520

S.D. 520

DIETZGEN

ENGINEERS

LEVEL BOOK

No. 410

F.B. 520

EUGENE DIETZGEN CO.

DRAWING MATERIALS, MATHEMATICAL and SURVEYING INSTRUMENTS

Chicago New York San Francisco New Orleans Pittsburg Toronto

Distances from Center of Roadway for Cross-Sectioning
Roadway 16 feet wide. Side Slopes 1 on 1.
For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	0
1	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	1
2	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	2
3	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	3
4	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	4
5	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	5
6	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	6
7	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	7
8	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	8
9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	9
10	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	10
11	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	11
12	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	12
13	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	13
14	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	14
15	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	15
16	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	16
17	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	17
18	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	18
19	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	19
20	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	20
21	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	21
22	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	22
23	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	23
24	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	24
25	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	25
26	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	26
27	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	27
28	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	28
29	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	29
30	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	30
31	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	31
32	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	32
33	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	33
34	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	34
35	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	35
36	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	36
37	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	37
38	46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.8	46.9	38
39	47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8	47.9	39
40	48.0	48.1	48.2	48.3	48.4	48.5	48.6	48.7	48.8	48.9	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 30.6. For same slopes but other widths of roadbed, correct above figures by one-half difference in width of roadbed; thus in example above, for 20 ft. roadbed distance will be 30.6+(20—16)÷2 or 2 ft. added to 30.6 =32.6. For slopes of 1 on 1½ see inside of back cover.

Copyright, 1914, by Eugene Dietzgen Co.

MICROFILMED
1973

350.
90.

	Page	to Page
Lateral Sewers - M.H. # T-65 to M.H. 5 Sierra-Euclid Alley.	1	3
✓ ✓ Menlo-Sierra Alley- MH # T-64 to M.H. 14	4	6
✓ ✓ Mentone-Menlo Alley- MH. # T63 to MH. # 23	7	9
✓ ✓ Chamoune-Mentone MH # 33 to MH # T-62	10	12
✓ Castle-Chamoune to alley west MH # T-61 to MH # 44	—	13
✓ Cabrillo-Chamoune alley MH # 44 to MH # 40	14	17
✓ Mentone-Menlo alley - MH # 22 to MH # 19	18	25
Check Levels - Mentone-Menlo alley. -	—	26
Lateral Sewer - Anna from alley west to alley east of Sierra- MH # 12 to MH # 4 -		27

Index Cont'd

	Page
Lateral-Sewers-Chamoune Mentone alley-	
MH# 32 to F.T. #8 -	28-32
✓ Sierra-Euclid alley-	
MH# 4 to F.T. 3 -	33-34
MH# T77 to F.T. #2	35-37
✓ Cabrillo-Chamoune alley-	
MH#39 to MH# 37	38-39
MH# 40 to MH# 39 -	-40
Menlo-Sierra alley-	
MH# T-79 to MH #9	-41
✓ Chamoune-Cabrillo alley-	
MH#37 to F.T. #9 -	42-43
✓ Granada N. from El Cajon	
MH# T-78 to F.T. #1 -	44-46
✓ Menlo N. from El Cajon	
MH# T-80 to F.T. #5	47-50
✓ Monte Vista Ave.	
MH# T-81 to MH #17	51-52

Index Cont'd

	Page
Lateral-Sewers-Norwood-Monte Vista to Orchard	
MH#17 to MH# 26	54
✓ Orchard-So. of Norwood-	55-56

1 Lateral Sewers- Sierra-Euclid alley.
North from M.H. # T65 at Castle.

Smale / Chisholm } 1-4-22
Levels run with level

1

Sta.	+	H.I.	–	Elev.	Grade	Cut	
BM-				340.01			Staked on 6' offset East. Iron pipe-S.W. cor Roselawn at Castle. (B-78 P4)
0+00	8.76	48.77	7.03	41.74	330.20	11.54	Center of cover- M.H. # T-65. (6" pipe north)
+25			5.11	43.66	30.30	13.36	
+50			6.07	42.70	30.40	12.30	
+75			6.06	42.71	30.50	12.21	
1			5.14	43.63	30.60	13.03	
+25			5.11	43.66	30.70	12.96	
+50			4.67	44.10	30.80	13.30	Grade Sheet #56 1-9-22
+75			4.30	44.47	30.90	13.57	
2			3.93	44.84	31.00	13.84	
+25			3.69	45.08	31.10	13.98	
+50	TP		3.09	45.68	31.20	14.48	
+75	3.33	49.01	3.07	45.94	31.30	14.64	
3			2.74	46.27	31.40	14.87	
+25			2.44	46.57	31.50	15.07	
+50			2.42	46.59	31.60	14.99	
+75			3.40	45.61	31.70	13.91	
4			5.20	43.81	31.80	12.01	

Smale } 1-4-22
Chisholm

Continued from Page 1.

Sta.	+	H.I. 49.01	—	Elev.	Grade	Cut.				
4+25			7.34	41.67	331.90	9.77				
4+56.31			9.67	39.34	32.02	7.32	M.H. #7 - So. of Klauber at center + 6' E + W.		2x2 Hub + tack	
0+00			9.67	39.34	332.02	7.32	M.H. #7	"	"	"
+25			11.06	37.95	32.12	5.83		Staked on 6' offset east.		
+50			11.89	37.12	32.22	4.90				
+75			11.42	37.59	32.32	5.27				
1			11.36	37.65	32.42	5.23				
+25	TP		11.95	37.06	32.52	4.54		Grade Sheet #57 - 1-9-22		
+50	8.90	45.96	9.03	36.93	32.62	4.31				
+75			7.61	38.35	32.72	5.63				
2			5.86	40.10	32.82	7.28				
+25			5.65	40.31	32.92	7.39				
+50			5.01	40.95	33.02	7.93				
+75			5.08	40.88	33.12	7.76				
3			4.82	41.14	33.22	7.92				
+25			4.60	41.36	33.32	8.04				
+50			4.16	41.80	33.42	8.38				

Continue from Page 2.

Smale / Chisholm } 1-4-22

Sta	+	H.I. 45.96	−	Elev.	Grade	Cut.	
3+75			3.91	42.05	333.52	8.53	
+90			3.56	42.40	333.58	8.82	MH. # 6 - 2x2 Hub & tack at center & 6' E & W.
0+00			3.56	42.40	333.58	8.82	M.H. #6 " " " " "
+25			3.02	42.94	33.68	9.26	Staked on 6' offset East.
+50			2.49	43.47	33.78	9.69	
+75			1.96	44.00	33.88	10.12	
1			1.76	44.20	33.98	10.22	
+25 TP			1.93	44.03	34.08	9.95	Grade Sheet #59 1-9-22
+50	0.51	44.54	0.67	43.87	34.18	9.69	
BM-			3.01	41.53	341.53		BP- N.W. Sierra at University. B82 P2.
+75			1.30	43.24	34.28	8.96	
2			2.57	41.97	34.38	7.59	
+25 TP.			6.87	37.67	34.48	3.19	
+50	2.03	39.70	8.60	31.10	34.58	F 3.48	
+75			11.80	27.90	34.68	✓ 6.78	
3	9.22	37.12	11.24	25.88	34.78	✓ 8.90	
+25			10.22	26.90	34.88	✓ 7.98	
+55		44.54	7.87	29.25	34.98	✓ 5.73	
+75			6.66	37.88	35.08	C 2.80	
+90			5.30	39.24	335.14	4.10	M.H. #5 - So. of University - 2x2 Hub & tack at center & 6' E & W.

Lateral Sewer- Mento-Sierra alley
North from M.H. #T-64 on Castle.

Smale
Chisholm } 4-22

Sta.	+	H.I.	−	Elev.	Grade	Cut.	Staked on 6' offset West.
BM-				340.01	(B78-PA.)		Iron pipe- Roselawn at S.W. cor Castle.
0+00	5.76	45.77	8.36	37.41	331.17	6.24	Center of cover at M.H. #T-64
+25			7.22	38.55	31.24	7.31	
+50			6.40	39.37	31.32	8.05	
+75			5.80	39.97	31.39	8.58	
1			5.77	40.00	31.47	8.53	
+25			5.59	40.18	31.54	7.64	1-23-22 8.64 Grade Sheet #59 1-9-22
+50			5.08	40.69	31.62	9.07	
+75			4.95	40.82	31.69	9.13	
2			4.94	40.83	31.77	9.06	
+25			4.64	41.13	31.84	9.29	
+50			4.11	41.66	31.92	9.74	
+75	TP		3.55	42.22	31.99	10.23	
3	6.11	48.33	5.84	42.49	32.07	10.42	
+25			5.74	42.59	32.14	10.45	
+50			5.27	43.06	32.22	10.84	
+75			5.06	43.27	32.29	10.98	
4+00			4.95	43.38	32.36	11.02	M.H. #16- 2x2 at center + 6' E + W.

Smale / Chisholm } 1-4-22

Cont from Page 4

Sta.	+	H.I. 48.33	−	Elev.	Grade	Cut.	
0+00			4.95	43.38	332.36	11.02	Staked on 6' offset West. M.H. # 16 - 2x2 Hub & tack at center & 6' E & W.
+25			4.99	43.34	32.44	10.90	
+50			4.62	43.61	32.51	11.10	
+75			4.11	44.22	32.59	11.63	
1			3.50	44.83	32.66	12.17	
+25			2.93	45.40	32.74	12.66	
+50			2.36	45.97	32.81	13.16	
+75	TP		1.84	46.49	32.89	13.60	Grade Sheet # 60 1-9-'22
2+00	TP		1.71	46.62	32.96	13.66	
+25	7.15	53.77	7.78	45.99	33.04	12.95	
+50			7.77	46.00	33.11	12.89	
+75			7.67	46.10	33.19	12.91	
3			6.96	46.81	33.26	13.55	
+25			5.98	47.79	33.34	14.45	
+50			4.95	48.82	33.41	15.41	
+75			4.66	49.11	33.49	15.62	
4			4.90	48.87	33.56	15.31	
+25			5.54	48.23	33.64	14.59	
+40			5.67	48.10	33.68	14.42	MH # 15 - 2x2 Hub & tack at center & 6' E & W.

Smale / Chisholm } 1-4-22

Cont'd from Page 5

Sta.	+	H.I. 53.77	–	Elev.	Grade	Cut	
							Staked on 6' offset West.
+00			5.67	48.10	333.68	14.42	M.H. #15- 2x2 Hub & tack at center & on 6' offset E & W.
+25			5.61	48.16	33.74	14.42	
+50			6.23	47.54	33.81	13.73	
+75			6.36	47.41	33.87	13.54	
1	TP		6.17	47.60	33.93	13.67	
+25	2.59	50.19	3.05	47.14	34.00	13.14	Grade Sheet # 61 1-9-22
+50			3.68	46.51	34.06	12.45	
+75			4.36	45.83	34.13	11.70	
2			4.73	45.36	34.19	11.17	
+25			4.70	45.49	34.25	11.24	
+50			4.83	45.36	34.32	11.04	
+75			4.86	45.33	34.38	10.95	
3			4.51	45.68	34.44	11.24	
+25			5.34	44.75	34.51	10.24	
+50			5.97	44.22	34.57	9.65	
+75			6.62	43.57	34.64	8.93	
4			7.22	42.97	34.71	8.26	
+25			7.84	42.35	34.77	7.58	See Book So. 1 P 26 for line north
+40			8.26	42.16	334.80	7.36	M.H. #14 - So. of University - 2x2 Hub & tack at center & 6' E & W. (8'S - 6" N).

Lateral Sewers - Mentone Menlo alley
North from M.H.# T-63 on Castle.

Smale } 1-5-21
Chisholm }
Levels run with level.

Sta.	Sta.	+	H.I.	−	Elev.	Grade .2992	Cut.	
+00	BM				348.90			Staked on 6' offset West.
								Iron pipe-Menlo at S.W. cor Castle
	0 +00	3.06	51.96	4.41	47.55	335.00	12.55	M.H.# T-63 - Grade from center of cover.
	+25			4.77	47.19	35.08	12.11	
	+50			5.36	46.60	35.15	11.45	
1	+75			6.22	45.74	35.22	10.52	
	1			7.95	44.01	35.30	8.71	
	+25			9.53	42.43	35.37	7.06	-6.54
	+50			10.61	41.35	35.45	5.90	-5.44 Grade Sheet #62 1-7-22
2	+75			11.40	40.56	35.52	5.04	
	2	TP		11.96	40.00	35.60	4.40	
	+25	8.65	48.65	8.36	40.29	35.67	4.52	
	+50			8.00	40.65	35.75	4.90	
3	+75			7.32	41.33	35.82	5.51	
	3			6.42	42.23	35.90	6.33	
	+25			5.88	42.77	35.97	6.80	
	+75			4.95	43.70	36.05	7.65	
4	4			3.96	44.69	36.12	8.57	
	+25			4.19	44.46	36.20	8.26	
	+17 75 M.H 25			4.63	44.02	36.25	7.77	M.H.# 25- 2X2 Hub & tack at center & 6' E & W.

Cont'd from Page 7.

	Sta.	+	H.I. 48.65	−	Elev.	Grade	Cut.		Staked on 6' offset West.
0+0	0+00			4.63	44.02	336.25	7.77		M.H. #25 - 2x2 Hub + tack at center + 6' E + W.
	+25			5.02	43.63	36.33	7.30		
	+50			5.17	43.48	36.40	7.08		
	+75			5.49	43.16	36.48	6.68		
1	1			6.37	42.28	36.55	5.73		
	+25	TP		6.15	42.50	36.63	5.87		
	+50	6.50	49.00	6.06	42.94	36.70	6.24		
	+75			5.98	43.02	36.78	6.24	- 6.04	
2	2			6.21	42.79	36.85	5.94	- 6.05	
	+25			5.89	43.11	36.93	6.18		
	+50			5.67	43.33	37.00	6.33		
	+75			5.58	43.42	37.08	6.34		
3	3			4.97	44.03	37.15	6.88		
	+25			4.86	44.14	37.23	6.91		
	+50			4.24	44.76	37.30	7.46		
	+75			3.84	45.66	37.38	8.38		
4	4			2.27	46.73	37.45	9.28		M.H. #24 - 2x2 Hub + tack at center + 6' E + W.

Smale
Chisholm } 1-4-22

Cont'd from Page 8.

Sta.	+	H.I. 49.00	−	Elev.	Grade	Cut.	Staked on 6' offset West.
0+00			2.27	46.73	37.45	9.28	M.H. #24 - 2x2 Hub + tack at center + 6' E + W.
+25			1.31	47.69	37.53	10.16	
+50	TP		0.54	48.46	37.60	10.86	
+75	8.12	56.58	6.92	49.56	37.68	11.88	
1			6.05	49.43	37.75	11.68	
+25			5.18	51.40	37.83	13.57	
+50			4.88	51.70	37.90	13.80	
+75			4.76	51.82	37.98	13.84	Grade Sheet #64 - 1-9-22
2			4.78	51.80	38.05	13.75	
+25			5.01	51.57	38.13	13.44	
+50			5.57	51.01	38.20	12.81	
+75			5.99	50.59	38.28	12.21	
3			6.62	49.96	38.35	11.61	
+25			7.04	49.54	38.43	11.11	
+50			7.91	48.67	38.50	10.17	
+75			8.36	48.22	38.58	9.64	
4	TP		8.92	47.66	38.65	9.01	M.H. #23 - 2x2 Hub + tack at center + 6' E + W. (8" S - 6" N.)
					—	—	(See Book 5a1 Page 27 for line north)
BM	6.90	54.56	3.43	51.13	S.B. 351.18	—	BP - N.W. Mentone + University

Chamoune-Mentone alley.

Lateral Sewers — MH# 33 to MH# ~~34~~ T-62

Rods by E.P.T. ✓ reduced by Y.M.S. — Ford, Smale, Chisholm, Rogers } 1-12-22

Sta.	+	H.I.	—	Elev.	Grade	Cut	
BM				351.18	B82-P2		Staked on 6' offset E.
TP	8.93	360.11	11.24	48.87			BP - S.W. Mentone at
3+59.15	1.06	349.93	1.06	348.87	341.24	7.63	MH# 33 - 2x2 at center + 6' E + W.
3+25			2.56	47.37	41.13	6.24	
3			3.15	46.78	41.06	5.72	Notes transferred from Book So.1 Page 31
2+75			3.31	46.62	40.98	5.64	
2+50			3.35	46.58	40.91	5.67	Grade Sheet # 65 1-12-22
2+25			3.60	46.33	40.83	5.50	
2			4.11	45.82	40.76	5.06	
1+75			4.90	45.03	40.68	4.35	
1+50			5.26	44.67	40.61	4.06	
1+25			5.19	44.74	40.53	4.21	
1			5.37	44.56	40.46	4.10	
0+75			5.00	44.93	40.38	4.55	
0+50			4.99	44.94	40.31	4.63	
0+25			4.29	45.64	40.23	5.41	
0+00			3.90	46.03	340.16	5.87	MH# 34 - 2x2 at center + 6' E + W.

Smale
Chisholm } 1-12-22
Rogers

Ctd. from Page 10.

Sta	+	H.I.	—	Elev.	Grade	Cut	
BM TP MH #33	8.93	360.11	11.24	351.18 348.87	~~34~~		See Bk. So. 1 P 31
3+60 TP	1.06	49.93	3.90	346.03	340.16	5.87	MH 34 – 2X2 Hub & tack at center
+25	9.41	55.44	9.44	46.00	40.05	5.95	& 6' E & W.
3			8.36	47.08	39.97	7.11	
+75			8.97	46.47	39.90	6.57	
+50			5.40	50.04	39.82	10.22	
+25			5.24	50.20	39.75	10.45	
2			5.24	50.20	39.67	10.53	Grade Sheet #66
+75			4.96	50.48	39.60	10.88	
+50			4.47	50.97	39.53	11.44	
+25			4.55	50.89	39.45	11.44	
1			4.96	50.48	39.38	11.10	
+75			4.82	50.62	39.30	11.32	
+50			5.15	50.29	39.23	11.06	
+25			5.17	50.27	39.15	11.12	
0+00			5.87	49.57	339.08	10.49	MH # 35 – 2X2 Hub & tack at center
							& 6' E & W.

Ctd. on Page 12.

Ctd. from Page 11.

Smale
Chisholm } 1-12-22
Rogers

Sta	+	H.I.	—	Elev.	Grade	Cut	
3+60 TP				349.57	339.08	10.49	MH #35 - 2x2 Hub & tack at center
+25	0.36	49.93	1.18	48.75	38.97	9.78	& 6' E. & W.
3+00			2.16	47.77	38.90	8.87	
+75			2.73	47.20	38.82	8.38	
+50			3.21	46.72	38.75	7.97	
+25			3.88	46.05	38.67	7.38	
2+00			4.81	45.12	38.60	6.52	
+75			4.80	45.13	38.52	6.61	Grade Sheet #67 1-12-22
+50			5.38	44.55	38.45	6.10	
+25			5.79	44.14	38.37	5.77	
1			5.94	43.99	38.30	5.69	
+75			6.12	43.81	38.22	5.59	
+50			5.64	44.29	38.15	6.04	
+25			6.32	43.61	38.07	5.54	
0+00	TP		6.17	43.76	338.00 S.B.	5.76	MH #T62 - Grade on MH. ring - W/S at center E. & W.
BM	3.67	47.43	6.39	341.04	341.01	B82 P5 -	BP - N.W. Chamoune & Castle.

Lateral Sewer - Castle from MH # 61 at Chamoune to MH # 44 at Cabrillo - Chamoune alleg.

Smale / Chisholm } 1-13-22

Sta.	+	H.I.	−	Elev.	Grade	Cut	
BM				341.01	B82P5 .303		Staked on 6' offset So. BP - N.W. Chamoune at Castle.
0+00	5.22	46.23	5.05	41.18	328.80	12.38	MH T61 - Grade on South side of MH ring at center north + south. Take line west from 2x2 Hub + tack at P.I. of 6' offsets S + E.
+25			4.83	41.40	28.88	12.52	
+50			4.85	41.38	28.95	12.43	
+75			4.98	41.25	29.03	12.22	
1			4.86	41.37	29.10	12.27	Grade Sheet # 68 1-13-22
+25			4.70	41.53	29.18	12.35	
+50			4.57	41.66	29.25	12.41	
+65			4.36	41.73	329.30	12.42	MH # 44 - 2x2 Hub + tack at center + at P.I. of offsets S + W. also N. + E.

Ctd. on Page 14 for check to BM at Univ. + Cabrillo.

Gr. St. - 341.53 MH T61

Smale / Chisholm } 1-13-22

Lateral Sewers - Cabrillo - Chamoune Alley.
MH.44 on Castle to MH.40 So. of Univ.

Sta.	+	H.I.	-	Elev.	Grade	Cut	Staked on 6' offset W.
BM				341.01	351.70		
0+00 TP	5.22	46.23	4.50	341.73	338.00	3.73	MH#44 - 2x2 Hub & tack at center
+25	6.58	48.45	6.68	41.77	38.09	X 3.68	& at P.I. of 6' offsets S. & W. also N. & E.
+50			6.80	41.65	38.18	3.47	Grade (8" Drop N. - 6" S.)
+75			6.76	41.69	38.26	3.43	
1			6.29	42.16	38.35	3.81	
+25			5.86	42.59	38.44	4.15	
+50			3.90	44.55	38.53	6.02	Grade Sheet #69 1-13-22
+75			3.76	44.69	38.61	6.08	
2			3.74	44.71	38.70	6.01	
+25			3.28	45.17	38.79	6.38	
+50			3.17	45.28	38.88	6.40	
+75			2.68	45.77	38.97	6.80	
2+99.11			2.35	346.10	339.05	7.05	MH#43 - 2x2 Hub & tack at center &
							on 6' offsets E & W.

Ctd. on Page 15

Smale, Chisholm, Rogers } 1-13-22

Ctd. from Page 14

Sta.	+	H.I.	−	Elev.	Grade :353%	Cut.	Staked on 6' offset W.
0+00		From	Page 14 -	346.10	339.05	7.05	MH#43 - 2x2 Hub + tack at center + 6' E + W.
+25	4.89	50.99	5.03	45.96	39.14	6.82	
+50			4.76	46.23	39.23	7.00	
+75			4.58	46.41	39.31	7.10	
1			4.42	46.57	39.40	7.17	
+25			4.67	46.32	39.49	6.83	
+50			4.54	46.45	39.58	6.87	Grade Sheet #70 1-18-22
+75			4.82	46.17	39.67	6.50	See Book No. 3 P21 for check levels - a/c disturbed stakes.
2			4.91	46.08	39.76	6.32	
+25			4.85	46.14	39.84	6.30	
+50			4.66	46.33	39.93	6.40	
+75			4.48	46.51	40.02	6.49	
3			3.80	347.19	340.11	7.08	MH#42 2x2 Hub + tack at center + 6' E + W.

Ctd. on Page 16

Continued from Page 15

Smale
Chisholm } 1-13-22
Rogers

Sta.	+	H.I.	−	Elev.	Grade .35%	Cut.	Staked on 6' offset West.
0+00			From Page 15 −	347.19	340.11	7.08	MH#42 2X2 Hub + tack at center + 6' E + W.
+25	6.85	54.04	6.82	47.22	40.20	7.02	
+50			6.62	47.42	40.29	7.13	
+75			6.56	47.48	40.37	7.11	
1			6.26	47.78	40.46	7.32	
+25			5.80	48.24	40.55	7.69	
+50			5.08	48.96	40.64	8.32	
+75			4.81	49.23	40.72	8.51	Grade Sheet #71 1-18-22
2			3.69	50.35	40.81	9.54	
+25			2.57	51.47	40.90	10.57	
+50			2.15	51.89	40.99	10.90	
+75			1.74	52.30	41.07	11.23	
3			2.89	51.15	41.16	9.99	
+25	TP		3.62	50.42	41.25	9.17	
+40	2.61	53.03	3.47	49.56	341.30	8.26	MH#41 - 2X2 Hub + tack at center + 6' E + W.

Ctd. on Page 17

Continued from Page 16.

Sta.	+	H.I.	−	Elev.	Grade .352%
0+00	From P16 —	53.03	3.47	49.56	341.30
+25			4.24	48.79	41.39
0+50			4.48	48.55	41.48
+75			4.87	48.16	41.56
1			5.09	47.94	41.65
+25			4.70	48.33	41.74
+50			4.97	48.06	41.83
+75			5.32	47.71	41.92
2			5.58	47.45	42.00
+25			5.34	47.69	42.09
+50			5.10	47.93	42.18
+75			4.71	48.32	42.27
3			3.90	49.13	42.36
+25			3.16	49.87	42.44
+40 W/S			2.63	50.40	42.50
E/S-TP			2.52	50.51	350.56
					S.B.
BM	3.59	54.10	4.56	49.54	349.58

See Book 5a.1 P29 for line north

Spade
Chisholm } 1-14-22
Rogers

Cut.	
	Staked on 6' offset West.
8.26	MH#41 2x2 Hub + tack at center + on 6' offset E + W.
7.40	
7.07	
6.60	
6.29	
6.59	
6.23	
5.79	Grade Sheet #72 1-18-22
5.45	
5.60	
5.75	
6.05	
6.77	
7.43	
7.90	MH#40 — 2x2 Hub + tack at center + 6' East + West.

Per Book 5a.1 P29

BP-N.W. Cabrillo at Univ. B82-P1

Lateral Sewer - Mentone - Menlo alley -
MH # 22 to MH 19.

Smale, Chisholm, Rogers } 1-16-21

Sta.	+	H.I.	−	Elev.	Grade	Cut.		
BM				343.08	.4			Staked on 6' offset west.
						BP - N.W. Menlo + Univ.		
E/S 0+00 TP	5.77	48.85	3.21	345.64	B.So.1 345.63		MH # 22	2x2 Hub + tack at center + 6' E + W.
W/S 0+00	4.37	50.01	3.81	46.20	340.25	5.95		
+25			3.84	46.17	40.35	5.82		
+50			3.61	46.40	40.45	5.95		
+75			4.22	45.79	40.55	5.14		
1			5.07	44.94	40.65	4.29		
+25			5.91	44.10	40.75	3.35		Grade Sheet #73 1-20-22
+50			4.92	45.09	40.85	4.14		
+75			5.27	44.74	40.95	3.79		
2			6.76	43.25	41.05	2.20		
+25			6.11	43.90	41.15	2.75		
+50			5.26	44.75	41.25	3.50		
+75			4.51	45.50	41.35	4.15		
3			3.79	46.22	41.45	4.77		
+25			3.36	46.65	41.55	5.10		
+50			2.44	47.57	341.65	5.92	MH # 21	2x2 Hub + tack at center + 6' E + W.

Ctd. on Page 19

Smale
Chisholm } 1-16-22
Rogers

Ctd. from Page 18.

Sta.	+	H.I.	−	Elev.	Grade	Cut.		
0+00				347.57	341.65	5.92	M.H. # 21	2x2 Hub & tack at center & 6' E & W.
+25	9.94	57.51	9.08	48.43	41.75	6.68		
+50			8.73	48.78	41.85	6.93		
+75			7.65	49.86	41.95	7.91		
1			7.44	50.07	42.05	8.02		
+25			6.55	50.96	42.15	8.81		
+50			5.55	51.96	42.25	9.71	Grade Sheet #74 1-28-22	
+75			4.73	52.78	42.35	10.43		
2			3.72	53.79	42.45	11.34		
+25			3.86	53.65	42.55	11.10		
+50			4.10	53.41	42.65	10.76		
+75			4.49	53.02	42.75	10.27		
3			5.00	52.51	42.85	9.66		
+25			5.05	52.46	42.95	9.51		
+50			5.60	51.91	43.05	8.86		
+64.10			6.13	51.38	343.11	8.27	M.H. # 20	2x2 Hub & tack at center & 6' E & W.

Ctd. on Page 20.

Continued from Page 19

Smale, Chisholm, Rogers 1-16-22

Sta.	+	H.I.	—	Elev.	Grade -.397%	Cut.	
0+00				51.38	343.11		Stakes set on 6' offset west.
+25	3.36	54.74	3.91	50.83	43.21	8.27	M.H. #20 - 2x2 Hub + tack at center + 6' E + W.
+50			4.09	50.65	43.31	7.62	
+75			4.48	50.26	43.41	7.34	
1			4.56	50.18	43.51	6.85	
+25			4.83	49.91	43.61	6.67	
+50			5.00	49.74	43.71	6.30	
+75			4.92	49.82	43.80	6.03	Grade Sheet #75 1-28-22
2			4.89	49.85	43.90	6.02	
+25			4.61	50.13	44.00	5.95	
+50			4.25	50.49	44.10	6.13	
+75			4.25	50.49	44.20	6.39	
3			4.04	50.70	44.30	6.29	
+25			3.68	51.06	44.40	6.40	
W/S +50			2.94	51.80	344.51	6.66	
E/S			3.21	51.53	344.51	7.29	M.H. #19 - 2x2 Hub + tack at center + 6' E + W.
BM —			5.46	49.28	349.27	7.02	St. grade - 351.45
							BP - N.W. Maple at Orange.

Lateral Sewers - Menlo-Sierra alley.
From MH#13 to F.T.#6

Smale
Chisholm } 1-17-22
Rogers

Sta.	+	H.I	—	Elev	Grade	Cut.	
BM				341.53	.399 B82-P2		Staked on 6' offset West.
							BP-N.W. Sierra & Univ.
0+00 E/S TP	7.62	49.15	2.51	346.64	346.63		Book S.0.1 P26.
0+00 W/S	5.53	52.17	5.69	46.48	336.64	9.84	MH#13 - 2x2 Hub & tack at center & 6' E & W.
+25			5.08	47.09	36.74	10.35	
+50			4.70	47.47	36.84	10.63	
+75			4.15	48.02	36.94	11.08	
1			3.98	48.19	37.04	11.15	
+25			4.54	47.63	37.14	10.49	Grade Sheet #76 1-28-22
+50			4.80	47.37	37.24	10.13	
+75			4.74	47.43	37.34	10.09	
2			4.70	47.47	37.44	10.03	
+25			4.59	47.58	37.54	10.04	
+50			4.46	47.71	37.64	10.07	
+75			4.61	47.56	37.74	9.82	
3			4.64	47.53	37.84	9.69	
+25			4.91	47.26	37.94	9.32	
+50			7.10	45.07	38.04	7.03	
+60 1/7			6.44	45.73	338.08	7.65	MH#12 - 2x2 Hub & tack on 6' offset E. & W. - also for line east at P.I. of N. & W. offsets & at P.I. of S. & E. offsets. Grade on offset W.

See Page 27 for line east on Anna.

Continued from Page 21

Chisholm
Rogers 1-17-22
Smales

Staked on 6' offset west.

Sta.	+	HI	—	Elev.	Grade 1.212	Cut	
0+00				345.73	338.08	7.65	MH #12
+25	2.81	48.54	2.99	45.55	38.38	7.17	
+50			3.51	45.03	38.69	6.39	
+75			3.53	45.01	38.99	6.02	
1			3.96	44.58	39.29	5.29	
+25			4.77	43.77	39.60	4.17	
+50			5.07	43.47	39.90	3.57	Grade Sheet #77 1-30-22
+75			5.26	43.28	40.20	3.08	
2			4.88	43.66	40.50	3.16	
+25			4.72	43.82	40.81	3.01	
+50			3.64	44.90	41.11	3.79	
+75			2.25	46.29	41.41	4.88	
3			1.51	47.03	41.72	5.31	
+25			1.10	47.44	42.02	5.42	
+50			0.79	47.75	42.32	5.43	
+75	TP		0.05	48.49	42.63	5.86	
4+05	7.67	56.26	7.07	49.09	342.99	6.10	MH #11

Continued from Page 22

Smale
Chisholm } 1-17-22
Rogers

Sta.	+	HI	−	Elev.	Grade 1.213%	Cut	Staked on 6' offset W.
0+00				49.09	342.99	6.10	MH #11
+25	7.07	56.16	6.85	49.31	43.29	6.02	
+50			6.70	49.46	43.60	5.86	
+75			6.34	49.82	43.90	5.92	
1			5.85	50.31	44.20	6.11	
+25			5.87	50.29	44.51	5.78	
+50			5.20	50.96	44.81	6.15	Grade Sheet #78. 1-30-22
+75			5.22	50.94	45.11	5.83	
2			4.79	51.35	45.42	5.93	
BM			1.70	54.46	S.B. 354.48		BP-NW Sierra at Orange- B82-P2
BM			6.89	49.27	S.B. 349.27		BP-N.W. Menlo at Orange B82-P2 (Curb appears to have settled.)
+25			4.80	51.36	45.72	5.34	
+50			5.28	50.88	46.02	4.55	
+75			4.19	51.97	46.33	5.04	
3			4.04	52.12	46.63	5.49	
+25			4.04	52.12	46.93	5.19	
+50			3.73	52.43	47.24	5.19	
+80			3.62	52.54	347.60	4.94	MH #10 - 2x2 at center & 6' E & W.

Cont'd on Page #24

Continued from Page 23

Smale
Chisholm } 1-17-22
Rogers

Sta.	+	HI	−	Elev.	Grade 1.21%	Cut	
0+00				52.54	347.60	4.94	Staked on 6' offset W. MH #10
+25	8.05	60.59	7.87	52.72	47.90	4.82	
+50			7.44	53.15	48.21	4.94	
+75			7.12	53.47	48.51	4.96	
1			6.64	53.95	48.81	5.14	
+25			6.45	54.14	49.11	5.03	
+50			5.99	54.60	49.42	5.18	
+75			5.53	55.06	49.72	5.34	Grade Sheet #79 1-30-'22
2			5.04	55.55	50.02	5.53	
+25			4.80	55.79	50.32	5.47	
+50			4.59	56.00	50.63	5.37	
+75			4.06	56.53	50.93	5.60	
3			3.74	56.85	51.21	5.64	
+25			3.46	57.13	51.53	5.60	
+50			3.14	57.45	51.84	5.61	
+80			2.51	58.08	52.20	5.88	FT # 6 – 2X2 at center + 6' E + W.
TP			2.04	58.55			MH # 9 – on 2X2 – 6' W.

7.45
6.18
63.63
2.08
5.55

Smale
Chisholm } 1-18-22
Rogers

Continued from Page 24

Sta	+	H.I.	–	Elev.	Grade 2.0627%	Cut	Staked on 6' offset W.
4+46		From Page 24		58.55	352.20	6.35	MH # 9 2X2 - 6' E + W.
+25	3.59	62.14	3.61	58.53	51.77	6.76	
4			3.66	58.48	51.25	7.23	
+75			3.50	58.64	50.74	7.90	
+50			3.66	58.48	50.22	8.26	
+25			3.43	58.71	49.70	9.01	
3			3.41	58.73	49.19	9.54	
+75			3.37	58.77	48.67	10.10	Grade Sheet #80 1-30-22
+50			3.30	58.84	48.16	10.68	Superseded by Grade Sheet #89 2-18-22
+25			4.12	58.02	47.64	10.38	
2			4.65	57.49	47.13	10.36	
+75			5.23	56.91	46.61	10.30	
+50			6.45	55.69	46.09	9.60	
+25			8.25	53.89	45.58	8.31	
1			9.33	52.81	45.06	7.75	
+75	TP		10.35	51.79	44.55	7.24	
+50			12.86	49.28	44.03	5.25	
+25	3.30	52.58	4.17	48.41	43.52	4.89	
0+00			3.50	49.08	343.0	6.08	MH # T79 - 2X2 on ℄ - 6' North.
BM-			5.43	47.15	347.15	BP-	S.W. El Cajon + Sierra

Check Levels - Mentone - Menlo alley.
MH#T63 to MH#25

Smale
Rogers
Chisholm } 1-26-22

Sta.	+	H.I.	−	Elev.	Grade	
0+00				348.00	335.00	
+25	0.36	48.36			35.08	13.20
+50					35.15	13.21
+75					35.22	13.14
1					35.30	13.06
+25					35.37	12.99
+50					35.45	12.91
+75					35.52	12.84
2					35.60	12.76
+25					35.67	12.69
+50			4.63	43.73	35.75	12.61
+75	5.46	49.19			35.82	13.37
3					35.90	13.29
+25					35.97	13.22
+50					36.05	13.14
+75					36.12	
4					36.20	
+17 75					36.25	

Lateral - Anna from alley west of Sierra to alley east of Sierra.

Sta	+	H.I.	−	Elev.	Grade	Cut	
0+00		(See Page 21)		345.73	4%	MH #12	6' offset west
0+00	1.12	46.85	1.14	45.71	338.08	7.63	2x2 at P.I. of 6' offsets N+W. + at P.I. of 6' offsets S.+E. Takegrade from N.W. P.I.
+25			2.03	44.82	38.18	6.64	St. Grade - 344.00 Set cover at 345.4
+50			2.83	44.02	38.28	5.74	
+75			3.95	42.90	38.38	4.52	
1+00			4.87	41.78	38.48	3.30	
+25			5.62	41.23	38.58	2.65	
+50			6.07	40.78	38.68	2.10	Grade Sheet #81 - 1-30-'22
+75			6.24	40.61	38.78	1.83	
2+00			6.28	40.57	38.88	1.69	
+25			6.17	40.68	38.98	1.70	
+50			5.71	41.14	39.08 39.18	1.96	
+75			4.71	42.14	39.18 39.28	2.36	
3			3.62	43.23	39.28 39.38	3.85	
+30			2.57	44.28	339.40	4.88	MH #4 - 2x2 at center + at P.I. of 6' offsets N+W + at P.I. of S.+E. offsets. St. Grade - 343.03 - Set cover at 344.3

Cont'd north in Sierra-Euclid Alley - See Page - 33

Smale, Chisholm, Rogers } 1-28

Lateral Sewers - Chamoune - Montone alley - North from MH #32 north of University -

Smale, Chisholm, Rogers } 2-6-22

Sta.	+	H.I.	-	Elev.	Grade	Cut.
BM-				351.18	B82P2	
0+00 E/S	5.60	56.78	3.66	53.12	342.32 ·3%	10.80
0+00 W/S			3.82	52.96	42.32	10.64
+25			4.30	52.48	42.39	10.09
+50			5.06	51.72	42.47	9.25
+75			5.16	51.62	42.54	9.08
1			5.02	51.76	42.62	9.14
+25			4.91	51.87	42.69	9.18
+50			4.94	51.84	42.77	9.07
+75			4.47	52.31	42.84	9.47
2			4.24	52.54	42.92	9.62
+25			4.08	52.70	42.99	9.71
+50			3.94	52.84	43.07	9.77
+75			4.20	52.58	43.14	9.44
3			4.82	51.96	43.22	8.74
+25			5.16	51.62	43.29	8.33
+60			6.45	50.33	343.40	6.93

Staked on 6' offset west.

BP- NW - Montone at Univ.

MH #32 (See B 50.1 - P 28)

Grade Sheet # 82 2-6-22

MH #31

Cont'd on Page 29

Cont'd from Page 28

Smale
Chisholm } 2-6-22
Rogers

Sta.	+	HI	-	Elev.	Grade .2974 %	Cut					
0+00				350.33	343.40	6.93		MH 31			
+25	2.03	52.36	2.88	49.48	43.47	6.01					
+50			3.67	48.69	43.55	5.14					
+75			3.92	48.44	43.62	4.82					
1			4.07	48.29	43.70	4.59					
+25			3.92	48.44	43.77	4.67					
+50			3.83	48.53	43.85	4.68					
+75			3.94	48.42	43.92	4.50					
2			3.85	48.51	43.99	4.52		Grade Sheet	# 83	2-	
+25			4.68	47.68	44.07	3.61					
+50			4.61	47.65	44.14	3.51					
+75			4.60	47.76	44.22	3.54					
3			4.44	47.92	44.29	3.63					
+25			—	—		—					
+50			4.54	47.82	44.40	3.42					
+80			3.97	48.39	344.53	3.86	Outlet	MH # 30	8" So.	6" No.	
+80				48.39	344.73	3.66	Inlet.				

Cont'd on Page #30

Cont'd from Page 29

Smale
Chisholm } 2-6-22
Rogers

Sta.	+	H.I.	−	Elev.	Grade	Cut
0+00				348.39	344.73	3.66
+25	8.18	56.57	7.39	49.18	44.83	4.35
+50			7.38	49.19	44.93	4.26
+75			6.80	49.77	45.03	4.74
1			6.40	50.17	45.13	5.04
+25			5.88	50.69	45.23	5.46
+50			5.56	51.01	45.33	5.68
+75			5.17	51.40	45.43	5.97
2			4.32	52.25	45.53	6.72
+25			3.91	52.66	45.63	7.03
+50			3.91	52.66	45.73	6.93
+75			3.48	53.09	45.83	7.26
3			3.31	53.26	45.93	7.33
+25			3.26	53.31	46.03	7.28
+50			3.15	53.42	46.13	7.29
+75			2.88	53.69	46.23	7.46
4+00			2.70	53.87	346.33	7.54

Cont'd on Page 31

Staked on 6' offset West.

MH # 30 – 2x2 Hub & tacks at center + 6' E + W.

Grade Sheet # 84 10-9-22

MH # 29 – 2x2 Hub & tack at center + 6' E + W.

Cont'd from Page 30

Smale
Chisholm } 2-6-22
Rogers

Sta.	+	H.I.	−	Elev.	Grade	Cut.	
					·4		Staked on 6' offset W.
0+00				53.87	346.33	7.54	MH #29 – 2x2 Hubs + tacks at center + 6' E + W.
+25	6.05	59.92	7.47	52.45	46.43	6.02	
+50			7.12	52.80	46.53	6.28	
+75			7.58	52.34	46.63	5.71	
1			5.53	54.39	46.73	7.66	
+25			5.37	54.55	46.83	7.72	
+50			4.94	54.98	46.93	8.05	
+75			4.84	55.08	47.03	8.05	Grade Sheet #85 2-10-22
2			4.66	55.26	47.13	8.13	
+25			4.81	55.11	47.23	7.88	
+50			4.61	55.31	47.33	7.98	
+75			4.31	55.61	47.43	8.18	
3			4.64	55.28	47.53	7.75	
+25			4.36	55.56	47.63	7.93	
+50			4.40	55.52	47.73	7.79	
+75			4.62	55.30	47.83	7.47	
4+00			4.63	55.29	347.93	7.36	MH #28 – 2x2 Hubs + tacks at center + 6' E + W.

Cont'd on Page 32

Cont'd from Page 31

Smale
Chisholm } 2-6-22
Rogers

Sta.	+	H.I.	−	Elev.	Grade -3995	Cut	
0+00				355.29	347.93	7.36	Staked on 6' offset west. MH #28 2x2 Hub + tack at center + 6' E + W.
+25	5.36	60.65	5.15	55.50	48.03	7.47	
+50			4.71	55.94	48.13	7.81	
+75			4.78	55.87	48.23	7.64	
1			4.87	55.78	48.33	7.45	
+25			4.89	55.76	48.43	7.33	
+50			4.75	55.90	48.53	7.37	
+75			4.74	55.91	48.63	7.28	Grade Sheet #86 2-10-22
2			4.79	55.86	48.73	7.13	
+25			4.83	55.82	48.83	7.09	
+50			4.65	56.00	48.92	7.08	
+75			4.74	55.91	49.03	6.88	
3			4.86	55.79	49.13	6.66	
+25			5.05	55.60	49.23	6.37	
+50			4.95	55.70	49.33	6.37	
+75			4.52	56.13	49.43	6.70	
4+00 42	TP		4.30	56.35	349.53 S.B.	6.82	FT #8 2x2 at center + 6' E + W.
B.M	3.16	59.51	6.52	352.99	352.97	B82-P4	Mentone at El Cajon

Smale
Chisholm } 2-14-22
Rogers

Lateral Sewers - Sierra Euclid Alley -
MH#4 to FT#3 - Anna to Orange -
Cont'd from Page #27

Sta.	+	H.I.	-	Elev.	Grade	Cut.	
							Staked on 6' offset offset W.
0+00		See Page-27		344.28	339.40	5.88	MH#4 - 2X2 at center & at P.I. of 6' offsets N. & W. also at P.I. of 6' offsets S. & E.
+25	11.71	355.99	9.39	46.60	40.16	6.44	
+50			7.42	48.51	40.93	7.64	
+75			6.10	49.89	41.69	8.20	
1			5.37	50.62	42.45	8.17	
+25			4.81	51.18	43.22	7.96	
+50			4.52	51.47	43.98	7.49	Grade sheet #90 2-20-22
+75			4.30	51.69	44.74	6.95	
2			3.90	52.09	45.51	6.58	
+25			3.79	52.20	46.27	5.93	
+50			3.44	52.55	47.04	5.51	
+75			3.46	52.53	47.80	4.73	MH#3 - 2X2 at center & 6' E & W.

Continued on Page 34

Smale, Chisholm, Rogers } 2-14-22

Continued from Page-34

Sta-	+	HI	-	Elev.	Grade-	Cut	
	From						Staked on 6' offset W.
0+00	Page 33	355.99	3.46	52.53	347.80	4.73	MH #3 - 2X2 at center + 6' E + W.
+25	TP		3.04	52.95	47.90	5.05	
+50	5.45	58.40	5.50	52.90	48.00	4.90	
+75			5.22	53.18	48.10	5.08	
1			4.99	53.41	48.20	5.21	
+25			4.66	53.74	48.30	5.44	
+50			4.62	53.78	48.40	5.38	Grade sheet #91 2-20-22
+75			4.30	54.10	48.50	5.60	
2			4.23	54.17	48.60	5.57	
2+25	TP		4.07	54.33	48.70	5.63	
+50	3.61	57.94	3.28	54.66	48.80	5.86	
+75			3.11	54.83	48.90	5.93	
3			3.02	54.92	349.00 S.B.	5.92	F.T. #3 - 2X2 Hub + tack at center + 6' E + W.
BM			7.29	50.65	350.66		B82 P4 - B.P. S.W. cor Orange at Euclid

Lateral Sewers - Sierra-Euclid Alley.
MH#T-7 at El Cajon to FT#2 No. of Orange

Smole
Chisholm } 2-14-22
Rogers

Sta	+	H.I.	-	Elev.	Grade	Cut	
BM				344.98			Staked on 6' offset E.
0+00	4.96	49.94	3.40	46.54	339.00	7.54	E/S Mt. ring at center Ex N. MH#T-77
+25			3.55	46.39	39.10	7.29	
+50			3.78	46.16	39.20	6.96	
+75			4.19	45.75	39.30	6.45	
1			4.10	45.84	39.40	6.44	
+25			4.27	45.67	39.50	6.17	
+50			4.35	45.59	39.60	5.99	
+75			4.22	45.72	39.70	6.02	
2	TP		4.23	45.71	39.80	5.91	Grade sheet #92 2-20-22
+25	5.95	51.66	6.08	45.58	39.90	5.68	
+50			6.08	45.58	40.00	5.58	
+75			5.89	45.77	40.10	5.67	
3			5.45	46.21	40.20	6.01	
+25			5.07	46.59	40.30	6.29	
+50			5.04	46.62	40.40	6.22	
+75			4.93	46.73	40.50	6.23	
4			5.03	46.63	40.60	6.03	

Continued on Page 36

Smale
Chisholm } 2-14-22
Rogers

Continued from Page 35

Sta.	+	H.I.	-	Elev.	Grade	Cut	
4+25		51.66	3.81	47.85	340.70	7.15	Staked on 6' offset E
+50			4.75	46.91	40.80	6.11	
+75			4.51	47.15	40.90	6.25	
5			4.17	47.49	41.00	6.49	MH #2 - 2x2 at center + 6' E + W.

Cont'd on Page 37.

Cont'd from Page 36.

Smale, Chisholm, Rogers } 2-4-22

Sta.	+	H.I.	−	Elev.	Grade	Cut	Staked on 6' offset E.
0+00		51.66	4.17	47.49	341.00	6.49	MH # 2 - 2x2 at center & 6' E & W.
+25			4.28	47.38	41.30	6.08	
+50			3.99	47.67	41.60	6.07	
+75	TP		3.87	47.79	41.90	5.89	
1	5.36	53.15	5.18	47.97	42.20	5.77	
+25			4.78	48.37	42.50	5.87	
+50			5.00	48.15	42.80	5.35	
+75			5.12	48.03	43.10	4.93	
2			5.20	47.95	43.40	4.55	
+25			4.95	48.20	43.70	4.50	Grade Sheet #93 2-20-22
+50			5.28	47.87	44.00	3.87	
+75			4.83	48.32	44.30	4.02	
3			4.39	48.76	44.60	4.16	
+25			3.54	49.61	44.90	4.71	
+50	TP		2.78	50.37	45.20	5.17	
+75	6.12	56.49	5.24	51.25	45.50	5.75	
4+02.5			4.73	51.76	45.80	5.96	
+25			4.08	52.41	46.10	6.31	
+50			3.46	53.03	46.40	6.63	
+80			2.74	53.75	46.76	6.99	F. T. # 2 - 2x2 at center & 6' E & W.
BM -			5.82	350.67	S.B. 350.66	BP.	Euclid at N.W. cor Orange. - B82-P-4.

Lateral Sewers-Cabrillo-Chamoune alley.
MH#39-So. of Anna to MH#37- So. of Orange.

Smale
Chisholm
Rogers } 2-15-22.

Sta.	+	H.I.	−	Elev.	Grade	Cut.	
BM				349.58			Staked on 6' offset W.
TP	10.40	359.98	3.94	56.04			
0+00 W/S	5.14	361.18	5.16	56.02	344.19	11.83	MH# 39- 2x2. Hub & tack at center & 6' E & W.
+25	2.57	58.59	2.67	55.92	44.28	11.64	
+50			2.95	55.64	44.36	11.28	
+75			3.10	55.49	44.45	11.04	
1			3.71	54.88	44.54	10.34	
+25			4.12	54.47	44.63	9.84	
+50			4.75	53.84	44.72	9.12	
+75			5.05	53.54	44.80	8.74	Grade Sheet # 88 2-17-'22
2			5.41	53.18	44.89	8.29	
+20			6.43	52.16	44.98	7.18	
+50			7.42	51.17	45.07	6.16	
+75			6.74	51.85	45.15	6.70	
3	TP		7.17	51.42	45.24	6.18	
+25	3.82	55.24	4.05	51.19	45.33	5.86	
+50			4.54	50.70	45.42	5.28	
+75			4.83	50.41	45.51	4.90	
4			4.80	50.44	45.59	4.85	
+25			4.81	50.43	45.68	4.75	
+58 66			5.00	50.24	345.80	4.44	MH# 38- 2x2 at center & 6' E & W.

Smale, Chisholm, Rogers } 2-15-22

Cont'd from Page # 38

Sta.	+	H.I.	–	Elev.	Grade	Cut.	
							Staked on 6' offset W.
0 +00		355.24	5.00	350.24	346.00	4.24	MH#38 - 2x2 at center + 6' E + W.
+25			4.90	50.34	46.14	4.20	
+50			4.65	50.59	46.27	4.32	
+75			4.82	50.42	46.41	4.01	
1			4.91	50.33	46.54	3.79	
+25			4.68	50.56	46.68	3.88	
+50	TP		4.70	50.54	46.82	3.72	
+75	6.61	57.15	6.60	50.55	46.95	3.60	
2			6.21	50.94	47.09	3.85	Grade Sheet #94 2-23-22
+25			5.75	51.40	47.22	4.18	
+50			5.16	51.99	47.36	4.63	
+75			4.85	52.30	47.50	4.80	
3			4.50	52.65	47.63	5.02	
+25			4.37	52.78	47.77	5.01	
+40	TP		3.99	53.16	347.85	5.31	MH#37 - 2x2 at center + 6' E + W.
BM	3.01	56.17	5.00	51.17	351.17		BP - Chamounge at N.W. cor Orange. B82 - P2.
BM			3.67	52.50	352.50		✓ Cabrillo ✓ ✓ ✓ ✓ ✓ P-1

Lateral Sewers - Cabrillo - Chamoune alley -
MH#40 - S. of Univ. to MH#39 No. of Univ. -

Sta.	+	H.I.	—	Elev.	Grade .6158%
BM-				349.58	
1+00 ES	10.40	59.98	8.40	51.58	X
+25			6.25	53.73	
1+00 WS			8.46	51.52	342.85
+25			6.32	53.66	42.94
+50			5.41	54.57	43.03
+75			4.39	55.59	43.11
2			4.12	55.86	43.20
+25			4.14	55.84	43.29
+50	TP		3.94	56.04	43.38
+75	5.14	61.18	5.01	56.17	43.47
3			5.12	56.06	43.55
+25			4.90	56.28	43.64
+50			5.10	56.08	43.73
+75			5.14	56.04	43.82
4			4.98	56.20	43.91
+25			5.07	56.11	43.99
+50			5.01	56.17	44.08
+80			5.16	56.02	44.19

Revised Grades - Smoke, Chisholm, Rogers 2-16-22

40

Cut	
	Staked on 6' offset W.
	BP - N.W. cor Cabrillo at Univ. BB2 - P1.
8.67	At N/S pavement - Univ. Ave.
10.72	
11.54	
12.48	
12.66	
12.55	Superseding Grades shown in B-S0.1 P-29
12.66	See Grade Sheet #87
12.70	
12.51	
12.64	
12.35	
12.22	
12.29	
12.12	
12.09	
11.83	MH#39 - 2x2 at center & 6' E & W.

Lateral Sewers - Menlo - Sierra alley.

Sta.	+	H.I.	-	Elev.		
BM-				347.15	2.0627 B82-P4	
0+00	8.18	355.33	5.98	49.35	343.00	6.35
+25			7.40	47.93	43.52	4.41
+50			6.00	49.33	44.03	5.30
+75			3.90	51.43	44.55	6.88
1			3.07	52.26	45.06	7.20
+25			2.01	53.32	45.58	7.74
+50 TP			0.48	54.85	46.09	8.76
+75	8.72	63.57	7.38	56.19	46.61	9.58
2			6.41	57.06	47.13	9.93
+25			5.74	57.83	47.64	10.19
+50			5.11	58.46	48.16	10.30
+75			4.89	58.68	48.69	10.01
3			5.27	58.30	49.23	9.11
+25			5.01	58.56	49.70	8.86
+50			5.09	58.48	50.22	8.26
+75			5.01	58.56	50.74	7.82
4				58.73	51.25	7.48
+25			4.84	58.80	51.77	7.03
+46			4.77			
			5.15	58.42	352.20	6.22

Smale, Chisholm, Rogers } 2-17-22

Staked on 6' offset E.

BP - S.W. Sierra at El Cajon.

MH# T79 - Grade on E/S ring at ℄ El Cajon ℄ E & W.

Grade Sheet # 89 2-18-22

Superseding Grades on Page 25 - this book.

MH# 9 - 2x2 at center & 6' E & W.

Lateral Sewers - Chamoune - Cabrillo alley - MH 37 So. of Annato to F.T. #9 So. of El Cajon

Smale, Chisholm, Rogers } 2-23-22

Sta.	+	HI	−	Elev.	Grade	Cut.	
BM				351.17	.5473 Bez Pe		Staked on 6' offset W.
							BP - N.W. cor Chamoune at Orange
0+00	7.32	358.49	5.33	353.16	347.85	5.31	MH #37 - 2x2 at center & 6' E & W.
+25			5.08	53.41	47.99	5.42	
+50			7.36	51.13	48.12	3.01	
+75			6.60	51.89	48.26	3.63	
1			7.43	51.06	48.40	2.66	
+25			5.63	52.86	48.53	4.33	
+50			4.69	53.80	48.67	5.13	Grade sheet #95 2-23-22
+75			4.52	53.97	48.81	5.16	
2			4.58	53.91	48.94	4.97	
+25			4.22	54.27	49.08	5.19	
+50			4.21	54.28	49.22	5.06	
+75			4.33	54.16	49.36	4.80	
3	TP		4.11	54.38	49.49	4.89	
+25	5.53	59.91	5.12	54.79	49.63	5.16	
+50			4.98	54.93	49.77	5.16	
+80			4.84	355.07	349.93	5.14	MH #36 - 2x2 at center & 6' E & W.

Cont'd on Page 43.

Cont'd from Page 42.

Smale
Chisholm } 2-23-22
Rogers

Sta.	+	H.I.	—	Elev.	Grade	Cut	
	From Page 42				.5391%		Staked on 6' offset W.
0+00		59.91	4.84	55.07	349.93	5.14	MH #36- 2x2 at center & 6' E & W.
+25			5.02	54.89	50.06	4.83	
+50			5.00	54.91	50.20	4.71	
+75			4.89	55.02	50.33	4.69	
1			4.75	55.16	50.47	4.69	
+25			4.80	55.11	50.60	4.51	
+50			4.45	55.46	50.74	4.72	
+75			3.96	55.95	50.87	5.08	Grade sheet #96 2-23-22
2			3.55	56.36	51.01	5.35	
+25	TP		3.48	56.43	51.14	5.29	
+50	6.64	63.07	6.30	56.77	51.28	5.49	
+75			6.33	56.74	51.41	5.33	
3			6.00	57.07	51.55	5.52	
+25			5.56	57.51	51.68	5.83	
+50			4.97	58.10	51.82	6.28	
+83 96			4.87	58.20	352.00	6.20	FT #9- 2x2 at center & 6' E & W.
					S.B.		
			6.52	56.55	356.56		BP- S.W. Chamoune at El Cajon. B82 P4

Lateral Sewers - Granada - N. from El Cajon.
MH# T78 to FT# 1

Smale
Chisholm } 2-24-22
Rogers

Sta.	+	HI	—	Elev.	Grade	Cut	
							Staked on 6' offset W.
BM				344.98			BP - S.W. cor El Cajon at Euclid - B72 P3
0+00	7.23	52.21	5.62	46.59	339.00	7.59	MH # T78 - Take grade from W/S MH ring at center E & W.
+25			5.94	46.27	39.05	7.22	
+50			4.88	47.33	39.10	8.23	
+75			4.60	47.61	39.15	8.46	
1			4.27	47.94	39.20	8.74	
+25			4.00	48.21	39.25	8.96	
+50			3.82	48.39	39.30	9.09	
+75	TP		3.60	48.61	39.35	9.26	Grade Sheet # 97 2-24-22
2	4.68	53.29	4.60	48.69	39.40	9.29	
+25			4.53	48.76	39.45	9.31	
+50			4.53	48.76	39.50	9.26	
+75			4.78	48.51	39.55	8.96	
3			4.96	48.33	39.60	8.73	
+25			4.88	48.41	39.65	8.76	
+50			4.91	48.38	39.70	8.68	
+75			5.02	48.27	39.75	8.52	
4+00			5.24	48.05	39.80	8.25	
4+25			5.47	47.82	39.85	7.97	
+50			6.01	47.28	39.90	7.38	
+75	TP	353.29	6.57	46.72	339.95	6.77	MH#1 - 2X2 at center + 6' E & W.

Cont'd on P-45

Cont'd from Page 44

Smale
Chisholm } 2-24-'22
Rogers

Sta.	+	H.I.	—	Elev.	Grade	Cut.	
0+00	From P44-	353.29	6.57	346.72	339.95	6.77	Staked on 6' offset W. MH # 1 - 2x2 at center + 6' E & W.
+25	1.82	48.54	2.66	45.88	40.00	5.88	
+50			3.43	45.11	40.05	5.06	
+75			3.96	44.58	40.10	4.48	
1			4.45	44.09	40.15	3.94	
+25			4.62	43.92	40.20	3.72	
+50			4.85	43.69	40.25	3.44	
+75			5.36	43.18	40.30	2.88	
2			6.20	42.34	40.35	1.99	Grade Sheet # 98 2-24-'22
+25			6.47	42.07	40.40	1.67	
+50	TP		6.52	42.02	40.45	1.57	
+75	7.06	49.08	7.07	42.01	40.50	1.51	
3			6.92	42.16	40.55	1.61	
+25			6.01	43.07	40.60	2.47	
+50			5.23	43.85	40.65	3.20	
+75			4.62	44.46	40.70	3.76	
4			3.91	45.17	40.75	4.42	
+25			3.71	45.37	40.80	4.57	
+50		349.08	3.85	45.23	40.85	4.38	

Cont'd on Page 46

Cont'd from Page 45

Smale, Chisholm, Rogers } 2-23-22

Sta.	+ From	H.I.	−	Elev.	Grade	Cut.	Staked on 6' offset W.
47+75 72	P45	349.08	4.59	44.49	340.90	3.59	F.T. #1 - 2x2 at center + 6' E + W.
	TP		5.28	43.80	—	—	
	TP 8.49	52.29	3.59	48.70	—	—	
BM	3.76	52.46	5.28	47.18	S.B. 347.15	B.P.-	S.W. cor Sierra at El Cajon.
BM			7.46	45.00	S.B. 344.98	B.P.	S.W. cor El Cajon at Euclid

Lateral Sewers - Menlo No. from El Cajon
MH# T80 - FT# 5.

Smale, Chisholm, Rogers } 2-25-22

Sta.	+	H.I.	−	Elev.	Grade	Cut	Staked on 6' offset W.
BM				347.15	.3988 B82 P4		
0+00 TP	6.75	353.90	3.35	50.55	341.00	9.55	MH #T80 - on W/S MH ring at ℄ E & W.
+25	5.83	56.38	5.57	50.81	41.10	9.71	
+50			5.20	51.18	41.20	9.98	
+75			5.09	51.29	41.30	9.99	
1			5.41	50.97	41.40	9.57	
+25			5.15	51.23	41.50	9.73	
+50			4.98	51.40	41.60	9.80	
+75			4.56	51.82	41.70	10.12	Grade Sheet # 99 2-27-22
2			4.36	52.02	41.80	10.22	
+25			4.28	52.10	41.90	10.20	
+50			4.20	52.18	42.00	10.18	
+75			4.22	52.16	42.10	10.06	
3 TP			4.30	52.08	42.20	9.88	
+25	3.86	55.94	3.92	52.02	42.30	9.72	
+50			3.99	51.95	42.40	9.55	
+75			4.29	51.65	42.50	9.15	
4			4.56	51.38	42.60	8.78	
+25		355.94	4.90	351.04	42.70	8.34	

Cont'd from Page 47

Smale
Chisholm } 2-25-22
Rogers

Sta	+	H.I.	−	Elev.	Grade	Cut	
4+50		355.94	5.01	350.93	42.80	8.13	Staked on 6' offset W.
+75			5.30	50.64	42.90	7.74	
5+11 46			5.78	50.16	343.04	7.12	MH #8- 2x2 at center + 6' E + W.

Cont'd on P49

Cont'd from Page 48

Smale
Chisholm
Rogers } 2-25-22

Sta.	+	H.I.	-	Elev.	Grade .398	Cut			
0+00	From P48	355.94	5.78	350.16	343.04	7.12	Staked on 6' offset W.		
+25			6.06	49.88	43.14	6.74			
+50			6.10	49.84	43.24	6.60			
+75			6.28	49.66	43.34	6.32			
1	TP		6.53	49.41	43.44	5.97			
+25	3.95	53.36	4.28	49.08	43.54	5.54			
+50			4.34	49.02	43.64	5.38			
+75			4.55	48.81	43.74	5.07	Grade Sheet	#100	2-27-22
2			4.46	48.90	43.84	5.06			
+25			4.65	48.71	43.94	4.77			
+50			4.66	48.70	44.04	4.66			
+75			4.68	48.68	44.13	4.55			
3			5.01	48.35	44.23	4.12			
+25			5.27	48.09	44.33	3.76			
+50			5.17	48.19	44.43	3.76			
+75			4.91	48.45	44.53	3.92			
4			4.68	48.68	44.63	4.05			
+25			4.49	48.87	44.73	4.14			
+50			4.12	49.24	44.83	4.41			

Smale
Chisholm } 2-25-22
Rogers

Cont'd from Page 49

Sta.	+	H.I.	—	Elev.	Grade	Cut	Staked on 6' offset W.
4+75		353.36	3.93	349.43	44.93	4.50	
5+00 32			3.91	49.45	345.03	4.42	FT #5
	TP		3.95	49.41	—	—	
	TP 6.51	355.92	3.88	352.04	—	—	
	TP 3.28	355.32	4.77	350.55	—	—	
BM.	3.35	353.90	6.75	347.15	S.B. 347.15	BP- S.W. cor Sierra at El Cajon B82 P4	

Lateral Sewer - Monte Vista Ave.
MH# T-81 to #17 at Norwood.

Smale
Chisholm
Rogers } 2-28-22

Sta.	+	H.I.	−	Elev.	Grade	Cut.	
BM				352.97	B82P4	BP - S.W. cor. Mentone & El Cajon	
0-05	4.54	59.03	.54	54.49	342.16	12.33	2x2 on ℄ 5' So. of MH center on ℄ north
0+00	6.06	359.03	4.18	354.85	342.18	—	2x2 on ℄ 6' N. of MH center St. Grade - 364.17.
✓			5.30	53.73	—		2x2 - 25' South on ℄ Monte Vista.
+25			4.63	54.40	42.29	12.11	
+50			4.41	54.62	42.40	12.22	Note - .06 - discreppancy with T.&O. on El Cajon - New grade for MH top to be taken from new hub 5' south of MH center.
+75			4.24	54.79	42.51	12.28	
1			4.19	54.84	42.62	12.22	
+25			4.17	54.86	42.73	12.13	
+50			4.23	54.80	42.84	11.96	Grade Sheet #101 3-1-22
+75	TP		4.32	54.71	42.96	11.75	
2	3.05	57.76	3.40	54.36	43.07	11.29	
+25			3.52	54.24	43.18	11.06	
+50			3.79	53.97	43.29	10.68	
+75			4.14	53.62	43.40	10.22	
3			4.32	53.44	43.51	9.93	
+25			4.34	53.42	43.62	9.80	
+50			4.60	53.16	43.73	9.43	
+75			4.68	53.08	43.84	9.14	
4			4.75	53.01	43.95	9.06	

Smale
Chisholm } 2-28-22
Rogers

Cont'd from Page 52

Sta.	+	H.I.	—	Elev.	Grade	Cut	Staked on 6' offset W.
4+25		57.76	4.85	352.91	.443 44.06	8.85	
+60.66			5.12	52.64	344.22	8.42	MH# 18 -
BM			5.23	52.53	—	—	On curb west of Sta. 4+60.66
	TP		3.05	54.71	—	—	
BM	4.60	59.31	6.34.	52.97	352.97		BP- S.W. Mentone at El Cajon BB2-P4.

Continued on Page 53 -

Smale
Chisholm
Rogers } 3-3-22

Continued from Page 5

Sta.	+	H.I.	-	Elev.	Grade .3557	Cut	
							Staked on 6' offset W.
0+00	From Page 52			352.64	344.22	8.42	MH #18 - 2x2 at center & 6' E & W.
+25	3.56	56.20	3.70	52.50	44.31	8.19	
+50			3.74	52.46	44.40	8.06	
+75			3.73	52.47	44.49	7.98	
1			3.90	52.30	44.58	7.72	
+25			4.05	52.15	44.66	7.49	
+50			4.39	51.81	44.75	7.06	
+75			4.62	51.58	44.84	6.74	
2			4.92	51.28	44.93	6.35	Grade Sheet #102 - 3-4-22
+25			4.99	51.21	45.02	6.19	
+50			5.25	50.95	45.11	5.84	
+75			5.25	50.95	45.20	5.75	
3			5.38	50.82	45.29	5.53	
+25	3.93	54.75	4.01	50.74	45.38	5.36	
+50			4.20	50.55	45.46	5.09	
+75			4.47	50.28	45.55	4.73	
4			4.31	50.44	45.64	4.80	
+25			4.05	50.70	45.73	4.97	
+61.03			4.00	50.75	345.86	4.89	MH #17 - 2x2 at P.I. 6' offset W & S also at P.I. of 6' offsets N & E.

Norwood St. - Monte Vista to Orchard -
MH#17 to MH#26.

Smale, Chisholm, Rogers } 3-3-22

Sta.	+	H.I.	-	Elev.	Grade .3942%	Cut					
							Staked on 6' offset S.				
0+00	From P53	354.75	4.00	350.75	345.86	4.89	MH#17 - 2x2 at center + at P.I. of 6' offsets S + W - also at P.I. of 6' offsets N + W.				
+25			4.38	50.37	45.96	4.41					
+50			4.90	49.85	46.06	3.79					
+75			5.05	49.70	46.16	3.54					
1			5.34	49.41	46.25	3.16					
+25			5.48	49.27	46.35	2.92					
+50			5.08	49.67	46.45	3.22					
+75			4.88	49.87	46.55	3.32	Gr. Sh - 1.03		3-6-22		
2			4.59	50.16	46.65	3.51					
+25	TP		4.26	50.49	46.75	3.74			52.12		
+50	8.02	58.51	7.52	50.99	46.85	4.14	5.35	57.47	4.88	52.59	SE
+75			6.99	51.52	46.94	4.58			4.40	53.07	SW
3 +			6.75	51.76	47.04	4.72					52.83
+25			6.54	51.97	47.14	4.83			6.22	51.15 ~~6.22~~	51.99
+39.86			6.39	352.12	347.20	4.92	MH#26 - 2x2 at center + at P.I. of 6' offsets S + E - also at P.I. offsets N + W.				

Continued on Page 55

Orchard - So. from Norwood -
MH#26 to FT#7 -

Smole, Chisholm, Rogers } 3-3-22

Sta.	+	H.I.	-	Elev.	Grade .771084%	Cut	Staked on 6' offset E.			
0+00	From P54-	358.51	6.39	352.12	347.20	4.92	MH#26- 2x2 at center + at P.I. of 6' offsets S + E - also at P.I. of 6' offsets N + W.			
+25			6.18	52.33	47.39	4.94				
+50			5.69	52.82	47.59	5.23				
+75			5.50	53.01	47.78	5.23				
1			5.16	53.35	47.97	5.38				
+25			4.58	53.93	48.16	5.77				
+50			4.52	53.99	48.36	5.63				
+75			4.41	54.10	48.55	5.55				
2			4.42	54.09	48.74	5.35				
+25			4.24	54.27	48.93	5.34	Grade Sheet #104- 3-9-22			
+50	TP		3.97	354.54	49.13	5.41				
+75	5.30	59.84	5.01	54.83	49.32	5.51				
3			5.01	54.83	49.51	5.32			56.10	
+25			4.80	55.04	49.71	5.33	4.99	61.09	5.38	55.71
+50			4.39	55.45	49.90	5.55			4.59	56.50
+75			4.15	55.69	50.09	5.60	Do set at			56.07-
4			3.91	55.93	50.28	5.65				
+15			3.74	56.10	350.40	5.70	MH#27- 2x2 at center + 6' E + W.			

Cont'd on Page 56.

Smole
Chisholm } 3-6-22
Rogers

Cont'd from Page 55

Sta	B.S. +	H.I	F.S. −	Elev.	Grade .77	Cut	Staked on 6' offset E.				
0+00	From Page 55			356.10	350.40	5.70	M#27 - 2x2 at center + 6' E + W.				
+25	5.36	361.46	5.14	56.32	50.59	5.73					
+50			4.92	56.54	50.78	5.76					
+75			4.86	56.60	50.98	5.62					
1			4.88	56.58	51.17	5.41					
+25			4.82	56.64	51.36	5.28					
+50			4.64	56.82	51.56	5.26					
+75			4.61	56.85	51.75	5.10	Grade Sheet #105 - 3-9-22				
2			4.53	56.93	51.94	4.99					
+25			4.57	56.89	52.13	4.76					
+50			4.30	57.16	52.33	4.83					
+75			4.16	57.30	52.52	4.78				58.29	
3	TP		4.03	57.43	52.71	4.72	4.65	62.94	4.99	57.95	E
+25	5.86	63.29	5.50	57.79	52.90	4.89			4.53	58.41	W.
+50			5.22	58.07	53.10	4.97					58.18
+75			5.19	58.10	53.29	4.89					
4			4.93	58.36	53.48	4.88					
+15.6			5.00	58.29	353.60	4.69	F.T.#7 - 2x2 at center + 6' E + W.				
BM			6.75	356.54	S.B. 356.56		BP - S.W. - Chamoune at El Cajon - B82 - P4.				

Highland Ave - No. from El Cajon -
MH#T84 to F.T.# 12

Sta.	+	H.I.	—	Elev.	Grade
BM				356.12	B82-P4
0-05	5.02	361.14	4.92	56.22	348.98
0+00			4.29	(56.99) 56.85	349.00
0+00			—	—	—
+25			5.00	56.14	49.10
+50			5.02	56.12	49.20
+75			5.11	56.03	49.30
1 -			5.13	56.01	49.40
+25			5.06	56.08	49.50
+50			5.10	56.04	49.60
+75			5.16	355.98	49.70
2	5.13	361.11	5.26	55.85	49.80
+25			5.04	56.07	49.90
+50			5.07	56.04	350.00
+75			5.04	56.07	50.10
3			4.99	56.12	50.20
+25			4.89	56.22	50.30
+50			5.01	56.10	50.40
+75			4.99	56.12	50.50

Spale
Chisholm } 3-7-22
Rogers

Cut	
	Staked on 6' offset W.
BP -	S.W. Highland at El Cajon.
7.24	1x2 on ℄ Highland - 5' So. of MH center
—	MH#T84 - 2x2 - 6' No. of MH center at 90° to ℄ of Trunk.
—	
7.04	
6.92	
6.73	
6.61	
6.58	Grade Sheet # 106 3-9-22
6.44	
6.28	
6.05	
6.17	
6.04	St. Gr - #T84 - 355.83
5.97	
5.92	St. Gr. # T83 357.33
5.92	
5.70	
5.62	

Smale
Chisholm
Rogers } 3-7-22

Cont'd from Page 57.

Sta.	+	H.I.	-	Elev.	Grade	Cut.	
4+00		361.11	4.92	56.19	350.60	5.59	Staked on 6' offset W.
+31 69			4.96	56.15	350.73	5.42	MH# 64 - 2x2 at center + 6' E of W.

Cont'd on Page 59

St. Grade - 356.88

Set MH cover + .73

Smale
Chisholm } 3-8-22
Rogers
- Schoen

Cont'd from Page 58

Sta	+	HI	−	Elev.	Grade .4	Cut	Staked on 6' offset W.
0+00				356.15	350.73	5.42	MH#64 - 2x2 at center + 6' E + W.
+25	5.65	61.80	5.67	56.13	50.83	5.30	
+50			5.69	56.11	50.93	5.18	
+75			5.56	56.24	51.03	5.21	
1			5.45	56.35	51.13	5.22	
+25			5.35	56.45	51.23	5.22	
+50			5.17	56.63	51.33	5.30	
+75			5.11	56.69	51.43	5.26	Gr. Sheet #107 3-9-22
2			4.95	56.85	51.53	5.32	
+25			4.86	56.94	51.63	5.31	
+50			5.04	56.76	51.73	5.03	
+75			5.07	56.73	51.83	4.90	
3	TP.		4.91	56.89	51.93	4.96	
+25	6.20	63.09	5.88	57.21	52.03	5.18	
+50			5.86	57.23	52.13	5.10	
+75			5.71	57.38	52.23	5.15	
4			5.57	57.52	52.33	5.19	
+30			5.31	57.78	352.45	5.33	MH# 63 - 2x2 at center + 6' E + W.

St. Grade - 357.99
Set MH cover + .21

Cont'd on Page 60.

Smale
Chisholm
Rogers
Schoen

Cont'd from Page 59

Sta.	+	H.I.	−	Elev.	Grade 3909%	Cut	Staked on 6' offset W.
0+00		363.09		357.78	352.45	5.33	MH#63 - 2X2 at center + 6' E + W.
+25			5.29	57.80	52.55	5.25	
+50			5.22	57.87	52.65	5.22	
+75			5.33	57.76	52.74	5.02	
1			5.29	57.80	52.84	4.96	
+25			5.17	57.92	52.94	4.98	
+50			5.01	58.08	53.04	5.04	
+75	TP		4.99	58.10	53.13	4.97	
2	5.83	63.93	5.71	58.22	53.23	4.99	Gr. Sheet # 108 3-9-22
+25			5.31	58.62	53.33	5.29	
+50			5.10	58.83	53.43	5.40	
+75			4.88	59.05	53.52	5.53	
3			4.71	59.22	53.62	5.60	
+25			4.68	59.25	53.72	5.53	
+50			4.74	59.19	53.82	5.37	
+75			4.93	59.00	53.92	5.18	
4			4.90	59.03	54.01	5.02	
+25			4.86	59.07	54.11	4.96	
+40 47			4.69	59.24	354.17	5.07	FT#12 - 2X2 at center + 6' E + W. St. Grade - 359.15 Set MH cover -.1

Cont'd from Page 60.

Smale
Chisholm
Rogers
Schoen } 3-8-22

Sta.	+	H.I.	−	Elev.	Grade	Cut.
TP		63.93	6.00	57.93		
TP	4.30	62.23	5.52	56.71		
TP	3.86	60.57	4.72	55.85		
TP	5.26	61.11	5.13	55.98		
TP	5.02	61.00	4.89	356.11	S.B. 356.12	B82P4- BP- S.W. Highland + El Cajon.

Lateral Sewers- Orangewood Ave-
MH-T85 to FT#14- S. of City Limits-

Smale, Chisholm, Rogers, Schoop } 3-10-22

Sta	+	H.I.	-	Elev.	Grade	Cut	
BM-				352.00	.418		
0-5	6.00	358.00	5.26	52.74	344.71	8.03	MH#T85-. 1X2 on E Orangewood .5' S. of MH center.
0+00			13.27	44.73	344.73		Flow line of 6" stub north-
				—	—	—	
+25			5.10	52.90	44.83	8.07	
+50			5.31	52.69	44.94	7.75	
+75			5.05	52.95	45.04	7.91	
1			4.56	53.44	45.15	8.29	
+25			4.28	53.72	45.25	8.47	
+50			4.15	53.85	45.36	8.49	
+75			3.92	54.08	45.46	8.62	
2	P		3.81	54.19	45.57	8.62	
+25	5.99	60.18	5.89	54.29	45.67	8.62	Grade Sheet #109
+50			5.76	54.42	45.78	8.64	
+75			5.49	54.69	45.88	8.81	
3			5.20	54.98	45.98	9.00	
+25			5.05	55.13	46.09	9.04	
+50			5.05	55.13	46.19	8.94	
+75			4.80	55.38	46.30	9.08	

12.6
.67
13.27
58.
44.83

344.8
12.6
357.4
8.
.6

.1045

Cont'd from Page 62

Smale
Chisholm } 3-10-22
Rogers
Schoen

Sta	+	H.I.	−	Elev.	Grade	Cut	
4+00		360.18	4.70	55.48	46.40	9.08	Staked on 6' offset W.
+14			4.83	55.35	346.46	8.89	MH # 80 - 2x2 at center + 6' E + W.

Cont'd on Page 64

Elev. W. curb - 55.49

✓ E. ✓ 55.94 - 55.71

55.35

W- 5.04 4.90

E- 4.45

Cont'd from Page 63

Smale, Chisholm, Rogers, Schoen } 3-10-22

Sta.	+	H.I.	-	Elev.	Grade .4%	Cut					
							Staked on 6' offset W.				
0+00		360.18	4.83	55.35	346.46	8.89	MH#80 - 2x2 at center & 6' E & W.				
+25			4.65	55.53	46.56	8.97					
+50			4.80	55.38	46.66	8.72					
+75			5.00	55.18	46.76	8.42			.1		
1	P		5.54	354.64	46.86	7.78					
+25	2.04	56.64	2.64	54.00	46.96	7.04					
+50			3.11	53.53	47.06	6.47					
+75			3.61	53.03	47.16	5.87					
2			3.90	52.74	47.26	5.48		Grade Sheet #110		3-11-22	
+25			4.16	52.48	47.36	5.12					
+50			4.68	51.96	47.46	4.50				52.95	
+75			4.60	52.04	47.56	4.48	4.81	57.96	4.97	52.79	W
3			4.61	52.03	47.66	4.37			4.21	53.55	E
+25			4.32	52.32	47.76	4.56					53.17
+50			4.17	52.47	47.86	4.61					
+75			3.95	52.69	47.96	4.73					
4			3.98	52.66	48.06	4.60					
+25			3.78	52.86	48.16	4.70					
+40			3.69	52.95	348.22	4.73	MH#79 - 2x2 at center & 6' E & W.				

Smale
Chisholm } 3-10-20
Rogers
Schoen

Cont'd from Page 64

Sta.	+	H.I.	−	Elev.	Grade .386	Cut					
				352.95	348.22	4.73	Staked on 6' offset W. NH#79 - 2x2 at center + 6' E + W.				
0+00											
+25	5.93	58.88	5.76	53.12	48.32	4.80					
+50			5.60	53.28	48.41	4.87					
+75			5.29	53.59	48.51	5.08				.0965	
1			5.13	53.75	48.61	5.14					
+25			4.95	53.93	48.70	5.23					
+50			4.77	54.11	48.80	5.31					
+75			4.54	54.34	48.90	5.44					
2			4.43	54.45	48.99	5.46	Grade Sheet #111 - 3-11-22				
+25			4.42	54.46	49.09	5.37					
+50			4.37	54.51	49.19	5.32					
+75			4.13	54.75	49.28	5.47					
3			4.13	54.75	49.38	5.37					
+25	5.09	59.84	5.11	54.73	49.47	5.26					
+50			4.99	54.85	49.57	5.28				54.93	
+75			4.98	54.86	49.67	5.19	5.69	60.62	4.75	55.87	E
4			4.94	54.90	49.76	5.14			5.91	54.71	W
+25			4.83	55.01	49.86	5.15					55.29
+40 oc			4.91	54.93	349.92	5.01	F.T. #14 2x2 at center + 6' E + W.				

Cont.

Cont'd from Page 65

Smale
Chisholm
Rogers
Schoen } 3-10-22

Sta.	+	H.I.	−	Elev.	Grade	Cut.	Staked on 6' offset W.
BM-		59.84	0.10				New B.M. - Nail in S/S electric pole east of Orangewood - at City Limits (Pole # 4275)
	TP		5.47	54.37			
	3.23	57.60	4.83	52.77			
	7.46	60.23	6.05	54.18			
					S.B		
	3.20	57.38	5.39	51.99	52.00		

7.60
52.74
4.86

7.23
54.19
6.04

7.38
4.27
53.11

Lateral Sewers - Highland - Cabrillo alley -
From MH # T54 at Center to MH # 60

Sta.	+	H.I.	=	Elev.	Grade 1.88%	Cut.	Staked on 6' offset W.
BM				326.51	B82 P63	—	BP - N.W. cor. Cabrillo at Center -
0+00	3.73	30.24	5.85	24.39	321.00	3.39	MH # T54 - Take grade from W/S MH ring at ℄ E + W.
+25			6.29	23.95	21.47	2.48	
+50			4.10	26.14	21.94	4.20	
+75			2.15	28.09	22.41	5.68	
1	TP		0.69	29.55	22.88	6.67	
+25	7.91	37.46	7.22	30.24	23.35	6.89	
+50			6.86	30.60	23.82	6.78	Grade Sheet # 112 3-11-22
+75			6.22	31.24	24.29	6.95	
2			5.95	31.51	24.76	6.75	
+25			5.59	31.87	25.23	6.64	
+50			5.43	32.03	25.70	6.33	
+75			out	—			
3			4.78	32.68	26.64	6.04	
+25			4.57	32.89	27.11	5.78	
+50			4.28	33.18	27.58	5.60	
+75			3.78	33.68	28.05	5.63	
4+11.3			3.54	33.92	328.73	5.19	MH # 62 - 2x2 at center + 6' E + W.

Cont'd on Page 68.

Smale
Chisholm
Rogers
Schoen } 3-10-22

.47

324.2
24.39

7.93
7.69
.24

5.21
4.39
.74

7.8
6.3
1.5

3.78
3.54
.24

Cont'd from Page 67

Smale
Chisholm
Rogers
Schoen } 3-10-22

Sta.	+	H.I.	÷	Elev.	Grade 1.89%	Cut	
0+00				333.92	328.73	5.19	Staked on 6' offset W. MH #67 - 2x2 at center & 6' E & W.
+25	7.69	341.61	7.08	34.53	29.20	5.33	
+50			6.79	34.82	29.68	5.14	
+75			6.29	35.32	30.15	5.17	
1			5.75	35.86	30.62	5.24	.4725
+25			5.23	36.38	31.09	5.29	
+50			4.87	36.74	31.57	5.17	
+75			4.67	36.94	32.04	4.90	Grade Sheet #113 3-11-22
2			3.61	38.00	32.51	5.49	
+25			3.09	38.52	32.98	5.54	
+50			3.53	38.08	33.46	4.62	
+75			2.84	38.77	33.93	4.84	
3			3.23	38.38	34.40	3.98	
+25			1.77	39.84	34.87	4.97	
+50	8.02	47.86	7.62	40.24	35.35	4.89	
+75			7.02	40.84	35.82	5.02	
4+08 68			6.57	41.29	336.45	4.84	MH #61 - 2x2 at center & 6' E & W.

Cont'd on Page - 69.

Smale, Chisholm, Rogers, Schoen } 3-10-22

Cont'd. from Page 68 -

Sta.	+	H.I.	-	Elev.	Grade .2988%	Cut.	Staked on 6' offset W.
0+00	From Page-68	347.86	6.57	41.29	336.45	4.84	MH # 61 - 2x2 at center + 6' E + W.
+25			6.09	41.77	36.52	5.25	
+50			5.92	41.94	36.60	5.34	
+75			5.41	42.45	36.67	5.78	
1			4.75	43.11	36.75	6.36	.0747
+25			3.87	43.99	36.82	7.17	
+50			3.78	44.08	36.90	7.18	
+75			3.60	44.26	36.97	7.29	
2			3.30	44.56	37.05	7.51	
+25			2.95	44.91	37.12	7.79	
+50	TP		2.78	45.08	37.20	7.88	
+75	6.27	51.35	5.64	45.71	37.27	8.44	
3			5.53	45.82	37.35	8.47	
+25			5.54	45.81	37.42	8.39	
+50			5.80	45.55	37.50	8.05	
+81 53	TP		5.07	46.28	337.59 S.B.	8.69	MH # 60 - 2x2 at center + 6' E + W.
BM	6.58	52.86	5.27	47.59	347.52		BP - N.W. Highland at Howard - B82 P-30
BM-			4.44	48.42			BP - N.W. Cabrillo at Howard -

Cont'd in Book No. 3 - Page 3.

BM				347.52		Howard + Highland-
TP	2.50	350.02	8.23	41.79		
BM	2.25	44.04	7.41	336.63	(36.71 / 36.63)	Clark + Highland-
~~TP~~	6.39	43.02	3.24	39.78		3+25 — 61-62
TP			3.15	39.87		
TP	1.99	41.86	7.80	34.06		
BM-	1.34	35.40	8.98	26.42	26.51	
BM	8.32	34.74	1.78	32.96	33.05	Center + ~~Cham~~ 84 Cab
						v + Cham 39.78 / .6

4.41 4.21 20		4.93 4.72 .21	
5.07	54.48		49.41
		5.17	49.31
5.07	61.20		56.13
		5.50	55.70
		4.85	56.35

Ji. T. # 2 - 38.7 N. of N. curb Orange.

2.57

1.57
1.27
3
.97

40.89
35.45
5.44

1.02
.30
.3060

41.81
35.27
6.54

8.30

3.32
3.02
2.72
3
2.42
3

4.03

4.49

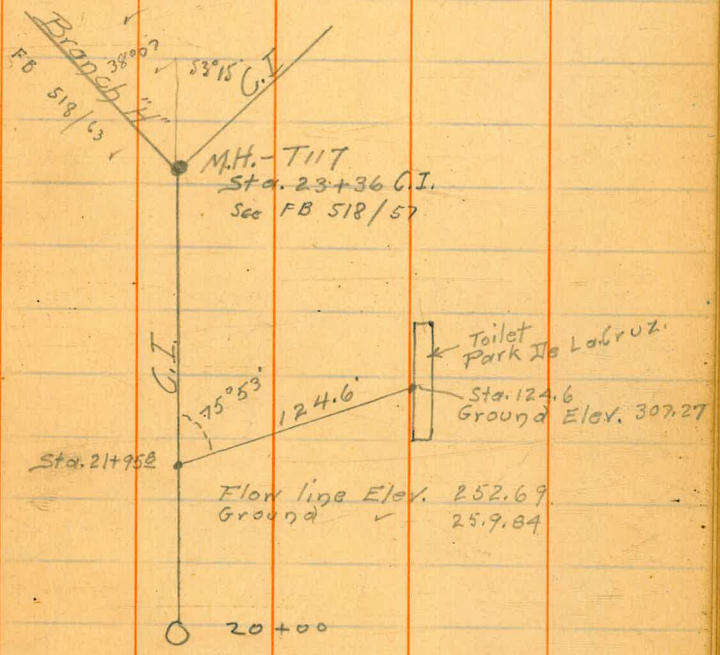
1.02
.3
.306

				44.02
	3.77	47.79		
			4.97	42.82
1+75			4.77	43.02
			4.89	42.90
2			5.00	42.79
			4.72	
			4.68	43.11
			4.49	
			.46	43.33
			4.40	
			4.37	43.42
			3.78	
3+00			3.76	45.03
			3.66	
			3.65	44.14
			3.05	44.74
			2.15	45.64
			1.06	46.73
		42.82 / 36.78 / 6.04		42.90 / 36.85 / 6.05

Smale
Chisholm } 1-25-22
Rogers

Flow line

Ground line



	B.S	HI.	TP	F.S.	El
BM—	3.42	27.03			423.61
		47.71 4.30 52.01 4.91 47.10		48.33 4.30 52.63 4.91 47.72	
TP			2.18	52.63 4.57 48.06	

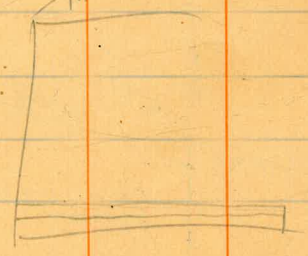
51.35
4.75
56.10
4.72
51.38

6.10
5.26
50.84

56.10
4.25
1.85

51.35
4.25
56.10
4.77
1.38

6.10
5.26
.84



41.66
4.65
46.31
41.55
4.76

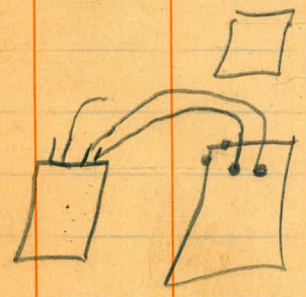
46.31
4.58
41.73

46.31
4.785
41.53

46.31
41.65
4.66

46.31
41.77
4.54

4.65
4.58
.07



Hunsicker
28-29 Ch. Pk.

	4.65	56.24	2.50	53.74	
3.47			1.38	50.36	
45.07					
48.54					
2.81					
45.73					
	5.40	54.98		49.58	
			4.41	50.57	50.56
			3.73	51.25	51.24
48.45	46.23		3.52	51.46	51.47
7.20	4.98		3.39	51.59	51.61
41.25	41.25			53.78	53.74
46.23			0.12	54.86	54.86
4.98					
46.20					
5.76					
51.96					
6.33					
5.63					
4	8.95	56.56		47.61	
0+50	0.51	48.94	8.13	48.43	
1+25	5.49	47.97	6.46	42.48	
	12.46	52.46	7.97	40.00	40.04
			3.61	48.85	
	3.88	55.06		51.18	
			7.35	47.71	
			6.41	48.65	
			6.79	48.27	

5.425
3.88
1.545

6.516
5
1.516
1.545
.29

5.14
4.78
.36

144

3)36(12

42.50
6.90
54.40
3.43
50.97

153
6
147

51.18
0.97
0.21

Table IX.—Calculation of Earthwork.

Width	Height 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	.02	.04	.06	.07	.09	.11	.13	.15	.17	.18	.20	.22	.24	.26	.28
2	.04	.07	.11	.15	.18	.22	.26	.30	.33	.37	.41	.44	.48	.52	.56
3	.06	.11	.17	.22	.28	.33	.39	.44	.50	.56	.61	.67	.72	.78	.83
4	.07	.15	.22	.30	.37	.44	.52	.59	.67	.74	.81	.89	.96	1.04	1.11
5	.09	.19	.28	.37	.46	.56	.65	.74	.83	.93	1.02	1.11	1.20	1.30	1.39
6	.11	.22	.33	.44	.56	.67	.78	.89	1.00	1.11	1.22	1.33	1.44	1.55	1.67
7	.13	.26	.39	.52	.65	.78	.91	1.04	1.16	1.30	1.42	1.55	1.68	1.81	1.94
8	.15	.30	.44	.59	.74	.89	1.04	1.19	1.33	1.48	1.63	1.78	1.92	2.08	2.22
9	.17	.33	.50	.67	.83	1.00	1.17	1.33	1.50	1.67	1.83	2.00	2.17	2.33	2.50
10	.18	.37	.56	.74	.93	1.11	1.30	1.48	1.67	1.85	2.04	2.22	2.41	2.59	2.78
11	.20	.41	.61	.82	1.02	1.22	1.43	1.63	1.83	2.04	2.24	2.44	2.65	2.85	3.06
12	.22	.44	.67	.89	1.11	1.33	1.56	1.78	2.00	2.22	2.44	2.67	2.89	3.11	3.33
13	.24	.48	.72	.96	1.20	1.44	1.68	1.92	2.16	2.41	2.65	2.89	3.13	3.37	3.61
14	.26	.52	.78	1.04	1.30	1.55	1.81	2.08	2.33	2.59	2.85	3.11	3.37	3.63	3.89
15	.28	.56	.83	1.11	1.39	1.67	1.94	2.22	2.50	2.78	3.06	3.33	3.61	3.89	4.17
16	.30	.59	.89	1.18	1.48	1.78	2.07	2.37	2.67	2.96	3.26	3.56	3.85	4.15	4.44
17	.31	.63	.94	1.26	1.57	1.89	2.20	2.52	2.83	3.15	3.46	3.78	4.09	4.41	4.72
18	.33	.67	1.00	1.33	1.67	2.00	2.33	2.67	3.00	3.33	3.67	4.00	4.33	4.67	5.00
19	.35	.70	1.06	1.41	1.76	2.11	2.46	2.82	3.17	3.52	3.87	4.22	4.57	4.92	5.28
20	.37	.74	1.11	1.48	1.85	2.22	2.59	2.96	3.33	3.70	4.07	4.44	4.81	5.18	5.56
21	.39	.78	1.17	1.55	1.94	2.33	2.72	3.11	3.50	3.89	4.28	4.67	5.06	5.44	5.33
22	.41	.81	1.22	1.63	2.04	2.44	2.85	3.26	3.67	4.07	4.48	4.89	5.30	5.70	6.11
23	.43	.85	1.28	1.70	2.13	2.56	2.98	3.41	3.83	4.26	4.68	5.11	5.54	5.96	6.39
24	.44	.89	1.33	1.78	2.22	2.67	3.11	3.56	4.00	4.44	4.89	5.33	5.78	6.22	6.67
25	.46	.92	1.39	1.85	2.31	2.78	3.24	3.70	4.17	4.63	5.09	5.56	6.02	6.48	6.94
26	.48	.96	1.44	1.92	2.41	2.89	3.37	3.85	4.33	4.82	5.30	5.78	6.26	6.74	7.24
27	.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50
28	.52	1.04	1.55	2.07	2.59	3.11	3.63	4.15	4.67	5.18	5.70	6.22	6.74	7.26	7.78
29	.54	1.07	1.61	2.15	2.68	3.22	3.76	4.30	4.83	5.37	5.91	6.44	6.98	7.52	8.06
30	.56	1.11	1.67	2.22	2.78	3.33	3.89	4.44	5.00	5.55	6.11	6.67	7.22	7.78	8.33
31	.57	1.15	1.72	2.30	2.87	3.44	4.02	4.59	5.17	5.74	6.32	6.89	7.46	8.04	8.61
32	.59	1.18	1.78	2.37	2.96	3.56	4.15	4.74	5.33	5.92	6.52	7.11	7.70	8.30	8.89
33	.61	1.22	1.83	2.44	3.05	3.67	4.28	4.89	5.50	6.11	6.72	7.33	7.94	8.55	9.17
34	.63	1.26	1.89	2.52	3.15	3.78	4.40	5.04	5.67	6.29	6.93	7.56	8.18	8.81	9.44
35	.65	1.30	1.94	2.59	3.24	3.89	4.53	5.18	5.83	6.48	7.13	7.78	8.42	9.08	9.72
36	.67	1.33	2.00	2.67	3.33	4.00	4.66	5.33	6.00	6.67	7.33	8.00	8.67	9.33	10.00
37	.68	1.37	2.06	2.74	3.42	4.11	4.79	5.48	6.17	6.85	7.54	8.22	8.91	9.59	10.28
38	.70	1.41	2.11	2.82	3.52	4.22	4.92	5.63	6.33	7.03	7.74	8.44	9.15	9.85	10.56
39	.72	1.44	2.17	2.89	3.61	4.33	5.05	5.78	6.50	7.22	7.95	8.67	9.39	10.11	10.83
40	.74	1.48	2.22	2.96	3.70	4.44	5.18	5.92	6.67	7.41	8.15	8.89	9.63	10.37	11.11

Table gives cu. yds. in 1 ft. of a triangle of given width and height. Corrections for tenths of width are one tenth the values found under each height considering the widths from 1 to 9 as tenths and similarly the corrections for tenths of height are one tenth the figures opposite width considering the heights from 1 to 9 as tenths. Thus if w =16.2 and h =5.3, cu. yds. =1.48+.028+.089 =1.597 cu. yds. or practically 160 cu. yds. per 100 ft. If w exceeds 40 ft., use one half and multiply result by 2, if both w and h are large use one half of each and multiply result by 4. Any cross-section may be divided into triangles by the following rule. To the triangle of the sum of the outside cuts (or fills) =h, and ½ the roadbed =w, add the triangles formed by taking the distance out to each break in turn (=w's) by the difference between the cuts (or fills) on each side of it (=h's) always subtracting the outer from the inner.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1½.

For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.2	8.3	8.5	8.6	8.8	8.9	9.1	9.2	9.4	0
1	9.5	9.7	9.8	10.0	10.1	10.3	10.4	10.6	10.7	10.9	1
2	11.0	11.2	11.3	11.5	11.6	11.8	11.9	12.1	12.2	12.4	2
3	12.5	12.7	12.8	13.0	13.1	13.3	13.4	13.6	13.7	13.9	3
4	14.0	14.2	14.3	14.5	14.6	14.8	14.9	15.1	15.2	15.4	4
5	15.5	15.7	15.8	16.0	16.1	16.3	16.4	16.6	16.7	16.9	5
6	17.0	17.2	17.3	17.5	17.6	17.8	17.9	18.1	18.2	18.4	6
7	18.5	18.7	18.8	19.0	19.1	19.3	19.4	19.6	19.7	19.9	7
8	20.0	20.2	20.3	20.5	20.6	20.8	20.9	21.1	21.2	21.4	8
9	21.5	21.7	21.8	22.0	22.1	22.3	22.4	22.6	22.7	22.9	9
10	23.0	23.2	23.3	23.5	23.6	23.8	23.9	24.1	24.2	24.4	10
11	24.5	24.7	24.8	25.0	25.1	25.3	25.4	25.6	25.7	25.9	11
12	26.0	25.2	26.3	26.5	26.6	26.8	26.9	27.1	27.2	27.4	12
13	27.5	27.7	27.8	28.0	28.1	28.3	28.4	28.6	28.7	28.9	13
14	29.0	29.2	29.3	29.5	29.6	29.8	29.9	30.1	30.2	30.4	14
15	30.5	30.7	30.8	31.0	31.1	31.3	31.4	31.6	31.7	31.9	15
16	32.0	32.2	32.3	32.5	32.6	32.8	32.9	33.1	33.2	33.4	16
17	33.5	33.7	33.8	34.0	34.1	34.3	34.4	34.6	34.7	34.9	17
18	35.0	35.2	35.3	35.5	35.6	35.8	35.9	36.1	36.2	36.4	18
19	36.5	36.7	36.8	37.0	37.1	37.3	37.4	37.6	37.7	37.9	19
20	38.0	38.2	38.3	38.5	38.6	38.8	38.9	39.1	39.2	39.4	20
21	39.5	39.7	39.8	40.0	40.1	40.3	40.4	40.6	40.7	40.9	21
22	41.0	41.2	41.3	41.5	41.6	41.8	41.9	42.1	42.2	42.4	22
23	42.5	42.7	42.8	43.0	43.1	43.3	43.4	43.6	43.7	43.9	23
24	44.0	44.2	44.3	44.5	44.6	44.8	44.9	45.1	45.2	45.4	24
25	45.5	45.7	45.8	46.0	46.1	46.3	46.4	46.6	46.7	46.9	25
26	47.0	47.2	47.3	47.5	47.6	47.8	47.9	48.1	48.2	48.4	26
27	48.5	48.7	48.8	49.0	49.1	49.3	49.4	49.6	49.7	49.9	27
28	50.0	50.2	50.3	50.5	50.6	50.8	50.9	51.1	51.2	51.4	28
29	51.5	51.7	51.8	52.0	52.1	52.3	52.4	52.6	52.7	52.9	29
30	53.0	53.2	53.3	53.5	53.6	53.8	53.9	54.1	54.2	54.4	30
31	54.5	54.7	54.8	55.0	55.1	55.3	55.4	55.6	55.7	55.9	31
32	56.0	56.2	56.3	56.5	56.6	56.8	56.9	57.1	57.2	57.4	32
33	57.5	57.7	57.8	58.0	58.1	58.3	58.4	58.6	58.7	58.9	33
34	59.0	59.2	59.3	59.5	59.6	59.8	59.9	60.1	60.2	60.4	34
35	60.5	60.7	60.8	61.0	61.1	61.3	61.4	61.6	61.7	61.9	35
36	62.0	62.2	62.3	62.5	62.6	62.8	62.9	63.1	63.2	63.4	36
37	63.5	63.7	63.8	64.0	64.1	64.3	64.4	64.6	64.7	64.9	37
38	65.0	65.2	65.3	65.5	65.6	65.8	65.9	66.1	66.2	66.4	38
39	66.5	66.7	66.8	67.0	67.1	67.3	67.4	67.6	67.7	67.9	39
40	68.0	68.2	68.3	68.5	68.6	68.8	68.9	69.1	69.2	69.4	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 41.9. For same slopes but other widths of roadbed correct above figures by one-half difference in width of roadbed; thus in example above for 20 ft. roadbed distance will be 41.9+(20—16)÷2 or 2 ft. added to 41.9 =43.9. For slopes of 1 on 1 see inside of front cover.

Copyright, 1914, by Eugene Dietzgen Co.