BK
Nail

C1.21
8822
387.01
0.60 BK
Nail

C0.24
86.98
386.74
2' BK

C0.25
86.71
386.46
2' BK.

C0⁰⁶
8756
387.50
2' BK

C0.22
87.79
387.57
3' BK Chis(⊕)

C0.71
87.97
387.26 3+47
2' BK Chis(⊕)

C1.96
88.97
387.01
0.92 BK Nail

C0.07
86.81
386.74
2' BK.

C0.11
86.57
386.46
2' BK

lt. E Et

GRADES N. & S. ALLEY

B.M.

383.75 ~ - 383.76 On PK Nail # 5 to 4+31²⁰

4+25²⁰

Meet

384.11 383.73 384.05

4+15

C 2⁰¹
87.37
385.36 ✓
2' BK

C 2.12
87.44
385.32 ✓
2' BK

4+05

C 1.13
87.47
386.34 ✓
2' BK

C 1⁰⁰
87.33
386.33
2' BK

3+95

C 0³⁸
87.44
387.06
2' BK

C 0⁴²
87.48
387.06
2' BK

NOTE: For New Location
(See Sketch Pg 16) 10-29-54

Stamped
Huffman
Korey
Norfolk

(50)

NLY

MORRELL ST. EBY CB LINE, GRAND AVE
NEW LOCATION TYPE "H" C.O. N° 3 #24" R.C.P. NLY

C 9.36
43.44 ✓
36.08

2+00

C 9.12
44.88 ✓
35.76

1+75

C 8.76
44.19 ✓
35.43

1+50

C 8.37
43.48
35.11

1+25

C 8.07
42.86 ✓
34.79

1+00

C 7.71
42.18 ✓
34.47

0+75

C 7.29
41.45 ✓
34.14

0+50

C 6.57
40.39 ✓
33.82

0+25

FO 42	C 5.85	C 5.38
38.88 ✓	38.88 ✓	38.88 ✓
39.30	33.03	33.50
TOP C.O.	FL. C.O.	Inlet NLY
RP 15' Sly	RP 15' Sly	RP 15' Sly

0+00 NLY = NLY Inside Face C.O.
= 6+03 21 Grand Ave

B.M.

44.21

Top N.W. 20' Cb. Radius Hub Morrell & Grand

LT & RT

24" RCP DRAIN GRAND TO BALBOA AVE

B.M. 44.21 - 44.21

C1⁷⁰
48.83^v
47.13
Top N. End W. Cb
R.P. 15' W/4

C0⁹⁵
47.30^v
46.85
Top N. End E. Cb
R.P. 15' E/4

2+49⁵⁰ & Cb Inlets N^o 1 & N^o 2
Cut Set on Cb. Inlet for Inlet N^o 1 @ S. End of Cb.

C8⁰³
48.53^v
40.50
Outlet 18" Pipe
R.P. 15' W/4

C6⁵⁸
46.72^v
40.14
Inlet 18" Pipe
R.P. 15' W/4

C2¹⁸
48.51^v
46.33
S. End Top W. Cb
R.P. 15' W/4

C0⁵⁷
46.65^v
46.08
S. End Top E. Cb
R.P. 15' E/4

2+47⁷⁵ = S/4 Inside face Cb Inlet N^o 2

C10⁰²
46.72^v
36.70
F.L. Inlet
R.P. 15' E/4

2+25
2+25

C9⁵²
45.92^v
36.40

Ref DW9 2536-D
Fb 2229-2377 11-23-54

32
Stamper
Huffman
Nordahl
Elmore

GRADES DECELERATION LANE S.E.
COR MORENA & HUXLEY W.O. 21247

C0.79

P.O.C.
192+00 def $\alpha = 1^{\circ} 23' 22''$

17.47
17.47

1800
17.21
12'

C0.87

P.O.C.
191+50 def $\alpha = 1^{\circ} 01' 25''$

16.92
16.68

1727
16.40
12'

C0.13

P.O.C.
191+00 def $\alpha = 0^{\circ} 39' 29''$

.05
16.07

1597
15.84
10.87'

C0.77

P.O.C.
190+50 = $3^{\circ} 50'$ E. of E.P. def $\alpha = 0^{\circ} 17' 33''$

.40
15.37

1597
15.20
3.50'

$d = .4387309/\text{ft.}$
190+10 = Match Point, 2' offset R = 3917.83
= P.O.C.

15.09^v

B.M.

21.81

Spike in Pole S.W. Huxley & Morena Mk'd 2226

11-23-54

MORENA & HUXLEY GRADES

P.O.C.

5/7 $\Delta = 73^{\circ}30'15''$

21.29

20.96

C 2.76

23.69

20.93

12'

20.60

P.O.C.

4/7 $\Delta = 58^{\circ}48'15''$

20.55

20.22^v

C 3.34

23.53

20.19

12'

19.86^v

P.O.C.

3/7 $\Delta = 44^{\circ}06'10''$

19.81

19.48^v

C 1.93

21.40

19.45

12'

19.12^v

P.O.C.

2/7 $\Delta = 29^{\circ}24'06''$

19.07

18.74^v

C 1.37

20.08

18.71

12'

18.28^v

P.O.C.

1/7 $\Delta = 14^{\circ}42'03''$

18.45

18.12^v

C 1.03

19.20

18.17

12'

17.84^v $\Delta = 102^{\circ}54'25''$ $R = 100'$ $L = 179.61'$ 12' part

B.C. Pt. = P.C.C.

192 + 35.78 def $\Delta = 1^{\circ}39'04''$

.04

18.00

17.67

C 1.05

18.80

17.75

12'

17.42^v

11-23-54

34

MORENA & HOXLEY GRADES

B.M.

21.81 - 21.81

F.C. $\angle = 102^{\circ} 54' 25''$ Match Point

Existing 23.22

P.O.C.

6/7 $\angle = 88^{\circ} 12' 18''$

0.87

2280

21.93

12'

21.60

LOCATION OF NEW SLUDGE CONCENTRATION
BLDG; ELEVATIONS & LOCATION OF NEW C.I.
SLUDGE LINES AT SEWAGE TREATMENT PLANT

W.O. 20006

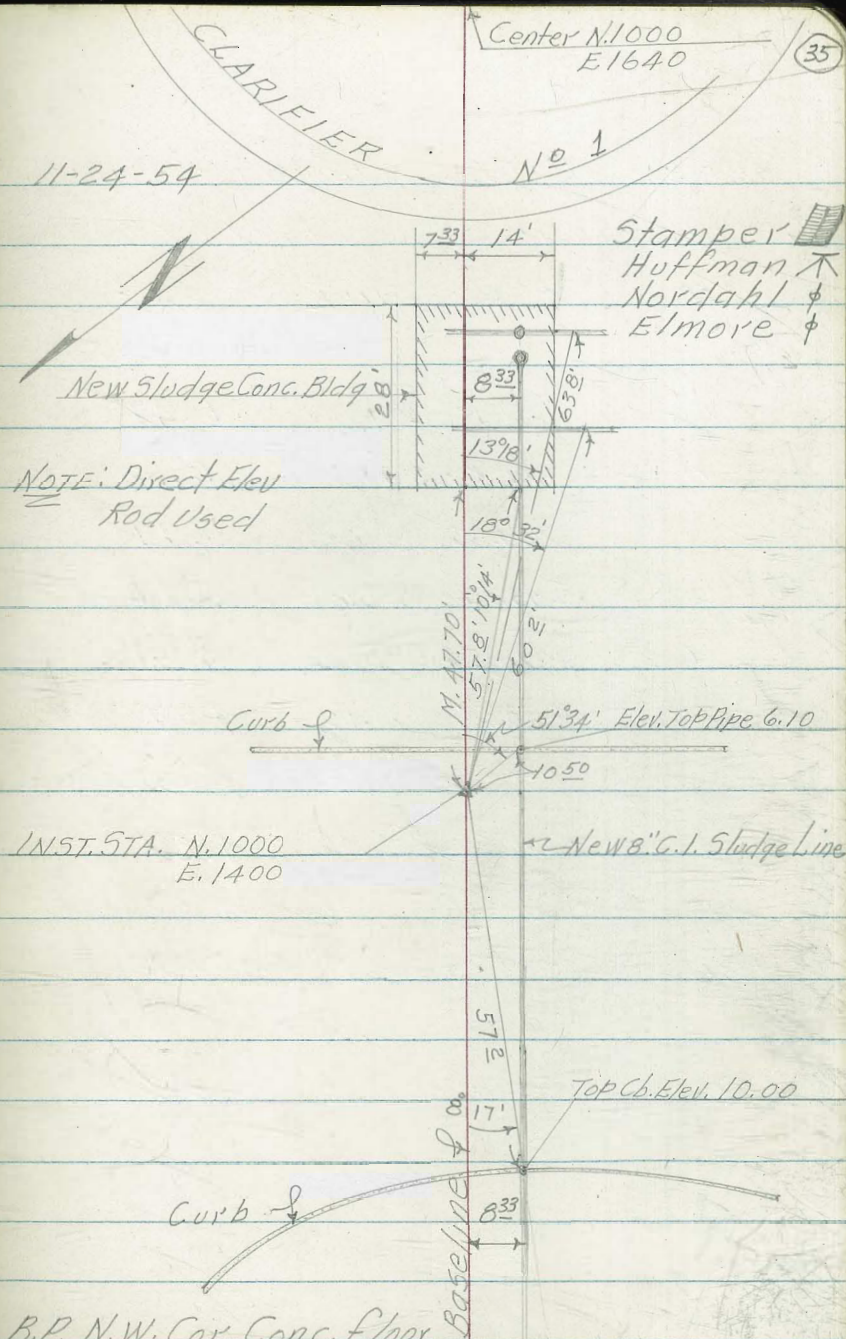
NOTE: Elevations of Tops of Pipes

Coming out of Bldg Recorded on
dwgs for Constr. of Sewage Plant
Alterations and left with Padilla
at Sewage Treatment Plant
Coordinate Origin: Local

B.M.

11.10

B.P. N.W. Cor. Conc. floor
Car Shelter Adjacent to Administration Bldg.



11-30-54

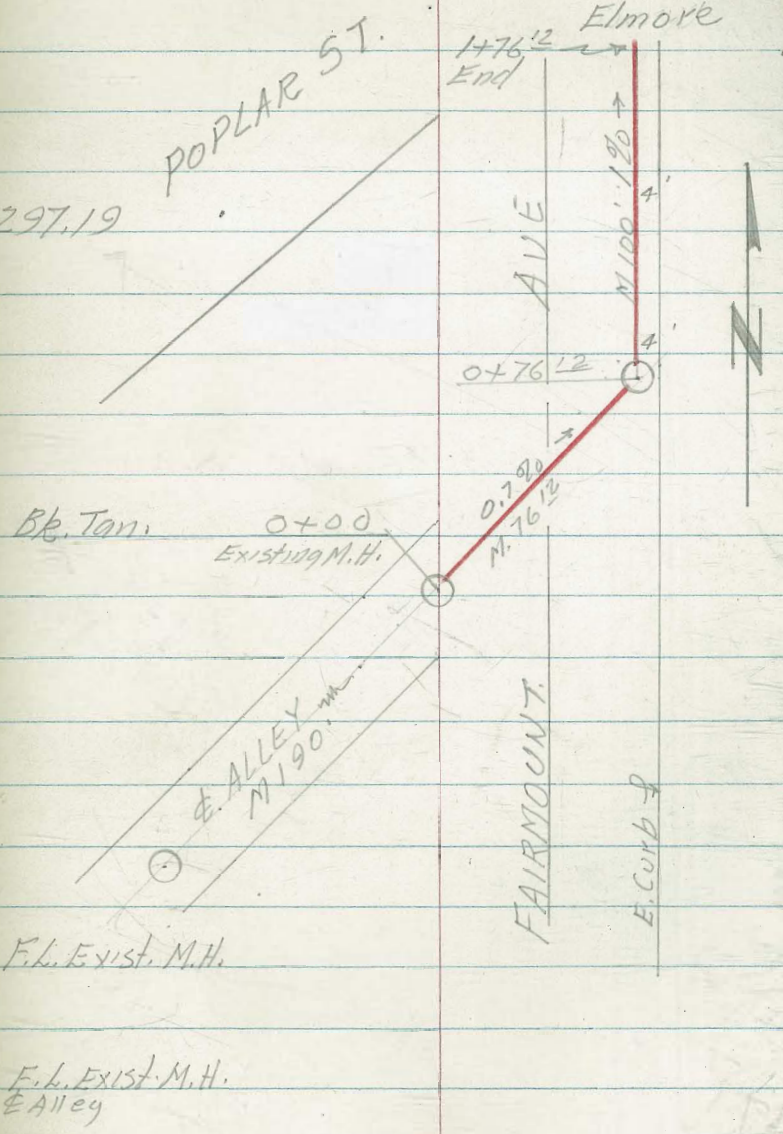
(36)

NOTE: offsets 4' Lt.

Stamped
Hoffman
Nordahl
Elmore

SEWER GRADES FAIRMOUNT & ALLEY
Sly of POPLAR ST. W.O. 20006

Sta	Elev.	Grade	Cut
B.M.			297.19 ~ 297.19
End Line 1+76 ¹²	301.10	294.63	6.47
1+50	300.49	294.37	6.12
1+25	299.85	294.12	5.73
1+00	299.13	293.87	5.26
EM.H. No 2300 0+76 ¹²	298.54	293.63	4.91
0+70	298.56	293.59	4.97
0+60	298.52	293.52	5.00
0+50	298.32	293.45	4.87
0+40	297.90	293.38	4.52
0+30	297.29	293.31	3.98
0+20	297.71	293.24	4.47
0+00	297.71	293.10	4.61
0-190'		281.12	
B.M.			297.19



S.E.B.P. Fairmount & Quince

Ref Map 2762
F.B. 2270 12-03-54

Stampel
Hoffman
Nordahl
Elmore (37)

DRAINAGE DITCH EASEMENT TIES & GRADES
FOR DITCH TO BE CONSTRUCTED ELY OF
EXISTING CULVERT @ ROLANDO BLVD

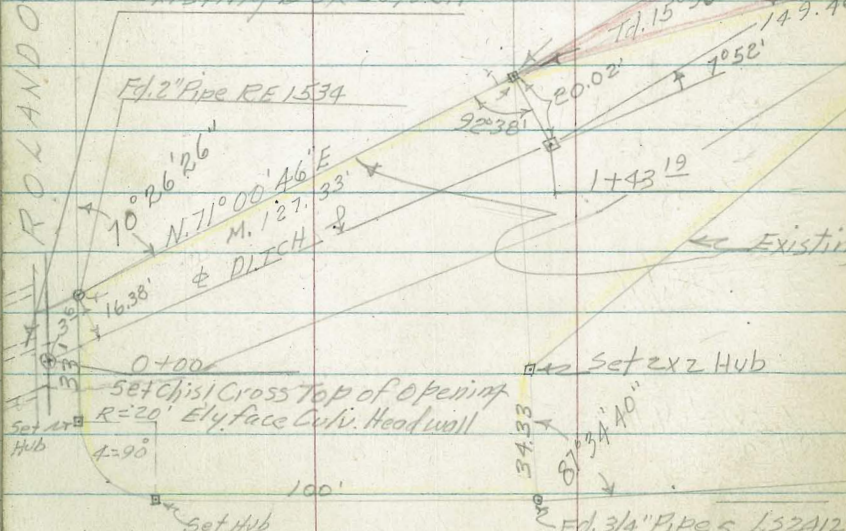
W.O. 20806

Wly bdy Gilman Prop.

ROLANDO BLVD

Easement To be Acquired
Through Gilman Property

Existing Box Culvert



Existing Easement

VISTA GRANDE DRIVE

Ely. bdy Gilman

Property

Set 2x2 Hub

20.18'

M 540.02'

Set 2x2 Hub

3/4" Pipe L.S. 2412

LOT 233

LOT 234

LOT 235

LOT 236

15° 30'

15° 30'

2+90.65

Pipe L.S. 2412

Fd. 3/4" Pipes L.S. 2412

M 163.11'

16° 20' E

M 37.45'

20.31'

6+80.61'

79° 57' Td.

20'

20'

20'

20'

20'

20'

20'

20'

20'

20'

20'

20'

20'

20'

20'

20'

20'

20'

20'

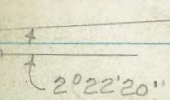
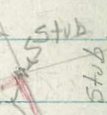
20'

20'

20'

20'

20'



See Proposed Drainage
Easement & Alignment
Drawn by C.A.S. (No Drawing)

12-03-54

GRADES FOR PROPOSED DRAINAGE
DITCH FROM ELY END OF CULVERT AT
ROLANDO BLVD, ELY TO PROPERTY BDY
OF GILMAN PROPERTY W.O. 20806
APPROX 225' SLY OF UNIV. AVE

NOTE: Ref Stakes Set 20' rt of ϵ
Ditch Grades are to ϵ of
finish Ditch Elev.

ROLANDO BLVD

1+43¹⁹ P.I.
TP₂ 352.09

353.34
on stake
345.6
C 7.76
352.84
345.08

1+00

348.7
C 6.14
350.74
344.60

0+50

345.3
C 7.08
351.13
344.05

0+00 = Ely End of Existing box Culvert

343.50
F.L.

B.M. 343.50

(see Sketch 74.37)
F.L. Existing Culvert @ Ely End ϵ Sly box
opening

GRADES DRAINAGE INTCH

4+00

C 3.42
351.33
348.6 347.91

3+50

C 1.86
349.22
348.3 347.36

3+00

C 2.40
349.20
346.9 346.80

P.I.
2+90.65

C 2.51
349.21
346.6 346.70

2+50

C 2.58
348.83
345.8 346.25

2+00

C 7.52
353.22
345.7 345.70

12-03-54

⑩

GRADES DRAINAGE DITCH

B.M.	343.50	34350	C 1.92
6+80 ^{el} End Ditch		350.6	352.92
		± Exist Channel	351.00
			C 3.39
6+50		351.6	354.05
			350.66 ^v
			C 2.91
6+00		349.5	353.02
			350.11 ^v
			C 3.64
5+50		348.8	353.20
			349.56 ^v
			C 3.59
5+00		348.2	352.60
			349.01
			C 4.30
4+50		347.9	352.76
			348.46 ^v

GRADES STORM DRAIN WLY OF
DENBY ST. W. O. 20232

Sta.	Grade		
B.M.		127.54	127.54
	C 6 ³⁰		
0+40	122.80		
	116.50		
	C 6 ⁰⁰		
0+20	123.00		
	117.00		
	C 2 92		
0+00	120.42		
	117.50		
TP		125.12	
B.M.		127.54	

2.5%

Map-1844
Ref DWg 5447-B
Ref F.B. 1638 12-09-54
Stamp per
Huffman
Elmore

NOTE: 0+00 = 155' N. of N.W. Pl. S of Denby
F.d. C.T. also C.T. on S.W.
Cor Market & Denby
offsets Set 5' Lt. & Pipe

S.E. BP. 43-rd & Market

12-22-54

Stampel
Hoffman
Nordahl
Elmore

Ref DWG 1133A-L

Ref F.B. 2223

Slope 1/2:1

(43)

GRADE STAKES FOR GRADING GARDENA
AVE ELY OF GALVESTON ST.

W.O. 21215

Lt.

±

Rt.

C2⁰

49.95

47.95

3.0 out

47.51

C2²

49.27

47.07

3.30
out

0+50

C1²

49.48

48.28

1.8 out

48.05

C0⁸⁰

48.25

47.45

1.0 out

F0⁰³

47.97

48.00

57.25 sly of
top berm 1/4 ft.

0+24⁸⁹ = End A.C.
Berm Rt.

C1¹

49.48

48.38

1.6 out.

48.23

47.58

0+16⁵ = E.C. Lt.

1.30 90° Lt

C1¹

49.70

48.60

1.7 out

48.58

Grade

47.83

47.83

F0⁴⁹

47.84

48.33

60° sly of Nly ft
inside face
Berm

P.O.C.

0+00 Begin A.C. = Ely line Galveston
Berm Rt.

B.M

51.25

Top NW 1/4 Pipe Gardena & Galveston 2223

56

GARDENA ST.

(44)

Lt

±

Rt.

2+30

Daylight.

Grade
45.6

2+00

C2 ¹/₂
48.10
46.00
3' out

44.30

Grade
44.80
44.80

1+50

C3 ¹/₂
49.75
46.65
4.7

45.37

C3 ³/₄
48.86
45.56
5.2 out

1+00

C3 ²/₄
50.50
47.30
4' out

46.44

C3 ⁵/₈
49.81
46.31
5.3

PAVING GRADES NAPIER ST. ELY OF
FRANKFORT ST. W.O. 21215

Ref DWG 11335-L
F.B. 2223-28
18' Wide Pavt.

12-22-54

Stamp (45)
Huffman
Nordahl
Elmore

4'	±	RT.
8'		10'

0+50 Meet Existing Pavt.

62.77	63.15	63.12
8' Existing AC.	Existing AC.	10' Existing AC.
Set P.K. 5' Ely EP	Set P.K. 5' Ely EP	Set P.K. 5' Ely EP

0+25.

Set R.P. Stub 5' W. EP → C 0.90	Stub 5' W. EP C 0.56	C 1.13
58.17	58.11	58.46 + stub
56.75 57.27	57.55v	57.33v 5' W. EP
C 2.42 C 1.51	C 1.39	C 1.62 C 3.76
59.17 878	5894	5895 6061
56.75 57.27	57.55	57.33 5685
gut Stub 5' Wly Ch. Face	Stub 5' Wly EP	P.K. 5' Wly EP
		Stub 5' Wly EP
		Stub 5' Sty Ch. face

0+00 = Ely Line Frankfort St.

B.M.

55.07

N.W.B.P. Frankfort & Napier 2223
42

Ref DIV 9 11334-L
" F.B. 2223-28-51

12-23-54

(46)

PAVING GRADES FRANKFORTH ASHTON
STREETS, W.O. 21215

Lt. & Rt.

Stampel
Huffman
Nordahl
Elmore

0+48 = End of Conc. Pav't. Meet Existing

53.26
53.28

0+32

FO 02
54.00
54.02
P.K. 5' Nly
& Ditch

0+18

FO 13 CO 31 CO 11
54.37 54.71 → 54.71
54.50 54.40 54.60
P.K. 7' Sly P.K. 5' Nly

= & of 10' Wide Conc. Ditch
0+00 = 26⁴³ Sly of & Ashton & 8' Wly of &
Frankfort St.

CO 58 CO 78 CO 67
55.43 55.48 55.57
54.85^v 54.70^v 54.90
Set Stub Set Stub Set Stub
5' Ely 5' Ely 5' Ely

B.M.

55.85

P.K. PPN# 2698 Sta 7+71 Lt. ^{28°} 2223
28

CURB STAKES LITTLEFIELD ST; ELY FROM
 MORENA BLVD W.O. 21215
 P.E.C. 0+04⁶⁰

curb
 C040
 15.50
 15.10 ✓

4.95' Tan.

C049
 15.44 ✓
 14.95

E.C.

10.60'

C038
 15.24 ✓
 14.86

$\Delta = 17^{\circ}38'41''$ L=10.60
 B.C. Cb.R=34.42'

9.53' Tan

C021
 14.96 ✓
 14.75

E.C.

11.16

C013
 14.66 ✓
 14.53

P.O.C. 1/2

11.15'

$\Delta = 44^{\circ}48'29''$
 $R = 28.53$ L=22.21'
 Morena & Littlefield
 B.C.N.E.Cb.Ret.

14.31
 Top Eb.

C015
 14.50
 14.35

B.M

22.80

B.C.N.W. Curb Return Chicago & Littlefield

LITTLEFIELD ST.

76

CURB

FO. 14

18.76
18.90 ✓N.W. Alley &
R. Littlefield

+1.29

FO. 18

18.70
18.88 ✓
Alley

E.C. Alley

CO. 05

18.70
18.65 ✓
P.C.
LittlefieldB.C. Alley, Ret. Lt. R=4'
1+07.51 4=117°32'50"
L=8.21

CO. 23

17.99 ✓
17.76

0+81.72

CO. 26

17.14 ✓
16.88

0+56.06

CO. 30

16.29
15.99

0+30.33

LITTLEFIELD ST.

Lt.
Curb

2+21 ³⁵

CO ²²
22.82 ✓
22.60

Tel Pak
Set PK. Gulf Port No 409966-H
T.B.M. @ NW Cor Littlefield 23.68
& Chicago
1+99 ³⁹

CO.25.
22.10 ✓
21.85

1+69 ²⁹

CO 13
20.93
20.80 ✓

Alley @ Littlefield
NE. H. End Curb.

5.47 Ton

CO.52
20.20
19.68
Nail 1.97
fence

B.C. Alley

CO ²⁵
19.85
19.60

E.C. NE. Alley cb. Ret.
1+39 ⁰⁹

CO ¹⁰
19.85
19.75
Littlefield

LITTLEFIELD ST.

curb

P.O.C. @ R. Meet.

25.13
25.13

9.50

CO²¹

P.O.C.

25.43
25.22

9.49

CO⁴³

O+OO = F.C. N.E. Cb.
Ref. Chicago & Littlefield

25.73^u
25.30

P.O.C. @ R. Meet

23.93
23.70

8.12'

CO⁰⁸

P.O.C.

23.36^v
23.28

8.11

cb. 4 = 53° 07' 48" R = 17.50'
L = 16.23'
Chicago & Littlefield
B.C. N.W. Curb Ref.

CO²¹

2429.55

23.13
22.92

LITTLEFIELD ST.

Curb

(57)

1+39 33

C002
30.45 ✓
30.43

30.46

1+08 87

C0.31
29.58 ✓
29.27

0+84 04

C0.16
28.49 ✓
28.33

0+59 21

C0.17
27.55 ✓
27.38

0+34 38

C0.53
26.97 ✓
26.44

24.83

0+09 55

C0.91
26.11
25.50

LITTLEFIELD ST.

Curb

#.
P.O.C. Meet

33.69
33.82

8.12.

CO⁰³
33.48
33.45

P.O.C.

8.11

L=16.23'
A=53°07'48"cb

Goldfield R=1750

B.C.N.W. Ch. Ref.

1+98³⁷

CO¹⁴
33.21
33.07

FO⁰⁷
32.68
32.75

1+90⁸⁵

T.P.

32.40

CO⁰⁸
31.67
31.59

1+60³⁹

Top SE Cor Conc Porch & Step @ House N^o 4236
Littlefield St. on Nly Side St. @ Goldfield St.

LITTLEFIELD ST.

Curb

Set P.K. No 537225-H.

T.B.M. Guy Pale @ NE. Cor
Littlefield 41.18

Grade Only

36.50

2.13' Tarh.

C 0115

P.P. 22

End of Cb

37.56 ✓

7.35 Tan from E.C.

36.41

P.O.C. Meet

35.00

35.32

249

C 071

P.O.C.

36.46 ✓

35.75

9.50

C 086

E.C. NE. Cb. Ref.

36.96

36.10

Goldfield

± 44° 24' 53" R = 24.50'

L = 18.99

Curb

LITTLEFIELD ST.

P.C.C. #.

Meet

45.63
45.88

B.11'

F0.28

P.O.C.

45.53^v
45.81

B.12'

L=16.23'
Ch4=53° 07' 48" R=17.50
B.C.N.W. Co. Ret.
Denver St.
8+51.50

F0.31

45.39
45.70

R.B.C. Denver St.
8+43.16

F0.05

45.45
45.50^v

8+27 Begin Curb on Lt.

C0.42

45.27
44.85^v

Corb

LITTLEFIELD ST.

P.E.C.
0+10 ⁸⁴

0+08 ⁹⁹ End Ch.

CO ⁶⁸
4898
4830

P.C.C. H. Meet.

47.07
47.18

10.70

CO ³⁵
4800
47.65

P.O.C.

10.71

L=21.41'
cb.4=38°56'33" R=31.50'
0+00 = E.C. NE Ch.
Ref. Denver St

CO ⁴⁶
4856
48.10

B.M.

46.68

NEBP Denver & Littlefield 2221
29

LITTLEFIELD ST.

Curb

F038

62.55 L
62.93

P.O.C.

9.49'

L=18.99

ChA=44°21'55" R=24.50'

32.62' Ely of Erie St.

0+00 = E.C. NE. Ch.

Ret Erie St.

F016

63.41
63.57 L

P.C.C. Meet

58.99
58.98

8.12'

C004

58.64
58.60

P.O.C.

8.11

L=16.23'

ChA=53°07'48" R=17.50'

B.C. N.W. of Ret. Erie

St. 0+06

C020

58.30
58.10

C024

57.89 v
57.65

0+00 = 57⁵³ Wly of
E Erie St.

B. M.

64.30

PK. P.Pole No 4201 SE Cor Littlefield H 2221
Morenci Sts. 53

Curb

LITTLEFIELD ST.

CO¹³

Littlefield
0+07³⁵

64.26
64.13 ✓

P.O.C. Meet 0°40'25"

59.78
59.76

15

CO.29

P.O.C. 0°16'10"

60.74
60.45

10

CO⁰²

d=1.6166676
P.R.C. Ch.R.=1063.22" L=25'

61.09
61.07

8.80'

FO.15

P.O.C.

61.53
61.68

8.81'

FO.34

Ch.A=28°49'45" L=17.61'
P.C.C. Ch.R.=35'

61.94 ✓
62.28

9.50'

Curb

LITTLEFIELD ST

P.O.C.

64.64

10.08

Part. Only

P.O.C.

64.70

6.07

cb4 = 69° 21' 37" L = 36.38'

Break

64.73

P.C.C. cb.R = 30'

Meef. Curb

(64.71)

8.83

FO 20

P.O.C.

64.56

64.76

8.83'

FO 98

B.C.N.W. Ch. Ref. Frankfort

64.72

0 + 0.67 cb4 = 48° 11' 23"

64.80

R = 21' L = 17.66'

CO 04

0 + 0.0 = 86.63 Wly of t

64.91 ✓

64.87 ✓

Frankfort & Littlefield

Curb

LITTLEFIELD ST.

B. M.

64.12

NW BP Gardner & Frankfort

E.C.Ch. (Part Only)

10.08

64.52

P.O.C.

10.09

64.57

Lt. & Rt.

Ref DWG 11335-L
FB.2223 12-29-54

INTERSECTION GRADES FRANKFORT
& ORTEN STS. W.O. 21215

5615
5613
Top Grate

0+00 = 16.50' Wly & Orten
8' Wly & Frankfort St.

	C0.44	C0.62	
(57.10)	57.31	57.29	6.99
(Meet 56.98)	56.87	56.67	(56.92 Meet)
15'	7'	0	135'
	5'E14	5'E14	
	Stub	Stub	

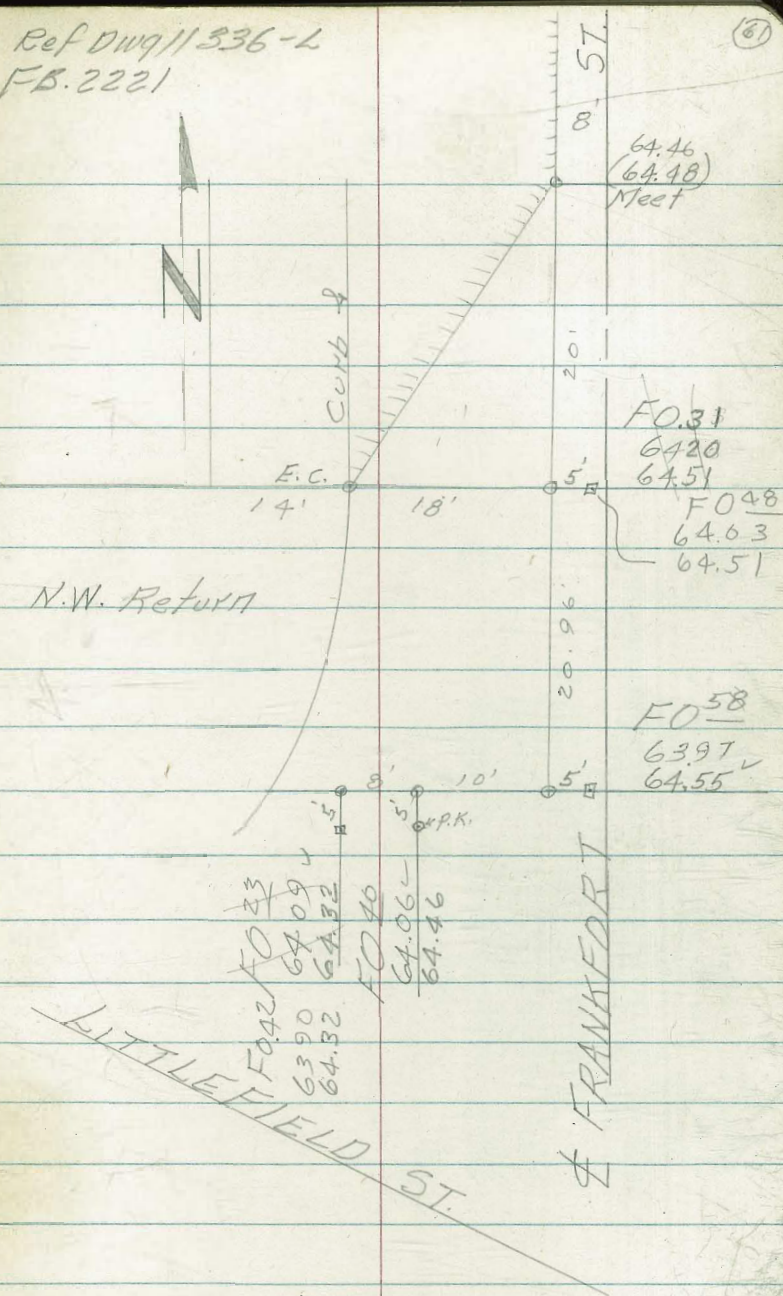
B.M.

57.01

PK. PPN^o 2852 Sta. 16+96-27° Lt. 2223

Ref DWG 11336-L
FB.2221

PAVT GRADES @ N.E. COR FRANKFORT
& LITTLEFIELD



B.M

64.12

NWBP Frankfort & Gardena

Ref DW9 11335

FB-2223

(62)

et. Curb
Curb Rough

PAVING GRADES MILTON & FRANKFORT

Break Curb Meet

52.45 (52.44)
(52.45)

+11³⁹ Tan

$\Delta = 90^\circ 01' 30''$ def $\Delta = 45^\circ 00' 45''$

E.C. Frankfort = 48.63' 5/4 of
E of Milton St.

F0.71 F0.56
51.63 51.78^v
52.34^v 52.34

33° 45' 33"
3/4 $\Delta = 67^\circ 31' 075''$

F0.84 F0.88
51.31 51.27
52.15^v 52.15^v

22° 30' 225"
1/2 $\Delta = 45^\circ 00' 45''$

F1.02 F0.40
50.83 51.45^v
51.85^v 51.85

C-3' 8" Cp = 9.895
def $\Delta = 11^\circ 15' 11''$
1/4 $\Delta = 22^\circ 30' 225''$

F1.22 F0.41
50.38 51.09^v
51.50^v 51.50

Cb. R = 28.61' x 2 = 57.22'
 $\Delta = 90^\circ 01' 30''$
= 57.62' Wly & Frankfort
0+00 = B.C. SW Chret.
Milton & Frankfort

51.20 F0.06
51.14^v
51.20

B.M.

52.44

SWBP Frankfort & Milton 2223
49

GRADES MILTON & FRANKFORT

offset stakes

0+46⁵⁰

Meet.

52.49
(52.45) 52.45 3' RT. EP.

0+39⁰⁰

CO18 FO⁰⁹

51.72 51.95 52.20 52.20
26 52.38 52.16

0+30⁰⁰

CO14 CO14

51.75 52.12 52.39 52.39
26 52.53 52.53

0+20⁰⁰

FO⁰¹ FO⁰²

52.03 52.33 52.54 52.54
52.53 52.52

0+11³⁹

FO⁰⁸

52.38 52.52 52.51
17 52.60 52.60
8'

0+00=60⁰² 5/4 of Milton St. Meet

(52.44)

51.16

B.M.

52.44

Ref DWG 11335-L 12-30-54
F.B. 2223

(69)
Curb
Rough

CURB RETURNS @ MILTON & ERIE STS

Lt. & Rt.

Curb
Rough

def $\Delta = 28^{\circ} 24' 54''$
Rt $\frac{3}{5} \Delta = 56^{\circ} 49' 48''$
Lt $\frac{1}{2} \Delta = 42^{\circ} 38' 30''$

F041	F044	F0.65	C0.02
41.00	40.97	41.74	42.41
41.41	41.41	42.39	42.39 $\frac{3}{5}$

def $\Delta = 18^{\circ} 56' 36''$
Rt $\frac{2}{5} \Delta = 37^{\circ} 53' 12''$
Lt $\frac{1}{4} \Delta = 21^{\circ} 19' 15''$

F093	F103	F0.57	C0.02
40.81	40.71	41.63	42.22
41.74	41.74	42.20	42.20 $\frac{2}{5}$

def $\Delta = 18^{\circ} 28' 18''$
 $\frac{1}{5}$ Rt. $\Delta = 18^{\circ} 56' 36''$ C 3' Bk = 9.745
O + O.9³⁸ = BC SW. Cb Ret. = 47⁴⁰ Sly
R = 31.28' L = 46.56' & Milton

F045	F044	F0.58	C0.52
41.50	41.51	41.59	42.70
41.95	41.95	42.18	42.18 $\frac{1}{5}$

O + 00⁶⁹ = Begin Cb on Lt. = 56⁰⁹ Sly &
O + 00 = BC SE Cb Erie St = 56⁷⁸
Cb R = 32.61' L = 53⁹¹ Sly & Milton

42	(42.01)	C0.43	C0.42
42.01	Meet	42.68	42.67
		42.25	42.25

Begin Cb Rt.
O - 07³⁶ = 64¹⁴ Sly & Milton

		42.31	42.32
			(42.31)
			Meet

T.B.M. RP.

43.56

Set P.K. Guy Pole Approx 50' Sly of SW Cb Ret.
Erie & Milton

B.M.

42.03

SWBP Erie & Milton

CURB RETURNS MILTON & ERIE STS.

Lt.

±

Rt.

Curb Curb
Rough

Curb Curb
Rough

End Cb.
Lt. E.C. + 208 = 47°30' Wly & Erie

F1.29 FO.31
39.48 40.46
40.77 40.77

def 4 = 47°21'30"
Rt E.C. 4 = 94°43' = 55°12' Ely & Erie End Cb 39.18 40.53
Lt. E.C. 4 = 85°17' = 45°22' Wly & Erie 40.83 40.83

F1.63 FO.30
39.18 40.53
40.83 40.83

F1.09 FO.02
41.96 43.03
43.05 ✓ 43.05 ✓

def 4 37° 53' 12"
Rt 4/5 4 = 75° 46' 24"
Lt. 3/4 4 = 63° 57' 45"

F1.17 FO.35
39.93 40.75
41.10 ✓ 41.10 ✓

F1.12 FO.01
41.60 42.71
42.72 ✓ 42.72 ✓

Lt. † Rt.

PAVING GRADES ERIE & MILTON STS.

0+42 ⁵ = Existing Pavt. Meet.

(41.02)_{30'} (41.33)_{18'} (41.64) (41.87)_{18'} (42.12)_{30'}

0+36

41.16_{18'} 41.40 41.60_{18'}

0+30

41.26_{18'} 41.60 41.63_{18'}

0+15 ⁹⁹

41.70

0+00 = 56⁰⁹ Sly † Milton Break Pavt.

(41.91)

B.M.

42.03

SW BP ERIE & MILTON

PAVING GRADES LITTLEFIELD ST.

0+68⁰⁷

0+50

0+25

0+05⁵ End Curb on Rt.

0+01⁶ Begin Curb on Rt.

0+00 = 213⁶³ Wly of & Frankfort
& Littlefield Sts.

B.M.

64.30

12-30-54

±

Stamper (67)
Huffman
Nordahl
Elmore

FO 41

64.66
65.07

FO 05

64.90
64.95

CO 40

65.17
64.77
Stub 2' N1/4 EP

Lawrence 64.09 33
(EXST.) 63.84
cb 18' d.

CO 90

64.72
63.82
cb 18' rt
Stub 2' bk ch.

CO 50

65.10
64.60
Stub 2' N1/4 EP

P.K. PPN# 4201 SE Cor. Littlefield & Morenci
Sts.

GRADES LITTLEFIELD ST.

2+13 62 ⚡ Frankfort Meet.

22 56

1+91 06

22 55

1+68 51

1+52 13

29 65

1+22 48

34 41

0+88 07

20'

64.59
(64.61)

FO 21
64.47
64.68
Stub 2' Nly

FO 42
64.33
64.75
Stub 2' Nly

FO 33
64.47
64.80
Stub 2' Nly

FO 43
64.47
64.90
Stub 2' Nly

FO 43
64.60
65.03
Stub 2' Nly

Ref Dwg 11336-L &
FB. 2221

GRADES LITTLEFIELD ST.

0+25⁹³

C1 98
65.63
63.65 ✓
Stub 2' Ely. E.P.

0+18⁹³

C0 97
65.12 ✓
64.15
Stub 2' Nly. E.P.

0+11⁹³ Meet.

64.50
(64.46)

0+00 = & Frankfort & Littlefield &
Thence Ely.

Set Pk. R.P. 10' 5/4 & Frankfort ort & Littlefield along & Frankfort

Set Post Nail 10' 5/4 & Littlefield & Frankfort & @ 90° to & Littlefield

Ref. Dwg. 2704-D
" F.B. 1838

1-04-55

Stamper (90)
Huffman
Elmore
Sherwood

CURB GRADES SANTA CLARA POINT

W.O. 20370

Curb

FO 02 ✓

0.81
0.83

0+65⁵²

FO 01 ✓

0.65
0.66

0+47⁵² E.C. def $\Delta = 14^{\circ} 10' 45''$

18.12

FO 26 -

0.21
0.47

0+29³³ P.O.C. def $\Delta = 7^{\circ} 05' 225''$

18.19

FO 39 ✓

-0.12
0.27

T=18⁵⁷ $\Delta = 28^{\circ} 21' 30''$ L=36³⁸
0+11¹⁴ B.C.P. Ch. R=735'

FO 39 ✓

-0.48
-0.09

0+00 = End Ch @ Boyside Lane

B.M.

-0.96

L. & Disk of Santa Clara & Wly Line of
Boyside Lane 1838-2

1-04-55

CURB GRADES SANTA CLARA PT.

Curb

1+95⁵⁰

25⁰⁰

FO 35 ✓

2.00
2.35

1+70⁵⁰

25⁰⁰

FO 22 ✓

1.84
2.06

1+45⁵⁰

25⁰⁰

FO 23 ✓

1.54
1.77

1+20⁵⁰

27⁰⁹

FO 32 ✓

1.12
1.44

0+93⁴ F.C.

FO 30 ✓

0.78
1.08

T = 5⁰⁵ R = 20'
0+83⁵¹ B.C. L.H. 4 = 28°21'30" L = 9⁰⁰

17⁰²

FO 40 ✓

0.61
1.01

1-04-55

Curb

CURB GRADES SANTA CLARA PT.

3+04⁷⁶ P.R.C. $\Delta = 12^\circ 41' 35''$ R-145³³
L=32.20'

FO³⁸ ✓
2.97
3.35

26.82

2+77²⁴ P.O.C.

FO⁵⁵ ✓
2.68
3.23

26.81

2+51¹³ P.C.C. $\Delta = 12^\circ 21' 52''$

FO⁵⁴ ✓
2.58
3.12

2+42²⁴ B.C. Pt. $\Delta = 93^\circ 53' 45''$ R=5' L=8¹²

FO⁴¹ ✓
2.61
3.02

4⁰²

2+38⁵⁰ E.C.

FO⁴⁹ ✓
2.47
2.96

2+30⁶⁵ B.C. Lt. $\Delta = 90^\circ$ R=5' L=7⁸⁵

FO⁴⁷ ✓
2.39
2.86

35¹⁵

1-04-55

Curb

CURB GRADES SANTA CLARA PT.

4+36⁰⁹ P.O.C.

25⁰⁰

4+11⁰⁹ P.O.C.

25⁰⁰

3+86⁰⁹

24.54

3+61⁵⁰ P.O.C.

24.54

L=149⁰⁸
3+36²⁶ P.R.C. A=35°04'44" R=243⁵⁰

16¹⁰

3+20⁸⁶ P.O.C.

16¹⁰

FO 53 ✓
3 27
3.80

FO 43 ✓
3 32
3.75

FO 48 ✓
3 22
3.70

FO 37 ✓
3 24
3.61

FO 61 ✓
2 91
3.52

FO 43 ✓
3 00
3.43

1-04-55

CURB GRADES SANTA CLARA PT.

Curb

B.M.

-0.96 ~ -0.96

4+86⁰⁴ P.O.C. def₁ = 17°32'22"

25⁰⁰

4+61⁰⁴

25⁰⁰

FO 54^v
3.38
3.92
P.K.

FO 62^v
3.17
3.86

Ref FB2205

55

1-04-55

Dwg 11558-L

Stamper

Hoffman

Chipman

Elmore

(75)

SEWER GRADES GREGORY ST. FROM 1+

WEBSTER AVE SLY W.O. 32425

NOTE: Set R.P. stakes
= 8'-L.T. OR ELY

1+75

C 4.28

17.83

13.55

1+50

C 4.44

17.91

13.47

1+25

C 4.45

17.85

13.40

1+00

C 4.29

17.61

13.32

0+75

C 4.19

17.44

13.25

0+50

C 4.42

17.59

13.17

0+25

C 4.70

17.80

13.105

0+00 = M.H. N^o 1 Webster Ave.

C 4.73 C 4.84

17.75 17.86

13.02 13.02

16'4" 8'4"

B.M.

19.27

Top Ely Cross Rim M.H. Webster & 33-rd

1-04-55

±

SEWER GRADES GREGORY ST.

B.M.

19.27 - 19.27

C 3.39
17 31
13.92

3+04 End Line Plug

C 3.50
17 35
13.85

2+75

C 3.73
17 50
13.77

2+50

C 3.95
17 65
13.70

2+25

C 4.09 C 4.09
17 71 17 71
13.62 13.62
16'4" 8'4"

2+00 = ± M.H. N° 2

CURB STAKES 47-TH & MARKET ST.
FOR SERVICE STA @ N.E. COR.

2+13.06 P.O.C. def α = 6°06'13" W.D. 20007

T.P. 131.14

2+00 P.O.C. def α = 5°43'46"

1+75 P.O.C. def α = 5°00'48"

1+50 P.O.C. def α = 4°17'50"

1+25 P.O.C. def α = 3°34'52"

1+00 P.O.C. def α = 2°51'54"

0+00 = Top C.T. & Market & 47-th = B.C. RT.
R=1000' T=184.01 L=363.94'

B.M. 122.24

Ref F.B. 2231

2-21-55
Lt. &

Stamper (77)
Hoffman
Kelley
Elmore

C 9.57 C 8.12
135.26 133.81 v
125.69 v 125.69 v
19' brcb 9' brcb.
12' brcsw 2' brcsw.

C 5.80
131.14
125.34 v

C 0.46
25.13 v
124.67

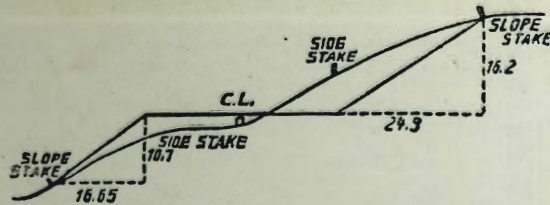
C 0.30
24.30 v
124.00

C 0.30 v
23.71
123.41

C 0.34 v
23.23
122.89
9' brcb
2' brcsw

Top N.E. Cb. E.C.E/4 .2231

64



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	71.25	71.40	71.55	71.70	71.85	47
48	72.00	72.15	72.30	72.45	72.60	72.75	72.90	73.05	73.20	73.35	48
49	73.50	73.65	73.80	73.95	74.10	74.25	74.40	74.55	74.70	74.85	49
50	75.00	75.15	75.30	75.45	75.60	75.75	75.90	76.05	76.20	76.35	50

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