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.

This Field Book is manufactured of a high grade **50%** Rag Paper having a **WATER RESISTING** surface.

Unit No5
Chollas Line 1– 33

4 SURVEY GRADES FOR CHOLLAS PIPE LINE.

10 MAY 1942
Weather - Cold - Cloudy
H.S. Gierlich
Ed. Rothman
1422 - Landis St
Ph = R-3041
Sidney R. Hale
3402 - 42nd St
Ph - R-7019
D.M. Abate
3962 - 8th Ave

LEVELS - STATION 813+00 - WEST

		+	HI	-	Elev	Bottom Trench Grade
T.P. #10		8.23	314.79			306.56
813+00				12.45	302.34	297.48
" & Pipe	Ground Elev.			12.0	302.8	
813+25	7' offset			11.73	303.06	297.50
" GP	- Pipe			11.5	303.29	
813+50	7'			10.50	304.29	298.67
" GP	Pipe			10.3	304.49	
814+00	7'			8.02	306.77	301.00
"	G-P			7.8	307.0	
814+50	7'			3.82	310.97	304.50
"	G.P			4.2	310.6	
T.P.		10.37	324.39 ✓	0.77	314.02	
815+00	7'			8.85	315.54	308.00
"	G.P.			10.3	314.09	
on old offset hub				8.36	316.03	
815+50	7'			7.29	317.10	310.00
"	G.P.			8.5	315.9	
816+00	7'			5.23	319.16	312.00
"	G.P.			6.6	317.8	
816+50	7'			4.75	319.64	314.00
"	G.P.			5.0	319.4	
816+91.9	East Edge Pavement			3.45	320.94	313.92
"	G.P.			3.70	320.7	

NOTE = 7' = Hub on Offset = GP = Ground on Pipe Line

Cut on 7' offset Stake

On T.P. # 10 on original offset Line 7.00

4.80 on bank | 813+00 → 5'

5.56 on bank

5.02 on bank

5.77 on bank

6.47 on bank

on rock in Rd

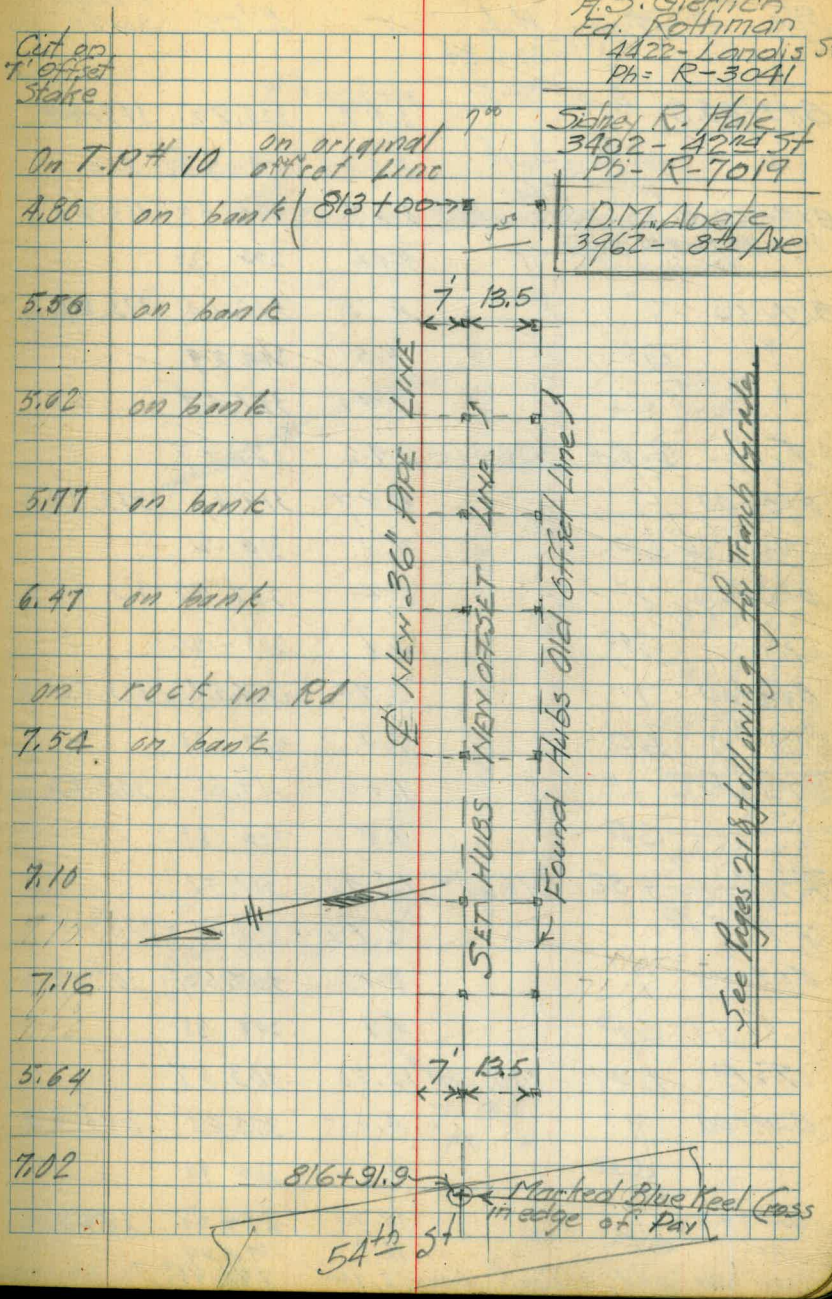
7.54 on bank

7.10

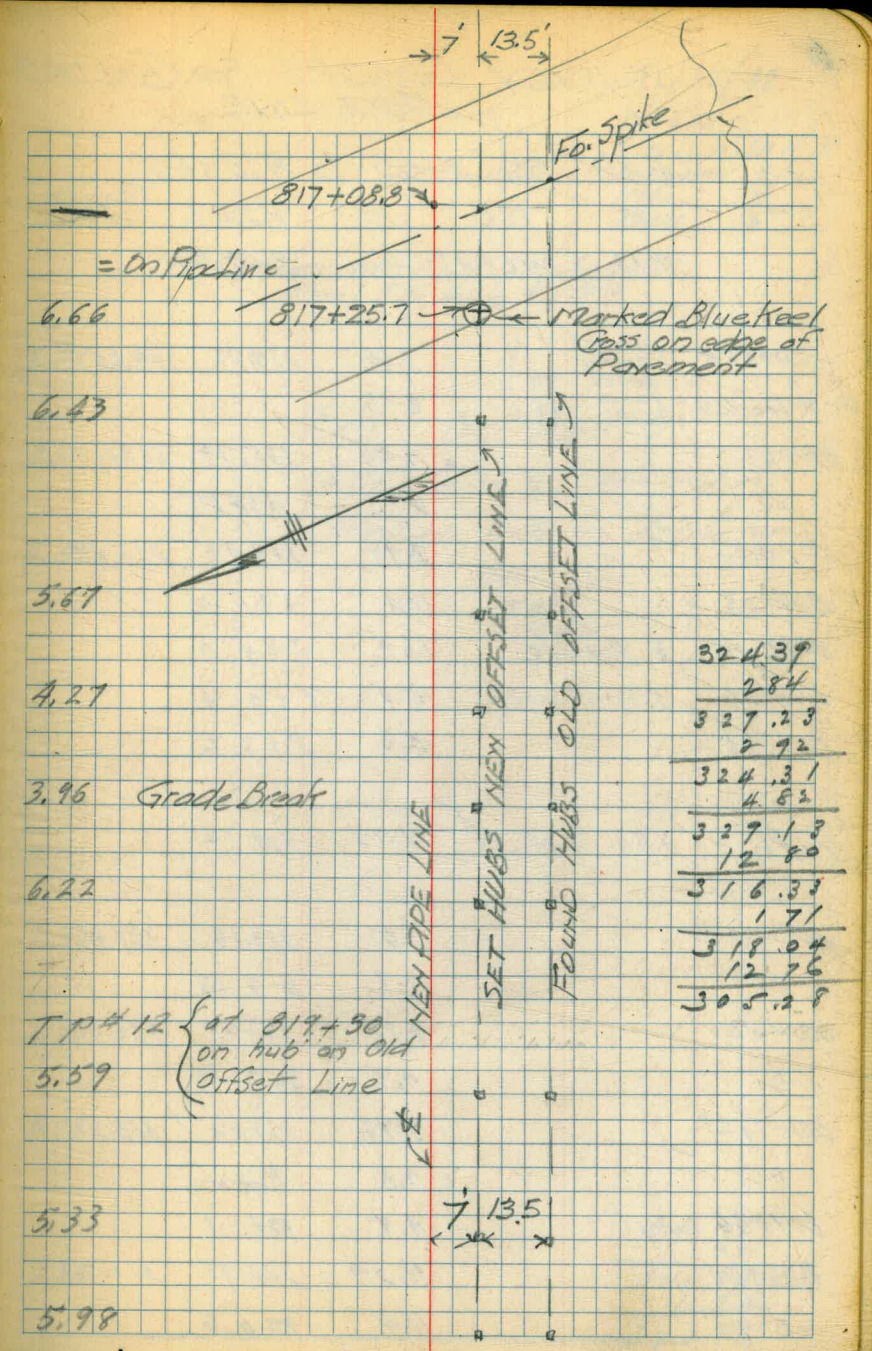
7.16

5.64

7.02



Sta.	+	H.I.	−	Elev.	Bottom of Trench Grade
		324.39			
817+08.8	℄ 6th St.		3.57	320.82	313.89
"	On Pavement		3.62	320.77	
817+25.7	West Edge of Pavement		3.87	320.52	313.86
Groove ℄ of Pipe Line					
"			4.02	320.37	
817+50	7'		4.15	320.24	313.81
"	GP		4.50	319.89	
"	on old offset hub		2.92	321.47	
T.P.	2.84	324.31	2.92	321.47	
818+00	7'		4.87	319.44	313.77
"	GP		5.1	319.2	
818+50	7'		6.41	317.90	313.63
"	GP		6.1	318.21	
818+60	7'		6.74	317.57	313.61
"	GP		7.0	317.31	
819+00	7'		9.66	314.65	308.43
"	GP		9.5	314.81	
T.P. #11	4.82	316.33	12.90	311.51	
TP #10			2.72	313.61	
819+50	7'		8.78	307.55	301.96
"	GP		8.0	308.33	
T.P.	1.71	305.28	12.76	303.57	
820+00	7'		4.45	300.83	295.50
"	GP		4.3	300.98	
820+50	7'		10.30	294.98	289.00
"	GP		11.0	294.31	
" On	old offset line		12.38	292.90	



use as B.M.

6

SURVEY GRADES FOR HOLLAS PIPE LINE

Levels Sta. 0+00 To 813+00

STA	+	H.I.	−	ELEV.	TRENCH GRADE	Cut
	0.13	342.84		342.71		
800+67±	(Ground Breaks 800+70 800+79 800+80 — 8.0 8.0 5.5)		3.00	339.83	334.00	5.84
" Gr & Trench			2.90			
801+00			7.50	335.34	327.11	8.23
"			8.0	334.84		
801+09±			7.90	334.94	326.47	8.47
801+23			11.8	331.0		
801+25	& Profile		13.8	329.0		
801+34	Ground breaks		15.4	327.4		
801+35			14.2	328.6		
T.P.	0.84	331.98	11.70	331.14		
801+40 ±3			3.80	328.18	321.33	6.85
"			3.9	328.08		
801+50			5.13	326.85	320.67	6.28
"			4.9	327.08		
801+77 ±0			7.76	324.22	318.35	5.87
"			7.8	324.2		
801+96	Profile		9.9	321.1		
802+00			11.27	320.71	316.53	4.18
"			11.9	320.6		
	0.97		11.70			

5-17-42

Wilcox
Gierlich
Rothman
Hale
Abate

Ch of P.
Notes
π
φ

NE Cor. Concrete Box Sta. 800+67.
Ref FB 626 Pg 29

Note. On May 16 Center lines marked out + staked. But no Levels run

Wilcox
Hale
Abate
Charlie

342.71
97
343.68
11.70
331.98

7

Sta.	+	H.I 331.98	−	Elev.	Trench Grade	Cut
802+03	Profile		10.4	321 6		
802+14.17			10.74	321.24	315.39	5.9
"			10.8	321 .2		
802+25	Profile		11.1	320 .9		
802+50.73			13.06	318.92	313.27	5.65
" ℄			13.1	318 9		
T.P.	1.06	319.98	13.06	318.92	311.50	
802+87.39			3.35	316.63	311.50	5.13
" ℄			3.3	316.7		
803+00			4.02	315.96	310.90	6.06
" ℄			4.0	316.0		
803+24.05			6.26	314.72	309.83	4.89
" ℄			6.4	314. 6		
803+50			6.37	313.61	308.50	5.11
" ℄			6.3	313 .7		
803+60.79			6.83	313.15	307.99	5.16
" ℄			6.8	313. 2		
804+00			8.66	311.32	304.75	6.6
" ℄			8.6	311.4		
Check on old hub			7.86	312.12	311.9	
803+00 Check on old hub			3.49	316.49	316.50	
804+25	Profile		11.2	308 .8		

(FB 626 P 30)

331.98
1 06
333 04
13 06
319.98

Sta.	+	H.I. 319.98	−	Elev.	French Grade
T.P.	0.48	308.03 ✓	12.43	307.55 ✓	
804+50			1.51	306.52	301.00
" ℄			1.7	316.3	
804+75 ℄			5.5	302.5	
805+00			7.60	300.35 ✓	294.89
" ℄			7.7	300.3	
"					
805+25 ℄	Profile		9.9	298.6	
805+40			10.90	297.13	290.00
"			10.1	297.9	
805+49.90	Hub on south side		11.94	296.09	289.93
" ℄			10.5 ✓	297.53	
"	Hub on North Side		10.55 ✓	297.48	
805+75			11.3	296.7	
806+00			14.10	293.93	289.60
" ℄			11.74	296.29	
806+25	Profile		11.2 ✓	296.8	
806+50			11.51	296.52	291.45
"			11.1	296.9	295.15
806+75	Profile		10.1	297.9	297.00
807+00			8.80	299.23	293.30
" ℄			8.9	299.1	
807+25			6.8	301.2	
807+50	old Hub Check elev.		6.20		301.83

Cut

319.98
.48
320.46
12.43
309.03

5.52

5.46

7.13

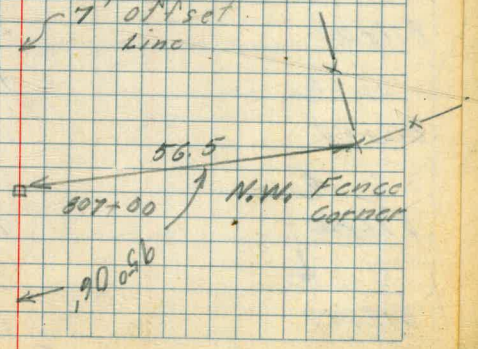
6.16

7.55

4.33

5.07

5.93



Sta.	+	308.03 H.I.	−	Elev.	Trench Grade
807+50			5.38	302.65	295.15
" ℄			5.6	302.4	
808+00			4.35	303.68	297.00
" ℄			4.1	303.9	
808+50			3.62	304.41	297.05
" ℄			3.3	304.7	
809+00			3.50	304.53	297.10
"			3.1	304.9	
808+50 Check on old H.I.			1.42	306.61	306.60
809+50			3.65	304.38	297.15
"			3.1	304.9	
T.P.	5.38	309.76	3.65	304.38	
810+00			5.32	304.44	297+19
" ℄			4.80	304.96	
810+50			4.92	304.84	297.24
" ℄			4.90	304.86	
811+00			5.25	304.51	297.29
" ℄			5.0	304.76	
811+50			6.22	303.54	297.33
" ℄			6.00	303.76	
812+00			7.15	302.61	297.38
" ℄			6.7	303.08	
812+50			7.56	302.70	297.42
" ℄			7.1	303.68	

Cut
7.50
6.68
7.36
7.43
7.23
7.25
7.60
7.22
6.21
5.23
4.78

308.03
5.38
313.41
3.65
309.76

309.76 ✓

Sta.	+	H.I.	−	Elev	
813+00			7.50	302.26	302.34
B.M. #2			3.27	306.49	
T.P.	9.31	312.20	6.87	302.89	
T.P.	12.55	324.03	0.72	311.48	
B.M.			2.05 ✓	321.98	
816+50			4.45 ✓	319.58	319.64

Spike in Tel. Pole # D 33519 T North of Road at 810+60

Top of body flange of 4" gate valve on Air Vale at 818+00

11 27 May 1942

Sta	BS	HI	FS	Rod	Elev. Ground or F&V
BM	3.24	325.22			321.98 ✓
T.P.	0.36	312.84	12.74		312.48
T.P	1.45	301.97	12.32		300.52
820+50 ℄				6.57	295.40
821+00 ℄				12.07	289.90
" ℄				12.65	289.32
T.P	0.64 / 5.69	291.12	11.49		290.48
821+50 ℄				5.92	285.20
" ℄				6.11	285.01
822+00 ℄				8.99	282.13
" ℄				8.99	282.13
822+50 ℄				10.46	280.66 ✓
" ℄				10.65	280.47
T.P			10.03 / 46.58		281.09 ✓

May 28 —

T.P	0.35	281.44 ✓			281.09 ✓
823+00 ℄				2.96	278.48
" ℄				2.65	278.79
823+50 ℄				4.39	277.05
" ℄				3.86	277.58
824+00 ℄				4.06	277.38
" ℄				4.27	277.17
824+50 ℄				5.28	276.16 ✓
" ℄				5.09	276.35

E.H. Nilson

H.P. Subliff
668 N. F St.
Chula Vista
11893J

Grade	Cut
~~283.40~~	
283.40 ✓	6.50 ✓
"	5.92
278.40	6.80
276.30 ✓	6.61
276.30	5.83 ✓
274.70	6.46 ✓
272.10 ✓	6.38 ✓
272.10	6.69
271.52	5.53 ✓
271.42	5.96 ✓
	5.75
271.32	4.84

Tob of 4" Valve see p. 10

321.98
5.05
327.03
25.06
301.97

321.98
5.69
327.67
46.58
281.09

X Red Rock opp 822+70± on N of Grade

Nelson Subliff & Charlie

523+12 = see p 12

321.98
6.04
328.02
46.18
281.84

12

B/S	B.S	H.I	F.S	Rod	Elev
		281.44 ✓			
BC 824+62.52 ℄				4.84	276.60
℄				4.92	276.52
B.M			4.41		277.03 ✓
823+12.50 ℄				3.17	278.27
℄				3.13	278.31
B.M	4.46	281.49			277.03 ✓
824+19.70 ℄				5.62	275.87 ✓
				5.89	275.60
825+15.62 ℄				5.93	275.56 ✓
℄				5.94	275.55
825+42.09 ℄				4.92	276.57 ✓
℄				5.65	275.84
E.C. 825+68.42 ℄				4.50	276.99 ✓
℄				4.25	277.24
826+00 ℄				4.05	277.44
℄				4.09	277.40
B.M	~~3.69~~ 7.20	~~280.72~~ 284.23 ✓			277.03
824+50 ℄				8.10	276.13
+62				7.61	276.58
+89				8.35	275.88 ✓
825+15				8.68	275.55 ✓
42 ✓				7.67	276.56 ✓

Trench Grade Cut

271.79 ✓	5.31 ✓
271.60	6.67 ✓
271.24 ✓	4.63 ✓
271.19	4.37 ✓
271.1 ✓	5.43 ✓
271.08	5.91 ✓
	6.16
271.02	6.42 ✓

Top of Body Flange 4" Grade values of 826+

Note 840+50 ℄ 6.9
740 6.8
841+40 ℄ 6.4

Sta	BS	HI	FS	Rod	Elev
		284.23 ✓			
825+68 ℄				7.24	276.99 ✓
826+00 ℄				6.81	277.42 ✓
+50 ℄				7.31	276.92
℄				7.92	276.31
+60 ℄					275.71
					275.12
29	May				
B.M.	4.42	281.45			277.03
827+00 ℄				10.33	271.12
℄				11.05	270.40
T.P.	0.26	269.39	12.32		269.13
827+50 ℄				6.95	262.44
℄				7.99	261.40
T.P.	1.55	258.66	12.28		257.11
828+00 ℄				5.66	253.00
" ℄				6.78	251.88
T.P.	0.56	247.09	12.13		246.53
828+50 ℄				4.17	242.92
℄				4.20	242.89
T.P.	0.24	234.36	12.97		234.12
829+00 ℄				3.55	230.81
℄				2.55	231.81
829+35 ℄				10.94	223.42
℄				9.85	224.51
829+50 ℄	T.P. 1.42	223.50 ✓	12.29		222.08
℄	2 ✓			12.15	222.21

Trench Cut

Grade	
270.92	6.00 ✓
	5.39
270.90	4.81
263.62	7.50
	6.78
254.51	7.93
	6.89
245.40	7.68
	6.48
235.40	7.52
228.52	7.29
215.20	8.22
	9.31
214.49	7.59

277.03
8.45
285.48
61.98
223.50

Indian Cathiff.

Bridge 8' ℄ 827+00 369.2

Sta	B.S	H.I	F.S	Rod	Elev
8		223.50			
830+00-℄				4.64	218.86
" ℄				5.11	218.39
830+50 ℄				7.06	216.44
" ℄				7.28	216.22
831+00 ℄				7.42	216.08
" ℄				7.44	216.06
B.M.				8.27	215.23
831+15 ℄				6.85	216.65
" ℄				6.90	216.60
B.M.	8.98	224.21			215.23
831+50 ℄				6.05	218.16
" ℄				6.75	217.46
832+00 ℄				6.12	218.09
" ℄				6.26	217.95
832+50 ℄				5.50	218.71
" ℄				5.89	218.32
833+00 ℄				5.30	218.91
" ℄				5.56	218.65
833+50 ℄				3.67	220.54
℄				3.39	220.82
834+00 ℄				0.00	224.21
				0.18	224.03
B.M.	6.63	230.13	0.71		223.50

Trench Grade	Cut
211.14	7.72
209.79	6.65
209.48	6.60
209.40	7.25
210.39	7.77
211.80	6.29
212.10	6.61
212.40	6.51
215.40	5.14
218.40	5.81

Top of 1/2" Iron Strap on 36" Flood Sleeve Pipe opp. 831+00, R5 Reg

Check Level Adjustment minor error only, Corrected Same

see above

215.23
15.61
230.84
0.71
230.13

OCN8' offset 834+00

29 May 42

15

Sta	B.S	H.I	F.S	Rod	Elev
		230.13			
834.00 ℄				5.92	224.21
834+50 ℄				2.94	227.19
℄				3.19	226.94
TP	6.44	233.63	2.94		227.19
835+00 ℄				1.92	231.71
℄				2.16	231.47
BM			2.13		231.50

31 May

	13.00	244.50			231.50
835+50 ℄				5.44	239.06
℄				5.71	238.79
835+75 ℄				1.18	243.32
℄				0.86	243.64
TP	12.22	255.54	1.18		243.32
835+90 ℄				8.21	247.33
836+00 ℄				5.36	250.18
℄				5.34	250.20
TP	13.03	268.16	0.41		255.13
TP	12.47	27786	2.77		265.39
836+50 ℄				8.56	269.30
℄				8.43	269.43
836+70 ℄				0.96	276.90
℄				1.24	276.60
	50 72		4.36		

Trench Grade	Cut
221.40	5.79
224.40	7.31
BM	
232.90	6.16
238.40	4.93
243.90	6.28
261.90	7.46
269.10	7.80

Or

Ch Nat 835+0

May 31- 1942.

Wilcox
Hale
Reid
Banks
Douglas Jacks.

231.50
50 72
28 22
4 36
277 86

16

Sta	B.S	H.I	F.S	Rod	Elev
		277.86 ✓			
T.P	12.70	289.42	0.64		277.22
836+75				~~10.94~~	~~278.50~~
" ℄ only				10.88	278.54
837+00 ℄				3.87	285.65
℄				3.47	285.95
T.P.	12.20	300.86	0.76		288.66
837+70 ℄ only				10.88	289.98
837+50 ℄				6.94	293.94
℄				6.33	294.53
838+00 ℄				~~2.43~~	298.43
℄				1.78	299.08
TP	12.90	313.53	0.23		300.63
838+50 ℄				9.90	303.63
" ℄				8.86	304.67
839+00 ℄				2.24	311.29
℄				2.10	311.43
TP	10.04	323.30	0.27		313.26
839+50 ℄				7.50	315.82
℄				7.09	316.21
839+75 ℄				5.48	317.82
BM #28	2.32	322.67 ✓	3.95	(3.95)	319.35
840+00 ℄				3.55	319.14
℄				3.38	319.29
		Fwd to page 18			
	50.66		8.85		

Trench Grade	Cut
~~270.90~~	~~7.60~~
270.90	
279.90	5.71
282.51	
280.44	7.50
292.98	5.45
299.52	4.11
306.06	5.23
312.60	3.22
313.38	5.76

65.5
20.1
45.0

Note, 839+0 Add 1 ft for cut
+50 — 2.1

277.86
50.66
328.52
5.85
322.67

146 in edge of Brush.

65.5
73.4

8" Pipe

6" Pipe

6" Pipe

65°

65°

45

45

0

840+50
+47

B.M. Top of Body Flange to 4" Gate on A.V. Sta 840+04

Note Check of B.M. only

Check Levels

	+	H.I	−	EL−	231.50
835+00				231.50	
	12.97	244.47			
T.P.			0.56	243.91	
	13.00	256.91			
T.P.			1.91	255.00	
	12.66	267.66			
T.P.			0.12	267.54	
	12.70	280.24			
T.P.			0.88	279.36	
	12.66	292.02			
T.P.			1.45	290.57	
	12.30	302.87			
			0.32	302.55	
	12.77	315.32			
T.P.	9.38	321.10	3.60	311.72	
B.M.			1.73	319.37	

Note Check of levels taken on p 16

31 – May 1942

Trod from P6

Sta Stn	B.S	H.I	F.S	Rod	Elev
		322.67			
840+40 (T)				2.82	319.85
℄				2.23	320.44
840+50 (T)				2.71	319.96
℄				2.22	320.45
841+00 (T)				5.39	317.28
℄				4.65	318.02
BM J	1.13	320.50			319.37
841+00 (T)				2.57	317.93
℄				2.72	
841+50 (T)				5.60	314.90
" ℄				5.63	314.77
842+00 (T)				7.08	313.42
℄				6.92	313.58
842+50				7.34	313.16
℄				7.32	313.18
843+00 (T)				6.63	313.87
℄				6.62	313.88
843+58 (T)				5.74	314.76
℄				5.93	314.57
844+00 (T)				5.36	315.14
" ℄				5.41	315.09

Trench Grade	Cut
314.00	5.85
313.66	6.36
	6.79
311.97	5.31
311.97	5.96
310.28	4.62
308.66	4.82
308.44	4.62
308.48	5.39
308.42	6.34
308.36	6.78

5 June 42

Rec'd p. 16

Keeler Road Banks Tracks

5 June 42

19

Stn	B.S	H.I	F.S	Rod	Elev	Trench Grade	Cut
		320.50					
844+50 (T)				6.15	314.35	308.29	6.06
" ℄				6.05	314.45		
845+00 (T)				6.65	313.85	308.23	5.62
" ℄				6.95	313.55		
845+25 (T)				7.56	312.94	308.20	4.74
" ℄				7.51	312.99		
845+50 (T)				8.51	311.99	307.38	4.61
" ℄				8.76	311.74		
B.M			7.52		312.98		
	0.88	313.86					
846+00 (T)				4.95	~~308.91~~ 308.84	✓ 305.73	~~3.18~~ 3.11 ✓
℄				5.02	308.84		
846+25 (T)				6.99	~~306.87~~ 306.80	304.91	~~1.96~~ 1.89 ✓
℄				6.90	306.96		
846+40 (T)				8.42	~~305.44~~ 305.37	✓ 304.60	~~0.84~~ 0.77 ✓
℄				8.30	305.56		
846+50 (T)				9.71	~~304.15~~ 304.08	301.93	~~2.22~~ 2.15 ✓
℄				9.60	304.36		
T.P.			11.50		~~302.36~~ 302.29		
	0.11	~~302.47~~ 302.40					
847+00 (T)				7.38	~~295.09~~ 294.92	289.60	~~5.49~~ 5.32 ✓
℄				7.60	294.87		
847+24 (T)				11.39	~~291.08~~ 290.91	287.57	~~3.51~~ 3.34 ✓
℄				11.55	290.92		

Top of Body flange 4" Gate Valve for A.V. opp Stn 844+50

320.50
.09
321.40
19.02
302.47

20

Sta	B.S.	H.I.	F.S.	Rod	Elv.
		302.47	11.39		
T.P.			11.39		291.08
	1.45	292.53			
847+40 ℄				3.38	289.15
				3.40	289.13
847+57.37 ℄				4.55	287.98
				4.29	288.24
847+73.75 ℄				5.15	287.38
				4.80	287.73
847+90.18 ℄				5.50	287.03
				5.36	287.17
B.M.			5.38		287.15

287.15

9.82

Keeler
June 42

Trench Grd. Cut

B.C. of curve

286.21	3.93 / 2.77	✓
284.85	3.13 / 2.96	✓
283.49	3.89 / 3.74	✓
282.71	4.34 / 4.15	✓

302.47
1.45
203 92
16 77
287.15

℄
Conc. Mon. on No Line Winona Ave

B.M. above.

Grades on Cholla Pipe Line

Unit # 5

Stn	Changed Grade Point	% to Grade	Grade Elev.
800+67.40	334.00		334.00
		-20.90	
801+0			827.18
+04.1			826.32
801+20	323.0		323.00
+40.73			321.33
+50		-8.09%	320.57
+77.40			318.35
802+0			316.53
+111.07			315.39
+25	314.50		314.50
802+50		-4.80%	313.30 — 802+87.39 311.50
+50.73			313.27
803+0			310.90
+24.05			309.83
803+50	308.50		308.50
+60.74			307.99
804+0		-7.50	304.75
804+50	301.00		301.00
805+0		-12.22	294.89
805+40	290.00		290.00
805+50		-0.67	289.93
806+0	289.60		289.60
+50		+3.70	291.45
807+0			293.30
+50			295.15
808+0	297.00		297.00

Note. Grades given are Bottom of Trench.

Trench.	Change Point	%	Trench Grade	
808+00	297.00		297.00	
+50			.05	
809+0			.10	
+50			.15	
810+0			.19	
+50			.24	
811+0			.29	
+50			.33	
812+0			.38	
812+50			.42	
813+0			.46	
813+25	297.50		297.50	
+50		+4.67%	298.66	
814+0	301.00		301.00	
+50		7%	304.50	
815+0	308.00		308.00	
+50			310.06	
816+0		4%	312.00	
+50	314.00		312.00	
817+0			313.91	
+50			313.81	
818+0		-1.86	313.77	
818+50			313.63	
+60	313.61		313.61	
819+0			308.43	
+50		-12.95	301.96	
820+0			295.50	
+50	289.00		289.00	
821+0		-10%	284.00	283.40 ✓
+50	279.00		279.00	278.40 ✓
822+0			276.90	276.30 ✓
+50		-4.20	274.80	274.20 ✓
823+0			273.70	273.10 ✓
+12.15	272.20		272.20	271.60 ✓
+50			272.12	271.52 ✓
824+0		-0.20%	272.02	271.42 ✓
+50			271.92	271.32 ✓
825+0			271.82	271.22
+50			271.72	271.12
826+0			271.62	271.02
+50			271.52	270.92
+60	271.50		271.50	270.90
827+0			264.22	263.62
+50		-18.21	255.11	254.51
828+0	246.0		246.00	245.40

Trench Grades for Concrete Pipe.

For Reinforced Pipe

824+50 271.32

824+62.98 — 271.29

+89.29 271.24

825+15.69 271.19

+42.09 271.14

+68.49 271.08

826+0 271.02

22 Unit No 5.

Stn	Change Point	% Grade	Trench Grade	Revised T. Grade	
828+0	246.00		246.00	245.40	
828+50	236.00	-20.00%	236.00	235.40	
829+0		-23%	224.12	223.52	
+35	215.80		215.80	215.20	✓
+50		-4%	215.09	214.49	
830+0			211.74	211.14	
830+50	210.39		210.39	209.79	
831+0		-0.6%	210.08	209.48	
831+15	210.00		210.00	209.40	✓
+50		+2.82%	210.99	210.39	
832+00	212.40		212.40	211.80	
+50		+0.6%	212.70	212.10	
833+00	213.00		213.00	212.40	
+50		+6.00%	216.00	215.40	
834+0			219.00	218.40	32.90
+50			222.00	221.40	1.2
835+0	225.00		225.00	224.40	32.90
835+50	233.50	+17%	233.50	232.90	43.90
836+0	244.50	+22.0%	244.50	243.90	76.80
+50		+36%	262.50	261.90	38.40
+70				269.41	
837+00	280+50		280.50	279.90	
+20				282.51	
+50		+13.08%	287.04	286.44	
838+0			293.58	292.98	
+50			300.12	299.52	

Stn	Change Point	% Grade	Trench Grade	Revised
			✓	
838+50		+13.08%	300.12	299.52
839+0			306.66	306.06
839+50	313.20		313.20	312.60
840+0		+4.55%	313.98	313.38
+40	314.60		314.60	314.00
+50		-3.375	314.26	313.66
841+0			312.57	311.97 ✓
+50			310.88	310.28 ✓
842+00	309.20		309.20	308.60 ✓
+50		-0.123	309.14	308.54
843+0			309.08	308.48
+50			309.02	308.42
844+0			308.96	308.36
50			308.89	308.29
845+00			308.83	308.23
+25	308.60	-3.30	308.60	308.00
+50			307.98	307.38
846+00			306.33	305.73
+40	305.00	-34.67	305.00	304.60
846+50			302.53	301.93
847+00	290.90		290.90	289.60
+50		-8.27%	286.67	285.47
847+75	284.00		284.00	283.40

846+75, 304.90

23 Unit No 5

Sta	Change Point	% Grade	Elev Trench Grade	Revised Tr. Grade.
847+75	284.00		284.00	283.40
848+6		-4.0	283.00	282.40
648+50	281.00		281.00	280.40
849+0	274.80	-14.00%	274.00	273.40
+50		-29.33	259.33	258.73
849+75	252.80		252.00	251.40
850+0	246.00	-24.0%	246.00	245.40
850+50	244.0		244.0	243.40
851+6		-1.67%	243.20	242.60
+50			242.40	241.80
852+0			241.60	241.00
852+30	241.52		241.52	240.52
+50		+43.26%	249.77	249.17
853+0	271.40		271.40	270.80
+50	294.40		294.40	293.80
854+00	310.8		310.80	310.20
854+50	319.60		319.60	319.00
855+0	325.20		325.20	324.60
+37.45	333.30		333.30	332.70

519.91
259.91

6.400

29.20
14.6

24

℄ GRADES FOR BLASTING
CHOLLAS PIPE LINE
STA 839+00 TO 841+00

STA	+	H.I.	−	ELEV.	TRENCH GRADE
TP #30				302.52	
	10.89	313.41			
839 (20⁵)			3.6	309.8	OLD EL-309.8
839 ~			1.3	312.1	306.66
TP			0.81	312.60	
	10.07	322.67			
839+50			3.9	318.8	313.20 OLD EL
840 ~ (22⁵)			4.4	318.3	318.4
840 ~			2.9	319.8	313.98
+40			2.1	320.6	314.60
+50			2.1	320.6	314.26
841 ~			4.5	318.2	312.57

5-16-42
Veto - Clouds
Cool

A. SIDNEY R. HALE
H.C. D. ABATE
R.C. C. SZYMCZAC.

Cut

Top of 8 offset hub. Sta 838+50
1X1 Pine hub marked with Blue Kiel
Elev taken from f.b 626 page 39

C-5⁴

÷Note÷

Cuts were increased 0.2' to
C-5⁶ Check with BM #128, f.b 626
page 39.

C 5⁸

C 6²

C 6³

C 5⁶

25

STAKING of COLLAS PIPE LINE
UNIT #5

805+49.96

804+

803+60.74 E.R.C.

803+24.08

802+87.41

802+50.74

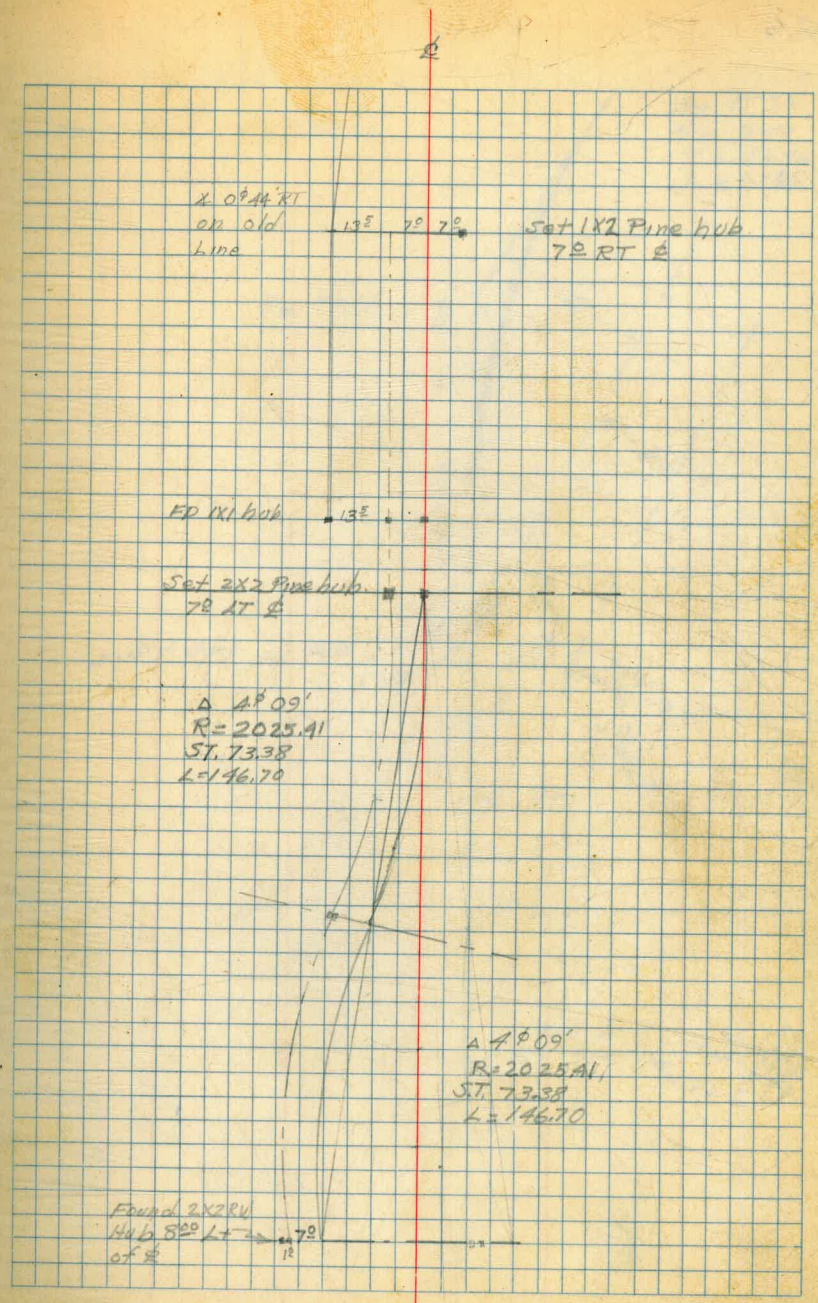
802+14.07 P.R.C.

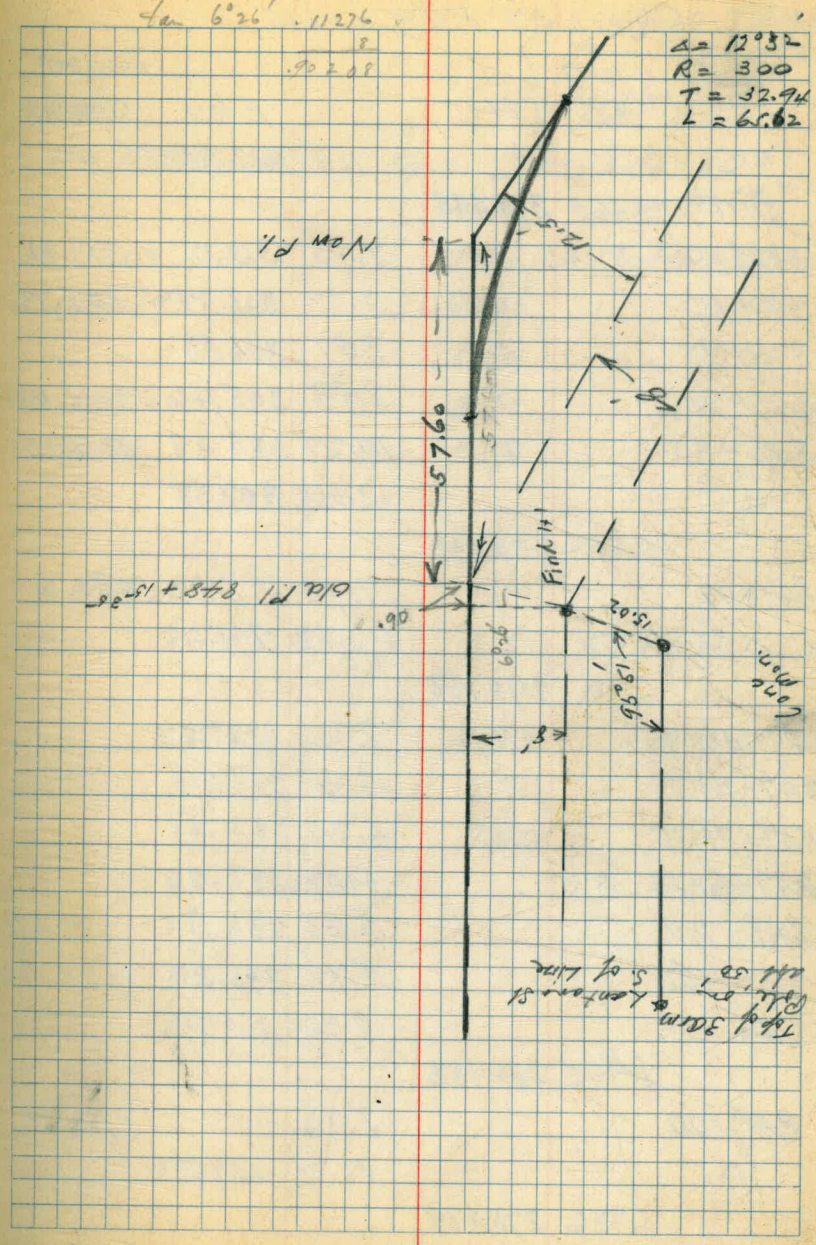
801+77.41

801+40.74

801+04.07

800+67.40 BC Point of beginning.




Δ = 12°32'
R = 300
T = 32.94
L = 65.62
Old PI 848+15.38
Fwy
Local Road
Table Mtn. Lookout Trail

27

SURVEY & LEVELS
CHOLLAS PIPE LINE

	+	HI.	−	Elev	Revised Grade
				312.98 ✓	
BM	1.465	314.445			
845+50			2.45	312.0	307.38
846+00			5.53	308.92	305.73
846+25			7.57	306.88	
846+40			8.99	305.46	304.60
846+50			10.27	304.18	301.93
△			12.065	307.38	
	0.655	303.035			
847+00			7.92	295.12	289.6
BC △ 84[illegible]4.56			11.923	291.112	
	1.04	292.152			
847+40.99			2.96	288.782	
847+57.37			4.16	287.99	
847+73.75			4.74	287.41	
847+90.18 E.C.			5.09	287.06	
848+00			5.23	286.92	282.40
848+50			5.82	286.33	280.40
△			12.364	279.788	
	1.995	281.783			
849+00			3.24		273.40
△			12.29	269.493	
	1.986	271.479			

JUNE-7th 1942.

H.S. Gierlich
Morris - Reid
Douglas Jack
Rose Banks

Cut.

On Flange 4" Gv. Opp. Sta. 845+50 ? (opp 19 J.

5.62	7.0 = Cut Marked on Witness
3.19	6.08
	4.90
0.86	3.34
2.25	5.92
5.52	7.49
	5.51
	4.93
	5.20
	7.40

4.34

28

	+	HI	−	Elev	
		271.479			
849+50			8.04	263 44	258.73
△			12.439	259.040	
	0.963	260.003			
849+75			3.0	257.00	
850+00			7.57	252.43	
△ 850+50			10.193	249.810	243.4 ✓
	3.493	253.303			
7'N			3.73	249.57	
8+51+00 Ⓟ			4.42	248.88 ✓	244.60
7'N			4.7	248.60	
851+50 Ⓟ			4.67	248.73	244.80
7'N			5.3	248.00	
851+93 7'N			4.3	249.00	
852+00 Ⓟ			7.29	246.01 ✓	241.00
7'N			6.9	246.40	
852+15 7'N			7.2	246.10	
852+25' Ⓟ			1.2	252.10	240.60
7'N			6.4	246.90	
2.5'N			2.2	251.10	
10' N			3.5	249.80	
8+52+37					
BM-852+25 △			1.208	252.095	
	11.53	263.625 ✓			

Check Levels on Conc. Monument & Wimona.

	+	HI	−		
				291.112	Sta 847+24.56
	0.385	291.497			
			4.33	287.167	Dm.-Conc. Monu.
848+50			5.18	286.317	

Trench Grade

Cut

6.41 ✓

6.88 ✓

6.93

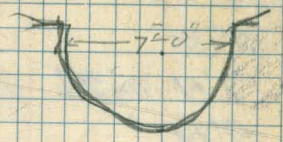
Edge of Bank

5.01

To Creek Bottom

11.50

& Ditch



27

	+	HI	-	Elev
852+50 ⌀		263.625	4.95	258.67
1.5 N			5.36	258.31
7' N. on Stk in Ditch			10.8	252.82
10.3			7.5	255.612
△			0.41	263.215
	12.30	275.515		
852+75			6.16	269.35
△			0.25	275.265
	12.433	287.698		
853+00			9.72	277.97
2.5 N			9.9	277.79
7' N On Stake in Ditch			13.4	274.29
11' N			9.3	278.39
△			0.83	286.868
	12.005	298.873		
853+25			10.1	288.77
853+50 Stk				
5' N			0.5	298.37
7' N on Stk in Ditch			2.05	296.82
9' N			0.3	298.57
12' N				
△ 853+50			0.09	298.783
	12.54	311.323		
853+75 △			1.315	310.008
	11.85	321.858		

Trench Grade	Cut
269.17	9.50
260.00	9.35
270.80	7.17
282.30	6.47
293.80	4.98
302.00	8.00

	+	H.I.	−	Elev
854+00	⊕	321.858	5.23	316.62
3' N			5.2	316.65
7' N	2tk in ditch		8.47	313.32
9' N			6.7	315.15
13' N			4.0	317.85
△			0.34	321.518
		11.645	333.163	
854+25	⊕		10.50	322.56
854+50	⊕		5.25	327.91
1' N			5.2	327.96
7' N	2tk in ditch		10.85	322.31
11' N			6.9	326.26
854+75			2.14	23102
△			0.35	332.813
		10.346	343.159	
8+55+08.91	Angle Pt.		8.36	334.80
2.5 N			8.8	334.36
7' N	2tk		10.76	332.40
11' N			7.3	33586
15.5 N			3.5	339.66
855+28.34			4.91	338.249
7' N			5.44	337.72
BM			4.165	338.994

T-Grade	Cut
310.20	6.42
314.60	7.96
319.00	8.91
321.80	9.22

Keel ⊕ on sidewalk

− On flg. 4" Cu.Y.

31

9 June 1942

Check Levels

Stn	B.S	H.I	F.S	Rod	Elev
B.M	0.21	313.19			312.98
TP	0.89	301.07	13.01		300.18
TP	1.86	290.44	12.49		288.58
847+73.75 (T)				3.03	287.41
B.M				3.26	287.18
848+50 (T)				4.11	286.33
848+00 (T)				3.52	286.92
849+00 (T)	1.53	280.07	11.90	11.90	278.54
TP	0.60	268.83	11.84		268.23
849+50 (T)				5.45	263.38
TP	0.38 (5.47)	256.68 ✓	12.53 61.77		256.30
849+75					
850+00 (T)				4.31	252.37
850+50 (T)				6.94	249.74
" " ℄				7.37	249.31
BM				7.18	50
851+00 (T)				7.86	248.82
" " ℄				8.7	248.51
851+50 (T)				8.11	248.57
℄				8.72	247.96
TP	5.63	253.64 ✓	8.67		248.01
BM				5.76	247.88
Creek on line				7.85	245.79
" bea				6.40	247.24

See page 19

Wilcox
Whites
Banks
Davies

312.98
5.47
318.45
61.77
256.68
5.63
262.31
8.67
253.64

✓ BK see p 27

Concrete B.M ℄ Winona

280.40	5.93
282.40	4.82
273.40	5.14
258.73	4.65
251.40	
245.46	6.97
243.40	6.34
242.60	6.22
241.80	6.77

Nail in N. Side Power Pole F.D.C. G&E Co #3500, on N. side Auburn Ave, 100' S of

Nut on Body flange of 4" Gate Valve on Blow-off

Bottom of Creek

22' from ℄ up stream

32 — 9 June 1942

Stn	B S	H I	F S	Rod	Elev.
		253.64 ✓			
852+00 (T)				7.68	245.96
℄				4.77	248.87
852+75 (T)	12.96	264.99	1.61		252.03
852+50 (T)				6.38	258.61
℄				12.30	252.69
852+30 ℄				17.74	247.25
TP	12.52	277.17	0.34		264.65
852+75 (T)				7.88	269.29
TP	10.94	288.07	0.04		277.13
853+00 do				10.87	277.20
853+00 (T)				10.18	277.89
" ℄ hub				13.77	274.30
TP	12.61	300.36	0.32		287.75
853+25 (T)				11.65	288.71
853+50 (T)				1.63	298.73
" ℄				3.59	296.77
TP	13.09	311.82	1.63		298.73
853+75 (T)	11.06	320.91	1.97	1.97	309.85
854+00 (T)				4.44	316.47
" ℄				7.68	313.23
TP	10.12	330.50 ✓	0.53		320.38
854+25 (T)				7.96	322.54
854+50 (T)				2.75	327.75
℄				8.33	322.17
	13.30		6.44		

Trench Grade	Cut
241.00	4.96
240.60	11.43
249.17	9.44
249.17	3.52
240.52	4.73
259.98	9.31
270.80	7.09
270.80	3.56
282.30	6.41
293.80	4.93
293.80	
302.00	7.85
310.20	6.27
	3.03
314.60	7.94
319.00	8.75
319.00	3.17

253.64
83.30
336.94
6.44
330.50

11.59
6.11
17.70

12.32
1.41
13.73

do Survey 277.50 (FB 626 – 43)

Stn	B.S	H.I	F.S	Rod	Elev
		330.50			
TP	12.62	342.89	0.23		330.27
854+75	℄			12.02	330.87
855+00	℄			7.77	335.12
+08.91	℄			8.25	334.64
	℄			10.64	332.25
BM				4.07	338.82
855+28.44	℄			4.82	338.07
	℄			5.34	337.55

Trench Grade	Cut
321.80	9.07
324.60	10.53
326.55	8.09
326.55	5.70
330.72	7.35
330.72	6.83

Flange of most westerly 4" Gate Valve on 2 Air Valves at 855+09

21.66
.09
194.94
21.66
28.34
21.6
170.04
28.34
141.68
6.12 1.44

Unit No 6 Grades

Sta	Change of Grade	% Grade	Grade Elev
0+0	240.4		240.4
0+50		-7.87	236.47
0+25	234.5		234.50
1+0		-9.47	232.13
1+50	227.4		227.4
1+57		-18%	226.14
1+67			224.34
1+75	222.9		222.90
2+00	219.0		219.00
2+25	216.5		216.5
2+50		-7.33	214.67
3+00	211.0		211.0
+50		-9.75	206.13
4+0			201.25
+50			196.38
5+00	191.5		191.5
+50	185.5		185.50
5+75	183.5		183.50
6+00	180.6		180.60
6+25	176.2		176.2
6+50	171.0		171.0
7+00	158.5		158.5

Sta	Change Points	%	Elevation
7+20	155.0		155.00
7+38	152.5		152.5
7+57	151.2		151.2
		-3.01	
8+0			149.90
8+50	148.4		148.4
		-3.80	
9+0			146.50
9+50	144.6		144.60
		-2.171	
10+0			143.51
+50			142.42
11+0			141.34
+50			140.26
12+0			139.17
+50			138.09
13+00	137.00		137.00
		-2.0%	
+50			136.00
+65 BC			135.70
14+0	135.00		135.00
		-1.533	
+50			134.23
15+00			133.46
+50			132.70
16+00			131.93
+58			131.17
17+00	130.4		130.4
		-2.70	
17+70			129.3
18+0	128.20		128.2

+25 13461

15+75 132.81

+1 131.55

16+75 130.78

+25 129.85

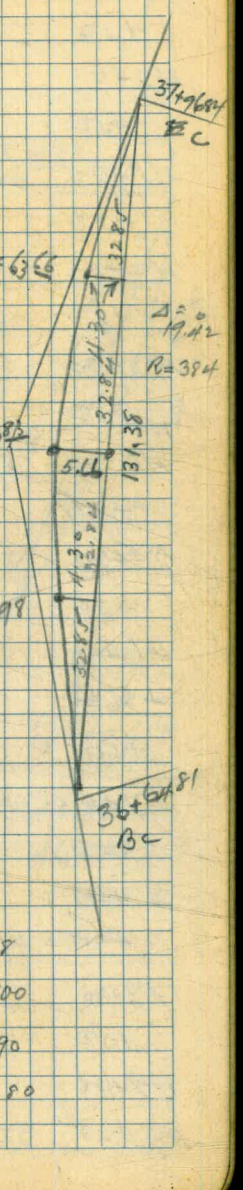
+75 128.75

35

Unit No 6. Grades

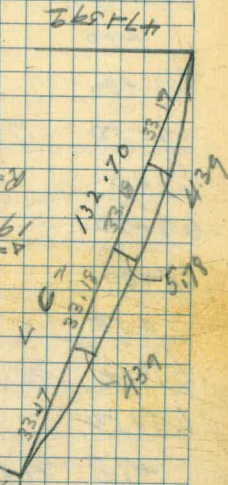
Station	Change	%	Elevation	
18+0	128.2		129.2 / 126.4	
18+50		-7.20	124.6	
18+75	122.8		122.80	
19+0		-0.533%	122.67	
+50			122.40	+25 122.53
20+0			122.14	+75 122.27
+50			121.87	+25 122.00
21+00	121.6		121.6	+75 121.74
+50	3.33	-6.66	118.27	+25 120.00
21+75	116.6		116.6	
32+0		-0.320	116.52	
+50			116.36	116.44
23+00	116.2		116.2	+75 116.28
+50		-2.80	114.80	23+25 115.5 / 23+75 114.1
24+00			113.40	24+25 112.70
24+50	112.00		112.00	
25+00		-3.60	110.200	+75 111.10
25+35 PC			108.94	
25+50			108.40	
26+00	106.6		106.60	
+50		-3.033	105.09	
27+0			103.58	
+50			102.06	
28+0			100.55	
+50			99.03	
29+0	97.5		97.5	

Stn	Change	Rate	Elev	
29+00	97.5		97.50	
+50		-4%	95.50	
29+75	94.5		94.50	
30+00		-1.333%	94.17	
+50	93.5		93.5	
31+0		-2.889	92.05	
+50			90.61	
32+0			89.16	
+50			87.70	
33+00			86.28	
+50			84.83	
34+00			83.39	
+50			81.94	
35+00	80.5		80.50	
+50		-2.25	79.13	
36+0			78.25	78.00
+50			77.13	77.00
36+64.81 PC			77.08	77.72
37+00	76.00		76.00	77.0
+50		-1.50	75.25	76.0
37+76.84 EC			74.55	75.08
38+00	74.5		74.50	75.00
+50		-3.70	72.65	72.90
39+00	70.8		70.8	70.80



Stn	Change	Rate	Elev	
39+00	70.8		70.8	✓
+50		-3.70	68.95	✓
40+00			67.10	✓
+50			65.25	✓
41+00	63.4		63.40	✓
+50		-2.30	62.25	✓
42+00			61.10	✓
+50			59.95	✓
43+00	58.8		58.80	✓
+50		-4.20	56.70	✓
44+00	54.6		54.60	✓
+50		-1.80	53.70	✓
45+00	52.8		52.80	✓
+50		-4.10	50.75	✓
46+00		1.37	48.70	✓
46+59.50			47.61	(+59.8 46.24)
+50			46.65	(+93.1 44.67)
47+00	44.6		44.60	
+50		-6.133	41.57	(47+26.4 43.00)
+60			40.93	
+75	40.80		40.00	✓
48+00		-2.00	39.50	✓
+50			38.50	✓
49+00			37.50	✓
49+25	37.00		37.00	✓

Stn	Change	Rate	Elev	
49+25	37.00		37.00	✓
+50		-4.12%	35.97	✓
50+00			33.91	✓
+50			31.85	✓
51+00			29.75	✓
+50			27.73	✓
51+75	26.70		26.70	
52+00		-0.93%	26.47	R=324
+50	26.00		26.00	R=0.61
53+00		-3.20	24.40	
+50			22.80	
54+00	21.20		21.20	
54+50	18.20		18.20	
55+00		-0.867	17.76	R=324
+50			17.33	
56+00			16.90	
+50			16.46	
57+00			16.03	
+50	15.60		15.60	
58+00		-0.30	15.45	
+50			15.30	
59+00			15.15	
59+50	15.00		15.00	
60				



Stn	Change	Rate		Elev
59+50	15.00			15.00
60+00		+0.667		15.33
+50				15.67
61+00				16.00
+50				16.33
62+00				16.67
62+50	17.00			17.00
63+00		+1.20		17.60
63+50				18.20
64+00				18.80
+50				19.40
65.00	20.00			20.00
65+50		+1.333		20.66
+75	21.00			21.00
66+00		+0.267		21.07
+50				21.20
67+00				21.33
+50				21.47
68+00	21.60			21.60
+50		-0.60		21.30
69+00				21.00
+50				20.70
70+00				20.40
+50				20.10
71+00				19.80

Stn	Change	Rate	Elev
71+00		-.6%	19.80
+50			19.50
72+00			19.20
+50			18.90
73+00	18.6		18.60
+50		-1.257	17.97
74+00			17.35
+50			16.72
74+75	16.4		16.40
75+00		+1.40	16.75
+50			17.45
76+00			18.15
+50			18.85
77+00			19.55
+50			20.25
78+00	20.95		20.95
+50		1.40	21.65
+75	22.00		22.00
78+92.5		-2.755	21.52
79+00			21.31
+50			19.93
80+00			18.56
+50			17.18
81+00	15.80		15.80
81+36	13.80		13.80

Sta	Change	Rate	Elev
81+36	13.80		13.80
+50		-1.25	13.62
82+00	13.00		13.00
+50		-2.025	11.99
83+00			10.98
+50			9.96
84+00	8.95		8.95
+50		-3.266	7.32
84+75	6.50		6.50
85+0		-1.304	6.17
+50			5.52
85+90	5.00		5.00
86+00		-2.00	4.80
+50			3.80
87+00			2.80
+50			1.80
88+0			0.60
+50			-0.2
89+0			-1.2
89+50	-2.2		-2.2
90+0			-2.83
90+50			-3.46
91+00	-4.08		-4.08
91+50	-4.70		-4.70
92+00			-4.62

	Rate	Elev
92+50		-4.54
93+00		-4.46
93+60		-4.38
94+00	-4.30	-4.30
94+50		-2.90
95+00	-1.50	-1.50
+50		-1.44
96+00		-1.38
96+50		-1.32
97+6		-1.26
97+50		-1.20
98+00		-1.13
98+50		-1.07
99+00		-1.01
99+50		-0.95
100+00		-0.89
100+50		-0.83
101+00		-0.77
101+50		-0.71
102+0		-0.65
102+50		-0.59
103+00		-0.52
103+30		-0.48

For grades beyond 103+30 see p 72

39 B.M - Check

Sta	+ F.S.	I	B S	Rod	Elev
	1.83	63.03			61.20
T.P.			10.73		52.30
	2.08	54.38		5.90	48.48
~~47+30~~ (6) 70				9.64	~~44.74~~
T.P.			8.80		45.58

10 July - 1942

Check Levels

Cannot identify B.M. or T.P. as shown in F.B # 600

I check on 7 different points on preliminary survey & find good accord & call set up from which these were determined as 49.03

See F.B 600-78

H.I
49.03

B.M.	2.11	46.92
B.M.	6.30	42.73

N.W. Cor of Canon & Willow sts

B.M. chis. Evergreen & Canon City 49.51 1.03 48.48

Ref F.B 600 p 34 456.

4.19

Lead plug in Curb op. E. side of steps to 109 Evergreen

Top of Fire Hydrant S.W. Cor Addison & Evergreen

40

10 July 1942

Elevels & Cuts on #6 Unit
Harbor Drive Pipe Line

Stn	BS	H.I	FS	Rod	Elev
BM J	3.00	45.73			42.73
51+50 ③				13.09	32.64
℄				13.00	32.73
51+00 ③				11.65	34.08
℄				11.54	34.19
50+50 ③				9.60	36.13
℄				9.53	36.20
50+00 ③				7.57	38.16
℄				7.47	38.26
49+50 ③				5.67	40.06
℄				5.62	40.11
49+25 ③				4.89	40.84
℄				4.80	40.93
49+00 ③				4.27	41.46
℄				4.20	41.53
48+50 ③				3.58	42.15
℄				3.44	42.29
48+00 ③				2.45	43.28
℄				2.29	43.44

Grade	Cut
Top of Hydrant Addison & Evergreen	
27.73	4.91
29.75	4.33
31.85	4.28
33.91	4.25
35.97	4.09
37.00	3.84
37.50	3.96
38.50	3.65
39.50	3.78

41 10 July 1942

Stn	B.S	H.I	F.S	Rod	Elev	Grade	Cut
B.M.	~~9.02~~	~~55.94~~			46.92		
	6.99	53.91					
47+70 = #92	③			9.97	43.94	40.00	3.9
	℄			9.79	44.12		
47+60	③ S			9.18	44.73	40.93	3.8
	③ N			9.18	44.73		
	℄			9.05	44.86		
47+26.4	③			7.16	46.75	43.0	~~3.75~~
	℄			7.11	46.80		
46+93.10	③			5.79	48.12	44.87	3.25
	℄			5.58	48.33		
46+59.80	③			4.85	49.06	46.24	2.82
	℄			4.73	49.18		
46+26.50	③			2.16	51.75	47.61	4.14
	℄			2.36	51.55		
T.P.	6.89	58.79	2.01		51.90		
46+00	③			5.70	53.09	48.70	4.39
	℄			5.49	53.30		
45+50	③			3.36	55.43	50.75	4.68
	℄			3.16	55.63		
45+00	③			1.33	57.46	52.80	4.66
	℄			1.17	57.62		
T.P.	8.86	66.28 ✓	1.37		57.42	~~53.70~~	~~3.72~~
44+50	③			7.18	59.10	53.70	5.4
	℄			7.22	59.06		
	22		3.38				
	22.74						

Elev B.M. 46.92

46.92
22.74
.48
69.66
3.38
66.28 ✓

42 10 July 1942

Sta	B.S.	H.I.	F.S.	Rod	Elev	Grade	Cut
		66.28 ✓					
44+00 ③				6.83	59.45	54.60	4.85
℄				5.80	60.48		
B.M.				4.81	61.47		
43+50 ⑥				5.62	60.66		
43+50 ③				4.60	61.68	56.70	4.98
℄				4.56	61.72		
43+00 ③				3.27	63.01	58.80	4.21
℄				3.2 ~~5~~	62.93		
42+50 ③				2.06	64.22	59.95	4.27
℄				1.98	64.30		
42+00 ③				0.81	65.47	61.10	4.37
℄				0.72	65.56		
T.P.	10.45	76.54	0.19		66.09		
~~41+00~~ ③				8.49	~~68.05~~		
℄				8.39			
~~40+50~~ ③				6.64	69.90		
℄				6.56			
40+00 ③				4.68	71.86		
℄				4.48	~~7~~ .06		
39+50 ③				2.81	73.73		
℄				2.52			
~~39+00~~ ③				0.94	75.60		
℄				0.76			
T.P.	9.98	85.66 ✓	0.86		75.68 ✓		

Stk on Curb N.W. Willow & Canyon (City 61.20)

66.28
20A³
86.71
×1.05
85.66

This TP ok, used on next page.

Continued from page 42 -

43

Sta	B.S.	I	F.S.	Rod	Elev
		85.66 ✓			
38+50 ③				8.07	77.59
℄				7.95	~~77.71~~
38+00 ③				6.05	79.61
℄				6.03	
TP	0.63	76.31	9.98		75.68
41+50 ③				9.63	66.53
℄				9.56	~~66.75~~
41+00 ③				8.25	68.06
℄				8.16	68 15
40+50 ③				6.40	69.91
℄				6.33	69 98
40+00 ③				4.45	71.86
℄				4.23	~~72.08~~
39+50 ③				2.57	73.74
℄				2.29	74.02
39+00 ③				0.60	75.71
℄				0.51	75.80
T. P.	10.06	85.74	0.63		75.68
38+50 ③				8.16	77.58
℄				8.03	77.71
38+00 ③				6.13	79.61
℄				6.10	79.6
B.M.			2.19		83.55 ✓
	10.69		2.82		

July 10- 1942 W Miles Reid Jacks Keeler

Grade	Cut
62.25	4.08
63.40	4.66
65.25	4.66
67.10	4.76
68.95	4.79
70.80	4.91
72.65	4.93
74.50	5.11

note stations marked out in red not to be used Reason? station skipped

75.68
1 0 69
86.37
2 82
83.55 ✓

B.M. Fire Plug on S. W Corner of Allman & Cannon

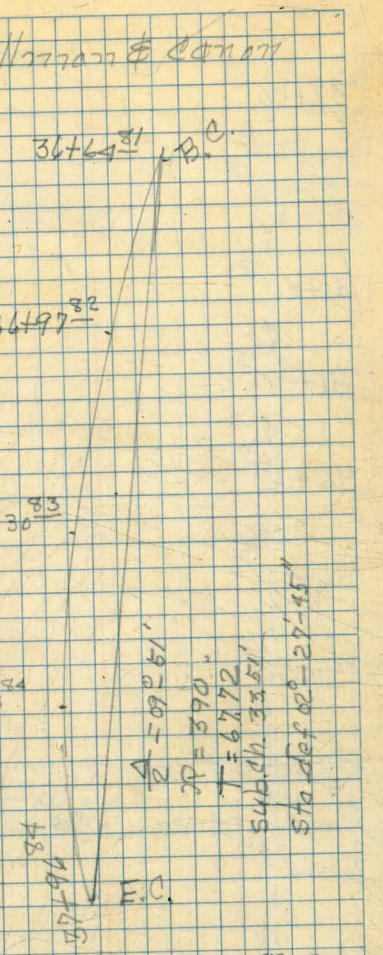
44

Sta	B.S.	H.I.	F.S.	H.Rod	Elev.
B.M.	5.30	88.85			83.55 ✓
37+63 (3)				9.13	79.72
℄				8.19	80.66
37+30 (3)				8.60	80.25
℄				7.82	81.03
36+97				7.89	80.96
℄				7.68	81.17
36+64 (3)				7.17	81.68
℄				7.26	81.59
36+50 (3)				6.89	81.96
℄				6.94	81.91
36+00				5.86	82.99
℄				5.88	82.97
35+50 (3)				4.68	84.17
℄				4.72	84.13
35+00 (3)				3.35	85.50
℄				3.44	85.41
34+50 (3)				2.00	86.85
℄				2.06	86.79
34+00				0.52	88.33
℄				0.62	88.23
T.P.	12.87	101.10 ✓	0.62		88.23
33+50 (3)				11.40	89.70
℄				11.46	89.64
33+00 (3)				9.95	91.15
℄				10.02	91.08

July-11-1942 Whiles

Grade Cut

File	Plug	S.W. Cor.	Station	Elevation
75.48		4.31		
75.25		5.00		
76.06		4.90		
77.08		4.60		
77.13		4.83		
76.25		4.74		
79.13		5.04		
80.50		5.00		
81.94		4.91		
83.39		4.94		
84.83		4.87		
86.28		4.87		



83.55
16.17
101.72
0.62
101.10

45 July-11-1942 – Whites

Sta	B.S.	H.I.	F.S.	Rod	Elev
		101.10 ✓			
32+50 (3)				8.61	92.49
℄				8.70	~~92.40~~
32+00 (3)				7.17	93.93
℄				7.22	93.88
31+50 (3)				5.79	95.31
℄				5.80	95.30
31+00 (3)				4.35	96.75
℄				4.38	96.72
30+50 (3)				2.93	98.17
℄				2.94	98.16
30+00 (3)				1.52	99.58 ✓
℄				1.62	99.48
29+50 (3)				0.08	101.02
℄			0.22	0.22	100.88 ✓
~~T.P.~~			0.22		
B.M. (2)	2.18	85.73			83.55
37+96				5.98	79.75
℄				6.12	
37+63 (4)	this sta-taken as Check only			6.00	79.73
				5.09	

Grade cut

H.I. as same as page #44

87.70	4.79	101.10
89.16		83.55
89.16	4.77	2.18
		85.73
90.61	4.70	
		101.10
		22
92.05	4.70	100.88
93.50	4.67	
94.17	5.41	
95.50	5.52	

{T.P. not made. Reason found that Redman, Hod-Skipped Station 37+96 so back to B.M. & a new HI for this reason Sta's are not in order}

74.55 5.20

July-12-1942 – Whiles

Sta	B.S.	I	F.S.	Rod	Elev
	10.49	111.37			100.88 ✓
29+75 ③				11.06	100.31
℄				11.18	100.19
29+00 ③				8.97	102.40
℄				9.05	102.32
28+50 ③				7.63	103.74
℄				7.68	103.69
28+00 ③				6.20	105.17
℄				6.28	105.09
27+50 ③				4.71	106.66
℄				4.81	106.56
27+00 ③				3.29	108.08
℄				3.31	108.06
26+50 ③				1.76	109.61 OK
℄				1.75 ✓	
T. P.	13.05	122.67	1.75		109.62
26+00 ③				11.38	111.29 +.09
℄				11.28	111.39
25+50				9.63	113.04
℄				9.47	113.20
F.C. 25+35 ③ 4				9.07	113.60
℄			8.89	(8.89)	113.78
T. P.	12.72	126.50 ✓			113.78
25+00 ③				11.70	114.80
℄				11.40	115.10
	36.26		10.64		

Grade ℄	Cut Sta. 29.50	note 29+50 on preceding page
94.50	5.81	
97.50	4.90	
99.03	4.71	
100.55	4.62	
102.06	4.60	
103.58	4.50	
105.09	4.52	
106.40	4.69	
108.40	4.64	
108.94	4.66	
110.20	4.68	

100.88
36.26
137.14
10.64
126.50

47

Sta	B.S.	I	F.S.	Rod	Elev
24+75 (3)		126.50		10.87	115.63
℄				10.59	115.91
24+50 (3)				10.10	116.40
℄				9.84	116.66
24+25 (3)				9.40	117.10
℄				9.11	117.39
24+00				8.76	117.74
℄				8.45	118.05
23+75 (3)				8.06	118.44
℄				7.73	118.77
23+50 (3)				7.32	119.18
℄				6.99	119.51
23+25				6.68	119.82
℄				6.32	120.18
23+00				5.95	120.55
℄				5.59	120.91
22+75				5.25	121.25
℄				4.92	121.58
22+50				4.56	121.94
℄				4.18	122.32
22+25				3.89	122.61
℄				3.51	122.99
22+00				3.25	123.25
℄				2.92	123.58
21+75				2.62	123.88
℄				2.27	124.23

Grade	Cut
111.10	4.53
112.00	4.40
112.70	4.4
113.40	4.3
114.1	4.3
114.80	4.4
115.5	4.3
116.20	4.3
116.28	5.0
116.36	5.58
116.44	6.17
116.52	6.73
116.60	7.28

Sta	B.S.	I	F.S.	Rod	Elev
21+50		126.50 ✓		1.91	124.59
℄				1.58	124.92
21+25				1.17	125.33
℄			0.89	0.89	125.61
T.P.	11.78	137.39 ✓	0.89		125.61
21+00 (3)				11.46	125.93
℄				11.15	126.24
20+75				10.89	126.50
℄				10.52	126.87
20+50				10.22	127.17
℄				9.83	127.53
20+25				9.58	127.81
℄				9.17	128.22
20+00				8.98	128.51
℄				8.62	128.77
19+75				8.43	128.96
℄				8.09	129.30
19+50				7.92	129.47
℄				7.55	129.84
19+25				7.35	130.04
℄				6.98	130.41
19+00				6.88	130.51
℄				6.51	130.88
18+75				6.44	130.95
℄				6.06	131.33

Grade	Cut
118.27	6.32
120.00	5.33
121.60	4.33
121.74	4.76
121.87	5.3
121.0	6.80
122.14	6.37
122.27	6.21
122.40	7.0
122.53	7.51
122.67	7.84
122.8	8.15

126.50
11.78
138.28
.89
137.39

Sta	B.S.	I.	F.S.	Rod	Elev
18+50		137.39 ✓		5.94	131.45
℄				5.58	131.81
18+25				5.48	131.91
℄				5.09	132.30
18+00				4.98	132.41
℄				4.57	132.82
17+75				4.43	132.96
℄				4.07	133.32
17+50				3.89	133.50
℄				3.54	133.85
17+25				3.36	134.03
℄				2.99	134.40
17+00				2.82	134.57
℄				2.45	134.94
16+75				2.32	135.07
℄				1.98	135.41
16+50				1.80	135.59
℄			1.46	1.46	135.93
T.P.	11.38	147.31 ✓			135.93
16+25				11.20	136.11
℄				10.84	136.57
16+00				10.62	136.69
℄				10.21	137.10
15+75				10.12	137.19
℄				9.74	137.57

Grade	Cut
124.60	6.85
126.4	5.5
128.2	4.2
128.75	4.2
129.20	4.2
129.55	4.18
130.40	4.17
130.79	4.29
131.17	4.42
131.55	4.56
131.93	4.76
132.11	5.08

137.39
11.38
148.77
1.46
147.31

Sta	B.S.	I	F.S.	Rod	Elev	Grade	Cut
15+50		147.31		9.64	137.67	132.70	4.97
℄				9.27	138.04		
15+25				9.12	138.19	133.08	5.11
℄				8.77	138.54		
15+00				8.63	138.68	133.47	5.21
℄				8.21	139.10		
14+75				8.10	139.21	133.85	5.36
℄				7.70	139.61		
14+50				7.64	139.67	134.23	5.44
℄				7.28	140.03		
14+25				7.25	140.06	134.61	5.45
℄				6.90	140.41		
14+00				6.81	140.50	135.00	5.5
℄				6.52	140.79		
B.C. 13+65				6.38	140.93	135.70	5.23
℄				6.17	141.14		
13+50				6.16	141.15	136.00	5.1
℄				6.01	141.30		
13+00				5.55	141.76	137.0	4.76
℄				5.44	141.77		
12+50				4.74	142.57	138.09	4.48
℄				4.74			
12+00				3.64	143.67	139.17	4.50
℄				3.70	143.61		
11+50				2.62	144.69	140.26	4.43
℄				2.64	144.67		

sta	B.S.	H.I.	F.S.	Rod	Elev
11+00		147.31 ✓		1.59	145.72
℄			1.61	1.61	145.70
T.P.	12.86	158.56			145.70
10+50				11.76	146.80
℄				11.76	146.80
10+00				10.63	147.93
℄				10.63	147.93
9+50				9.23	149.33
℄				9.28	149.28
9+00				7.55	151.01
℄				7.55	151.01
8+50				5.73	152.83
℄				5.77	152.79
8+00				3.58	154.98
℄				3.58	154.98
7+57				1.57	156.99
℄			1.55	1.55	157.01

Grade	Cut
141.34	4.38
142.42	4.38
143.51	4.42
144.60	4.73
146.50	4.5
148.40	4.4
149.90	5.08

$$\frac{147.31}{12.86}$$
$$160.17$$

Temp B.M. Red Head nail - rather yellow head.
To check within .6'

52 15 July 1942

Check Levels

B	B.S.	H.I.	F.S.	Rod	Elev
B.M.	7.98	50.71			42.73
B.M.	3.80	50.72			46.92
		50.715			
T.P.	12.720	62.955	0.480		50.235
B.M.	10.780	72.210	1.525		61.430
T.P.	11.650	83.030	0.830		71.380
39+00 ③				7.375	75.655
℄				7.4	
38+00 ③				3.48	79.55
B.M.					
T.P.	6890	89.530	0.390		82.640
B.M.				6.010	83.520
37+63.89 ③				9.820	79.710
+30.83 ⑧				9.285	80.25
36+97.62 ⑤				8.560	80.97
36+64.81 ③				7.89	81.64
36+50 ③				7.58	81.95
36+0 ③				6.54	82.99
35+50 ③				5.37	84.16
35+00 ③				4.04	85.49
34+50 ④				2.69	86.84
34+00				1.22	88.31
T.P.			0.805		88.725
	3		21		
	42.040		4.030		

Use 2 BMs as check on H.I

Top of Hydrant at Evergreen & Addison } Sap 39

Lead Plug at 1092 Evergreen

Brass Plug Willow & Canyon (61.47) p 42 64.20 City

10.8	4.91
75.00	4.55
75.75	3.96
76.40	3.85
77.07	3.98
77.72	3.92
78.0	3.95
79.0	4.00

Top of Hydrant, Ullman & Canyon
83.55 Sap 43

50.715
42.040
92.755
4.030
88.725

Turn for Page 53

53 Check Levels July 15-42 Keeler

Sta	B.S.+	H I	F.S.-	Rod	Elv.
	9.94	98.665			88.725
	10.81	108.975	0.500		98.165
	12.45	120.915	0.510		108.465
26+00				9.65	111.26
25+50				7.93	112.98
25+35.18 E.C.				7.37	113.54
25+00				6.17	114.74
24+75				5.34	115.57
+50				4.56	116.35
+25				3.87	117.04
24+00				3.20	117.71
23+75				2.51	118.40
+50				1.76	119.15
+25				1.10	119.81
23+00				0.38	120.53
	11.78	132.315	0.38		120.535
22+75				11.10	121.21
+50				10.41	121.90
+25				9.75	122.56
22+00				9.09	123.22
21+75				8.44	123.87
+50				7.76	124.55
+25				7.06	125.25
21+00				6.42	125.89
	44.98		1.39		

See turn bottom Page 52

Sta	BS. +	HI	F.S. -	Rod	Elv.
		132.315			
20+75				5.85	126.46
+50				5.19	127.12
+25				4.52	127.79
20+00				3.93	128.38
+75				3.37	128.94
+50				2.85	129.46
+25				2.30	130.01
19+00				1.83	130.48
+75				1.37	130.94
+50				0.87	131.44
	10.96	142.415	0.86		131.455
18 +25				10.52	131.89
18+00				10.02	132.39
+75				9.48	132.93
+50				8.94	133.47
+25				8.41	134.00
17+00				7.88	134.53
+75				7.38	135.03
+50				6.87	135.54
+25				6.35	136.06
16+00				5.80	136.61
+75				5.29	137.12
+50				4.76	137.65
	10.96		0.86		

Sta	B.S.	H I	F.S.	Rod	Elv.
		142.415			
15+25				4.27	138.14
15+00				3.77	138.64
+75				3.23	139.18
+50				2.78	139.63
+25				2.38	140.03
14+00				1.95	140.46
13+65.66 = B.C.				1.51	141.01
	8.59	149.605	1.40		141.015
13+50				8.48	141.12
13+00				7.92	141.68
12+50				7.50	142.10
12+00				5.97	143.63
11+50				4.96	144.64
11+00				3.92	145.68
10+50				2.84	146.76
10+00				1.71	147.89
9+50				0.28	149.32
	11.325	160.61	0.32		149.285
9+00				9.61	151.00
8+50				7.80	152.81
8+00				5.65	154.96
7+57				3.62	156.99
	19.915		1.72		

B.S	F S
44.98	1.39
10.96	.86
19.915	1.72
75.855	3.97

BM = 88.725
+ 75.855
164.580
− 3.97
160.61
− 3.62
156.99 ✓

See Page 51 = 7+57 = 157.01 = 0.02 error

56 Cuts on Evergreen

Sta	B.S.	H.I.	F.S.	Rod	Elv.
	0.26	42.99			42.73
52+00 ③				11.33	31.66
6'				11.26	31.73
	1.52	32.77	11.74		31.25 ✓
52+50 ③				2.83	29.94
6'				2.68	30.09
53+00 ③				4.49	28.28
6'				4.35	28.42
53+50 ③				6.09	26.68
6'				5.96	26.81
54+00 ③				7.68	25.09
6'				7.57	25.20
54+50 ③				7.92	24.85
6'				7.89	24.88
54+50 original				7.97	24.80
55+00 ③				8.74	24.03
6'				8.58	24.19
55+50 ③				9.70	23.07
6'				9.72	23.05
56+00 ③				11.13	21.64
6'				11.10	21.67
56+50 ③				12.17	20.60
6'				12.18	20.59
	5.24	25.83	12.18		20.59 ✓

Harbor Drv. Pipe Line
Unit # 6.

Keeler
July 16-42

Grade	Cut	
		B.M. top Hydrant Addison & Evergreen
26.47	5.19	✓
		.23 above City
26.00	3.94	✓
24.40	3.88	✓
22.80	3.88	✓
21.20	3.89	✓
18.20	6.65	✓
17.76	6.27	✓
17.33	5.74	✓
16.90	4.74	✓
16.46	4.14	✓

Sta	B.S.	H.I.	F.S.	Rod	Elv.	Grade	Cut
		25.83					
57+00 ③				5.73	20.10	16.03	4.07 ✓
℄				5.52	20.31		
57+50 ③				5.90	19.93	15.60 ✓	4.33 ✓
℄				5.58	20.25		
58+00 ③				5.83	20.00	15.45	4.55 ✓
℄				5.63	20.20		
58+50 ③				6.03	19.80	15.30	4.50 ✓
℄				5.88	19.95		
59+00 ③		~		5.82	20.01	15.15	4.86 ✓
℄				5.78	20.05		
59+50 ③				5.66	20.17	15.00	5.17 ✓
6'				5.22	20.61		
60+00 ③				5.40	20.43	15.33	~~4.90~~ 5.10 ✓
6'				5.30	20.53		
60+50 ③				4.65	21.18	15.57	5.61 ✓
6'				4.70	21.13		
61+00 ③				2.88	22.95	16.00	6.95 ✓
6'				2.92	22.91		
61+50 ③				1.84	23.99	16.33	7.66 ✓
6'				1.81	24.02		
	8.87	32.92		1.78	24.05		
62+00 ③				9.00	23.92	16.67	7.25 ✓
6'				8.93	23.99		
62+50 original ground				8.93	23.99		24.01

58

Sta	B.S.	HI	F.S.	Rod	Elv.
		32.92			
62+50 ③				8.88	24.03
℄				8.83	24.09
63+00 ③				7.60	25.32
℄				7.50	25.42
63+50 ③				5.29	27.63
℄				5.47	27.45
64+00 ③				5.09	27.83
℄				4.92	28.00
64+50 ③				5.05	27.87
℄				5.10	27.82
original 65+00				5.99	26.93
65+00 ③				5.90	27.02
℄				5.80	27.12
65+50 ③				6.04	26.88
℄				5.97	26.95
66+00 ③				6.52	26.40
℄				6.36	26.56
66+50 ③				7.00	25.92
℄				6.83	26.09
67+00 ③				7.40	25.52
℄				7.18	25.74
B.M.				4.59	28.33
	6.10	31.70	7.32		25.60 ✓

Grade	Cut.
17.00	7.03 ✓
17.60	7.72 ✓
18.20	9.43 ✓
18.80	9.03 ✓
19.40	8.47 ✓
20.00	7.02 ✓
20.66	6.22 ✓
21.07	~~5.47~~ 5.33 ✓
21.20	4.72 ✓
21.33	4.19 ✓

B.M. Top Fire Hyd S.E. Cor Evergreen & Garrison.

Sta	B.S.	H.I.	F.S.	Rod	Elv
		31.70			
67+50 ③				6.44	25.26
℄				6.23	25.47
68+00 ③				6.20	25.50
℄				6.10	25.60
68+50 ③				5.15	26.55
℄				5.04	26.66
69+00 ③				4.92	26.78
℄				4.84	26.86
69+50 ③				4.92	26.78
℄				4.78	26.92
70+00 ③				5.22	26.48
℄				5.07	26.63
70+50 ③				7.03	24.67
℄				6.93	24.77
71+00 ③				7.16	24.54
℄				7.06	24.64
71+50 ③				5.51	26.19
℄				5.30	26.40
72+00 ③				5.37	26.33
℄				5.38	26.32
	3.10	29.42	5.38		26.32
72+50 ③				4.74	24.68
℄				4.65	24.77

Grade	Cut
21.47	3.79 ✓
21.60	3.90 ✓
21.30	5.25 ~~4.75~~ ✓
21.00	5.78 ✓
20.70	6.08 ✓
20.40	6.08 ✓
20.10	4.57 ✓
19.80	4.74 ✓
19.50	6.69 ✓
19.20	7.13 ✓
18.90	5.78 ✓

Sta	B.S.	H.I.	F.S.	Rod	Elv	Grade	Cut
		29.42					
73+00 ③				5.09	24.33	18.60	5.73 ✓
6'				5.05	24.37		
73+50 ③				5.95	23.47	17.97	5.50 ✓
6'				5.83	23.59		
74+00 ③				7.70	21.72	17.35	4.37 ✓
6'				7.65	21.77		
74+50 ③				9.36	20.06	16.72	3.34 ✓
6'				9.20	20.22		
75+00 ③				9.55	19.87	16.75	3.12 ✓
6'				9.30	20.12		
75 original				9.28	20.14		
75+50 ③				8+40	21.02	17.45	3.51 ✓
6'				8.20	21.22		
B.M.	10.55	32.85	7.12		22.30		
76+00 ③				10.45	22.40		
6'				10.33	22.52	18.15	4.25 ✓
76+50 ③				8.76	24.09		
6'				8.70	24.15	18.85	5.24 ✓
77+00 ③				7.49	25.36		
6'				7.25	25.60	19.55	5.81 ✓
77+50 ③				6.73	26.62		
6'				6.02	26.83	20.25	6.31 ✓

BM on Pole #429974H
Bailin Tel Pole SE Cor
Evergreen & Keats

Sta	B.S.	H I	F S	Rod	Elv.
		32.85			
78+00 ③				6.00	26.85
6'				5.70	27.15
78+50 ③				5.61	27.24
℄				5.86	26.99
78+86.50 ③				6.43	26.42
℄				6.35	26.50
B.M.				7.42	25.43
Check Levels		32.85			
	7.93	30.23	10.55		22.30
	5.38	31.69	3.92		26.31 ✓
	7.16	32.75	6.10		25.59 ✓
	~~8.7~~			4.44	28.31
	1.81	25.84	8.72		24.03
	13.00	33.57	5.27	~~5.27~~	20.57
	12.20	43.43	2.34	~~2.34~~	31.23
			0.71	~~0.71~~	42.73

Grade	Cut
20.95	5.90 ✓
21.65	5.59
21.52	4.90

B.S. 35.64

F.S. 45.52 + 7.42 = 52.94

BM = 42.73 + 35.64 = 78.37 − 52.94 = 25.43 O.K.

Plug in Curb S.E. Cor. Evergreen & Lowell. 25.296

BM Hyd.

Fire Hyd Addison & Evergreen = Error 0.01

62 Cuts on Lowel St.

Keeler
July 17-42

Sta	B.S.	H.I.	F.S.	Rod.	Elv.	Grade	Cut	
	1.53	26.96			25.43			Plug in curb S.E. cor Evergreen & Lowel -
79+50 (3)				2.30	24.66	19.93	~~4.73~~ 4.73	✓
℄				2.38	24.58			
80+00 (3)				3.80	23.16	18.56	4.60	✓
℄				3.85	23.11			
+50 (3)				5.33	21.63	17.18	4.45	✓
℄				5.35	21.61			
81+00 (3)				6.81	20.15	15.80	4.35	✓
℄				6.83	20.13			
+50 (3)				8.18	18.78	13.62	5.16	✓
℄				8.27	18.69			
82+00 (3)				9.35	17.61	13.00	4.61	✓
℄				9.49	17.47			
+50 (3)				10.19	16.77	11.99	4.78	✓
℄				10.46	16.50			
	2.15	18.92	10.19		16.77			
83+00 (3)				3.65	15.27	10.98	4.27	✓
℄				3.73	15.19			
+50 (3)				4.70	14.22	9.96	4.26	✓
℄				4.92	14.00			
84+00 (3)				5.92	13.00	8.95	4.05	✓
℄				5.96	12.96			
+50 (3)				7.07	11.85	7.32	3.53	✓
℄				7.10	11.82			
	3.68		10.19					

C3

Sta.	B.S.	HI	F.S.	Rod	Elv
		18.92			
85+00 (3)			- -	8.21	10.71
℄				8.27	10.65
+50 (3)				9.55	9.37
℄				9.49	9.43
B.M.	7.65	17.14	9.43		9.49 ✓
BM24A			6.73	~~6.73~~	10.41 ✓

Check Levels

10.43	19.92			9.49
10.19	26.96	3.15		16.77
		1.51		25.45

Grade	Cut.		
6.17	4.54	✓	
5.52	3.85	✓	

BS 11.33 FS 26.35

25.43 = BM
+ 11.33
36.76
− 26.35
10.41 ✓

Piece of Storm Drain Reinforcing Steel 8 in W end of Curb Ret. S.W. Cor Lowel & Rosecrans Sts
Old elv. 9.50

B.M at S.E. Cor. Evergreen & Lowel.

Cuts on Lowel St.

Keeler
July 17-42

See BM described on Page 63

Sta	B.S.	HI	F.S.	Rod	Elv.	Grade	Cut	
	4.15	13.64			9.49			
87+00 ③				5.32	8.32	2.80	5.52	✓
℄				5.32	832			
+50 ③				6.53	7.11	1.80	5.31	✓
℄				6.68	6.96			
88+00 ③				7.75	5.89	0.80	5.09	✓
℄				7.85	5.79			
+50 ③				9.04	4.60	−0.2	4.80	✓
℄				9.23	4 41			
89+00 ③				10.42	3.22	−1.2	4.42	✓
℄				10.50	3.14			
+50 ③				11.63	2.01	−2.2	4.21	✓
℄				11.78	1 86			
	3.45	6.55	10.54		3.10			
90+00 ③				5.03	1.52			
℄				5.03	1 52			

Check Levels

		6.55					
	7.71	13.69	0.57		5.98		
			4.19		9.50		
	5.09	14.58			9.49		
86+00 ③				5.58	9.00	4.80	4.20
+50 ③				5.21	9.37	3.80	5.57

BS	FS
7.60	10.54

9.49
\+ 7.60
17.09
− 10.54
Λ = 6.55

S.D.G & E Pole# 2911
So Curb Lowel Opp Sta. 89+40
B.M. Nail in Pole

Check see Top of Page

65

Whiles 7-24-1942

Sta	B.S.	I	F.S.	Rod	Elev
	2.52	27.81			25.296
Locust & Lowell	sts		12.74		15.07
T.P	0.72	1597	12.56		15.25
			7.98		7.99
	0.41	8.40			
T.P	5.17	5.01	8.56		-0.16
T.P.	7.62	9.33	3.30		1.71
T.P.	5.02	9.11	5.24		4.09
			5.03		4.08 B.M.
	5.03	9.11			4.08 B.M.
T.P.	5.36	9.66	4.81		4.30
T.P	4.77	4.52	9.91		-0.25
T.P.	6.87	10.59	0.80		3.72
			2.59		8.00 B.M.
	6.33	10.41			4.08
= Post 38					
T.P#1 Post #79	4.68	9.32	5.77		4.64
T.P #2	4.26	8.05	5.53		3.79
114+50					
Sta			4.41		3.64 B.M.
Ahead					
115+00			4.28		3.78 B.M.
	4.08		5.77		
	6.33		5.53		
	1.68		4.29		
	4.26		15.59		
	+19.35				
	-15.58				
	+3.77				

City Data shows plug on S.W. Corner of Cut found did find plug on S.E. Corner as marked by Col. Wilcox on 7-23-42.

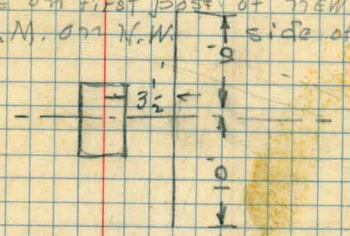
← 85+50

Note this plug has been destroyed but there is hole where plug has been. All of these plugs are on S.E. Corners instead of S.W. { this point is just 1' from end of curb return

Whiles

Roseleans & Lowell
B.M. 8.063
B.M. now = 7.99

Est on Concrete Base on first post of new Highway north of old Fence B.M. on N.W. side of post



Closure on B.M. at East Return of Curb Elev 7.99

	- 12.74	+ 25.29
87+50	12.56	2.52
	7.98	0.72
	8.56	0.41
	3.30	5.17
	5.24	7.62
	5.03	5.02
	42.67	+46.75
		-42.67
		+4.08

Est on S.E. Curb Return 15' Radius
Cut + in Top of Curb
Est on Curb Return N.E. Corner
Ivy Mansom Streets

- 4.81	+4.08
9.91	5.03
0.80	5.36
2.59	4.77
-18.11	6.87
	+26.11
	-18.11
	+8.00

Whites 7-27-1942

Sta	B.S.	I	F.S.	Rod	Elev
	4.76	8.53			3.77 = B.M.
	5.85	8.98	5.40		3.13
			8.24		0.74 = B.M.
	8.26	9.00			0.74
	4.72	8.47	5.25		3.75
	5.32	8.97	4.82		3.65
	5.21	10.02	4.16		4.81
			5.93		4.09 = B.M.

Est. on curb return N.E. Cor. of first st north after entering Reservation

2x2 - Set with Basket near Bay
~~in~~ 20' South of Sta 124+80

4.08
6.33
4.68
4.26
4.76
5.56
+29.96
-29.22
+0.74

Est on #1 - post north of old fence
This is closure on circuit

5.77
5.53
~~5.40~~
4.25
5.40
8.84
-29.22

0.74
8.26
4.72
5.32
5.21
+24.25
-20.16
4.09

5.25
4.82
4.16
5.93
-20.16

Sta	B.S.	I	F.S.	Rod	Elev.
	0.57	8.56			B.M. 7.99
	9.21	6.89	8.88	8.88	- 0.32
92+00				7.421	- 0.53
92+50				7.19	- 0.30
93+00				7.12	- 0.23
93+50				8.00	- 0.21
94+00				6.15	+ 0.74
94+50				4.99	1.90
95+00				3.23	3.66
	5.35	9.01	3.23		3.66
95+50				3.91	5.10
96+00				3.56	541
96+50				4.04	4.97
97+00				4.47	4.54
97+50				5.30	3.71
98+00				5.00	4.01
98+50				4.24	4.77
99+00				4.18	4.83
99+50				4.80	4.21
100+00				5.02	3.99
	4.96	8.95	5.02		3.99
100+50				4.30	4.65
101+00				4.48	4.47
101+50				5.04	3.91
	18.09		4.25		

Grade	Cut
	cup 60
-4.62	4.09
-4.54	4.24
-4.46	4.23
-4.38	4.17
-4.30	5.04 ✓
-2.90	4.80
-1.50	5.16
-1.44	6.54
-1.38	6.79
-1.32	6.29
-1.26	5.80
-1.20	4.91
-1.13	5.14
-1.07	5.84
-1.01	5.84
-0.95	5.16
-0.89	4.88
-0.83	5.48
-0.77	5.24
-0.71	4.62

7.99
18.09
26.08
8.25
17.83
8.88
8.95

68

Sta	B.S.	H	F.S.	Rod	Elev
		8.95 ✓			
102+00				5.13	3.80
102+50				4.70	4.25
103+00				4.45	4.50
103+30				4.48	4.47
			4.77		4.18 ✓
following is Profiles and where no material Change is apparent no reading taken on ℄					
	6.27	10.36			B.M. 4.09
103+50 ⑥				6.02	4.34
103+54 ⑥				6.45	3.91
" ℍ				5.95	4.41
104+04 ⑥				5.56	4.80 ✓
" ℄				5.76	4.60
104+54 ⑥				5.15	5.21
" ℄				5.21	5.15
105+04 ⑥				5.12	5.24
℄				5.17	5.19
105+50 ℄				4.96	5.40
⑥				4.89	5.47 ✓
106+00 ℄				5.28	5.08
⑥				5.20	5.16
106+50 ℄				5.12	5.24
⑥				5.10	5.26
107+00 ℄				4.58	5.78
⑥				4.54	5.82

Grade	Cut
-0.65	4.45
-0.59	4.84
-0.52	5.02
-0.48	4.95
Should be 4.09	
	5.47
-0.46	4.80
	5.24
	5.23
	1.47
-0.40	5.26
H.I. 10.45	
- 5.16	
5.29	
-0.34	5.55
5.29	
-0.25	
-0.28	5.52 Sta 105+25 Cut 5.54
HI 10.95	
5.41	
5.34	
-5.00	
-1.43	6.90 105+25 cut 10.34
HI: 10.45	
4.90	
5.55	
5.55	
-5.00	
-3.80	8.96 106+75 Cut 10.55
-5.00	10.26
-3.78	9.60

104.04
57.50
54

Sta	BS	HI	FS	Rod	Elev
107+50 ℄		10.36 ✓		5.47	4.89
(6)				5.33	5.03
108+00 ℄				5.50	4.86
(6)				5.58	4.78
108+50 ℄				5.60	4.76
(6)				5.51	4.85
	4.62	9.48 ✓	5.50		4.86
109+00 ℄				4.45	5.03
(6)				4.81	4.67
109+50 ℄				4.80	4.68
(6)				4.91	4.57
110+00 ℄				5.18	4.30
(6)				5.79	3.69
110+50 ℄				5.65	3.83
(6)				5.64	3.84
111+00 ℄				5.14	4.34
(6)				5.06	4.42
111+50 ℄				5.02	4.46
(6)				5.07	4.41
112+00 ℄				5.12	4.36
(6)				4.96	4.52
112+50 ℄				5.41	4.07
(6)				3.96	5.52
113+00 ℄				5.65	3.83
(6)				5.65	3.83

Grade	Cut
-1.36	
-1.36	6.39
-0.19	4.97
-0.28	5.13
-0.37	5.04
-0.45	5.02
-0.54	4.23
-0.63	4.47
-0.71	5.13
-0.80	5.21
-1.28	5.80
-1.76	7.28
-1.80	5.63

HI 104.5
Rod 5.50
4.95
Sta 107+75 = 0.15
Cut 5.10

B.M 4.09
6.29
4.62
3.90
5.26
+ 24.00
23.28
0.72

-5.50
4.94
4.37
.57
.23.28

1+75 3.83
5.76
9.59

5.52
3.47
9.99
5.14
3.85

10.96
4.62
14.98
5.72
9.26

HI

Sta 112+75 grade -2.00
cut 5.85

Sta	B.S.	I	F.S.	Rod	Elev
113+32.39 ℄		9.48 ✓		5.76	3.72
ⓒ				5.82	3.66
113+50 ℄				5.96	3.52
ⓒ				4.94	4.54
T.P.	3.80	8.34 ✓	4.94		4.54
114+00 ℄				5.00	3.34
ⓒ				5.21	3.13
114+50 ℄				5.23	3.11
ⓒ				5.28	3.06
115+00 ℄				5.32	3.02
ⓒ				5.02	3.32
115+50 ℄				4.64	3.70
ⓒ				4.90	3.44
116+00 ℄				4.68	3.66
ⓒ				4.80	3.54
116+50 ℄				4.90	3.44
ⓒ				4.91	3.43 ←
117+00 ℄				4.75	3.59
ⓒ				4.87	3.47 ←
117+50 ℄				4.88	3.46
ⓒ				4.74	3.60 ←
118+00 ℄				4.53	3.81
ⓒ				4.50	3.81 ←
118+50 ℄				4.53	3.81
ⓒ				4.37	3.97

Grade	Cut
-1.40	5.94
-1.00	4.13
-1.06	4.12
-1.12	4.44
-1.18	4.62
-1.24	4.78
-1.62	5.05
-2.00	5.47
-1.40	5.00
0.80	4.64
-0.80	~~4.61~~
0.60	4.57

7.38
4.59
2.79

9.48
3.80
13.28
4.94
8.34

3.97
4.64
8.61

3.84
4.76
8.60

HI = 8.60
-4.76
3.84

118+25 Grade -0.50
Cut 4.34
C ut

Sta.	B.S.	I	F.S.	Rod	Elev
T.P.		8.34	4.37		3.97
T.P.	5.22	9.19			3.97
119+00 ℄				5.58	3.61
⑥				5.69	3.50 ←
119+50 ℄				5.56	3.63
⑥				4.40	4.79 ←
120+00 ℄				4.78	4.41
⑥				3.89	5.30 ←
120+50 ℄				5.10	4.09
⑥				5.19	4.00 ←
121+00 ℄				5.18	4.01
⑥				4.07	5.12
121+50 ℄				5.05	4.14
⑥				9.37	-0.18 ←
122+00 ℄				5.51	3.68
⑥				5.16	4.03 ←
122+50 ℄				6.22	2.97
⑥				6.08	3.11 ←
123+00 ℄				7.42	1.77
⑥				7.42	1.77
123+50 ℄				8.00	1.19
⑥				8.10	1.09
124+00 ℄				9.95	-0.76
⑥				8.13	
			8.17		0.72

Grade cut

-0.81	4.31	
-1.02	5.81	
-1.23	6.53	
-1.44	5.44	
-1.65	6.77	
1.86	1.68	
-2.07	6.10	
-2.28	5.39	
-2.50	4.28	

In French

Check on B.M. Should be 0.74

From p 38-B

Stn	Grade Change	Rate	Elev.
103+30	-0.48		-0.48
+50			-0.46
104+0			-0.40
+50			-0.34
105+00			-0.28
105+25	-0.25		-0.25
+50			-1.43
106+00			-3.80
106+25	-5.00		-5.00
106+50	—		-5.00
106+75	-5.00		-5.00
107+0			-3.78
+50			-1.36
107+75	-0.15		-0.15
108+00			-0.19
+50			-0.28
109+00			-0.37
109+50			-0.45
110+00			-0.54
110+50			-0.63
111+00			-0.71
111+50	-0.80		-0.80
112+00			-1.28
+50			-1.76
112+75	-2.00		-2.00

Stn	Change	Elev
112+75	-2.00	-2.00
113+0		-1.80
113+50		-1.40
114+00	-1.00	-1.00
114+50		-1.06
115+00		-1.12
115+50		-1.18
116+00	-1.24	-1.24
116+50		-1.62
117+00	-2.00	-2.00
117+50		-1.40
118+0		-0.80
118+25	-0.5	-0.50
118+50		-0.60
119+0		-0.81
119+50		-1.02
120+0		-1.23
120+50		-1.44
121+0		-1.65
121+50		-1.86
122+00		-2.07
122+50		-2.28
123+00	-2.5	-2.50

Cont to p. 76

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8-1-1942 Whiles

Sta	B.S.	H	F.S.	Rod	Elev
	6.30	7.04			0.74
	5.91				1.13
	4.66				2.38
			2.23		4.81
			2.45		4.59
			2.53		4.51
			3.08		3.96
T	7.00	7.74			0.74
#1	South side		6.59		1.15
#2	Curb	South side	5.33		2.41
Bell Buoy			2.82		4.92
#1			3.03		4.71
#2			3.09		4.65
#3			3.67		4.07
Set up on	East side				
	6.30	7.04			0.74
			2.23		4.81
			2.45		4.59
			2.53		4.51
			3.08		3.96
					BM 4.86 = N.W. Corner of N.W. Corner pier of Bell Buoy

6.04
5.91
0.13

4.81
4.93
9.74
4.86

4.59
4.71
9.30
4.65

4.65
4.51
9.16
4.58

3.96
4.07
8.03
4.01

4.86
4.72
9.58
4.79

4.79
4.92
9.71
4.86

4.86
4.98
9.84
4.92

4.92
5.04
9.96
4.98

4.98
5.11
10.09
5.05

5.05
5.18
10.23
5.12

5.12
5.25
10.37
5.19

5.19
5.32
10.51
5.26

5.26
5.39
10.65
5.33

5.33
5.46
10.79
5.40

5.40
5.53
10.93
5.47

5.47
5.60
11.07
5.54

5.54
5.67
11.21
5.61

5.61
5.74
11.35

74

8-1-1942

Sta	B.S.	H	F.S.	Rod	Elev
1	3.39	8.25			4.86 B.M
129+65 PT 20				4.22	4.03
3 (6)				4.18	4.07
130+00 PT				6.02	2.23
(6)				6.10	2.15
130+58 PT				5.64	2.61
(6)				5.73	2.52
131+00 PT				5.89	2.36
(6)				5.95	2.30
131+50 PT				5.80	2.45
(6)				5.79	2.46
132+00 PT				5.32	2.93
(6)				5.24	3.01
132+50 PT				4.80	3.45
(6)				5.80	2.45
133+00 PT				6.10	2.15
(6)				5.96	2.29
	3.66	5.95	5.96		2.29
133+50 PT				4.12	1.83
(6)				4.32	1.63
134+00 PT				4.76	1.19
(6)				4.97	0.98
134+50 PT				4.85	1.10
(6)				4.98	0.97
135+00 PT				5.10	0.85
(6)				5.22	0.73

Grade	Cut
as of ~~Page~~ #73	
-4.60	
	6.30
-3.96	
	6.42
-3.92	
	6.93 ←
-3.88	
	6.33 ←
-3.84	
	6.13
-3.81	
	5.44
-3.77	
	4.75
-3.73	
	4.70
-3.69	
	4.42

4.86
3.39
3.66
11.91
5.96
5.95

75

8-1-1942

Sta	B.S.	I	F.S.	Rod	Elev
		5.95			
135+50 ℄				5.30	0.65
⑥				5.37	0.58
136+00 ℄				5.04	0.91
⑥				5.11	0.84
136+50 ℄				4.98	0.97
⑥				5.01	0.94
137+00 ℄				5.05	0.90
⑥				5.01	0.94
	5.67	8.55	3.07		2.88
			3.69		4.86 B.M.
		8-4-1942			
Sta	B.S.	I	F.S.	Rod	Elev
	4.84	5.78			0.94
137+50 ℄				4.83	0.95
⑥				4.88	0.90
138+00 ℄				4.85	0.93
⑥				4.88	0.90
138+50 ℄				4.43	1.35
⑥				4.50	1.28
139+00 ℄				4.62	1.16
⑥				4.70	1.08
139+50 ℄				4.91	0.87
⑥				4.98	0.80
140+00 ℄				5.10	0.68
⑥				5.09	0.69

Grade	Cut
-3.65	
	4.23
-3.61	
	4.45
-3.57	
	4.51
-3.54	
	4.48
-3.50	
	4.40
-4.25	
	5.15
-5.00	
	6.28
-4.25	
	5.33
-3.50	
	4.30
-3.54	
	4.23

1191
567
1758

596
307
369
1272

1758
1272
486

596
307
369
1272

Continued on page-78

FWd from P.T.

Grades East of Chainid

		rate	Elev
13+00	-4.00		-4.00
+50	-3.96		-3.96
132+0	-3.92		-3.92
+50	-3.88		-3.88
133+00	-3.84		-3.84
133+50	-3.81		-3.81
134+00	-3.77		-3.77
134+50	-3.73		-3.73
135+00	-3.69		-3.69
135+50	-3.65		-3.65
136+00	-3.61		-3.61
136+50	-3.57		-3.57
137+00	-3.54		-3.54
137+50	-3.50		-3.50
138+0			-4.25
138+50	-5.00		-5.00
139+00			-4.25
139+50	-3.50		-3.50
140+00			-3.54
140+50			-3.58
141+00			-3.62
141+50			-3.67
142+00			-3.71

		Elev
142+50		-3.75
143+00		-3.79
143+50		-3.83
144+00		-3.87
144+50		-3.91
145+00		-3.96
145+50	-4.00	-4.00
146+00		-4.50
146+50	-5.00	-5.00
147+00		-4.25
147+50	-4.00	-3.50
148+0		-3.44
148+50		-3.38
149+00		-3.33
149+50		-3.27
150+00		-3.22
150+50		-3.16
151+00		-3.11
151+50		-3.05
152+00		-3.00
152+50		-2.94
153+00		-2.89
153+50		-2.83
154+00		-2.78
154+50		-2.72

Fwd to Page 80

Aug - 4 - 1942 Whiles

Sta	B.S	I	F.S.	Rod	Elev
	4.46	9.32			B.M 4.86
ⓒ T.P.#1 134+00	5.16	6.13	8.35		0.97
ⓒ T.P.#2 137+00	5.10	6.18	5.05		1.08
ⓒ T.P.#3 144+00	5.51	6.58	5.11		1.07
T.P.#4 ⓒ 149+00	4.84	7.26	4.16		2.42
151+96.3		7.26	5.78 ←		B.M 1.48
T.P.#5 ⓒ 154+00	4.81	6.86	5.21		2.05
158+00.91		6.86	6.19 ←		B.M. 0.67
		6.86	5.10 ←		1.76
T.P.#6 ⓒ 159+00	5.23	7.81	4.28		2.58
T.P.#7 144+00	4.72	6.82	5.71		2.10
T.P.#8 ⓒ 169+00	5.22	7.22	4.82		2.00
T.P.#9 ⓒ 174+00	4.84	8.26	3.80		3.42
176+50		8.26	6.16 ←		B.M. 2.10
T.P.#10 ⓒ 179+00	5.22	8.84	4.64		3.62
T.P.#11 ⓒ 184+00	4.34	9.39	3.79		5.05
		9.39	7.36 ←		B.M. 2.03
T.P.#12 ⓒ 185+00	5.65	9.65	5.39		4.00
T.P.#13 ⓒ 180+00	4.01	8.56	5.10		4.65
T.P.#14 ⓒ 175+00	4.32	7.96	4.92		3.64
T.P.#15 ⓒ 170+00	4.67	6.89	5.74		2.22
T.P.#16 ⓒ 165+00	5.88	7.80	4.97		1.92
T.P.#17 ⓒ 160+00	2.61	6.22	4.19		3.61
		6.22	5.63 ←		0.59
~~T.P.#18~~ ⓒ 155+00	5.05	7.67	3.60		2.62
	96.50		6.27 ← 84.83		1.45

Top of Page #73 = S.W. Cor Pier of Bell Buoy

+96.50
−88.83
7.67 ←

Established on 4X4 Hwy 100'00 offset, west side = Hwy Sta 420+50.80

{on point
Established on 4X4 Hwy 100'00 offset, west side Hwy Sta 414+64.72

℄ of Hwy Sta 414+64.72 4X4 - R.W. on ℄ point

Established on ℄ point of 4X4 Hwy Sta 396+15.81 ℄ of Hwy

this = end of series of Levels.
Established on ℄ Point of 4X4 ℄ of Hwy Sta - 383+51.58

Check on B.M. Hwy Sta 414+64.72

Check on B.M. Sta 420+50 80

Aug-4-1942

Sta	B.S.	I	F.S.	Rod	Elev
	6.11	7.56			1.45
T.P.#19					
⑥ 140+00	5.23	6.36	6.43		1.13
T.P.#20					
⑥ 142+00	5.30	6.15	5.51		0.85
		6.15	5.02		1.13
T.P.#21					
⑥ 137+00	5.41	6.39	5.17		0.98
132+00	5.50	8.52	3.37		3.02
			3.64		4.88
	+29.00		24.12		
	-24.12				
	4.88				

Sta	B.S.	I	F.S.	Rod	Elev
		5.78			
140+50 ℄				4.88	0.90
⑥				4.90	0.88
141+00 ℄				4.90	0.88
⑥				4.91	0.87
141+50 ℄				4.70	1.08
⑥				4.65	1.13
142+00 ℄				4.86	0.92
⑥				5.00	0.78
TP	5.08	5.86	5.00		0.78
142+50 ℄				5.02	0.78
⑥				5.16	0.71
143+00 ℄				4.95	0.91
⑥				5.14	0.72

Grade Cut

taken from B.M. at Elev as checked on Return

check on sta 139+00 should have been 4.08

Closure on B.M. Elev 4.86 on S.W. Cor. Pier of Bell Buoy

-3.58	4.46	
-3.62		
	4.89	4.49
-3.67		
	4.80	
-3.71		
	4.49	
-3.75		
	4.46	
-3.79		
	4.51	

	B.S.	I	F.S.	Rod	
143+50 ℄		5.86		4.58	1.28
⑥				4.61	1.25
144+00 ℄				4.65	1.21
⑥				4.80	1.06
144+50 ℄				4.60	1.26
⑥				4.69	1.17
145+00 ℄				4.47	1.39
⑥				4.50	1.36
145+50 ℄				4.23	1.63
⑥				4.26	1.60
146+00 ℄				4.66	1.20
⑥				5.31	0.55
146+50 ℄				4.62	1.24
⑥				5.26	0.60
147+00 ℄				4.76	1.10
⑥				4.66	1.20

August - 5 - 1912

Sta	BS	I	FS	Rod	Elev
	5.60	6.80			1.20
147+50 ℄				5.13	1.67
⑥				5.10	1.70
148+00 ℄				5.11	1.69
⑥				5.10	1.70
148+50 ℄				4.53	2.27
⑥				4.51	2.29

Grade out

-3.83	
	5.08
-3.89	
	4.93
-3.91	
	5.08
-3.96	
	5.32
-4.00	
	5.60
-4.60	
	5.05
-5.00	
	5.60
-4.25	
	5.45
-3.50	
	5.20
-3.44	
	5.14
-3.38	
	5.68

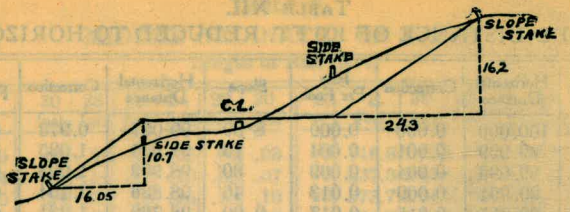
for continued profile Levels
see Book # W.A #2
Page # 57

1.20
5.60
6.80

80 Grades #6, Grid from p 768

Stn	Change	Rate	Elev	
154+50			-2.72	✓
155+00			-2.66	✓
155+50			-2.61	✓
156+00			-2.55	✓
156+50			-2.50	✓
157+00			-3.00	✓
157+50			-3.50	✓
158+00				
158+50				

IMPROVED TABLES AND INFORMATION



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.

SLOPE 1½ TO 1. ROADWAY OF ANY WIDTH.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0 00	0 15	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	0
1	1.50	1 65	1 80	1.95	2.10	2.25	2.40	2.55	2.70	2.85	1
2	3.00	3.15	3.30	3 45	3.60	3 75	3.90	4.05	4.20	4 35	2
3	4.50	4 65	4.80	4.95	5.10	5 25	5 40	5.55	5.70	5.85	3
4	6.00	6 15	6.30	6.45	6.60	6.75	6.90	7.05	7.20	7.35	4
5	7 50	7.65	7.80	7.95	8.10	8.25	8.40	8.55	8.70	8.85	5
6	9 00	9 15	9.30	9.45	9.60	9.75	9.90	10.05	10.20	10.35	6
7	10.50	10 65	10.80	10.95	11.10	11.25	11.40	11.55	11 70	11.85	7
8	12.00	12 15	12.30	12.45	12.60	12.75	12.90	13.05	13.20	13.35	8
9	13 50	13.65	13 80	13 95	14.10	14.25	14.40	14 55	14.70	14.85	9
10	15.00	15 15	15 30	15 45	15.60	15.75	15.90	16.05	16.20	16 35	10
11	16 50	16 65	16 80	16.95	17 10	17.25	17.40	17.55	17.70	17.85	11
12	18 00	18.15	18.30	18 45	18.60	18 75	18.90	19.05	19.20	19.35	12
13	19 50	19 65	19.80	19.95	20.10	20.25	20 40	20.55	20.70	20.85	13
14	21.00	21 15	21.30	21.45	21 60	21.75	21.90	22 05	22 20	22 35	14
15	22 50	22 65	22 80	22 95	23.10	23.25	23.40	23.55	23.70	23.85	15
16	24.00	24 15	24 30	24 45	24.60	24.75	24 90	25 05	25.20	25.35	16
17	25.50	25 65	25.80	25 95	26.10	26 25	26 40	26.55	26.70	26.85	17
18	27.00	27 15	27.30	27 45	27.60	27.75	27.90	28.05	28 20	28.35	18
19	28 50	28 65	28 80	28.95	29.10	29.25	29 40	29.55	29.70	29.85	19
20	30 00	30.15	30.30	30.45	30.60	30.75	30.90	31.05	31.20	31.35	20
21	31 50	31 65	31.80	31.95	32 10	32 25	32.40	32.55	32 70	32 85	21
22	33 00	33 15	33 30	33 45	33.60	33 75	33.90	34.05	34.20	34.35	22
23	34 50	34 65	34.80	34.95	35.10	35 25	35 40	35.55	35.70	35 85	23
24	36.00	36 15	36.30	36 45	36.60	36.75	36.90	37.05	37.20	37.35	24
25	37.50	37.65	37 80	37.95	38.10	38.25	38.40	38.55	38.70	38.85	25
26	39 00	39 15	39.30	39 45	39 60	39.75	39.90	40.05	40.20	40.35	26
27	40 50	40 65	40 80	40.95	41.10	41.25	41 40	41.55	41.70	41.85	27
28	42 00	42 15	42.30	42.45	42.60	42 75	42.90	43.05	43.20	43.35	28
29	43 50	43 65	43.80	43 95	44.10	44 25	44 40	44.55	44.70	44 85	29
30	45 00	45 15	45.30	45 45	45.60	45.75	45.90	46.05	46 20	46.35	30
31	46.50	46.65	46.80	46 95	47.10	47.25	47.40	47.55	47.70	47.85	31
32	48 00	48.15	48.30	48 45	48.60	48 75	48.90	49.05	49 20	49.35	32
33	49.50	49 65	49.80	49.95	50.10	50.25	50.40	50.55	50.70	50.85	33
34	51 00	51.15	51.30	51.45	51.60	51.75	51.90	52.05	52.20	52.35	34
35	52 50	52.65	52.80	52.95	53.10	53.25	53.40	53.55	53.70	53.85	35
36	54 00	54.15	54.30	54 45	54.60	54.75	54.90	55.05	55.20	55.35	36
37	55 50	55 65	55.80	55.95	56.10	56.25	56.40	56.55	56.70	56.85	37
38	57.00	57.15	57.30	57 45	57.60	57 75	57.90	58.05	58.20	58 35	38
39	58 50	58.65	58 80	58.95	59.10	59 25	59.40	59 55	59.70	59.85	39
40	60 00	60.15	60 30	60 45	60 60	60.75	60 90	61.05	61 20	61.35	40
41	61.50	61 65	61 80	61 95	62 10	62 25	62.40	62 55	62 70	62.85	41
42	63 00	63.15	63 30	63 45	63 60	63 75	63 90	64 05	64 20	64.35	42
43	64.50	64 65	64 80	64.95	65.10	65 25	65 40	65.55	65.70	65.85	43
44	66 00	66 15	66 30	66.45	66.60	66 75	66.90	67.05	67.20	67.35	44
45	67 50	67 65	67 80	67.95	68.10	68.25	68 40	68.55	68.70	68.85	45
46	69 00	69 15	69 30	69.45	69.60	69.75	69.90	70.05	70.20	70.35	46
47	70.50	70 65	70 80	70 95	71.10	71.25	71 40	71.55	71.70	71.85	47
48	72.00	72 15	72.30	72.45	72.60	72.75	72.90	73 05	73.20	73 35	48
49	73 50	73 65	73.80	73.95	74.10	74.25	74.40	74.55	74.70	74.85	49
50	75.00	75.15	75.30	75.45	75.60	75.75	75.90	76.05	76.20	76.35	50

Computed by L. Leland Locke.

Charlie Scymczak
4417 Landis

sta + T − E'

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

10000
90.18
9.8

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.