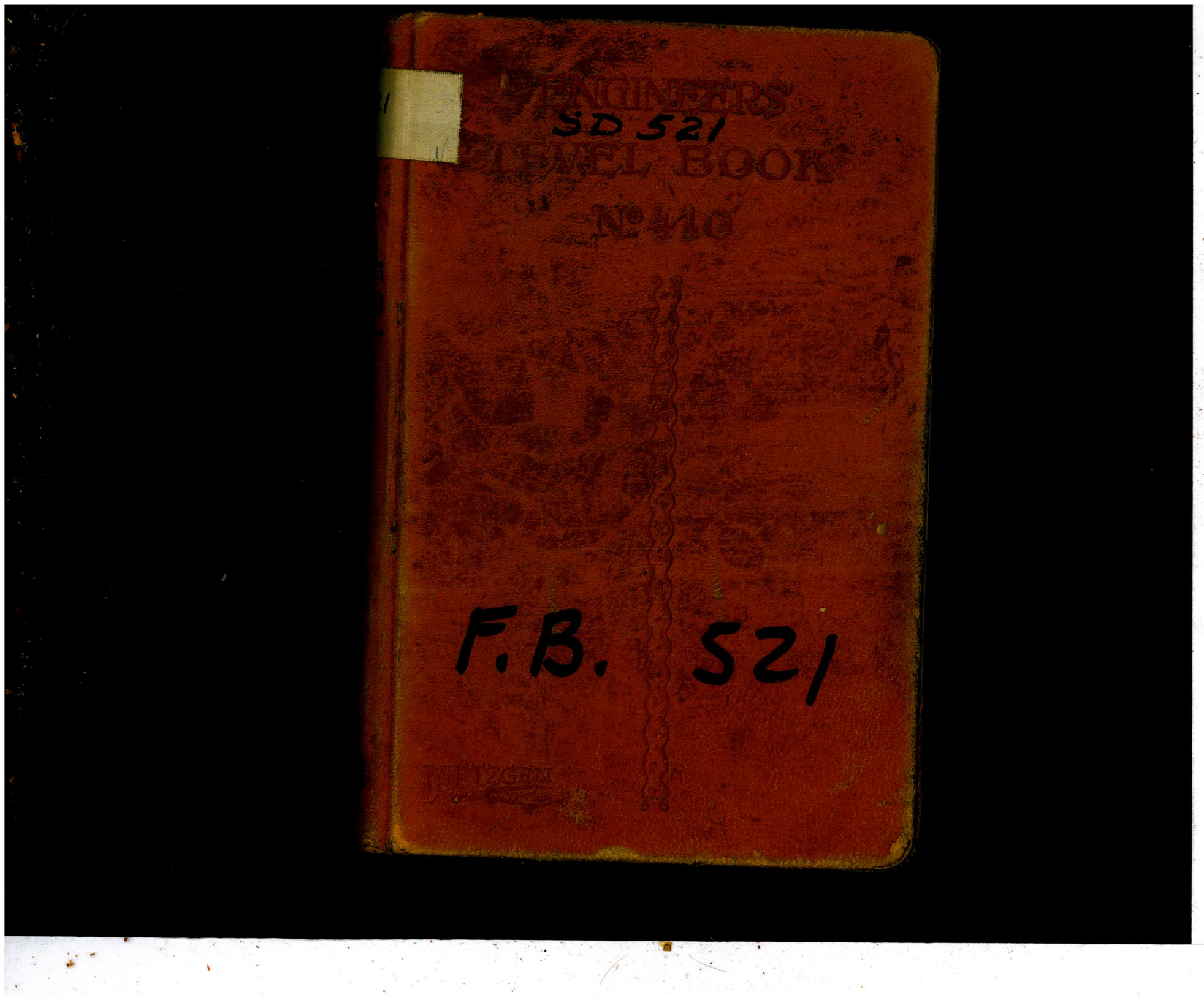

ENGINEERS
SD 521
LEVEL BOOK
No 410

F.B. 521

DIETZGEN

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

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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.

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Check Levels - Benches —	
Chamoune to Pauly - Center to Klauber	1-2
Laterals - Highland - Cabrillo alley.	
MH #60 to FT #	3-

Staked on 3' offset W

Sta.	+	H.I.	−	Elev. Stakes Surface	Elev. Grade	Cut.
Bottom Flatline & Castle 97 & Easement Bet. Roselawn & Euclid. SL. Castle St					338.17	
0+00		346.80	3.90	342.90	330.45	11.85 ✓
0+25			3.50	343.30	330.69	12.01 ✓
0+50			3.29	342.91	330.93	11.98 ✓
0+75			3.14	342.28	331.17	11.11 ✓
1+00			4.35	341.85	331.41	10.44 ✓
1+25			4.35	341.85	331.65	10.20 ✓
1+50			5.22	340.98	331.89	9.09 ✓
1+75			5.90	340.30	332.13	8.17 ✓
2+00			6.50	339.70	332.37	7.33 ✓
2+25			6.55	339.65	332.61	7.04 ✓
2+50			6.63	339.57	332.85	6.72 ✓
2+75			6.85	339.35	333.09	6.26 ✓
3+00			7.68	338.52	333.33	5.19 ✓
3+25			8.20	338.00	333.57	4.43 ✓
3+50			8.66	337.54	333.81	3.73 ✓
3+75			9.34	336.86	334.05	2.81 ✓
4+00			9.27	336.93	334.29	2.64 ✓
4+25						
4+50						

Check Levels - Benches -

Smale } 3-19-22
Schoen }

1

	+	H.I.	-	Elev.			
BM-				324.01		B-P- N.W.- Howard + Chamoune -	B82-P30
TP	7.47	331.48	2.34	329.14			
BM-	12.32	341.46	0.45	341.01	✓	B-P-N.W.- Castle + Chamoune -	B8-P3
BM-	6.15	347.16	4.21	342.95	✓	BP-N.W.- Castle + Cabrillo -	B-82-P3
BM-	12.12	355.07	1.61	353.46	353.50	B.P.-N.W. Castle + Highland -	B-82-P3.
TP	4.23	357.69	6.79	350.90			
BM-	3.74	354.64	7.09	347.55	347.52	Howard + Highland -	B82-P30.
BM-	5.63	353.18	4.79	348.39	?	BP-N.W. Howard + Cabrillo	?
TP	2.61	351.00	13.08	337.92			
TP	0.23	338.15	10.57	327.58			
BM-	2.24	329.82	5.815	324.005	324.01	BP- N.W.- Howard + Chamoune	B82-P30
BM				324.01	-	BP-N.W.- Howard + Chamoune.	B82-P30
TP	5.81	329.82	2.48	327.34			
TP	9.93	337.27	2.58	334.69			
BM	5.83	340.52	4.61	335.91	335.97	BP-N.W.- Clark + Chamoune	B82-P30
TP	3.99	339.90	5.77	334.13			
BM	4.61	338.74	5.74	333.00	333.05	BP-N.W.- Center + Chamoune.	B82-P63
BM	1.43	334.43	7.98	326.45	326.51	BP-N.W.- Center + Cabrillo.	✓ ✓

Check Levels - Contd from Page 1 -

	+	H.I.	-	Elev.		
BM -	From	Page 1.		326.45	326.51	Center & Cabrillo - B82 - P63
BM -	3.12	329.57	6.98	322.59	322.66	Center & Highland ✓ ✓
TP	8.50	331.09	2.01	329.08		
BM -	9.49	338.57	1.93	336.64	336.71	Clark & Highland B82 - P63
TP	7.98	344.63	2.67	341.96		
BM	8.14	350.10	2.55	347.55	347.52	Howard & Highland - See Page 1
TP -	2.90	350.45	7.11	343.34		
BM	4.24	347.58	6.69	340.89	340.95	(X) Howard & Fairmount - B82 - P6
BM	3.85	344.74	4.95	339.79	339.83	
TP	6.38	346.17	2.58	343.59		
BM	7.21	350.80	3.07	347.73	347.77	Castle & Pauly - B82 - P5
TP	6.16	353.89	3.44	350.45		
BM	6.65	357.10	3.55	353.55	?	Klauber & Pauly ?
BM	5.90	359.45	4.13	355.32	355.28	Klauber & Fairmount. B82 - P29
BM	4.91	360.23	5.58	354.65	354.65	Klauber & Colonial ✓ ✓
BM	3.65	358.30	7.52	350.78	350.78	Klauber & Highland - ✓ ✓
TP	5.72	356.50	3.78	352.72		
BM	5.36	358.08	4.61	353.47		Castle & Highland See Page 1

Lateral Sewers - Cabrillo - Highland alley - MH#60 to

Smale } 3-20-22 3
Chisholm }

Sta	+	HI	−	Elev.	Grade .3%	Cut	Staked on 6' offset W.
0+00	From Book So. 2 P. 69 -			346.28	337.59	8.69	MH#60 - 2x2 at center + 6' E + W.
+25	6.49	352.77	6.06	46.71	37.67	9.04	
+50			5.72	47.05	37.74	9.31	
+75			5.42	47.35	37.82	9.53	
1			4.81	47.96	37.89	10.07	
+25			5.12	47.65	37.97	9.68	
+50			4.88	47.89	38.04	9.85	
+75			4.63	48.14	38.12	10.02	Grade Sheet #116
2			4.53	48.24	38.19	10.05	
+25			2.99	49.78	38.27	11.51	
+50			2.84	49.93	38.34	11.59	
+75			2.52	50.25	38.42	11.83	
3	TP		2.12	350.65	38.49	12.16	
+25	6.15	356.80	5.84	51.06	38.57	12.49	
+50			5.62	51.18	38.64	12.54	
+80			5.56	351.24	338.73	12.51	MH# 59 2x2 at center + 6' E + W.

Cont'd on Page 4

Sta.	Contd from Page 3- +	HI.	−	Elev.	Grade .3%	Cut	
							Staked on 6' offset W.
0+00	From P-3	356.80	5.56	351.24	338.73	12.51	MH #59 2x2 at center + 6' E + W.
+25			4.89	51.91	38.81	13.10	
+50			5.18	51.62	38.88	12.74	
+75			4.98	51.82	38.96	12.86	
1			4.90	51.90	39.03	12.87	
+25			5.08	51.72	39.11	12.61	
+50			5.21	51.59	39.18	12.41	
+75			5.09	51.71	39.26	12.45	Grade Sheet #117.
2			5.02	51.78	39.33	12.45	
+25			5.10	51.70	39.41	12.29	
+50			5.25	351.55	39.48	12.07	
+75	2.55	354.10	2.58	51.52	39.56	11.96	
3			2.88	51.22	39.63	11.59	
+25			2.99	51.11	39.71	11.40	
+56 6			3.20	50.90	339.80	11.10	MH #58 2x2 at center + 6' E + W.

Contd on Page 5

Cont'd from Page 4

Sta.	+	H.I.	−	Elev.	Grade .3	Cut.	Staked on 6' offset W.
0+00	From P4	354.10	3.20	350.90	339.80	11.10	MH #58 2x2 at center + 6' E + W.
+25			3.40	50.70	39.88	10.82	
+50			3.17	50.93	39.95	10.98	
+75			6.03	48.07	40.03	8.04	
1			5.57	48.53	40.10	8.43	
+25			6.10	48.00	40.18	7.82	
BM			11.10	343.00	S.B. 342.95	B.P.-N.W. - Cabrillo at Castle -	B82-P3
+50			5.14	48.96	40.25	8.71	
+75			4.61	49.49	40.33	9.16	Grade Sheet #118
2			5.07	49.03	40.40	8.63	
+25	TP		5.27	348.83	40.48	8.35	
+50	3.92	352.75	3.68	49.07	40.55	8.52	
+75			3.92	48.83	40.63	8.20	
3			3.77	48.98	40.70	8.28	
+25			4.03	48.72	40.78	7.94	
+60			4.30	48.45	340.88	7.57	MH #57 - 2x2 at center + 6' E + W.

Cont'd on Page-6

Smoke Chisholm 3-20-22

Cont'd from Page 5

Sta.	+	H.I.	−	Elev.	Grade .3%	Cut.	
0+00	From P3	352.75	4.30	48.45	340.88	7.57	Staked on 6' offset W.
+25			4.38	48.37	40.96	7.41	
+50			4.31	48.44	41.03	7.41	
+75			4.39	48.36	41.11	7.25	
1			4.44	48.31	41.18	7.13	
+25			4.50	48.25	41.26	6.99	
+50	TP		4.45	348.30	41.33	6.97	
+75	5.72	354.02	5.60	48.42	41.41	7.01	Grade Sheet #119
2			5.27	48.75	41.48	7.27	
+25			5.11	48.91	41.56	7.35	
+50			4.83	49.19	41.63	7.56	
+75			4.84	49.18	41.71	7.47	
3			4.87	49.15	41.78	7.37	
+25			4.36	49.66	41.86	7.80	
+59.89			4.51	49.51	341.96	7.55	

Cont'd on Page 7

MH #56 - 2x2 at center & 6' E & W.

Cont'd from Page 6.

Sta.	+	H.I.	−	Elev.	Grade -.3%	Cut.	Staked on 6' offset W.
0+00	From P-6	354.02	4.51	349.51	341.96	7.55	MH #56 - 2x2 at center & 6' E & W.
+25			5.19	48.83	42.04	6.79	
+50			4.77	49.25	42.11	7.14	
+75			5.00	48.02	42.19	5.83	
1	TP		4.59	349.43	42.26	7.17	
BM	5.14	354.57	7.17	347.40	347.37	B.P. - N.W. - Cabrillo at Klauber - B82-P-5.	
+25			4.23	50.34	42.34	8.00	
+50			4.31	50.26	42.41	7.85	
+75			4.45	50.12	42.49	7.63	Grade Sheet #120
2			5.19	49.38	42.56	6.82	
+25			5.15	49.42	42.64	6.78	
+50			4.93	49.64	42.71	6.93	
+75			5.05	49.52	42.79	6.73	
3			4.62	49.95	42.86	7.09	
+25			4.44	50.13	42.94	7.19	
+40			3.64	50.93	342.98	7.95	MH #55 - 2x2 at center & 6' E & W.

Cont'd on Page 8

Cont'd from Page 7-

Sta.	+	H.I.	-	Elev.	Grade .3%	Cut.	Staked on 6' offset W.
0+00	From P-7	354.57	3.64	350.93	342.98	7.95	MH # 55 - 2x2 at center ℄ 6' E ℄ W.
+25			3.50	51.07	43.06	8.01	
+50	TP		3.49	351.08	43.13	7.95	
+75	6.10	357.18	5.54	51.64	43.21	8.43	
1			5.56	51.62	43.28	8.34	
+25			5.24	51.94	43.36	8.58	
+50			4.85	52.33	43.43	8.90	
+75			5.05	52.13	43.51	8.62	Grade Sheet #121
2			4.91	52.27	43.58	8.69	
+25			4.92	52.26	43.66	8.60	
+50			5.13	52.05	43.73	8.32	
+75			5.15	52.03	43.81	8.22	
3			5.89	51.29	43.88	7.41	
+25			6.52	50.66	43.96	6.70	
+40			6.63	50.55	344.00 S.B.	6.55	MH # 54 - 2x2 at center ℄ 6' E ℄ W.
BM-			7.60	349.58	349.58		BP- N.W. Cabrillo at Univ. - B82-P1.

Cont'd on Page 16

Note - BM at Center ℄ Cabrillo - .06 -

Lateral - Colonial - Highland alley -

Sta.	MH # T-53 + o	H.I.	-	Elev.	Grade	Cut	
BM				322.59	3.111%	BP - N.W. Highland at Center. (Page 2 This Book)	
0-05	1.30	323.89	10.54	313.35	305.85	7.50	MH # T-53 1X2 - 5' So. of MH center on alley E.
0+00	7.39	320.74	7.54	13.20	306.00	7.20	Grade on W/S M Ring at E E & W.
+25			7.60	13.14	306.78	6.36	
1 +50			6.02	14.72	307.56	7.16	
+75			4.82	15.92	308.33	7.59	
1			9.44	11.30	309.11	2.19	4.75 at E
+25			No Stake	—	309.89	—	
2 +50			6.45	14.29	310.67	3.62	
+75	TP		0.88	319.86	311.44	8.42	
2	12.10	331.96	8.30	323.66	312.22	11.44	Grade Sheet #134
+25			6.23	25.73	313.00	12.73	
3 +50			4.13	27.83	313.78	14.05	
+75	TP		3.10	328.86	314.56	14.30	
3	9.15	338.01	8.20	29.81	315.33	14.48	
4 +25			7.63	30.38	316.11	14.27	
+50			7.11	30.90	316.89	14.01	
+75			6.17	31.84	317.67	14.17	
4			5.65	32.36	318.44	13.92	

Cont'd on Page 10

Smale, Obisholm, Schoen } 3-23-22 10

Sta	+	H.I.	−	Elev.	Grade	Cut	
+25	From P-9	338.01	5.17	332.84	319.22	13.62	Staked on 6' offset W.
+50			4.87	33.14	320.00	13.14	
+75			5.02	32.99	320.78	12.21	
5			5.74	32.27	321.56	10.71	
+25			7.26	30.75	322.33	8.42	
+40			9.84	328.17	322.80	5.37	MH # 78 - 2x2 at center + 6' E + W.

Contd on Page 11.

Cont'd from Page 10

Sta.	+	H.I.	−	Elev.	Grade 3.111%	Cut.	Staked on 6' offset W.
0+00				328.17	322.80	5.37	MH #78
+25	9.22	337.39	11.53	25.86	23.58	2.28	
+50			10.21	27.18	24.36	2.82	
+75			7.05	30.34	25.13	5.21	
1			4.13	33.26	25.91	7.35	
+25			3.20	34.19	26.69	7.50	
+50			2.47	34.92	27.47	7.45	
+75			2.58	34.81	28.24	6.57	
2			1.57	35.82	29.02	6.80	
BM-			0.74	336.65	336.69	BP- N.W. Highland + Clark. P-2 - this book.	
+25 TP			0.36	337.03	29.80	7.23	
+50	8.09	345.12	7.21	337.91	30.58	7.33	
+75			6.50	38.62	31.36	7.26	
3			6.03	39.09	32.13	6.96	
+25			5.73	39.39	32.91	6.48	
+60			5.11	40.01	334.00	6.01	MH #77

Cont'd on Page 12

Smale
Chisholm
Schoen
3-25-24

11

#135

Cont'd from Page 11

Smale, Chisholm, Schoen } 3-25-22

Sta	+	H.I.	-	Elev.	Grade	Cut		Staked on 6' offset W.			
0+00	From P-11	345.12	5.11	340.01	1.523% 334.00	6.01	MH#77				
+25			4.63	40.49	34.38	6.11					
+50			4.65	40.47	34.76	5.71					
+75			4.43	40.69	35.14	5.55					
1			4.43	40.69	35.52	5.17					
+25			4.57	40.55	35.90	4.65					
+50			4.84	40.28	36.28	4.00					
+75	7.23	347.51	7.34	40.17	36.67	3.50					
2			6.99	40.52	37.05	3.47					#142
+25			6.52	40.99	37.43	3.56					
+50			6.03	41.48	37.81	3.67					
+75			5.61	41.90	38.19	3.71					
3			5.19	42.32	38.57	3.75					
+25			4.52	42.99	38.95	4.04					
+50			4.33	43.18	39.33	3.85					
+75			3.86	43.65	39.71	3.94					
4+01 65			3.53	43.98	340.12	3.86	MH#76				
	7.10	51.08	3.55	47.53	S.B. 47.55	BP- N.W.-Highland & Howard.					

Smale, Chisholm, Schoen } 4-6-22

Cont'd Sta.	from +	Page H.I.	12 -	Elev.	Grade .3%	Cut.	Staked on 6' offset W.
0+00	From	Page 12	—	343.98	340.12	3.86	MH #76 - 2×2 at center & 6' E & W.
+25	7.59	351.57	6.59	44.98	40.19	4.79	
+50			6.48	45.09	40.27	4.82	
+75			6.24	45.33	40.35	4.98	
1			6.12	45.45	40.42	5.03	
+25			5.69	45.88	40.50	5.38	
+50			5.47	46.10	40.57	5.53	
+75			4.81	46.76	40.64	6.12	
2			4.55	47.02	40.72	6.30	
+25			3.62	47.95	40.80	7.15	#148
+50			3.29	48.28	40.87	7.41	
+75			2.56	49.01	40.95	8.06	
3 PT			2.47	349.10	41.02	8.08	
+25	7.17	356.27	7.10	49.17	41.10	8.07	
+40			6.90	49.37	341.14	8.23	MH #75

Cont'd on Page 31

Cabrillo-Chamoune alley - MH # 44 to MH #46

Smale, Chisholm, Schoen - 3-23-22

Sta.	+	H.I.	-	Elev.	Grade .678	Cut	Staked on 6' offset E.
0+00				—	329.50		MH #44 - 2X2 at P.I. of 6' offsets S & W - also at P.I. of 6' offsets N. & E.
0+06				341.72	329.54	12.18	at P.I. of S & W offsets. St. Grade 341.03
+25	1.90	343.62	2.01	41.61	29.69	11.92	St. Grade at ℄ 341.63 - M.H. 17.22' N. of ℄. 10" (.833 crown - parabola)
+50			2.32	41.30	29.85	11.45	
+75			4.14	39.48	30.02	9.46	
1			5.84	37.78	30.19	7.59	
+25			7.23	36.39	30.36	6.03	Gr. Sheet #128 4-3-22
+50			8.15	35.47	30.53	4.94	
+75			9.10	34.52	30.70	3.82	
2			10.36	33.26	30.87	2.39	
+25			9.61	34.01	31.04	2.97	
+50			8.52	35.10	31.21	3.89	
+75			8.18	335.44	31.38	3.06	
+97 54	6.30	341.74	5.88	335.86	331.53	4.33	MH #45 - 2X2 at center & 6' E & W.

Cont'd on Page 15

Cont'd from Page 14

Smale
Chisholm } 3-24-22
Schoen

Sta	+	H.I.	−	Elev.	Grade .75%	Cut.	Staked on 6' offset East.
0+00		341.74	5.88	335.86	331.53	4.33	MH# 45 - 2x2 at center + 6' E + W.
+25			5.99	35.75	31.72	4.03	
+50			6.23	35.51	31.91	3.60	
+75			6.14	35.60	32.09	3.51	
1			6.00	35.74	32.28	3.46	
+25			5.73	36.01	32.47	3.54	
✓ +50			5.41	36.33	32.66	3.67	Gr. Sh. #129
+75			4.91	36.83	32.84	3.99	
2			3.69	38.05	33.03	5.02	
+25			3.21	38.53	33.22	5.31	
+50			2.86	38.88	33.41	5.47	
+75			1.80	39.94	33.59	6.35	
3	TP		0.89	340.85	33.78	7.07	
+25	0.62	341.47	0.65	40.82	33.97	6.85	
+40			1.84	39.63	334.08	5.55	MH# 46 - 2x2 at center + 6' E + W.
TP			12.44	329.03			
BM	3.77	332.80	8.78	324.02	324.01	B82P30	BP - N.W. Chamoune at Howard.

.75
.34
300
225
255

34.08
31.53
2.55

Cabrillo - Highland alley - cts from Page 8

Smale, Chisholm, Scheen } 3-24-22

Sta.	+	H.I.	−	Elev.	Grade .3%	Cut.	
							Staked on 6' offset W.
0+00	From Page 8			350.55	344.00	6.55	MH#54 - 2x2 at center & 6'E & W.
+20	5.30	355.85	5.28	350.57	44.06	6.41	At S/S pavement
± 70			5.38	50.47	44.21	6.26	& N/S St. Ry tracks
1			5.47	50.38	44.30	6.08	& N/S pavement.
+25			4.56	51.29	44.37	6.92	
+50			4.83	51.02	44.45	6.57	
+75			5.44	50.41	44.53	5.88	
2			5.00	50.85	44.60	6.25	
+25			5.17	50.68	44.68	6.00	
+50			4.76	51.09	44.75	6.34	
+75			4.07	51.78	44.83	6.95	
3			3.14	52.71	44.90	7.81	
+25			2.33	353.52	44.98	8.54	
+50	5.59	359.11	5.91	53.20	45.05	8.15	
+75			5.71	53.40	45.13	8.27	
4			5.65	53.46	45.20	8.26	
+25			5.72	53.39	45.28	8.11	
+50			5.11	54.00	45.35	8.65	
+73 48			5.20	353.91	345.42	8.49	MH#53 - 2x2 at center & 6'E & W.
	TP 4.03	357.94	7.53	350.41			
BM	5.81	356.22	3.99	352.23			

Grade Sheet #122

56.22
6.65
49.57

Cont'd from Page 16.

Smale, Chisholm, Schoen } 3-28-22

Sta.	+	H.I.	−	Elev.	Grade .3%	Cut	Staked on 6' offset W.
0+00				353.91	345.42	8.49	MH#53 - 2x2 at center + 6' E + W.
+25	4.79	358.70	4.41	54.29	45.50	8.79	
+50			4.23	54.47	45.57	8.90	
+75			4.28	54.42	45.65	8.77	
1			4.87	53.83	45.72	8.11	
+25			4.49	54.21	45.80	8.41	
+50			4.39	54.31	45.87	8.44	
+75			4.70	54.00	45.95	8.05	Gr. Sheet # 124 4-3-22
2			4.87	53.83	46.02	7.81	
+25			4.86	53.84	46.10	7.74	
+50			5.28	53.42	46.17	7.25	
+75			5.54	53.16	46.25	6.91	
3			5.62	53.08	46.32	6.76	
+25			5.89	52.81	46.40	6.41	
+50			6.08	52.72	46.47	6.25	
+75	TP		6.23	52.47	46.55	5.92	
4	3.75	56.22	3.90	52.32	46.62	5.70	
+25			4.10	52.12	46.70	5.42	
+60			4.40	51.82	346.8	5.02	MH# 52 - 2x2 at center + 6' E + W.
							8" pipe S - 6" pipe N.

Cont'd on Page 18

Cont'd from Page 17

Sta.	+	H.I.	−	Elev.	Grade .57%	Cut	Staked on 8' offset W.
0+00		356.22	4.40	51.82	347.0	4.82	MH# 52 - 2x2 at center + 6' E + W.
+25			4.66	51.56	47.14	4.42	8" pipe S. 6" pipe N.
+50			4.88	51.34	47.29	4.05	
+75			4.75	51.47	47.43	4.04	
1			4.55	51.67	47.57	4.10	
+25			4.36	51.86	47.71	4.15	
+50			4.08	52.14	47.86	4.28	Grade Sheet #125
+75			3.78	52.44	48.00	4.44	
2			3.97	52.25	48.14	4.11	
+25			3.80	52.42	48.28	4.14	
+50	PI		3.54	52.68	48.43	4.25	
+75	5.13	57.81	4.65	53.16	48.57	4.59	
3			4.69	53.12	48.71	4.41	
+25			4.79	53.02	48.85	4.17	
+61.28			4.79	53.02	349.06	3.96	MH# 51 - 2x2 at center + 6' E + W.

Cont'd on Page 19

Cont'd from Page 18.

Smale
Chisholm } 3-28-22
Schoen

Sta.	+	H.I.	−	Elev.	Grade .573%	Cut.	Staked on 6' offset W.
0+00		357.81	4.79	53.02	349.06	3.96	MH#51 - 2x2 at center + 6' E + W.
+25			4.87	52.94	49.20	3.74	
+50			4.84	52.97	49.35	3.62	
+75			4.81	53.00	49.49	3.51	
1			4.78	53.03	49.63	3.40	
+25			3.39	54.42	49.78	4.64	
+50			2.89	54.92	49.92	5.00	
+75			2.56	55.25	50.06	5.19	Gr. Sheet # 126
2			2.41	55.40	50.21	5.19	
+25			2.33	55.48	50.35	5.13	
+50	TP		2.22	55.59	50.49	5.10	
+75	6.32	61.91	6.09	55.82	50.64	5.18	
3			5.88	56.03	50.78	5.25	
+25			5.50	56.41	50.92	5.49	
+40			5.31	56.60	351.01	5.59	MH# 50 - 2x2 at center + 6' E + W -

Cont'd on Page 20

Smale, Chisholm, Schoen 3-28-22

Cont'd from Page 19

Sta.	+	H.I.	−	Elev.	Grade	Cut.	Staked on 6' offset W.
0+00		361.91	5.31	56.60	351.01 .86%	5.59	MH #50
+25			5.20	56.71	51.15	5.56	
+50			4.95	56.96	51.30	5.66	
+75			4.65	56.26	51.44	5.82	
1			4.16	56.76	51.58	6.17	
+25			4.52	56.39	51.73	5.66	
+50			4.88	57.03	51.87	5.16	Gr. Sheet #127
+75			5.23	56.68	52.01	4.67	
2			5.10	56.81	52.15	4.66	
+26	TP		4.65	57.26	52.30	4.96	
+50	3.98	63.24	5.71	57.53	52.44	5.09	
+75			5.37	57.87	52.58	5.29	
3			5.43	57.81	52.73	5.08	
+27			5.21	58.03	52.87	5.16	
+47	53		5.23	358.01	353.00	5.01	F.T. #11 - 2x2 at center & 6' E & W.
BM			5.95	357.29	357.30		S.W. Cabrillo at El Cajon B82 P4
BM			7.11	356.13	357.12		Highland at

Smale } 3-29-22
Rogers }

Check Levels — MH #43 to MH #42.

Cabrillo-Chamoune alley

Sta	+	H.I.	−	Elev.	Grade-
0+00	From Book So.2 P-15 -			346.10	339.05
+25	4.99	51.09	Stake out		39.14
+50			4.86	46.23	39.23
+75			4.73	46.36	39.31
1			4.53	46.56	39.40
+25			4.79	46.30	39.49
+50			4.66	46.43	39.58
+75			4.99	46.10	39.67
2			5.08	46.01	39.76
+25			4.94	46.15	39.84
+50			4.74	46.35	39.93
+75			4.57	46.52	40.02
3			3.87	47.22	40.11

Cut		Staked on 6' offset W.
7.05 ✓		MH #43
—		
7.00 ✓		
7.05	.05	
7.16	.01	
6.81	.02	
6.85	.02	
6.43	.07	
6.25	.07	
6.31	.01	
6.42	.02	
6.50	.01	
7.11	.03	MH #42 -

See Book So.2 P-15
Grade Sheet #70
(Revised - 3-29-22)

Lateral Sewers - Colonial Highland alley
MH#70 to MH#69

Smale, Chisholm, Schoen } 3-30-22

Sta.	+	H.I.	−	Elev.	Grade .298%
BM				352.28	
0+00	6.01	358.29	1.73	56.56	346.23
+20			3.10	55.19	46.29
+70			3.39	54.90	46.44
1			3.32	54.97	46.53
+25			3.55	54.74	46.60
+50			4.48	53.81	46.68
+75			4.65	53.64	46.75
2			4.38	53.91	46.83
+25			5.62	52.67	46.90
+50.			5.82	52.47	46.98
+75			6.45	51.84	47.05
3			6.25	52.04	47.12
+25			5.72	52.57	47.20
+38.35			5.89	52.40	347.24
BM			6.01	352.28	—

Cont'd on Page 52

Cut Staked on 6' offset W.

BP - N.W. Highland at University - B82-R

10.33	MH#70 - 2x2 at center ±6' E & W.
8.90	
8.46	
8.44	
8.14	
7.13	
6.89	Gr. Sheet # 123 3-30-22
7.08	
5.77	
5.49	
4.79	
4.92	
5.37	
5.40	MH#69 - 2x2 at center ±6' E & W.

Lateral Sewer - Chamoune - Cabrillo alley -

MH # T55 to FT #10

Smale
Chisholm } 4-3-22
Schoen

Sta.	+	H.I.	−	Elev.	Grade 2.307%
BM				333.00	
0+00	5.77	338.77	8.96	29.81	325.00
+25			9.68	29.09	25.58
+50			6.89	31.88	26.15
+75			5.78	32.99	26.73
1			5.14	33.63	27.31
+25			5.32	33.45	27.88
+50			4.83	33.94	28.46
+75			4.73	34.04	29.04
2			4.40	34.37	29.62
+25			4.06	34.71	30.19
+50			3.55 5.?	335.22	330.80

Cont'd on Page 24 -

Cut

Staked on 6' offset W.

B.P. - N.W. Chamoune at Center - Page 1 - This book

4.81	MH # T54
3.51	Take grade from W/S MH ring at ℄ E & W.
5.73	
6.26	
6.32	
5.57	Grade Sheet #130
5.48	
5.00	
4.75	
4.52	
4.42	MH # 49 - 2x2 hub & tack at center & 6' E & W.

Cont'd from Page 23

Sta.	+	H.I.	−	Elev.	Grade -4%	Cut.	Staked on 6' offset W.
0+00	From P23	338.77	3.55	335.22	330.80	4.42	MH # 49 -
+25			3.46	35.31	30.90	4.41	
+50	TP 6		3.26	335.51	31.00	4.51	
+75	6.01	341.52	~~6.01~~ 5.99	35.53	31.10	4.43	
1			5.88	35.64	31.20	4.44	
+25			5.69	35.83	31.30	4.53	
+50			5.25	36.27	31.40	4.87	Grade Sheet # 131
+75			5.11	36.41	31.50	4.91	
2			4.93	36.59	31.60	4.99	
+25			5.01	36.51	31.70	4.81	
+50			4.57	36.95	31.80	5.15	
+75			4.41	37.11	31.90	5.21	
3			4.28	37.24	32.00	5.24	
+25			3.79	37.73	32.10	5.63	MH # 48
+50	TP		3.64	337.88	32.20	5.68	

Cont'd on Page 25

Cont'd from Page 24

Sta.	+	H.I.	−	Elev.	.4%
0+00	℄ From P-24			337.88	332.20
+25	6.33	344.21	5.97	38.24	32.30
+50			7.46	36.75	32.40
+75			6.32	37.89	32.50
1			6.81	37.40	32.60
+25			4.53	39.68	32.70
+50			4.37	39.84	32.80
+75			4.36	39.85	32.90
2			4.31	39.90	33.00 S.B.
BM			8.29	335.92	335.91
+25			3.99	40.22	33.10
+50			3.47	40.74	33.20
+75			3.18	41.03	33.30
3	℄		2.88	341.33	33.40
+25	6.23	347.56	6.31	41.25	33.50
+50			6.01	341.55	33.60

Cont'd on Page 26

Smale
Chisholm
Schoen
4-3-22

Staked on 6' offset W.

5.68	MH#48
5.94	
4.35	
5.39	
4.80	
6.98	
7.04	
6.95	Grade Sheet #132 -
6.90	
B.P. -	N.W. Chamoune at Clark - Page 1 - This book.
7.12	
7.54	
7.73	
7.93	
7.75	
7.95	MH#47 -

Smale
Chisholm } 4-3-22
Schoen

Cont'd from Page-25

Sta.	+ From	H.I.	−	Elev.	Grade .4%	Cut	Staked on 6" offset W.
0+00	P-25-	347.56	6.01	341.55	333.60	7.95	MH#47-
+25			5.66	41.90	33.70	8.20	
+50			5.69	41.87	33.80	8.07	
+75			5.24	42.32	33.90	8.42	
1			4.66	42.90	34.00	8.90	
+25			3.98	43.58	34.10	9.48	
+50			4.02	43.54	34.20	9.34	
+75			3.97	43.59	34.30	9.29	Grade Sheet #133
2			3.76	43.80	34.40	9.40	
+25	P		4.05	343.51	34.50	9.01	
+50	1.29	344.80	1.08	343.72	34.60	9.12	
+75			1.34	43.46	34.70	8.76	
3			1.77	43.03	34.80	8.23	
+25			2.12	42.68	34.90	7.78	
+50			5.62	39.18	335.00	4.18	F.T.#10-
	P		12.63	332.17			
BM	1.18	333.35	9.33	324.02	324.01		B.P. N.W. Chamoune at Howard B82-P30

Lateral Sewer - Fairmount - Colonial alley -
MH# T-52 to F.T. #16

Smale / Chisholm / Schoen 4-5-22

Sta.	+	H.I.	−	Elev.	Grade		Staked on 6' offset E
BM				322.59	Page 2 This book	B.P. -	N.W. Center at Highland -
TP	0.69	323.28	11.41	311.87			
TP	0.39	312.26	8.03	304.23			
TP	9.00	313.23	1.07	312.16			
0+00	9.04	321.20	9.78	311.42	301.20	10.22	MH# T-52 -
+25			11.08	10.12	301.28	8.84	
+50			2.94	18.26	301.35	16.91	
+75			3.45	17.75	1.43	16.32	
1+10			4.33	316.87	1.53	15.54	Grade Sheet #138 -
+35			4.72	16.48	1.61	14.87	
TP			5.26	315.94	—	—	
2+00	2.36	318.30	2.82	15.48	1.80	13.68	
+45			3.50	14.80	1.94	12.86	
+75			4.02	14.28	302.03	12.25	
3			4.10	14.20	2.10	12.10	MH#94

Cont'd on Page #28

Conta from Page 27

Smale, Chisholm, Schoen } 4-5-22

Sta	+ From Page 27	H.I.	−	Elev.	Grade .3%	Cut	Staked on 6' offset E
0+00		318.30	4.10	314.20	302.1	12.10	MH#94
+25			4.65	313.65	2.18	11.47	
+50			5.15	13.15	2.25	10.90	
+75			5.59	12.71	2.33	10.38	
1			5.99	12.31	2.40	9.91	
+25			6.70	11.60	2.48	9.12	
+50 TP			7.36	310.94	2.55	8.39	Grade Sheet #139 -
+75	3.11	314.05	3.47	310.58	2.63	7.95	
2			4.10	309.95	2.70	7.25	
+25			4.29	309.76	2.78	6.98	
+50			5.06	308.99	2.85	6.14	
+75			5.86	308.19	2.93	5.26	
3+00 28			6.89	307.16	303.00	4.16	F.T. #16
TP			1.74	312.31			
TP	7.32	319.63	2.74	316.89			
TP	5.81	322.70	10.52	312.18			
TP	1.07	313.25	9.00	304.25			
TP	8.03	312.28	0.39	311.89			
BM	11.41	323.30	0.69	322.61	S.B. 322.59		BP- N.W. Highland at Center - Page 2 - This book.

Lateral Sewer - Fairmount - Colonial alley.
MH # T52 to MH # 92

Smale, Chisholm, Schoen } 4-5-22

Sta	+	H.I.	-	Elev.	Grade	Cut	Staked on 6' offset W.
BM				322.59	3.04.87%		BP - N.W. Highland & Center - Page 2 - This book.
	0.69	323.28	11.41	311.87			
	0.39	312.26	8.03	304.23			
	9.00	313.23	1.07	312.16			
0+00	10.52	322.68	11.26	311.42	308.00	3.42	MH # T-52
+25			10.52	312.16	8.76	3.40	
+50			3.24	319.44	9.52	9.92	
+75			Stake out -		10.29	—	
1+00			2.47	320.21	11.05	9.16	Grade Sheet # 136
+25			1.81	20.87	11.81	9.06	
+50			1.29	21.37	12.57	8.80	
+75 TP			0.67	322.01	13.34	8.67	
2	9.40	331.41	8.13	23.28	14.10	9.18	
+25			7.56	23.85	14.86	8.99	
+50			6.82	24.59	15.62	8.97	
+75			6.00	25.41	16.38	9.03	
3+00			5.40	26.01	17.15	8.86	
+25			4.77	26.64	17.91	8.73	
+50			4.26	27.15	18.67	8.48	
+75			3.70	27.71	19.43	8.28	
4+10	(Cont'd on Page 30)		3.43	327.98	320.50	7.48	

Cont'd from Page 29 -

Smale, Chisholm, Schoen } 4-5-22

Sta	+ From Page-29-	H.I.	-	Elev.	Grade 3.0487	Cut	Staked on 6' offset W.
0+00		331.41	3.43	327.98	320.50	7.48	M#93
+25			3.11	28.30	21.26	7.04	
+50			3.21	28.20	22.02	6.18	
+75			3.35	28.06	22.79	5.27	
1 TP			3.19	328.22	23.55	4.67	
+25	8.80	337.02	8.19	28.83	24.31	4.52	
+50			7.90	29.12	25.07	4.05	
+75			7.69	29.33	25.84	3.49	
2			7.60	29.42	26.60	2.82	Grade Sheet #137
+25			7.12	29.90	27.36	2.54	
+50			5.56	31.46	28.12	3.34	
+75			4.35	32.67	28.88	3.79	
3			4.33	32.69	29.65	3.04	
+25			2.49	34.53	30.41	4.12	
+50			1.55	35.47	31.17	4.30	
+75			0.98	336.04	31.93	4.11	
4	4.45	340.49	3.64	36.85	32.69	4.16	
+10			3.65	36.84	333.00	3.84	M#92
TP			6.93	333.56	———	———	
BM	4.02	337.58	5.54	332.04	332.07		BP - N.W. Fairmount at Clark -

Cont'd from Page 13

Colonial - Highland alley - MH#75 to MH#70

Smale, Chisholm, Schoen } 4-6-22

Sta.	+	H.I.	−	Elev.	Grade .3%	Cut.	Staked on 6' offset W.
0+00	From Page 13	356.27	6.90	49.37	341.14	8.23	MH# 75- 2x2 at center + 6' E + W.
+25			6.63	49.64	41.21	8.43	
+50			6.18	50.09	41.29	8.80	
+75			5.67	50.60	41.36	9.24	
1			5.35	50.92	41.44	9.48	
+25			4.97	51.30	41.51	9.79	
+50			4.20	52.07	41.57	10.50	
+75			4.47	51.80	41.66	10.14	
2			4.32	51.95	41.74	10.21	#149
+25			4.19	52.08	41.81	10.27	
+50			4.01	52.26	41.88	10.38	
+75			4.09	52.18	41.96	10.22	
3	5.75	57.93	5.50	52.43	42.04	10.39	
+25			5.15	52.78	42.12	10.66	
+40 10			5.02	52.91	342.16	10.75	MH#74 - 2x2 at center + 6' E + W.
BM			4.50	353.43	353.46		

Cont'd from Page 31

Sta.	+ From	H.I.	−	Elev.	Grade .3%	Cut.	Staked on 6' offset W.
0+00	P-31	357.93	5.02	352.91	342.16	10.75	MH#74 - 2x2 at center & 6' E & W.
+25			5.05	52.88	42.24	10.64	
+50			4.87	53.06	42.31	10.75	
+75			4.91	53.02	42.39	10.63	
1			4.68	53.25	42.46	10.79	
+25			4.22	53.71	42.54	11.17	
+50			3.87	54.06	42.61	11.45	
+75			3.73	54.20	42.69	11.51	
2			3.53	54.40	42.76	11.64	#150
+25			3.50	54.43	42.84	11.59	
+50 TP			3.29	54.64	42.91	11.73	
+75	5.00	59.64	4.96	54.68	42.99	11.69	
3			4.82	54.82	43.06	11.76	
+25			4.67	54.97	43.14	11.83	
+36 33			4.68	54.96	343.17	11.79	MH#73 - 2x2 at center & 6' E & W.

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Smale
Chisholm } 4-6-22
Schoen

Sta.	+ From	H.I.	−	Elev.	Grade .3%	Cut.	Staked on 6' offset W.	
0+00	P-32	359.64	4.68	354.96	343.17	11.79	MH # 73 - 2x2 at center & 6' E & W.	
+25			4.48	55.16	43.25	11.91		
+50			4.31	55.33	43.32	12.01		
+75			4.52	55.12	43.40	11.72		
1			4.61	55.03	43.47	11.56		
+25			4.83	54.81	43.55	11.26		
+50			4.97	54.67	43.62	11.05		
+75			5.17	54.47	43.70	10.77		#151
2			5.17	54.47	43.77	10.70		
+25 TP			4.89	54.75	43.85	10.90		
+50	2.36	57.11	2.44	54.67	43.92	10.75		
+75			2.56	54.55	44.00	10.55		
3			2.74	54.37	44.07	10.30		
+25			2.93	54.18	44.15	10.03		
+39.81			2.64	54.47	344.19	10.28	MH #72 - 2x2 at center & 6' E & W.	

Smale, Chisholm, Schoen } 4-6-22

Cont'd from Page 33 —

Sta.	+ From Page 33	H.I.	−	Elev.	Grade .3%	Cut.	Staked on 6' offset W.
0+00		357.11	2.64	354.47	344.19	10.28	MH # 72 - 2x2 at center & 6' E & W.
+25			4.89	52.22	44.27	7.95	
+50			4.68	52.43	44.34	8.09	
+75			4.65	52.46	44.42	8.04	
1			4.26	52.85	44.49	8.36	
+25			3.11	54.00	44.57	9.43	
+50			3.55	53.56	44.64	8.72	
+75			4.18	52.93	44.72	8.21	#152
2			4.27	52.84	44.79	8.05	
+25	5.33	58.17	5.29	52.88	44.87	8.01	
+50			5.27	52.90	44.94	7.96	
+75			5.38	52.79	45.02	7.77	
3			5.27	52.90	45.09	7.81	
+25			5.08	53.09	45.17	7.92	
+40			5.02	53.15	345.21	7.94	MH # 71 - 2x2 at center & 6' E & W.

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Cont'd from Page 34.

Sta.	+	H.I.	-	Elev.	Grade = .3%	Cut	Staked on 6' offset W.
0+00		358.17	5.02	353.15	345.21	7.94	MH#71 - 2x2 at center & 6'E & W.
+25			4.58	53.59	45.29	8.30	
+50			4.30	53.87	45.36	8.51	
+75			4.27	53.90	45.44	8.46	
1			4.17	54.00	45.51	8.49	
+25			3.80	54.37	45.59	8.78	
+50			3.54	54.63	45.66	8.97	
+75			3.46	54.71	45.74	8.97	#153
2	6.02	60.73	5.51	55.22	45.81	9.41	
+25			5.10	55.63	45.89	9.74	
+50			5.08	55.65	45.96	9.69	
+75			4.77	55.96	46.04	9.92	
3			4.71	56.02	46.11	9.91	
+25			4.34	56.39	46.19	10.20	
+40			4.17	56.56	346.23	10.33	MH#70 - 2x2 at center & 6'E & W

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Fairmount-Colonial alley -

Cont'd from Page 30 -

Sta.	+	H.I.	-	Elev.	Grade 1.018%	Cut.	
0+00				336.84	333.00	3.84	Staked on 6' offset W.
							M/#92 - 2x2 at center & 6' E & W.
+25	6.89	343.73	6.46	37.27	33.25	4.02	
+50			6.10	37.63	33.51	4.12	
+75			5.54	38.19	33.76	4.43	
1			5.57	38.16	34.02	4.14	
+25			5.11	38.62	34.27	4.35	
+50			4.81	38.92	34.53	4.39	
+75			4.57	39.16	34.78	4.38	
2			4.18	39.55	35.04	4.51	Grade Sheet # - 140
+25			3.71	40.02	35.29	4.73	
+50			3.67	40.06	35.55	4.51	
+75			3.42	40.31	35.80	4.51	
3	TP		3.01	340.72	36.05	4.67	
+25	5.80	346.52	5.77	40.75	36.31	4.44	
+41 73			5.72	40.80	336.48	4.32	M/ #91 - 2x2 at center & 6' E & W.

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Sta.	+	H.I.	−	Elev.	Grade	Cut.	Staked on 6' offset ℄ W.
0+00		346.52	5.72	40.80	336.48	4.32	MH#91 - 2x2 at center + 6'E ℄ W.
+25			5.54	40.98	36.74	4.24	
+50			5.22	41.30	36.99	4.31	
+75			5.22	41.30	37.25	4.05	
1			5.02	41.50	37.50	4.00	
+25			4.63	41.89	37.76	4.13	
+50			3.95	42.57	38.01	4.56	Grade Sheet # 141
+75			5.57	40.95	38.27	2.68	
2			4.09	42.43	38.53	3.90	
+25			4.56	41.96	38.78	3.18	
+50			2.74	43.78	39.04	4.74	
+75	℄		2.46	44.06	39.29	4.77	
3+00	4.23	48.29	4.22	44.07	39.55	4.52	
+25			3.77	44.52	39.80	4.72	
+40			3.71	44.58	339.96	4.62	MH#90 - 2x2 at center + 6'E ℄ W.
			7.37	40.92	S.B. 340.89		Note - Diff. at bench per check.

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Smale
Chisholm } 5-11-22 38
Schoen

Sta.	+	H.I.	-	Elev.	Grade .3%	Cut	Staked on 6' offset W.	
0+00				344.58	339.96	4.62		#90
+25	6.03	350.61	6.02	44.59	40.03	4.56		
+50			5.85	44.76	40.11	4.65		
+75			5.48	45.13	40.18	4.95		
1			5.10	45.51	40.26	5.25		
+25			5.06	45.55	40.33	5.22		
+50			4.65	45.96	40.41	5.55		#143
+75			4.54	46.07	40.48	5.59		
2			4.59	46.02	40.56	5.46		
+25			4.06	46.55	40.63	5.92		
+50			4.02	46.59	40.71	5.88		
+75			3.55	47.06	40.78	6.28		
3			3.20	47.41	40.86	6.55		
+25			2.48	48.13	40.93	7.20		
+50			2.85	47.76	341.01	6.75		#89

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Sta.	+	H.I.	−	Elev.	Grade .3%	Cut	Staked on 6' offset W.
0+00				347.76	341.01	6.75	#89
BM	7.58	55.34	BP gone.		352.46	—	Colonial at Castle - B82-P3.
BM			6.15	49.19	349.20	—	Fairmount at Colonial. B82-P5.
+25			7.20	48.14	41.68	7.06	
+50			6.76	48.58	41.16	7.42	
+75			6.11	49.23	41.23	8.00	
1			5.54	49.80	41.31	8.49	#144
+25			5.25	50.09	41.38	8.71	
+50			4.99	50.35	41.46	8.89	
+75			5.32	50.02	41.53	8.49	
2			4.61	50.73	41.61	9.12	
+25			4.41	50.93	41.68	9.25	
+50			3.58	51.76	41.76	10.00	
+75			3.38	51.96	41.83	10.13	
3 PP			2.59	52.75	41.91	10.84	
+25	5.41	58.16	5.34	52.82	41.98	10.84	
+50			5.18	52.98	42.06	10.92	
+75			4.69	53.47	42.13	11.34	
4+06 64			4.90	53.26	342.23	11.03	#88

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Smale
Chisholm
Schoen
4-11-22 40

Sta.	+	H.I.	−	Elev.	Grade .3%	Cut.	Staked on 6' offset W.	
0+00		58.16	4.90	53.26	342.23	11.03		#88
+25			4.72	53.44	42.30	11.14		
+50			4.87	53.29	42.38	10.91		
+75			4.74	53.42	42.45	10.97		
1			4.38	53.78	42.53	11.25		
+25			4.04	54.12	42.60	11.52		
+50			3.67	54.49	42.68	11.81		#145
+75 TP			3.50	54.66	42.75	11.91		
2	4.80	59.46	4.82	54.64	42.83	11.81		
+25			4.92	54.54	42.90	11.64		
+50			4.51	54.95	42.98	11.97		
+75			4.54	54.92	43.05	11.87		
3			4.55	54.91	43.13	11.78		
+25			4.63	54.83	43.20	11.63		
+50			4.16	55.30	43.28	12.02		
+75			4.72	54.74	43.35	11.39		
4+00			4.81	54.65	43.43	11.22		#87

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Sta.	+	H.I.	−	Elev.	Grade .3%	Cut.	Staked on 6' offset W.	
0+00		59.46	4.81	54.65	343.43	11.22		#87
+25			4.90	54.56	43.51	11.05		
+50			4.52	54.94	43.58	11.36		
+75 TP			4.78	54.68	43.66	11.02		
BM	7.30	61.98	7.30	354.68	354.65	—	Colonial at Castle	
BM					355.28	—	Fairmount at Castle	
1			7.09	54.89	43.73	11.16		
+25			5.99	55.99	43.81	12.18		#146
+50			5.95	56.03	43.88	12.15		
+75			5.73	56.25	43.96	12.29		
2			5.63	56.35	44.03	12.32		
+25			4.55	57.43	44.11	13.32		
+50			5.24	56.74	44.18	12.56		
+75			4.84	57.14	44.26	12.88		
3			5.08	56.90	44.33	12.57		
+25			5.31	56.67	44.41	12.26		
+40			5.30	56.68	344.45	12.23		#86

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Female Chisholm Schoen 4-11-22 A2

Sta.	+	H.I.	-	Elev.	Grade .3%	Cut	Staked on 6' offset W.	
0+00		61.98	3.30	56.68	344.45	12.23		#86
+25			4.92	57.06	44.53	12.53		
+50 TP			5.05	56.93	44.60	12.33		
+75	4.97	61.90	5.06	56.84	44.68	12.16		
1			4.99	56.91	44.75	12.16		
+25			4.84	57.06	44.83	12.23		
+50			5.10	56.80	44.90	1.1.90		
+75			4.51	57.39	44.98	12.41		#147
2			4.51	57.39	45.05	12.34		
+25			4.60	57.30	45.12	12.18		
+50			4.30	57.60	45.20	12.40		
+75			4.35	57.55	45.28	12.26		
3			3.99	57.91	45.35	12.56		
+25			4.62	57.28	45.43	11.85		
+40 41			4.45	57.45	345.47 S.B.	11.98		#85
BM	3.84	61.29	4.63	356.66	356.68	BP - N.W. Colonial at University - B82 P1		

6

Lateral Sewers - Pauly - Fairmount alley.
MH# T-52 to MH#

Smale, Chisholm, Schoen 4-14-22

Sta.	+	H. I.	−	Elev.	Grade 7.77%	Cut.	Staked on 6' offset N.
BM.				332.07		BP- N.W. Fairmount at Pauly.	
TP	0.72	32.79	8.19	24.60			
TP	1.50	26.10	10.98	15.12			
TP	1.32	316.44	12.78	303.66			
TP	1.50	305.16	11.08	294.08			
0-05	4.26	298.34	10.53	287.81	284.61	3.20	MH# T-52 - 2x2 - 5' W of MH center on 6' offset N.
0+00			8.51	289.83	285.60	4.83	
+25			4.11	294.23	286.94	7.29	
+50 TP			1.20	297.14	288.89	8.25	
+75	12.98	310.12	10.76	299.36	290.83	9.53	#154
1			8.86	301.26	292.77	8.49	
+25			7.54	302.58	294.71	7.87	
+50			7.05	303.07	296.67	6.90	
+75			6.61	303.51	298.60	4.91	
+93 18			6.45	303.67	300.00	3.67	MH# 109 - 2x2 at center & at P.I. of 6' offsets W & N - also at P.I. of 6' offsets E & S.

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Sta.	+	H.I.	−	Elev.	Grade
					5.19
0+00		310.12	6.45	303.67	300.00
+25			9.07	301.05	301.30
+50			5.06	305.06	302.60
+75			2.44	308.68	303.89
1			0.35	309.77	305.19
+25	12.58	322.35	10.63	311.72	306.49
+50			7.24	315.11	307.79
+75			4.30	318.05	309.08
2			2.53	319.82	310.38
+25 TP			0.93	321.42	311.68
+50	6.09	327.51	4.91	322.60	312.98
+75			4.10	323.41	314.27
3			3.33	324.18	315.57
+27 I			2.91	324.60	317.00

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Cut	Staked on 6' offset W.
3.67	MH # 109 2x2
F. .25	
2.46	
4.79	
4.58	
5.23	
7.32	
8.97	
9.44	
9.74	
9.62	
9.14	
8.61	
7.60	MH # 108

354
1.21
236
134
367
136
503
#155

Lateral Sewers - Pauly - Fairmount alley -
Cont'd from Page 44

Smale, Chisholm, Schoen } 4-12-22

Sta.	+	H.I.	-	Elev.	Grade 3.125 %	Cut	Staked on 6' offset W.	
BM				332.07			BP - N.W. cor Fairmount at Clark -	#108
0 +00	0.72	32.79	8.19	24.60	317.00	7.60	Mt#108 - 2X2 at center	
+25			7.88	24.91	17.78	7.13		
+50			7.86	24.83	18.56	6.27		
+75			7.70	25.09	19.34	5.75		
1 TP			8.22	24.57	20.13	4.44		
+25 TP	0.20	24.77	12.95	11.82	20.91	F 9.09		
+50	11.47	23.29	12.98	10.31	21.69	✓ 11.38		
+75			11.40	11.89	22.47	✓ 10.58		#156
2			8.84	14.45	23.25	✓ 8.80		
+25 TP			0.03	23.26	24.03	✓ 0.77		
+50	13.12	36.38	6.81	29.57	24.81	C 4.76		
+75			4.74	31.64	25.59	6.05		
3			3.87	32.51	26.38	6.13		
+25			2.87	33.51	27.16	6.35		
+50			2.23	34.15	27.94	6.21		
+75			1.23	35.15	28.72	6.43		
4 TP			0.60	35.78	29.50	6.28		
+25	7.22	43.00	6.52	36.48	30.28	6.20		
+50			6.20	36.80	31.06	5.74		
+80			5.48	37.52	332.00	5.52	- 2X2 at center ▽ 6' E ▽ W.	#107

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Sta.	+	H.I.	−	Elev.	Grade	Cut.	Staked on 6' offset W.
0+00		43.00	5.48	37.52	332.00	5.52	2x2 at center & 6'E & W. #107 MH
+25			5.04	37.96	32.12	5.84	
+50			4.55	38.45	32.25	6.20	
+75			4.64	38.36	32.37	5.99	
1			4.54	38.46	32.50	5.96	
+25			4.33	38.67	32.62	6.05	
+50			4.13	38.87	32.75	6.12	#1.57
+75			3.96	39.04	32.87	6.17	
2			3.67	39.33	33.00	6.33	
+25 TP			3.42	39.58	33.11	6.47	
+50	4.07	43.65	3.77	39.88	33.24	6.64	
+75			3.47	40.18	33.36	6.82	
3			3.55	40.10	33.48	6.62	
+25			3.71	39.94	33.61	6.33	
+50			4.23	39.42	33.73	5.69	
+75			4.73	38.92	33.87	5.05	
4+01 45			5.06	38.59	334.00 S.B.	4.59	#106
BM			2.70	40.95	340.89	BP- N.W. Fairmount & Howard & B82-P6.	

See Page 2- Book 503

Lateral Sewer - Fairmount-Colonial alley - MH#85 to MH#84

Cont'd from Page 42

Sta.	+	H.I.	-	Elev.	Grade .3%
0+00	From Page 42			357.45	345.47
+20	5.88	63.33	5.92	57.41	45.53
+70			5.24	58.09	45.68
1			5.16	58.17	45.77
+25			4.82	58.51	45.85
+50			4.49	58.84	45.92
+75			4.67	58.66	46.00
2			4.82	58.51	46.07
+25			5.09	58.24	46.15
+50			5.36	57.97	46.22
+75			5.53	57.80	46.30
3			6.14	57.19	46.37
+25	3.84	61.03	4.44	56.59	46.45
+38.85			4.50	56.53	346.49

Cont'd on Page 48

Staple
Chisholm } 4-13-22 47
Schoen

Cut	Staked on 6' offset W.
11.98	MH # 85 - 2x2 at center + 6' E + W.
11.88	At S/S pavement -
12.41	At pavement on N/S R.R.
12.40	" N/S pavement -
12.66	+
12.92	
(13.66) - 12.66	Grade Sheet #158
12.44	
12.09	
11.75	
11.50	
10.82	
10.14	
10.04	MH # 84 - 2x2 at center + 6' E + W.

Cont'd from Page 47

Sta.	+ From Page 47	H.I.	−	Elev.	Grade .3%
0+00		361.03	4.50	56.53	346.49
+25			4.81	56.22	46.57
+50			4.95	56.08	46.64
+75			5.03	56.00	46.72
1			5.03	56.00	46.79
+25			5.12	55.91	46.87
+50			4.98	56.05	46.94
+75			4.84	56.19	47.02
2			4.56	56.47	47.09
+25			4.22	56.81	47.17
+50			3.82	57.21	47.24
+75 PT			3.75	57.28	47.32
3	4.25	61.53	4.05	57.48	47.39
+25			4.31	57.22	47.47
+39.82			4.11	57.42	347.51

Cont'd on Page 49

{Smale / Schoen / Chisholm} 4-13-22

Cut	Staked on 6' offset W.
10.04	MH #84 - 2x2 at center ± 6' E ± W.
9.65	
9.44	
9.28	
9.21	
9.04	
9.11	
9.17	
9.38	Grade Sheet #159
9.64	
9.97	
9.96	
10.09	
9.75	
9.91	MH #83 - 2x2 at center ± 6' E ± W.

Smale
Chisholm } 4-13-22
Schoen

Cont'd from Page 48

Sta.	+ From	H.I.	-	Elev.	Grade .3%	Cut.	Staked on 6' offset W.
0+00	Page 48	361.53	4.11	357.42	347.51	9.91	MH #83 - 2x2 at center + 6'E + W.
+30			5.72	55.81	47.59	8.22	
+50			5.19	56.34	47.66	8.68	
+75			4.81	56.72	47.74	8.98	
1			4.56	56.97	47.81	9.16	
+25			4.90	56.63	47.89	8.74	
+50			4.94	56.59	47.96	8.63	
+75			5.22	56.31	48.04	8.27	
2			5.28	56.25	48.11	8.14	Grade Sheet # 160
+25			5.63	55.90	48.19	7.71	
+50 TP			5.50	56.03	48.26	7.77	
+75	5.28	61.31	5.76	55.55	48.34	7.21	
3			5.72	55.59	48.41	7.18	
+25			5.84	55.47	48.49	6.98	
+50			5.55	55.76	48.56	7.20	
+75			5.41	55.90	48.63	7.27	
+85.93			5.13	56.18	348.66	7.52	MH #82 2x2 at center + 6'E + W.

Cont'd on Page 50

Cont'd from Page 49-

Sta.	+ From	H.I.	-	Elev.	Grade -3%	Cut.	Staked on 6' offset W-
0+00	Page 49-	361.31	5.13	356.18	348.66	7.52	MH# 82 2x2 at center +6'E+W.
+25			4.95	56.36	48.74	7.62	
+50			4.89	56.42	48.81	7.61	
+75			4.87	56.44	48.89	7.55	
1			4.74	56.57	48.96	7.61	
+25			4.31	57.00	49.04	7.96	
+50			4.14	57.17	49.11	8.06	
+75			3.74	57.57	49.19	8.38	
2 TP			3.39	57.92	49.26	8.66	Grade Sheet #161
+25	5.34	63.26	5.09	58.17	49.34	8.83	
+50			5.04	58.22	49.41	8.81	
+75			5.18	58.08	49.49	8.59	
3			5.00	58.26	49.56	8.70	
+25			5.26	58.00	49.64	8.36	
+50			1.84	58.42	49.71	8.71	
+80			5.00	58.26	349.80	8.46	MH#81 2x2 at center +6'E+W.
BM			4.85	58.41	?		BP- N.W.- Colonial at Orange-

Cont'd from Page 50

Sta.	+	H.I.	−	Elev.	Grade .3%	Cut	Staked on 6' offset W.
	From						
0+00	Page 50	363.26	5.00	358.26	349.8	8.46	MH #81 - 2x2 at center & 6' E & W.
+25			4.97	58.29	49.88	8.41	
+50			4.92	58.34	49.95	8.39	
+75			5.19	58.07	50.03	8.04	
1			5.16	58.10	50.10	8.00	
+25	TP		5.61	57.65	50.18	7.47	
+50	2.44	60.09	2.70	57.39	50.25	7.14	
+75			3.19	56.90	50.33	6.57	
2			3.66	56.43	50.40	6.03	
+25			3.80	56.29	50.48	5.81	Grade Sheet #162
+50			4.34	55.75	50.55	5.20	
+75			4.48	55.61	50.63	4.98	
3			4.96	55.13	50.70	4.43	
+25			5.28	54.81	50.78	4.03	
+50			5.61	54.48	50.85	3.63	
+75			5.75	54.34	50.93	3.41	
4+00	TP		5.98	54.11	351.0	3.11	F.T. #15 - 2x2 at center & 6' E & W.
BM	6.23	60.34	5.64	54.70	S.B. 54.70		BP-S.W. Colonial at Fairmount

Colonial - Highland alley - Cont'd from P. 22

Sta.	+	H.I.	−	Elev.	Grade .299
0+00	From Page 22			352.40	347.24
+25	4.27	56.67	4.91	51.76	47.31
+50			5.37	51.30	47.39
+75			5.05	51.62	47.46
1			5.09	51.58	47.54
+25			5.16	51.51	47.61
+50			4.83	51.84	47.69
+75			4.59	52.08	47.76
2			4.36	52.31	47.84
+25			3.90	52.77	47.91
+50			3.95	52.72	47.99
+75			3.64	53.03	48.06
3 TP			3.68	52.99	48.14
+25	7.21	60.20	7.01	53.19	48.21
+40.98			6.89	53.31	48.26
			6.83	53.37	

MH #69

Smale, Chisholm, Schoen 4-14-22 52

Cut — Staked on 6' offset W.

5.16 MH #69 -

4.45

3.91

4.16

4.04

3.90

4.15

4.32

4.47

4.86

4.73

4.97

4.85

4.98

5.05 MH #68

59.27 − 6.90 = 52.37

56.68 − 2.59 = 59.27 − 2.74 = 56.53

52.49 + 4.75 = 57.24 − 4.38 = 52.38

56.76 − 52.52 = 4.24

56.56 − 2.74 = 59.30 − 2.59 = 56.71

52.49 − 6.90 = 59.39 − 2.59 = 56.80

59.39 − 2.74 = 56.65

56.76 − 52.04 = 4.72

56.68 − 2.59 = 59.27 − 6.90 = 52.37 − 52.41 = 104.78 − 52.39

52.28 + 4.88 = 57.16 − 4.75 = 52.41

NOTE

An inverted siphon was installed under 30" C.I. Water Main on Polk (Anna) St

See Note Book 1675 p 48

9/26/46

	+ From Page	H.I.	−	Elev.	Grade .301	Cut	
0+00		360.20	6.89	353.31	348.26	5.05	MH #68
+30			6.83	53.37	48.35	5.02	
+60			6.27	53.93	48.44	5.49	
+75			5.70	54.50	48.48	6.02	
1			5.03	55.17	48.56	6.61	
+25			4.72	55.48	48.63	6.85	
+50			4.36	55.84	48.71	7.13	
+75			4.69	55.51	48.78	6.73	
2			4.62	55.58	48.86	6.72	
+25			4.57	55.63	48.93	6.70	
+50			4.40	55.80	49.01	6.79	
+75 26 TP			4.54	355.66	49.09	6.57	MH #67

Note
An inverted siphon has been installed at Polk (Anna) St under the 30" C.I. Water Main See Book 1675 p.48
GRH 9/26/46

5 54
4 30

	+	H.I.	−	Elev.	Grade -2.99	Cut	
0+00				355.66	349.09	6.57	MH#67
+25	4.44	360.10	4.29	55.81	49.16	6.65	
+50			4.52	55.58	49.24	6.54	
+75			4.40	55.70	49.31	6.39	
1			4.34	55.76	49.39	6.37	
+25			4.58	55.52	49.46	6.06	
+50			4.60	55.50	49.54	5.96	
+75			4.78	55.32	49.61	5.71	Grade Sheet
2			4.73	55.37	49.69	5.68	
+25			4.54	55.56	49.76	5.80	
+50			4.31	55.79	49.84	5.95	
+75			4.19	55.91	49.91	6.00	
3 TP			3.40	56.70	49.99	6.71	
+25	5.69	62.39	5.51	56.88	50.06	6.82	
+40 98			5.45	56.94	50.11	6.83	MH#66
					S.B		
			8.27	354.12	354.12	BP-	NW. Highland ▽ Orange
					S.B.		
			3.94	358.45	358.43	✓	✓ Colonial ▽ Orange

Sta.	+	H.I.	−	Elev.	Grade	Cut	
0 +00	From Page 54			356.94	350.11	6.83	Staked on 6' offset W. MH#66
+25	5.70	362.64	6.58	56.06	50.18	5.88	
+50			6.27	56.37	50.26	6.11	
+75			6.59	56.05	50.33	5.72	
1			6.24	56.40	50.41	5.99	
+25			4.83	57.81	50.49	7.32	
+50			4.52	58.02	50.56	7.46	
+75			4.39	58.25	50.64	7.61	Grade Sheet #166
2			4.74	57.90	50.71	7.19	
+25			4.68	57.96	50.79	7.17	
+50			4.82	57.82	50.86	6.96	
+75			4.92	57.72	50.94	6.78	
3 TP			4.79	357.85	51.01	6.84	
+20	5.73	363.58	5.75	57.83	51.07	6.76	MH#65

Smale
Chisholm } 4-14-22
Schoen

Sta.	+ From	H.I.	−	Elev.	Grade .3003	Cut.	Staked on 6' offset W.
0+00	Page 55	363.58	5.75	357.83	351.07	6.76	MH #65
+25			5.35	58.23	51.14	7.09	
+50			5.22	58.36	51.22	7.14	
+75			5.04	58.54	51.29	7.25	
1			5.02	58.56	51.37	7.19	
+25			4.74	58.84	51.44	7.40	
+50			4.85	58.73	51.52	7.21	
+75			5.62	57.96	51.59	6.37	Grade Sheet #167
2			5.94	57.64	51.67	5.97	
+25			6.01	57.57	51.74	5.83	
+50			6.32	57.26	51.82	5.44	
+75			6.40	57.18	51.89	5.29	
3			6.36	57.22	51.97	5.25	
+09 68	TP		6.17	357.41	52.00 B	5.41	F.T. #13
BM	3.79	361.20	5.07	356.13	356.12	B82 P4	

Smale
Chisholm
Schoen
4-20-22

Pauly - Fairmount alley -

Sta.	+	H.I.	-	Elev.	Grade .1008
BM.				352.10	
	5.10	57.20	4.31	52.89	
BM	5.66	58.45	0.725	357.725	
0-05				52.89	44.40
0+00			6.09	52.36	344.40
+25			Stake out		44.43
+50			7.25	51.20	44.45
+75			7.51	50.94	44.48
1			7.95	50.50	44.50
+25			8.22	50.23	44.53
+50 TP			8.50	49.95	44.55
+75	3.27	53.22	3.47	49.75	44.58
2			3.67	49.55	44.60
+25			4.40	48.82	44.63
+50			5.61	47.61	44.65
+75			6.45	46.77	44.68
3			6.81	46.41	44.70
+25			5.09	48.13	44.73
+57			4.47	48.75	44.76

Cut. Staked on 6' offset W.

BP - S.W. Fairmount at El Cajon

BP - S.W. Pauly at El Cajon.

8.29 T-86

7.76

6.55

6.26

5.80

5.50 Grade Sheet #168

5.20

4.97

4.75

3.99

2.76

1.89

1.51

3.20

3.79 #98

Cont'd from Page 57

Sta.	+	H.I.	−	Elev.	Grade ,10	Cut	Staked on 6' offset W.
0+00		353.22	4.47	348.75	344.76	3.79	#98
+25			4.19	49.03	44.78	4.05	
+50			3.65	49.57	44.81	4.56	
+75			2.87	50.35	44.83	5.32	
1			2.30	50.92	44.86	5.86	
+25 TP			1.80	51.42	44.88	6.34	
+50	4.33	55.75	4.24	51.51	44.91	6.40	
+75			3.98	51.77	44.93	6.64	
2			4.01	51.74	44.96	6.58	Grade Sheet #169
+25			4.27	51.48	44.98	6.30	
+50			4.13	51.62	45.01	6.41	
+75			3.38	52.37	45.03	7.14	
3			2.03	53.72	45.06	8.46	
+25			3.02	52.73	45.08	7.45	
+49.81			3.81	51.94	45.11	6.63	#97

Contd from Page 58

Smale, Chisholm, Scoon 4-20-22 59

Sta	+	H.I.	−	Elev.	Grade .102	Cut	Staked on 6' offset S.
0+00		355.75	3.81	351.94	345.31	6.63	#97
+25			3.61	352.14	45.34	6.80	
+50			2.90	352.85	45.36	7.49	
+75			4.52	351.23	45.39	5.84	
1			6.41	349.34	45.41	3.93	
+25			8.74	347.01	45.44	1.57	
+60			11.49	344.26	45.47	F 1.21	
2			11.86	43.89	45.51	✓ 1.62	#170
+25	9.56	58.45	10.40	43.05	45.54	✓ 2.49	✓
+50			6.00	47.45	45.57	C 1.88	
+75			4.34	49.11	45.59	3.52	
3			3.67	49.78	45.62	4.16	
SE +23 6A N.W.			3.11	50.34	345.64	4.70	#96
			2.45	51.00			
TP			7.10	46.35			
TP	6.00	52.35	0.91	51.44			
BM	9.99	61.43	3.71	57.72			

Contd from Page 59-

Smale, Chisholm, Schoen } 4-21-22 60

Sta.	+	H.I.	−	Elev.	Grade .3%	Cut.	Staked on 6' offset E.			
0+00	From	Page 59	—	350.34	345.64	4.70	(4.68-line 5)	#96		
+25	4.69	355.03	5.16	49.87	45.71	4.16				
+50			5.44	49.59	45.79	3.80				
+75			5.88	49.15	45.87	3.28				
1			6.10	48.93	45.94	2.99				
+25			4.96	50.07	46.02	4.05				
+50			5.32	49.71	46.09	3.62				
+75			8.22	46.81	46.17	0.64			#171	
2			8.02	47.01	46.24	0.77				
TP			11.41	343.62	—					
+25	10.87	354.49	13.14	41.35	46.32	F 4.97				
+50			10.46	44.03	46.39	C 2.36				
+75			6.16	48.33	46.47	C 1.86				
2+90			3.31	51.18	46.51	4.67	(4.65 L		#95	

Contd from Page 60

Sta.	+	H.I.	−	Elev.	Grade 2.88	Cut.	Staked on 6' offset E.		
0+00		354.49	3.31	51.18	346.51	4.67		#95	
+25			0.50	53.99	47.23	6.76			
TP			0.85	35 .64		—			
+50	11.81	365.45	10.27	55.18	47.95	7.23			
+75			9.98	55.47	48.67	6.80			
1			9.93	55.52	49.39	6.13			
+25			9.06	56.39	50.11	6.28			
+50			7.64	57.81	50.83	6.98			#172.
+75			6.44	59.01	51.55	7.46			
2			5.42	60.03	52.27	7.76			
+25			4.48	60.97	52.99	7.98			
+50			3.88	61.57	53.71	7.86			
+75			3.38	62.07	54.43	7.64			
3			3.01	62.44	55.15	7.29			
+25			2.38	63.07	55.87	7.20	F.T.	#17	
+37.04	TP		2.88	362.57	56.20	6.37			
BM	3.78	366.35	8.64	57.71	57.725				

Lateral Sewer - Pauly - Fairmount alley -

Cont'd from Page 46

Smale / Chisholm / Schoen } 4-21-22

Sta.	+	H.I.	−	Elev.	Grade 2.17%	Cut	Staked on 6' offset W.
0 +00				338.59	334.00	4.59	MH #106
+25	9.45	48.04	9.40	38.64	34.54	4.10	
+50			8.84	39.20	35.09	4.11	
+75			7.83	40.21	35.63	4.58	
1			7.18	40.86	36.17	4.69	
+25			6.56	41.48	36.72	4.76	
+50			5.62	42.42	37.26	5.16	
+75			4.13	43.91	37.80	6.11	
2			3.64	44.40	38.35	6.05	#175
+25			3.15	44.89	38.89	6.00	
+50			2.74	45.30	39.43	5.87	
+75			2.12	45.92	39.98	5.94	
3 TP			1.74	46.30	40.52	5.78	
+25	6.79	53.09	6.41	46.68	41.06	5.62	✓
+50			6.27	46.82	41.61	5.21	✓
+75			5.83	47.26	42.15	5.11	
4			5.38	47.71	42.69	5.02	
+25			5.13	47.96	43.24	4.72	
+60 45			4.57	48.52	344.00	4.52	MH #105

Cont'd on Page 63

Cont'd from Page 62

Smale
Chisholm } 4-22-22
Schoen

Sta.	+	H.I.	−	Elev.	Grade	Cut.	Staked on 6' offset W.
					.7083%		
0+00		353.09	4.57	48.52	344.00	4.52	MH. #105
+25			4.34	48.75	44.18	4.57	
+50			5.25	47.84	44.35	3.49	
+75			4.38	48.71	44.53	4.18	
1			5.01	48.08	44.71	3.37	7.96
+25			3.39	49.70	44.89	4.81	3.99
+50 TP			2.64	350.45	45.06	5.39	11.95
+75	6.08	356.53	5.82	50.71	45.24	5.47	
2			5.82	50.71	45.42	5.29	#176
+25			5.78	50.75	45.59	5.16	✓
+50			5.73	50.80	45.77	5.03	✓
+75			5.62	50.91	45.95	4.96	
3			5.49	51.04	46.12	4.92	
+25			4.58	51.95	46.30	5.65	✓
+50			4.18	52.35	46.48	5.87	✓
+75			4.63	51.90	46.66	5.24	✓
4			4.73	51.80	46.83	4.97	✓
+25			4.74	51.79	47.01	4.78	✓
+50			4.65	351.88	47.19	4.69	MH #104
+80	6.50	58.38	6.46	51.92	47.40	4.52	

Cont'd on Page 64

Cont'd from Page 63

Sta	+	H.I.	—	Elev.	Grade .3%	Cut	Staked on 6' offset W.
0+00		358.38	6.46	51.92	347.40	4.52	Mt # 104
+25			5.65	52.73	47.48	5.25	
+50			5.62	52.76	47.55	5.21	
+75			5.43	52.95	47.63	5.32	
1			5.11	53.27	47.70	5.57	
+25			4.98	53.40	47.78	5.62	
+50			4.68	53.70	47.85	5.85	
+75			4.44	53.94	47.93	6.01	#177 ✓
2			4.27	54.11	48.00	6.11	
+25			4.19	54.19	48.08	6.11	
+50			4.94	53.44	48.15	5.29	
+75 TP			4.00	354.38	48.23	6.15	
BM	4.99	59.37	4.04	55.33	355.32	BP-	N.W. Fairmount + Klauber-
+75 TP				354.38	—	—	
3	5.45	59.83	5.98	53.85	48.30	5.55	
+25			4.88	54.95	48.38	6.57	
+50			4.72	55.11	48.45	6.66	
+75			4.43	55.40	48.53	6.87	
4+00			4.31	55.52	348.60	6.92	Mt # 103

Cont'd on Page 65

Cont'd from Page 64

Smale
Chisholm
Schoen } 4-22-27

Sta.	+	H.I.	−	Elev.	Grade .3%	Cut	Staked on 6' offset W.
0+00		359.83	4.31	55.52	348.60	6.92	MH # 103
+25			4.18	55.65	48.68	6.97	
+50			3.64	56.19	48.75	7.44	
+75 TP			3.75	56.08	48.83	7.25	
1	5.91	61.99	5.59	56.40	48.90	7.50	
+25			5.39	56.60	48.98	7.62	
+50			5.07	56.92	49.05	7.87	
+75			5.10	56.89	49.13	7.76	#178 ✓
2			4.90	57.09	49.20	7.89	
+25			4.92	57.07	49.28	7.79	
+50			4.99	57.00	49.35	7.65	
+75			4.48	57.51	49.43	8.08	
3			4.43	57.56	49.50	8.06	
+25			4.24	57.75	49.58	8.17	
+50			4.04	57.95	49.65	8.30	
+75 TP			3.85	58.14	49.73	8.41	
4	5.72	63.86	5.17	58.69	349.80	8.89	MH # 102
BM			4.72	59.14	359.10	B.P.- N.W. Pauly at Univ.	

Cont'd on Page 66.

Contd from Page 65

Swale
Chisholm } 4-26-22, 66

Sta.	+	H.I.	-	Elev.	Grade .3023%	Cut.	Staked on 6' offset W.
0+00				358.69	349.30	8.89	MH #102
+25	4.91	363.60	4.64	58.96	49.88	9.08	
+50			4.52	59.08	49.95	9.13	
+75			4.26	59.34	50.03	9.31	
1			4.23	59.37	50.10	9.27	
+16 45			4.53	59.07	50.15	8.92	
+96 85			3.66	59.94	50.39	9.55	
2+25			3.19	360.41	50.48	9.93	
+50 TP			2.85	360.75	50.56	10.19	#179 ✓
+75	4.67	365.42	4.88	60.54	50.63	9.91	
3			4.98	60.44	50.71	9.73	
+25			5.08	60.34	50.78	9.56	
+50			4.52	60.90	50.86	10.04	
+75			4.96	60.46	50.93	9.53	
+96 61			5.12	60.30	351.00	9.30	MH #101

Contd

Cont'd from Page 66

Sta.	+	H.I.	-	Elev.	Grade .527%	Cut.	Staked on 6' offset W.
0+00		365.42	5.12	360.30	351.00	9.30	MH #101
+25			5.25	60.17	51.13	9.04	
+50			5.33	60.09	51.26	8.83	
+75			5.09	60.33	51.40	8.93	
1			5.10	60.32	51.53	8.79	
+25			5.09	60.33	51.66	8.67	
+50			5.15	60.27	51.79	8.48	
+75			5.17	360.25	51.92	8.33	
2	4.17	364.42	4.46	59.96	52.05	7.91	#180 ✓
+25			4.60	59.82	52.19	7.63	
+50			4.61	59.81	52.32	7.49	
+75			4.76	59.66	52.45	7.21	
3			4.60	59.82	52.58	7.24	
+25			4.88	59.54	52.71	6.83	
+50			4.79	59.63	52.84	6.79	F.T. #19
+79.05	TP		4.91	359.51	353.00 S.B.	6.51	
BM	4.85	364.36	5.24	359.12	359.14		

				52.28	
	6.21	58.49	1.96	56.53	
1+75	4.42	60.95	6.14	54.81	54.71
	3.95	58.76	5.83	52.93	52.84
	4.62	57.55	2.72	54.83	54.75
	5.20	60.03	5.31	54.72	54.64
BM-	3.48	58.20	4.69	53.51	53.43
			5.94	52.26	52.18
				56.40	
	2.43	58.83	2.25	56.58	
	3.68	57.11		53.43	
	4.32	56.11	5.32	51.79	
	4.43	55.48	5.06	51.05	
	5.97	58.55	2.90	52.58	
	2.44	57.17	3.82	54.73	
			5.01	52.16	

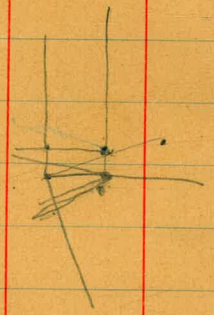
60.95
6.20
4.75

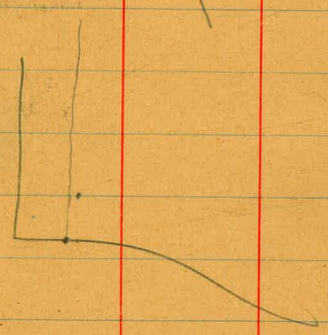
26
18
.08

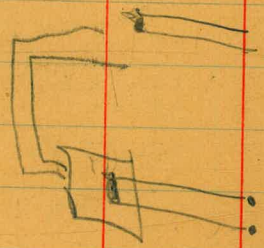
Univ. & Highland - 352.28
" " Colonial - 56.68

				332.07
	0.72	32.79	8.19	24.60
	0.52	25.12	10.00	15.12
	0.41	15.53	12.94	02.59
	0.62	3.21	9.00	94.21
			6.07	97.14

0+40 to wall 7.5' high







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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	26.2	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.

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