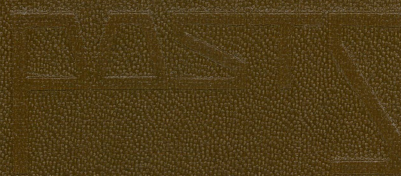


1387



NATIONAL BUREAU OF STANDARDS

LEVEL BOOK

MICROFILMED

DEC 23 1964

This index to 1473 9/25/60 AH

Our Leather Bound Engineers Note Books are carried in the following rulings:

- No. 380 LEVEL BOOK. Left and Right Hand Page the same as Left Hand Page of this Book.
- No. 382 FIELD BOOK. Left Hand Page as in this Book, Right Hand Page 4 x 4 to the inch, Center Line Red.
- No. 384 MINING TRANSIT BOOK. Left Hand Page as in this Book, Right Hand Page 8x8 to the inch, Center Line Red.
- No. 385 FIELD BOOK. Left Hand Page as in this Book, Right Hand Page 8 vertical and 4 horizontal lines to the inch, Center Line Red.

We also carry the Note Books listed above, bound in extra strong Fabri-Hide (otherwise the same quality of book), which can be furnished at a somewhat lower price.

In ordering Fabri-Hide covered books, add the letter "F" to catalog number.

THE FREDERICK POST CO.
ENGINEERING and DRAFTING SUPPLIES
IRVING PARK STATION
CHICAGO, ILL.

	Capistrano	PAGE
CROSS SECTION -	WABASKA Dr. - Chatsworth to Macaulay	26-42
" "	- CAPISTRANO ST. - Maywood to Poe	1-4
" "	- OLIPHANT ST. - Clove to Willow	61-66
" "	- PLUM ST. - Macaulay to Poe	47-55
" "	- NENEHL - Clove to Willow	67-72
" "	- WILLOW - Lowell to NENEHL	43-46
" "	- MACAULAY - Willow to Pascoen	5-25
	clove - Macaulay to Oliphant	56 60
Survey	Lot 2 B1K 9 P.t. Loma Hgts.	} 77
	Lots 1+2 B1K 119 Roseville	
"	Lots 11+12 B1K 105 "	80

Walker
May 28th
Muller
Diebert
3-12-30

CROSS SECTION EPISTRANO ST. ^{60' wide}
Bet. Poe And Yawona St. ^{10' ch. 10' 2.8.}

SE. BP
Chk. work,
+ Poe
on BP NYL
Capitono,
+ Poe St.

	2.04	80.25	78.21
TR	1.19	72.93	8.51 71.74
S.L. Poe st = 0+100			
W on Walk		2.54	70.39
cb. " cb.		2.79	70.14 ✓
Gut. on Cen.		3.61	69.32 ✓
+2' " Edge Gut		3.47	69.46
$\frac{1}{4}$		2.7	70.2
$\frac{1}{2}$		2.2	70.7
$\frac{1}{4}$		3.0	69.9
Gut. on Ground		3.2	69.7
cb + 15' on top cb Returns.		2.96	69.97
0+34 = End Exist Walk on E.			
E.		3.6	69.3
+1 on E. edge Walk		3.49	69.44
+5 " " "		3.61	69.32
cb. on Ground		4.1	68.8
$\frac{1}{4}$		3.8	69.1
$\frac{1}{2}$		3.5	69.4
$\frac{1}{4}$		3.7	69.2
+8' on Cen Gut		4.10	68.53
cb. " " "		4.51	68.42
" " cb.		3.69	69.24
+3.67'		3.55	69.38
+9 on Walk		3.46	69.47

Plotted A-22-1930-CBH

72.93

M	3.4	69.5
0+58 = beginning Cen Walk on E.		
M	3.9	69.0
+1' on Walk	4.11	68.82
+6.35" "	4.21	68.72
on cb.	4.35	68.58
Gut. at cb.	5.17	67.76
cb. + 2' on edge Gut.	5.04	67.89
$\frac{1}{4}$	4.4	68.5
$\frac{1}{2}$	4.3	68.6
$\frac{1}{4}$	4.7	68.2
cb.	4.5	68.4
+5' on Walk	4.38	68.55
+9' " "	4.26	68.67
E.	4.7	68.2
0+77.5 = End End Exist. cb. + Cen Gutter on M		
E.	4.9	68.0
+1' on Walk	4.74	68.19
+5 " "	4.91	68.02
cb.	4.6	68.3
$\frac{1}{4}$	4.7	68.2
$\frac{1}{2}$	4.7	68.2
$\frac{1}{4}$	4.6	68.3
+8 on Gut.	5.53	67.40
cb. " "	5.74	67.19
cb. on top	5.11	67.82

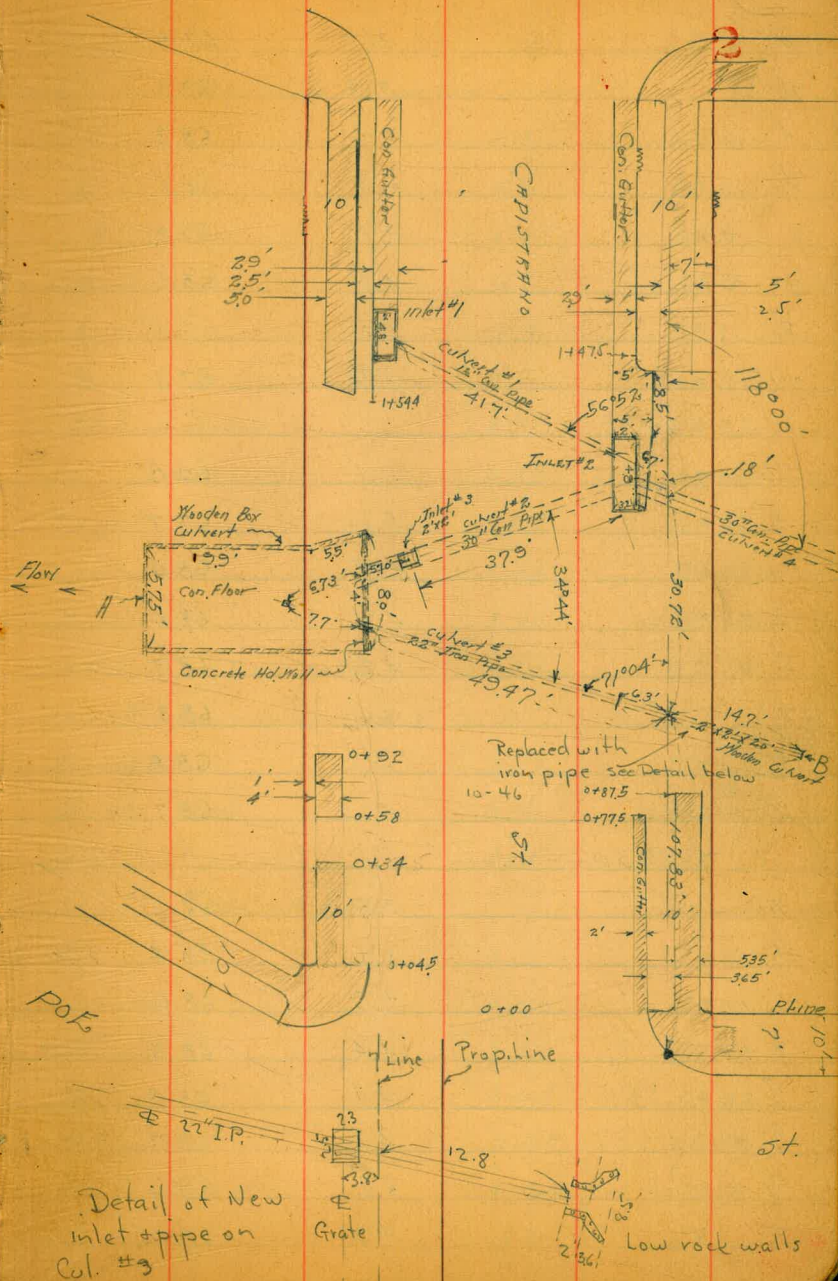
W	4.5	66.4
0+87.5 - End Exist. Walk on West.		
W+1 - W edge Walk	4.98	67.95
1+635 - E " "	5.17	67.76
0+92 - End Exist. Walk on E.		
W edge Walk	5.32	67.61
E " "	5.17	67.76

KEYEWS on Inlets + Culverts

S edge Inlet #1 at cb existing	5.23	67.70
S " " #1 20' W cb " "	5.04	67.89
N " " #1 2 " " " "	4.84	68.09
N " " #1 at cb " "	5.02	67.91
Flow line 12" culvert #1 at inlet #1	7.53	65.40
" " " " " #2	8.16	64.77
" " 30" " #4 " #2	9.81	63.12
" " 30" " #2 " #2	9.87	63.06
" " 30" " #2 " #3	11.57	61.36
on Grating Inlet #3	5.55	67.38
Flow line Culvert #2 at con Hd. Wall	11.83	- End culvert #2
on top Con. Hd. Wall at end culverts #2 and #3	7.33	
Flow Line Wooden Box Culvert at A	13.04	59.89
" " Culvert #3 at con Hd. Wall	11.67	
" " " #3 at B	9.85	
Inlet #2 Sedge on Grating	5.17	
" #2 " " "	4.62	

1+00

on low floor
of 3 1/2" Iron Pipe
22" dia.
2' x 2' wooden
Box 20' long
this inlet
is level East
and West.



Detail of New
inlet + pipe on
Col. #3

Low rock walls

W	5.0	67.9
cb.	3.8	69.1
$\frac{1}{2}$	4.6	68.3
$\frac{1}{2}$	4.8	68.1
$\frac{1}{2}$	5.2	67.7
cb.	4.8	68.1
E	5.3	67.6
+15	5.6	67.3
1+20		
-15	12.1	60.8
E	5.2	67.7
cb.	4.9	68.0
$\frac{1}{2}$	4.7	68.2
$\frac{1}{2}$	4.2	68.7
$\frac{1}{2}$	4.6	68.3
cb.	4.1	68.8
W	4.2	68.7
1+30		
W	3.8	69.1
cb.	3.5	69.4
+5	4.9	68.0
$\frac{1}{2}$	4.4	68.5
$\frac{1}{2}$	4.1	68.8
$\frac{1}{2}$	4.2	68.7
cb.	4.7	68.2
E	4.9	68.0

+15	7.3	65.6
1+45.5 = Beg. cb and Walk on West		
-15	5.3	67.6
E	4.9	68.0
cb.	4.4	68.5
$\frac{1}{2}$	4.0	68.9
$\frac{1}{2}$	3.8	69.1
$\frac{1}{2}$	4.2	68.7
+7.1 E edge Gut	4.71	68.22
cb. on Gut.	4.87	68.06
+2.1 " "	4.51	68.42
+2.1 " cb.	3.88	69.05
W on cb.	3.71	69.22
1+47.5 P.C. cb Return on W	3.89	69.04
1+54.4 = Beginning cb + Walk on E		
E top cb.	5.17	67.6
W edge Walk	4.97	67.96
E " "	4.55	67.38
1+60 = Blk.		
W	2.2	70.7
+2.5 on Walk	3.20	69.73
+7.5 " "	3.35	69.58
cb.	3.45	69.48
Gut.	4.90	68.53
+2.9 on Gut.	4.23	68.70
$\frac{1}{2}$	3.4	69.5

Note this
Walk cut on
diag. and
Parallel
to Wabaska.

73.93

2		3.9	700	
2		3.6	693	
+7.1' on Grating		4.94	6799	
on Grating at cb.		5.13	6780	
cb.		4.48	68.45	
+25' on edge Walk		4.40	68.53	
+75' " " "		4.40	68.53	
E		4.4	68.5	
TP	12.08	84.22	0.79	72.14

2+100

E		10.3	73.9
cb.		10.42	73.80
Gut at cb.		11.42	72.80
+29		11.10	73.12
2		10.6	73.6
2		10.1	74.1
2		10.6	73.6
+7.1' on Gut		10.49	73.73
Gut at cb.		10.73	73.49
cb.		9.76	74.46
+8		8.5	75.7
W		8.0	76.2

2+50

W		3.0	81.2
+2		3.3	80.9
cb		3.47	80.75

84.22

RISTRANO St.

Gut at cb.		4.46	79.76
+29' on Gut		4.20	80.02
2		4.0	80.2
2		3.5	80.7
2		4.1	80.1
+7.1' on Gut.		4.48	79.74
Gut. at cb.		4.64	79.58
top cb.		3.70	80.52
E		3.6	80.6

2+75.4' = N.W. Mawona Drive

E on Walk		0.00	84.22	
cb.		0.20	84.02	
Gut at cb.		1.22	83.00	
cb+29' on Gut.		0.89	83.33	
2		0.9	83.3	
2		0.9	83.3	
2		1.1	83.1	
+7.1' on Gut.		1.01	83.21	
Gut. at cb.		1.26	82.96	
cb.		0.28	83.94	
W		0.06	84.16	
TP	8.29	82.40	10.11	74.11

chk on B.P. SE. Poe + Chelworth

4.21 78.19 Page 2
78.21 - 84.
0.02 = Error.

1541

Micaulay

L	3.9	11.5
+5	4.3	11.1
$\frac{1}{2}$	3.6	11.8
cb	3.6	11.8
+2	5.8	9.6
+13	6.0	9.4
+15	3.7	11.7
N	3.7	11.7
+5	3.6	11.8
1400		
-5	3.5	11.9
N	3.1	12.3
+1	3.1	12.3
+3	5.4	10.0
+13	5.6	9.8
+15	3.6	11.8
cb	3.3	12.1
$\frac{1}{2}$	3.4	12.0
L	3.1	12.3
$\frac{1}{2}$	3.3	12.1
cb	3.7	11.7
5	3.3	12.1
+5	3.0	12.4
1425		
-5	1.0	14.4
5	0.4	15.0

1541

9

+5	0.4	15.0
+9	2.1	13.3
+15	2.9	12.5
cb	3.0	12.4
$\frac{1}{2}$	2.6	12.8
L	2.7	12.7
$\frac{1}{2}$	2.8	12.6
cb	3.3	12.1
+1	5.2	10.2
+7	5.2	10.2
+15	2.7	12.7
N	2.7	12.7
+5	3.1	12.3
1450		
-5	2.1	13.3
N	2.0	13.4
+4	1.7	13.7
+10	5.2	10.2
cb	5.0	10.4
+3	4.8	10.6
+4	2.6	12.8
$\frac{1}{2}$	2.4	13.0
L	2.0	13.4
$\frac{1}{2}$	2.0	13.4
cb	2.0	13.4
+14	1.7	14.2

15.41

Mccaitay

S		1.0	14.4
+5		2.7	12.7
T.R.	9.73	23.47	16.7
	14.75		13.74
-5		10.3	13.2
S		10.0	13.5
+10		9.0	14.5
cb.		9.7	13.8
$\frac{1}{2}$		9.4	14.1
$\frac{1}{2}$		9.5	14.0
$\frac{1}{2}$		9.7	13.8
+3		9.8	13.7
+7		13.0	10.5
cb.		13.1	10.4
+8		12.8	10.7
+12		9.5	14.0
N		10.2	13.3
+5		10.5	13.0
	2+00		
-5		8.6	14.9
N		8.8	14.7
+7		8.2	15.3
+11		18.7	10.8
cb.		12.8	10.7
+3		11.9	11.6
+5		8.7	14.8

23.47

10

$\frac{1}{2}$		8.6	14.9
$\frac{1}{2}$		8.9	14.6
$\frac{1}{2}$		9.0	14.5
cb.		9.4	14.1
S		8.9	14.6
+5		8.9	14.6
	2+25		
-5		8.6	14.9
S		8.6	14.9
cb.		8.7	14.8
$\frac{1}{2}$		8.4	15.1
$\frac{1}{2}$		8.4	15.1
+5		8.5	15.0
$\frac{1}{2}$		7.8	15.7
+5		7.7	15.8
cb.		11.8	11.7
+10		12.6	10.9
+14		7.4	16.1
N		7.2	16.3
+5		7.2	16.3
	2+50		
-5		6.6	16.9
N-2		6.3	17.2
N		12.0	11.5
+12		11.9	11.6
cb.		7.9	15.6

2347

Macaulay

z	6.3	17.2
+2	6.3	17.2
+3	8.0	15.5
z	7.8	15.7
z	7.6	15.9
5 cb	8.2	15.3
5	8.6	14.9
+5	8.6	14.9
	2+75	
-5	7.2	16.3
5	6.9	16.6
+7	6.9	16.6
+10	7.9	15.6
cb	8.3	15.2
z	7.0	16.5
z	7.2	16.3
+5	7.5	16.0
+6	5.7	17.8
z	5.7	17.8
cb	7.3	16.2
+6	11.4	12.1
N	12.0	11.5
+2	11.7	11.8
+3	6.2	17.3
+5	6.3	17.2

3+00" = E Line Locust 18' cbg.
85.75

2347

11

-5	5.3	18.2
N	5.4	18.1
+2	5.6	17.9
+4	11.5	12.0
+15	10.9	12.6
cb	7.2	16.3
z	5.1	18.4
+2	5.1	18.4
+3	6.6	16.9
z	6.3	17.2
z	6.3	17.2
cb	6.8	16.7
5	6.8	16.7
+5	6.8	16.7
	5 cb	
-5	6.4	17.1
5	6.4	17.1
cb	6.4	17.1
+2	5.5	18.0
z	5.6	17.9
z	5.4	18.1
+5	5.7	18.8
z	5.0	18.5
+6	5.8	17.7
cb	11.0	12.5
+3	11.3	12.2

23.47

Macaulay

+10	11.6	119
+15	9.9	136
+17	4.9	186
N	4.9	186
+5	4.9	186
E 1/2 Locust		
-10	4.7	188
-5	4.7	188
N	8.4	151
+6	11.1	124
+15	10.7	128
cb.	7.0	165
+4	5.3	182
1/2	4.8	18.7
1/2	5.1	18.4
1/2	5.2	18.3
+7	5.4	18.1
cb.	6.0	17.5
S	6.1	17.4
+5	6.1	17.4
E 1/2		
-5	5.8	17.7
S	5.8	17.7
cb.	5.7	17.8
+8	5.0	18.5
1/2	4.9	18.6

23.47

Macaulay

1/2	4.8	18.7
1/2	4.6	18.9
+7	5.4	18.1
cb.	6.5	17.0
+3	7.4	16.1
+4	10.2	13.3
N	10.9	12.6
+2	10.9	12.6
+6	4.3	19.2
+10	4.3	19.2
W 1/2		
-10	4.2	19.3
-5	4.2	19.3
-3	11.1	12.4
N	11.1	12.4
+15	10.1	13.4
+16	7.4	16.1
cb.	6.5	17.0
+5	4.8	18.7
1/2	4.4	19.1
1/2	4.7	18.8
1/2	4.5	19.0
+7	4.7	18.8
cb.	5.5	18.0
S	5.7	17.8
+5	5.6	17.9

23 47

Macaulay st.

M cb.

-5	5.4	181
S	5.5	180
cb.	5.3	182
+3	4.9	186
$\frac{1}{2}$	4.6	189
L	4.7	188
+5	4.8	187
$\frac{1}{2}$	4.1	194
cb.	6.1	174
+2	6.9	166
+3	9.4	141
N	10.8	127
+6	11.0	125
+7	4.0	195
+10	4.0	195

White locust st. = 0 + 00

-10	3.6	199
-5	3.5	200
-2	10.0	135
N	10.0	135
+13'	10.3	132
+14'	6.3	172
cb.	4.9	186
$\frac{1}{2}$	3.4	201
+3	3.1	204

23 47

13

+3	4.4	191
$\frac{1}{2}$	4.4	191
$\frac{1}{2}$	4.4	191
cb.	4.4	191
$\frac{1}{2}$	3.7	198
S	3.7	198
+5	3.8	197
	0+25	
-5	3.3	202
S	3.4	201
+15	3.3	202
cb.	3.8	197
$\frac{1}{2}$	3.6	199
L	3.8	197
+4	3.8	197
+6	2.5	210
$\frac{1}{2}$	2.8	207
cb.	3.8	197
+2	9.9	136
+16	8.8	147
N	6.5	170
+2	3.1	204
+5	3.1	204
	0+50	
-5	2.3	212
-3	2.3	212

23.47

Macaulay

N	5.1	18.4
+2	8.7	14.8
+13	9.0	14.5
+15	9.8	19.7
cb.	2.9	20.6
$\frac{7}{4}$	2.2	21.3
+3	2.2	21.3
+4	3.2	20.3
2	3.1	20.4
$\frac{7}{4}$	2.8	20.7
cb.	3.0	20.5
S	2.8	20.7
+5	2.8	20.7
0+75		
-5	2.3	21.2
S	2.1	21.4
cb.	2.4	21.1
$\frac{7}{4}$	2.3	21.2
2	2.5	21.0
+2	2.5	21.0
+6	1.4	22.1
$\frac{7}{4}$	1.7	21.8
cb.	2.4	21.1
+3	4.7	18.8
+13	8.2	15.3
N	9.2	14.3

23.47

+5	9.1	14.4 ¹⁴
+10	6.3	17.2
+13	2.0	21.5
+15	2.0	21.5
1+00		
-15	1.5	22.0
-13	1.5	22.0
-10	7.3	16.2
5	8.9	14.6
N	8.8	14.7
+5	5.6	17.9
cb.	2.5	21.0
$\frac{7}{4}$	1.1	22.4
+2	0.8	22.7
+4	1.7	21.8
2	1.6	21.9
$\frac{7}{4}$	1.5	22.0
cb.	1.5	22.0
S	1.5	22.0
+5	1.6	21.9
1+2.5		
-5	0.9	22.6
S	0.9	22.6
cb.	0.9	22.6
$\frac{7}{4}$	0.8	22.7
2	1.0	22.5

2347

Macaulay

+3		1.0	225
4		1.2	223
+6		4.3	192
cb.		4.6	189
+11		4.6	189
+15		8.4	151
N		8.6	149
+8		8.1	154
+13		0.8	227
+15		0.8	227
T.P.	8.32	31.44	0.35 2312
	1+50		
-15		8.4	230
-13		8.4	230
-3		15.5	15.9
N		15.9	15.5
+8		16.5	14.9
+10		10.6	208
cb.		9.5	21.9
$\frac{1}{2}$		8.7	227
+3		8.0	234
$\frac{1}{2}$		8.4	230
$\frac{1}{4}$		8.2	232
cb.		8.3	231
S		8.5	229
+5		8.5	229

3144

Macaulay St.

15

	1+75		
-5		7.9	235
S		7.8	236
cb.		7.4	240
$\frac{1}{2}$		7.7	237
$\frac{1}{2}$		7.6	238
+5		7.1	243
$\frac{1}{2}$		7.6	238
cb.		8.6	228
+5		9.8	216
+8		15.0	164
N		15.9	155
+3		15.9	155
+7		8.0	23.4
+10		8.0	23.4
	2+100		
-15		6.9	245
-10		6.9	245
-9		9.1	223
N		14.6	168
+12		15.5	15.9
cb.		13.9	175
+2		8.1	233
$\frac{1}{2}$		6.5	249
$\frac{1}{2}$		6.5	249
$\frac{1}{2}$		6.8	24.6

3144

Macaulay

cb	6.8	246
S	7.0	244
+5	7.2	242
	2+30	
-5	6.1	253
S	6.1	253
cb	6.1	253
$\frac{1}{2}$	6.3	251
$\frac{1}{2}$	6.3	251
+3	5.9	255
+6	14.9	165
$\frac{1}{2}$	14.9	165
cb	14.4	170
+16	12.5	189
N	10.6	208
+5	6.1	253
+10	6.1	253
	2+50	
-10	5.9	255
-4	5.9	255
N	8.3	231
+5	12.7	18.7
cb	14.0	17.4
+5	14.7	16.7
$\frac{1}{2}$	6.6	248
+4	4.8	26.6

3144

16

$\frac{1}{2}$	5.4	260
$\frac{1}{2}$	5.7	257
cb	5.6	258
S	5.7	257
+5	5.9	255
	2+75	
-5	5.5	259
S	5.4	260
cb	4.8	266
$\frac{1}{2}$	4.9	265
$\frac{1}{2}$	4.7	267
+5	3.9	275
$\frac{1}{2}$	4.7	267
+7	7.7	237
cb	13.9	17.5
+10	13.5	17.9
N	9.3	221
+2	4.9	265
+10	4.9	265
	3+00.22 = E. L. Evergreen	^{18' cbs} 85' 25
-5	4.1	273
N	4.8	266
+2	4.8	266
+3	11.5	19.9
cb	12.4	19.0
+3	10.8	20.6

31.44

Nacoulaf

+5		4.2	27.2
$\frac{1}{4}$		3.6	27.8
$\frac{1}{2}$		4.1	27.3
$\frac{1}{4}$		3.9	27.5
cb		4.6	26.8
S		4.9	26.5
+5		4.9	26.5
	E cb		
-5		4.4	27.0
S		4.3	27.1
cb		4.0	27.4
$\frac{1}{2}$		3.3	28.1
$\frac{1}{2}$		3.2	28.2
$\frac{1}{2}$		3.4	28.0
+2		3.4	28.0
cb		11.0	20.4
+14		11.5	19.9
N		8.2	23.2
+2		3.0	28.4
+10		3.0	28.4
	E $\frac{1}{4}$ = E edge Wooden Bridge		
-5		2.7	28.7
N		3.3	28.1
+1 = Floor Wooden Bridge		3.37	28.07
+1		11.4	20.0
cb		10.8	20.6

31.44

17

+1		10.8	20.6
+1 on Sand Bridge		3.40	28.04
$\frac{1}{2}$		3.0	28.4
$\frac{1}{2}$		2.8	28.6
$\frac{1}{2}$		2.8	28.6
cb		3.2	28.2
S		3.8	27.6
+5		4.1	27.3
	E		
-5		3.8	27.6
S		3.6	27.8
cb		2.9	28.5
$\frac{1}{2}$		2.5	28.9
$\frac{1}{2}$		2.5	28.9
$\frac{1}{2}$		2.9	28.5
+7.5 = Sand Bridge	on Floor	3.40	28.04
$\frac{1}{2}$		10.8	20.6
+17	on Floor	11.4	20.0
+17 on N end Bridge		3.40	28.04
N		3.4	28.0
+5		3.4	28.0
	N $\frac{1}{2}$		
-5		2.9	28.5
N		2.6	28.8
+2		2.6	28.8
+3		3.5	21.9

+10		10.9	205
cb.		10.1	213
+1	on Hood Wing Wall	3.9	275
+5		4.7	267
$\frac{1}{2}$		2.5	289
$\frac{1}{2}$		2.4	290
$\frac{1}{2}$		2.4	290
cb.		3.0	284
5		3.7	277
+5		4.0	274
	W cb. Evergreen		
-5		3.8	276
5		3.6	278
cb.		2.9	285
+5		2.2	282
$\frac{1}{2}$		2.2	282
$\frac{1}{2}$		2.2	282
+6		2.2	282
$\frac{1}{2}$		4.0	274
cb.		9.8	216
+6		10.8	206
+12		10.4	210
+15		9.1	223
+16		2.5	289
11		2.5	289
+5		2.2	292

Maine EVERGREEN ST. = 0700

-5		1.9	295
-2		1.9	295
11		5.5	259
+5		8.9	225
+15		10.3	211
cb.		9.4	270
$\frac{1}{2}$		3.2	282
+2		1.7	297
$\frac{1}{2}$		1.5	299
$\frac{1}{2}$		1.7	297
+3		1.7	297
cb.		2.6	288
+5		3.1	283
5		3.5	279
+5		3.6	278
	0725		
-5		3.3	281
5		3.3	281
cb.		2.7	287
+5		1.4	300
$\frac{1}{2}$		1.4	300
$\frac{1}{2}$		0.8	306
+6		1.4	300
$\frac{1}{2}$		2.3	291
+6		8.0	234

31.44

Macauloy

cb.		9.0	224
+16		7.7	237
N		6.2	252
+8		1.6	298
+10		1.6	298
+20		0.4	310
T.P.	7.10	37.10	1.44 30.00

0+50

-20'		5.8	31.3
N		6.0	311
+4		11.0	261
+11		13.3	23.8
cb.		12.9	24.2
+5		12.4	24.7
7		8.1	29.0
+2		6.1	31.0
2		6.1	31.0
7		6.1	31.0
+5		8.1	29.0
cb.		8.6	28.5
5		8.5	28.6
+5		8.7	28.4
-10		8.8	28.3
5		8.8	28.3
cb.		8.5	28.6
7		6.4	30.7

0+75

37.10

19

2		5.7	31.4
7		5.8	31.3
+5		11.9	25.2
cb.		12.2	24.9
+10		13.0	24.1
N		5.8	31.3
+20		4.5	32.6

0+50 = 2	Exc. tree on N 15' dia	5.5	6 4.5' Back
+51 = 2	" " " " 1.0'"	5.5	1' "
+55 = 2	" " " " 10" dia	5.5	1' "
+63 =	" " " " 1.2' "	5.7	1' "
+67 =	" " " " 1.5' "	5.7	1' "
+79 =	" " " " 2.0' "	5.4	1' "
+86 =	" " " " 10" "	5.8	1' "
+89 =	" " " " 15" "	5.8	1' "
+93 =	" " " " 1.5' "	5.9	1' "
+97 =	" " " " 1.0' "	5.9	1' "
+67 = 2	Date Palm on N 3' dia.	4.9	11' Back
+81 =	" " " " " "	4.6	12' "

1+00

-20		4.6	32.5
-2		5.7	31.4
N		7.7	29.4
+5		11.8	25.3
+13		12.6	24.5
+15		11.5	25.6

cb.	5.3	31.8
$\frac{1}{2}$	5.1	32.0
L	5.5	31.6
$\frac{1}{2}$	5.5	31.6
+4	5.1	32.0
cb.	7.2	29.9
+5	8.1	29.0
S	8.2	28.9
+10	8.4	28.7
1+16.33 = opp. N.E. Cor. Mbaraka		
-10	7.9	29.2
S	7.8	29.3
cb.	7.4	29.7
$\frac{1}{2}$	5.9	31.2
L	5.7	31.4
$\frac{1}{2}$	5.3	31.8
cb.	4.6	32.5
+5	4.2	32.9
+8	12.4	24.7
N	11.7	25.4
+4	11.0	26.1
+10	5.1	32.0
+20	4.7	32.9
1+50		
-40	2.5	34.6
-25	3.8	33.3

Sketch Page 23

-21	5.4	31.7
-19	9.0	28.1
-17	10.4	26.7
-15	10.8	26.3
-14	12.1	25.0
-11	12.0	25.1
-10	8.3	28.8
-3	5.2	31.9
N	3.2	33.9
cb.	4.5	32.6
$\frac{1}{2}$	5.3	31.8
L	5.9	31.2
$\frac{1}{2}$	5.8	31.3
cb.	6.3	30.8
S	6.1	31.0
+15	5.3	31.8
1+75.23 = opp. S. Mbaraka		
-15	2.5	34.6
S	4.2	32.9
cb.	5.6	31.5
$\frac{1}{2}$	5.7	31.4
L	5.2	31.9
$\frac{1}{2}$	4.9	32.2
cb.	4.1	33.0
N	3.2	33.9
+8	2.5	34.6

3710

Macaulay

+12		11.4	25.7
+17		11.3	25.8
+19		10.1	27.0
+23		10.3	26.8
+30		4.1	33.0
+40		3.6	33.5
	1+90		
-50		4.6	32.5
-39		5.2	31.9
-34		9.7	27.4
-28		10.9	26.2
-24		11.1	26.0
-22		2.0	35.1
N		2.9	34.2
cb		4.6	32.5
$\frac{1}{2}$		4.4	32.7
$\frac{1}{4}$		4.2	32.9
$\frac{1}{4}$		4.2	32.9
cb		2.8	34.3
S		0.8	36.3
15		4.9	38.0
	2+10		
-15		+5.9	43.0
S		+4.4	41.5
cb		+1.9	39.0
$\frac{1}{2}$		+0.5	37.6

3710

21

$\frac{1}{2}$	0.5	36.6
+5	0.5	36.6
$\frac{1}{4}$	1.6	35.5
cb	2.9	34.2
+5	3.6	33.5
+11	2.1	35.0
N	2.1	35.0
+17	2.1	35.0
+30	1.4	35.7
+32	8.0	29.1
+36	10.4	26.7
+47	10.0	27.1
+49	9.4	27.7
+52	5.7	31.4
+65	4.5	32.6
	2+21.46 = opp. N.W. Cor. Webster St.	
-85	2.9	34.2
-69	4.4	32.7
-65	8.8	28.3
-60	10.0	27.1
-53	10.0	27.1
-47	8.1	29.0
-40	1.7	35.4
-30	1.2	35.9
-20	2.0	35.1
N	1.8	35.3

3710

Macaulay St.

+5			2.6	34.5
+11			2.5	34.6
cb.			0.9	36.2
T.P.	1265	48.79	0.96	36.14
$\frac{1}{4}$			10.2	38.6
L			9.4	39.4
$\frac{1}{4}$			8.0	40.8
cb.			6.4	42.4
S			4.9	43.9
+15			3.6	45.2
	2450			
-15			11.8	50.6
S			+1.2	50.0
cb.			0.8	48.0
$\frac{1}{4}$			1.6	47.2
L			2.6	46.2
$\frac{1}{4}$			2.7	46.1
+3			4.9	43.9
cb.			5.7	43.1
N			8.8	40.0
+15			11.8	37.0
+20			12.6	36.2
T.P.	1274	61.09	0.44	48.35
	2475			
-20			18.8	42.3
N			15.4	45.7

6109

Macaulay

22

cb.		13.2	47.9
+5		13.6	48.5
$\frac{1}{4}$		11.1	50.0
L		10.2	50.9
$\frac{1}{4}$		9.3	51.8
cb.		8.2	52.9
S		7.7	53.4
+15		7.0	54.1
	2485		
-15		5.5	55.6
S		5.7	55.4
cb.		6.2	54.9
$\frac{1}{4}$		7.0	54.1
L		7.8	53.3
$\frac{1}{4}$		8.7	52.4
+3		9.9	51.2
cb.		10.5	50.6
N		12.9	48.2
+20		16.4	44.7
	2499.99 = E Line Willow	18' cbs	8.5" 14
N		9.1	52.0
cb.		6.5	54.6
+6		5.8	55.3
$\frac{1}{4}$		4.8	56.3
L		4.9	56.2
$\frac{1}{4}$		3.8	57.3

+13		1.7	702
cb.		6.0	659
+5		7.5	644
2		7.7	642
4		7.7	642
7		8.1	638
cb.		8.2	637
N ^o		7.0	649
Left BM NW Prop Hub.	2" x 2" Redwood	3.66	68.30 Willow + Macaulay's
T.P.	0.51 60.57	11.90	60.06
chk on SW B.P. Willow + barrel		8.34	52.23 52.26 - BM. 0.03 - Error.

Mother's
 How often
 Dis. best
 Muffoon
 3-21-30

SURVEY And Cross Section
 MABACK St. 35' wide ~~to~~ cbs. or als.
 From Macaulay to Copistrano St.

12.35 42.35

30.00

BM of Nails
 10' high 5th. E. corner
 Page 19

SEC. A sketch P-23

-10	3.7	387
-5	6.0	364
M	6.2	362
∫	6.8	354
E	6.8	356

SEC. B

-60'	4.5	379
-31'	9.5	329
-25'	14.8	276
-20'	15.3	271
-16'	19.2	282
-13'	9.3	331
-7'	6.0	364
E	5.9	365
∫	6.2	362
M	5.5	369
+9'	10.3	427
+15'	11.7	44.1

SEC. C

M	4.3	381
+5	5.0	374
∫	5.5	369
E	5.1	37.2

42.35

+8	4.7	37.7
+22	10.0	32.4
+23	13.0	29.4
+30	14.3	28.1
+36	13.6	28.8
+40	8.1	34.3
+60	3.3	39.1

Sec D

-60'	3.2	39.2
-44'	7.2	35.2
-40'	11.9	30.5
-30'	13.9	28.4
-23'	13.9	28.4
-22'	9.2	33.2
-16'	8.4	34.0
-9'	4.6	37.8
E	4.4	38.0
∫	5.1	37.3
M	4.1	38.3

E.C. = 0+00 Note: all stations are 2'

M	3.5	38.9
∫	3.4	39.0
E	3.9	38.5

0+30.06 Section on N.W. Line Millory.

E	2.9	39.5
∫	3.0	39.4
M	3.0	39.4

4864

MABASKA DR.

E.	13.7	34.9
+12 ondiag.	6.8	41.8
L	6.7	41.9
M	6.1	42.5
S cb. Newell		
M	9.7	38.9
L	6.2	42.4
+14	6.7	41.9
+18	10.1	38.5
E	13.8	34.8
S 1/2 Newell		
E	12.8	35.8
+5	10.5	38.1
+10	6.6	42.0
L	5.8	42.8
M	4.6	44.0
L Newell		
M	3.2	45.4
+15	5.0	43.6
L	5.5	43.1
+22	7.0	41.6
E	11.0	37.6
N 1/2		
E	8.3	40.3
+5	6.3	42.3
L	5.1	43.5

4864

28

+13	4.6	44.0
M	2.8	45.8
N cb.		
M	4.2	44.4
L	4.9	43.7
+20	6.0	42.6
E	7.8	40.8
R+64.84 = N line Newell } Station }		
E	8.3	40.3
+9	5.3	43.3
L	4.5	44.1
M	4.4	44.2
R+85.64 Section Rt. A to Mabaska 35' wide		
M	4.4	44.2
L	4.1	44.5
+12	4.5	44.1
E	8.0	40.6
+5	10.1	38.5
+8	10.4	38.2
+11	13.9	34.7
+15	15.3	33.3
+21	14.8	33.8
+24	11.3	37.3
+35	8.1	40.5
+50	1.3	47.3
+65	+4.7	53.3

48.64

Mubacka Dr.

-24'		12.9	357
-16		8.8	398
-5'		7.4	412
E		3.9	44.7
+4		1.8	468
+11		0.9	47.7
L		1.2	47.4
N		1.7	469
	4+21.81' = Prop. line Plum		Sections Parallel to Plum.
N		1.7	469
L		0.5	481
+7		+0.1	487
+20		1.3	473
E		3.0	456
T.P.	8.99 5665	0.98	476.6
	South cb. Plum st.		
E		9.8	468
+3		6.7	499
L		8.6	480
N		9.1	47.5
	56Y' #		
N		9.0	47.6
L		8.3	483
+20		8.4	482
E		9.7	46.9
	L Plum		

See Strick P. 29

of Hub. Mubacka
St. 4+21.81
for cb. on this
Hub see L-46

52.65

30

E		9.6	470
+3		8.3	48.3
L		8.2	48.4
N		8.3	48.3
	56Y' # Plum		
N		8.3	48.3
L		8.1	48.5
+19		8.1	48.5
E		10.2	46.4
	56Y' cb.		
E		10.5	46.1
+5		8.0	48.6
L		8.0	48.6
N		7.8	48.8
	56Y' line		
N		8.1	48.5
L		7.4	49.2
+12		7.5	49.1
E		13.0	43.6
	5+28' #		
E		13.0	43.6
+9		7.6	49.0
L		7.0	49.6
N		6.6	50.0
+2		6.2	50.4
+11		+2.1	58.7

Sly' cb. oliphant

11	4.9	517
6	6.0	506
+3	6.3	503
+22	13.5	431
E	13.6	430

Sly 1/2

E	13.5	431
+6	13.0	436
+22	6.6	500
6	5.9	507
11	4.7	519

6 oliphant

11	4.4	522
6	5.5	511
+20	12.1	445
E	13.2	434

Nly 1/4

E	12.7	439
+8	12.1	44.5
6	5.2	514
11	4.5	521

Nly cb.

11	4.9	517
6	4.5	521
+20	13.0	44.6

E 12.0 446

6+85.08 = Nly line oliphant section on line oliphant

E	11.9	44.7
+12	11.2	45.4
6	4.5	521
11	4.4	522

7+07.3

Sketch P-31

Note: Sections in this curve are on Radial line

11	4.4	522
6	4.2	524
+10	10.5	461
E	10.8	45.8
+7	10.7	45.9
+17	15.0	41.6
+25	16.7	39.9
+30	11.0	45.6
+45	7.9	48.7
+65	3.5	53.1

7+25

-65	3.0	53.6
-40	3.4	47.2
-33	10.5	46.1
-26	16.6	40.0
-21	16.6	40.0
-17	14.6	42.0
-13	10.6	46.0
E	10.4	46.2

56.65

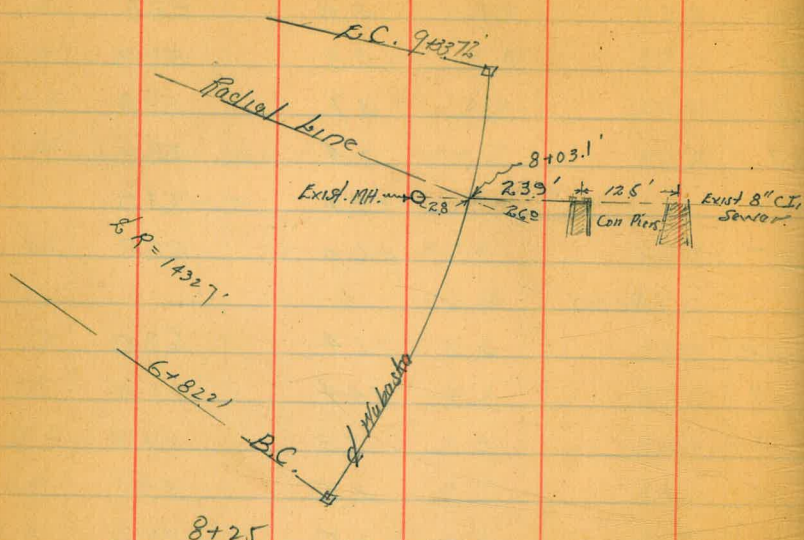
Mabaska Dr.

+6		10.0	466
6		3.9	527
11		4.5	521
+8		3.9	527
+14'	Approx. base of phant	+0.2	568
	7+50		
-25'		+3.8	604
-20'		+2.4	590
-12'		2.6	540
11		4.1	525
6		3.9	527
+5		8.2	484
+9		9.8	468
+12		15.7	409
+17		15.7	409
+23		14.4	422
+27		11.7	44.9
+38		10.7	459
+65		3.0	536
	7+75		
-65		1.2	554
-38'		9.7	469
-25'		10.5	462
-17		14.4	422
-4		14.4	422
5		9.5	47.1

56.65

33

+8		8.9	47.7
+15		3.8	528
6		3.8	528
11		3.7	529
+7		2.4	532
+19		+4.4	61.0
+25		+6.0	62.6
	8+00		
-25'		16.4	63.0
-17		+4.4	61.0
-7		3.3	533
11		3.5	531
6		3.5	531
+2		3.7	529
+12		8.9	47.7
13		14.4	422
+10		14.4	422
+15		8.8	47.8
+35		9.4	47.2
+65		1.5	55.1
	on Prim Exist. M.H.	3.84	52.81 Location P-34
	" Floor " " "	10.05	46.60
	23.9' East MH on top Pipe	8.73	47.92 - 2' Pier.
	36.4' " " " " "	8.40	48.25 - 2' Pier.
	76.4' " " " " "	7.36	48.29
	8+25		



-65	5.1	51.5
-40	8.3	48.3
-23	8.8	47.8
-15'	13.9	42.7
-5	13.9	42.7
E	11.3	45.8
+14	9.1	53.5
2	3.2	53.4
M	3.3	53.3
+8	2.6	54.0
+17	14.8	61.4
+25	+7.0	63.6

8+50

-25'	+7.0	63.6
-16	+4.3	61.9
-7	1.7	54.9
M	2.7	53.9
2	2.6	54.0
+10	4.0	52.6
E	8.1	48.5
+10'	7.9	48.7
+11'	12.6	44.0
+30	13.5	43.1
+38	10.4	46.2
+40	8.4	48.2
+48	8.1	48.5
+65'	4.4	52.2
+82	+5.0	61.6
+100'	+6.8	63.4
-75	8.6	48.0
-71	1.5	55.1
-59	7.5	49.1
-58	7.6	49.0
-44	12.5	44.1
-38	12.6	44.0
-32'	7.9	48.7
-10'	7.5	49.1
6	4.6	52.0
+4	3.4	53.2

8+85

+45	7.4	492
+56	5.9	507
+65	1.7	54.9
+80	+5.0	616

7P

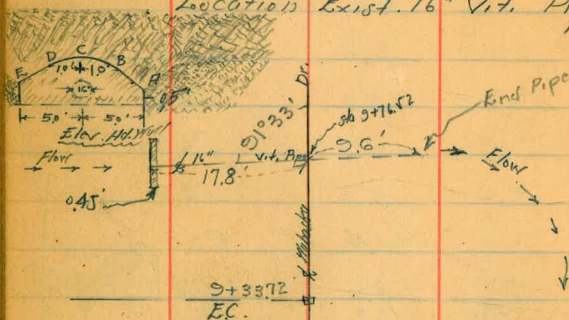
9.54

61.87

4.32

53.33

Location Exist. 16" Vit. Pipe
 culvert
 Note: Home-made Hd. Wall
 on up hill side
 const. Good.



9+76.52 = Section over to Exist 16" Vit. Drain.

-85'	0.2	616
-78'	0.6	612
-60'	9.5	523
-45'	11.6	502
-10'	11.6	506
-5'	16.7	45.1
E	14.7	45.1
+2	11.6	50.2
+7.9' on Flow Line outlet	11.35	50.52
+12	8.1	53.7
6	7.0	54.8
+3	6.5	55.3

M	6.8	550
A on Hd. Wall	9.65	52.22
B " " "	7.70	54.17
C " " "	7.55	54.32
D " " "	7.79	54.08
E " " "	9.41	52.46
Flow Line Inlet	10.47	51.40
11+10	7.9	54.0
+25	5.6	56.2
	10+00	
-25'	0.2	616
-17'	1.6	602
-15	6.2	55.6
-8'	7.8	54.0
M	6.7	55.2
+15	6.3	55.5
2	7.0	54.8
+13	10.7	51.1
+15'	16.1	45.7
E	16.1	45.7
+5	16.1	45.7
+8	11.5	50.3
+35	11.6	50.2
+62	8.2	53.6
+65	6.9	55.0
+78	+0.1	62.0

6187

Mabaska Cr.

	10+50		
-85		+1.0	62.8
-72'		6.3	55.5
-40'		10.4	51.4
-20'		10.8	51.0
-17		16.3	45.5
-11		16.3	45.5
-8		10.9	51.0
E		11.0	50.8
+10		6.5	55.9
L		5.1	56.7
+15		5.3	56.5
W		6.0	55.8
+6		6.5	55.3
+10		4.3	57.5
+14		+1.8	63.7
+25'		+5.4	67.2
	10+75		
-25		+5.8	67.7
-14		+3.3	65.2
-6		5.2	56.6
W		5.2	56.6
+4		4.8	57.0
L		4.8	57.0
+10		6.3	55.5
E		10.3	51.5

6187

37

+18		10.6	50.2
+23		14.3	47.5
+30		14.8	47.0
+36		10.2	51.6
+44		10.0	51.8
+74		5.0	56.8
+86		+1.4	63.3
	11+00		
-89'		+2.0	63.8
-78'		3.8	58.0
-65'		7.2	54.6
-50		10.0	51.8
-38		11.0	50.8
-37		14.4	47.4
-31		14.4	47.4
-29		10.2	51.6
-15		9.9	52.0
E		8.2	53.6
+8		5.8	56.0
L		4.8	57.0
+3'		3.7	58.1
W		4.6	57.2
+7		4.8	57.0
+14		+1.6	63.4
+25		+3.8	68.0
	11+50		

61.87

Yabasko Dr.

11450

-25'	+5.0	668
-14'	+1.8	636
-6'	+4.5	573
W	5.5	583
+2	2.8	590
+15	2.6	592
2	3.4	584
+3'	4.4	574
E	6.1	557
+7	5.4	564
+20	8.4	534
+37	9.4	524
+42	13.1	487
+48	12.9	490
+51	9.5	523
+54	9.2	526
+91	+2.5	643
	+3.0	648
-55	8.6	532
-38'	9.3	525
-34	12.4	494
-29'	12.3	495
-16'	11.2	506
-15	7.9	540
E	6.5	553

11775

61.87

38

+10'	3.9	58.0
+15	3.9	58.0
2	2.5	59.3
+2	1.9	60.0
+15	2.2	59.6
W	3.1	58.8
+7	4.0	57.8
+15	+2.2	64.0
+25'	+5.7	67.5
	12+00	
-25'	+6.0	67.8
-14'	+3.3	65.1
-7'	3.4	58.4
-3'	3.4	58.4
W	2.2	59.6
+2	1.4	60.4
+15	1.4	60.4
2	2.1	59.7
+3	3.2	58.6
+7	3.6	58.2
+13	7.2	54.6
+16	8.1	53.7
E	11.7	50.1
+7	11.3	50.5
+9	8.8	53.0
+35	8.8	53.0

61.87

MABASKA Drive

+52		11.3	505
-91		+3.5	653
T.P	11.38	6994	3.31
	12+50		5856
-90'		4.6	653
-60'		9.9	600
-20'		14.7	552
-2		16.3	536
-1		18.8	511
E		18.8	51.1
+4		18.8	511
+5		15.6	543
+9		14.2	557
+12		11.0	589
£		9.2	607
+2		8.4	615
+14		8.4	615
M		9.4	605
+7		10.0	599
+12		8.0	619
+15		3.5	664
+25		0.6	69.3
	13+00		
-25		0.1	698
-19		1.7	682
-15		5.9	64.0

69.94

39

-9		8.4	615
-5		8.4	615
M		7.4	625
+2		6.8	631
+16		7.1	628
£		7.7	622
+5		9.5	604
E		15.0	549
+4		15.2	547
+6		17.2	527
+11		17.2	527
+12		15.1	548
+20		14.2	557
+40		11.3	58.6
+65		8.2	617
+92		4.3	656
	13+50		
-92		3.8	661
-65		9.0	609
-38		10.9	600
-30		13.4	565
-28		15.6	543
-21		16.8	531
-19		16.8	531
-18		14.2	557
-8		13.5	56.4

69.94

WABNSKA

E	11.4	585
+5	10.9	590
L	6.6	633
+2	5.9	640
M	6.0	639
+10	6.1	638
+18	+0.9	708
+25'	+2.4	723
	14+00	
-25'	+3.2	731
-7'	0.7	692
-2'	4.7	652
M	4.7	652
+14	4.2	657
L	4.7	652
+3	6.0	639
+15	6.6	633
E	8.1	618
+3	9.2	607
+10	9.7	602
+21	12.0	579
+27	13.6	563
+28	16.4	535
+33	16.4	535
+35'	13.2	567
+45	9.7	602

69.94

40

+75'	7.6	623
+85'	4.3	656
	14+50	
-95'	2.3	676
-65'	7.0	629
-45'	8.6	613
-36'	11.7	582
-34'	14.7	552
-30'	14.7	552
-29'	12.8	571
-15'	9.3	606
-7'	8.5	614
E	6.3	636
L	4.6	653
+3	3.3	666
M	3.4	665
+8	+1.3	71.2
+25'	+4.3	74.2
	15+00	
-25'	+4.6	74.5
-15'	+2.2	72.1
-5'	10.7	70.6
-1'	3.1	66.8
M	2.8	67.1
+15'	2.8	67.1
L	3.3	66.6

+10	4.8	651
+15	4.1	658
E	4.3	656
+2'	4.3	656
+6'	4.5	634
+23	3.6	603
+38	10.8	591
+39	14.1	558
+43	14.1	558
+44	11.5	584
+52	3.6	603
+60	5.5	644
+70	5.3	646
+95	1.7	682
	15+50	
-28	1.4	685
-30	3.8	661
-60	6.8	631
-49	10.0	599
-48	12.1	578
-10'	11.7	582
-38	9.7	602
-21'	7.6	623
-7	6.4	635
E	5.0	649
E	3.3	66.6

+2	2.7	672
M	2.7	672
+2	2.8	671
+7'	0.0	699
+25'	13.0	729
	15+75	
-7'	0.5	694
M	1.9	680
E	3.4	665
+5	3.4	665
+10	4.3	656
E	5.4	645
+10	9.6	603
+28	10.1	598
+40	7.3	626
+50	4.9	650
+65	4.4	655
	15+78 = Section Parallel to Capistrano St.	
-30	2.6	673
-17	3.2	667
-9	9.3	606
-2	9.4	605
E	7.8	621
+5	6.6	633
+7	4.9	650
+10	3.4	665

Capistrano

6021

15+896

15+78

M/ANSTP

69.94

MABASKA

L		2.4	675
M		2.2	677
+3		2.1	678

15789.06 = 54Y' Line Capistrano.

M		1.6	683
L		2.2	677
E		2.0	679

T.P.	12.04	79.36	2.64	67.30
------	-------	-------	------	-------

chk. SL. BP. Chatsworth	Map pce	Page 1	1.30	78.06
				78.21 = 817
				0.15 = Error.

Note: For Cross Sections of Mabaska bet. Capistrano
and Chatsworth 8147. See Book 1336. 73

42

Walker
 Wm. H. S. 3-25-30
 Dredge
 Noon

Cross Section Willow St. 70' wide 18' hts
 8.5' 45

bet. Macaulay and Newell St.

0+00 = N.Y. Line Macaulay St.

B.M. N.Y. Hub
 Macaulay + Willow
 Page 25

1.81 70.11

68.30

M	1.8	68.3
cb.	5.1	65.0
1/2	7.0	63.1
1/4	8.9	61.2
1/4	10.9	59.2
cb.	13.1	57.0
E	18.3	51.8
+25	24.9	45.2
-25	31.5	38.6
-13'	25.4	44.7
E	22.3	47.8
cb.	17.8	52.3
1/4	15.5	54.6
1/4	13.7	56.4
1/2	11.8	58.3
cb.	10.0	60.1
M	6.9	63.2
+10'	4.9	65.2
T.P.	0.00 58.35	11.76 58.35
-15'	7.6	50.7
M	7.4	51.0
cb.	6.4	52.0

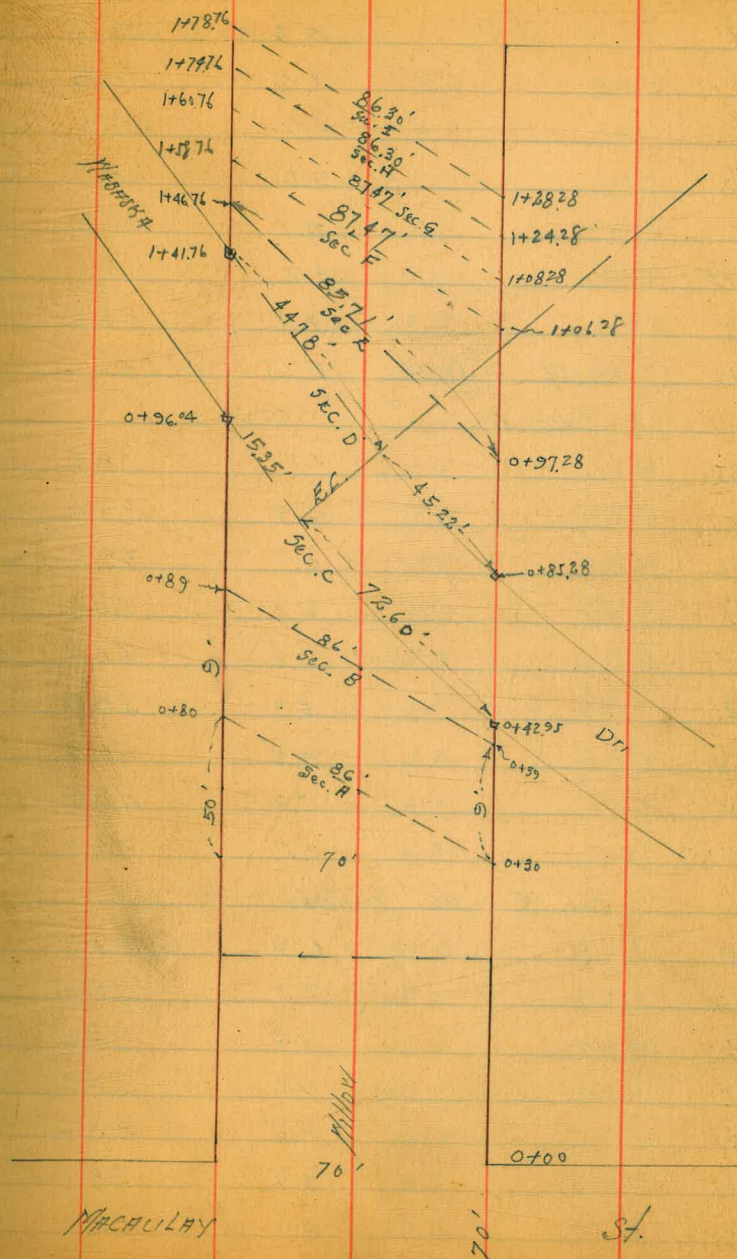
CBH

0+25 Note: Prop. Line Stations

Plotted 4-23-30

SEC. A

43



58.35

Miller

z		5.9	525	
L		7.6	508	
z		8.7	497	
cb.		9.5	489	
E		12.1	463	
+15		13.7	447	
+25		13.8	44.6	
T.P.	0.56	46.16	12.75	45.60

SEC. B

-25		7.7	385
E		6.9	394
cb.		6.7	395
z		6.2	400
L		5.8	404
z		5.9	403
cb.		5.9	403
W		3.3	429
+15		1.5	447

Sec. C = 1124' Nabaska

W		6.9	393
cb.		7.3	389
z		7.4	388
L		7.4	388
z		7.6	386
cb.		8.1	381
E		8.1	381

46.16

44

Sec. D = 824' Nabaska

E		8.2	380
cb.		8.1	381
z		8.0	382
L		7.6	386
z		7.3	389
cb.		7.3	389
W		6.7	39.5

SEC. E. = 85.71'

W-15		6.8	394
W		7.3	389
cb.		7.8	384
z		7.9	383
L		7.9	383
z		8.1	381
cb.		8.0	382
E		8.5	377
+15		8.8	374

SEC. F = 87.47'

-15		12.9	339
E		12.5	337
cb.		12.4	338
z		12.1	341
L		12.1	341
z		11.5	347
cb.		11.2	35.0

46.16

Willow

N	11.5	347
+15	11.3	349
Sec. G = 87.97		
-25	15.2	31.0
N	15.7	305
cb.	16.6	296
$\frac{1}{2}$	16.8	294
$\frac{1}{2}$	16.9	293
$\frac{1}{2}$	17.1	291
cb.	17.1	291
S	17.4	288
+25	17.7	285
Sec. H = 86.30'		
-25'	17.3	289
S	17.2	290
cb	17.1	291
14	17.1	291
$\frac{1}{2}$	16.8	294
14	16.8	294
cb	16.6	296
N	15.7	305
+25	15.2	31.0
Sec. I = 86.30		
-25	9.0	372
N	10.2	360
cb.	11.1	351

46.16

45

$\frac{1}{2}$	11.9	348
$\frac{1}{2}$	11.4	348
$\frac{1}{2}$	11.4	348
cb.	11.3	349
E	12.2	340
+25	12.3	339
+85 Sec. B.A. to Willow		
-15	+20	
E	+0.3	46.5
cb.	2.7	43.5
$\frac{1}{2}$	4.7	41.5
$\frac{1}{2}$	6.0	40.1
$\frac{1}{2}$	7.4	38.8
cb.	8.2	38.0
N	10.0	36.2
+99.91 = 5' 14" Line Newell 18' cbs. 85' $\frac{1}{2}$ S.		
N	6.8	39.4
cb.	4.4	41.8
$\frac{1}{2}$	3.7	42.5
$\frac{1}{2}$	2.0	44.2
TR.	12.89	58.28
$\frac{1}{2}$	0.71	45.45
cb.	11.7	46.6
E	9.2	49.1
+10	7.3	51.0
	5.7	52.6
5 cb.		

58.28

Willow

-10'	0.8	575
E	1.6	567
cb.	4.4	539
z	6.4	519
L	8.8	495
z	10.8	475
cb.	12.0	463
M	14.3	440
5 z Newell		
M	12.7	456
cb.	9.8	485
z	8.2	501
L	6.2	521
z	4.2	541
cb.	2.3	560
E	+1.6	599
+10	+2.2	605
L Newell		
-10	+5.2	635
E	+5.4	637
cb.	+10.3	586
z	2.3	560
L	4.1	542
z	5.5	528
cb.	7.5	508
M	10.6	477

58.28

46

NLY z

M	8.2	501
cb.	4.5	538
z	3.6	547
L	1.7	566
z	+0.2	585
cb.	+2.7	610
E	+7.6	659
+10	+7.8	661
NLY cb.		
-10	+10.7	690
E	+9.8	681
cb.	+5.3	636
z	+2.6	609
L	+1.0	593
z	0.5	578
cb.	1.7	566
M	5.4	529
NLY Line Newell		
M	70.3	586
cb.	73.9	622
z	75.0	633
L	75.9	642
z	77.5	658
cb.	79.7	680
E	+14.2	72.5
cht. on d. Hub. #2181 - 2 m. Lake	10.65	

cht. on d. Hub. #2181 - 2 m. Lake
Page 30

47.63
47.66 - BM
0.09 - FTOT

Walker
 Mrs Bass 3-28-30
 Diebert
 Mulhoo

CROSS SECTION PLUM St. 70' wide 18' cbs.
 85' fs.
 Bet. Macaulay And Poe Sts.

10.2.19

47

B.M. on Hub
 NW. Macaulay
 + Millers P-43

NE Cor. Hub.
 Plum
 + Macaulay

	13.01	81.31		68.30
TP	12.16	33.05	0.42	86.89
TP	10.15	103.19	0.01	93.04
	N.Y. Line Macaulay St. = 0+00			
-10			3.5	
E on Prop. Hub			3.45	99.74
cb.			3.0	100.2
1/2			2.7	100.5
1/2			2.8	100.4
1/2			2.9	100.3
cb.			3.2	100.0
W			3.8	99.4
+10			3.7	99.5
	0+25			
-10			2.8	100.4
W			2.9	100.3
cb.			3.0	100.2
1/2			3.0	100.2
1/2			3.4	99.8
1/2			4.0	99.2
cb.			4.2	99.0
E			4.7	98.5
+10			4.9	98.3
	0+50			
-10			8.0	95.2

CB.H.

Plotted 4-23-30

E	7.7	95.5
cb.	7.0	96.2
1/2	6.2	97.0
1/2	6.0	97.2
1/2	5.5	97.7
cb.	5.2	98.0
W	4.4	98.8
+10	3.9	99.3
	0+75	
-10	5.5	97.7
W	6.4	96.8
cb.	7.7	95.5
1/2	8.0	95.2
1/2	8.4	94.8
1/2	8.7	94.5
cb.	9.2	94.0
E	10.3	92.9
	1+00	
E-10	14.5	88.7
E	13.5	89.7
cb.	12.2	91.0
1/2	11.3	91.9
1/2	10.7	92.5
1/2	10.1	93.1
cb.	9.4	93.8
W	7.7	95.5
+10	7.0	96.2

103.19

Plum St.

1+2.5

-19 at House Ground Elev.	6.7	96.5	
NY	8.8	94.4	
cb.	11.1	92.1	
7	12.0	91.2	
6	13.3	89.9	
4	14.6	88.6	
cb.	15.1	88.1	
E	16.8	86.4	
+10	18.0	85.2	
1+29 = E. Cor. Steps to House on NY 3' Wide 3' Back.			
NY + 9' on Bottom Step	7.14	96.05	✓
+15' top Porch Step	4.15	99.04	✓
T.P.	1.59	92.58	12.20 90.99

1+50

-15	10.0	82.6	
E	8.0	84.6	
cb.	5.3	87.3	
7	4.1	88.5	
2	2.9	89.7	
4	2.1	90.5	
cb.	1.3	91.3	
NY	+1.2	93.8	
+10	+2.9	94.9	

1+75

-10	+1.7	94.3	
-----	------	------	--

92.58

48

NY	+0.3	92.9
cb.	2.1	90.5
7	3.0	89.6
2	4.1	88.5
4	5.3	87.3
cb.	6.7	85.9
E	9.1	83.5
+15	11.0	81.6

2+00.10 = SLY line Newell 18' cbs. 8.5' 7/8 s.

E	11.2	81.4
cb.	8.2	84.4
7	6.8	85.8
2	5.7	86.9
7	4.4	88.2
cb.	3.2	89.4
NY	1.4	91.8

cb.

NY	1.9	90.7
cb.	4.7	87.9
7	5.6	87.0
2	6.9	85.7
4	8.0	84.6
cb.	9.4	83.2
E	12.6	80.0

SLY 7

E	13.9	78.7
---	------	------

92.58

Plum St.

cb.		10.7	81.9
♂		9.1	82.5
♀		7.6	85.0
♂		6.5	86.1
cb.		5.3	87.3
W		2.8	89.8
	July 7 + 2		
W		4.0	88.6
cb.		6.7	85.9
♂		7.6	85.0
♀		8.8	83.8
♂		10.4	82.2
cb.		12.0	80.6
E		15.5	77.1
	♂		
E		16.0	76.6
cb.		11.8	80.8
♂		10.6	82.0
♀	on Birn M.H. ^{Sever.}	9.58	83.00
♂		7.8	84.8
cb.		6.5	86.1
W		4.0	88.6
	July 7		
W		5.5	87.1
cb.		7.8	84.8
♂		8.9	83.7

92.58

49

♀		10.4	82.2
♂		11.6	81.0
cb.		12.5	80.1
E		16.5	76.1
	July cb.		
E		17.2	75.4
cb.		12.6	80.0
♂		12.1	80.5
♀		10.8	81.8
♂		9.5	83.1
cb.		8.3	84.3
W		6.7	85.9
	July line Newell St. = 0+00		
W		9.0	83.6
cb.		12.0	80.6
T.P.	0.60 80.23	12.95	79.63
♂		1.2	79.0
♀		2.6	77.6
♂		3.8	76.4
cb.		5.6	74.6
E		10.3	69.9
	0+25		
W		20.6	50.6
E		15.6	64.6
cb.		12.3	67.9
♂		10.3	69.9

2	8.1	721
2	5.9	743
cb.	3.8	764
W	40.2	804
+10	+2.2	824
	0+40	
-10'	1.2	790
W	2.5	777
cb.	7.3	729
2	9.5	707
2	11.7	685
2	13.2	670
cb.	14.3	659
E	18.1	621
+25	25.7	545
	0+50	
-30	34.1	461
-15	25.3	549
E	21.4	588
cb.	15.4	648
2	14.0	662
2	13.0	672
2	10.8	694
cb.	8.8	714
W	4.6	756
+10	2.6	776

	0+61			
-10		4.7	755	
W		7.0	732	
cb.		11.3	689	
T.P.	0.62	684.4	12.41	67.82
2			1.5	66.9
2			4.4	64.0
2			6.1	62.3
cb.			8.0	60.4
E			12.6	55.8
+17			21.9	46.5
+20			21.9	46.5
			Sec. A = 35' N/A to Plum	
2			10.7	57.7
W 2			8.3	60.1
cb.			6.2	62.2
W			1.4	67.0
+10			+1.0	68.4
			Sec. B - 92.51	
-25			9.2	59.2
W			8.2	60.2
cb.			8.6	59.8
2			9.5	58.9
2			10.7	57.7
2			10.8	57.6
cb.			11.2	57.2

5048

Plum St

z	4.0	465
cb.	4.3	462
W	7.0	43.5
Sec. G = 87.19'		
W-25	7.8	42.7
W	8.0	42.5
cb.	7.8	42.7
z	7.9	42.6
L	8.0	42.5
z	8.2	42.3
cb.	8.4	42.1
E	9.2	41.3
+25	9.7	40.8
Sec. H = 81.64'		
-25	10.0	40.5
E	9.5	41.0
cb.	9.0	41.5
z	8.9	41.6
L	8.7	41.8
z	8.7	41.8
cb.	8.6	41.9
W	8.0	42.5
+25'	7.8	42.7
Sec. I = 81.64'		
-17'	12.9	37.6
W	13.1	37.4

5048

cb	13.4	37.1
z	13.4	37.1
L	13.5	37.0
z	14.1	36.4
cb.	14.2	36.3
E	14.3	36.2
+25	14.7	35.8
Sec. J = 78.26		
-25	11.5	39.0
E	14.2	36.3
cb.	13.7	36.8
z	13.2	37.3
L	13.2	37.3
z	13.0	37.5
cb.	12.9	37.6
W	12.6	37.9
Sec. K = 74.29'		
W	12.6	37.9
cb.	11.5	39.0
z	8.6	42.0
L	7.6	42.9
z	8.3	42.2
cb.	7.6	42.9
E	6.6	43.9
+25	5.4	45.1
5th line Oliphant = 7400.13 on East		

52

50.48

Plum St.

E	2.2	483
cb.	4.8	455
$\frac{1}{4}$	5.8	446
$\frac{1}{2}$	6.7	438
$\frac{3}{4}$	8.0	425
cb.	8.2	423
+3	8.6	419
+10	11.6	389
M	12.6	379

Sly' cb Oliphant

M	7.7	428		
cb.	5.8	447		
$\frac{1}{4}$	4.9	456		
$\frac{1}{2}$	3.9	466		
$\frac{3}{4}$	2.5	480		
T.P.	11.91	62.02	0.37	50.11
cb.	12.3	497		
E	9.4	526		

Sly' $\frac{1}{4}$

E	6.9	551
cb.	10.4	516
$\frac{1}{4}$	12.1	499
$\frac{1}{2}$	13.4	486
$\frac{3}{4}$	14.9	471
cb.	15.9	461
M	18.5	43.5

62.02

E Oliphant

53

M	16.3	457
cb.	14.1	479
$\frac{1}{4}$	12.7	493
$\frac{1}{2}$	11.0	510
$\frac{3}{4}$	10.0	520
cb.	8.4	536
E	4.0	580

Nly' $\frac{1}{4}$

E	0.9	611
cb.	5.2	568
$\frac{1}{4}$	6.9	551
$\frac{1}{2}$	8.1	539
$\frac{3}{4}$	9.4	526
cb.	10.8	512
M	13.5	485

Nly' cb.

M	10.5	51.5		
cb.	7.4	546		
$\frac{1}{4}$	5.7	563		
$\frac{1}{2}$	4.7	573		
$\frac{3}{4}$	3.2	588		
cb.	1.7	603		
T.P.	12.76	74.44	0.34	61.62
E	11.3	63.1		

Nly' line Oliphant = 0700

74.44

E			2.7	71.7
cb.			6.9	67.5
1/2			7.8	66.6
1/2			8.6	65.8
1/2			9.5	64.9
cb.			11.9	63.1
M			16.9	57.5
	0+25			
-40			23.1	51.3
-25			17.5	56.9
-13			14.1	60.3
M			8.7	66.3
cb.			1.3	73.1
T.P.	12.90	86.98	0.36	74.08
1/2			11.5	75.5
1/2			10.3	76.7
1/2			9.5	77.5
cb.			8.4	78.6
E			5.0	82.0
+10			2.8	84.2
	0+35			
-10'			0.0	87.0
E			1.3	85.7
cb.			4.6	82.4
1/2			6.3	80.7
1/2			7.8	79.2

86.98

54

1/2			9.2	77.8
cb.			11.4	75.6
M			17.7	69.3
+18			25.0	62.0
+26			26.6	60.4
+40			31.7	55.3
	0+50			
-25'			21.2	65.8
-5'			15.6	71.4
M			18.9	74.1
cb.			7.6	79.4
1/2			6.0	81.0
1/2			4.3	82.7
1/2			3.6	84.4
T.P.	12.38	98.74	0.62	86.36
cb.			12.5	86.2
E			2.5	89.2
+10			7.6	91.1
	0+75			
-10'			2.3	96.4
E			4.1	94.6
cb.			7.6	91.1
1/2			9.0	89.7
1/2			10.3	88.4
1/2			11.8	86.9
cb.			13.8	84.9

	98.74	Plum. st.
W	18.0	807
+17	21.9	768
+25	24.3	744
1700		
-25	18.2	805
-15	15.1	836
W	12.0	867
cb.	8.3	904
‡	7.0	917
‡	5.5	932
‡	4.3	944
cb.	2.7	960
TP	12.52	110.83
E	0.43	98.31
+10	11.2	996
	8.8	102.0
1725		
-10	3.8	1070
E	6.1	104.7
cb.	9.7	101.1
‡	11.5	993
‡	13.0	978
‡	14.6	962
cb.	16.0	948
W	18.6	922
+25	24.0	868
1750		

	110.83	
-25	19.8	910
W	15.3	955
cb.	11.9	989
‡	10.3	1005
‡	8.2	1026
‡	6.3	1045
cb.	5.0	1058
E	1.3	109.5
1775		
E	7.38	114.6
cb.	0.5	110.3
‡	2.4	108.4
‡	4.2	106.6
‡	6.1	104.7
cb.	8.1	102.7
W	11.5	99.3
+25	17.2	93.6
1799.34	567' Line	Poe st.
-25	13.3	97.5
-12	9.7	101.1
W on Hub.	7.21	103.62
cb.	3.9	106.9
‡	2.0	108.8
‡	4.6	111.4
‡	7.25	113.3
cb.	8.4	114.2
E	10.2	121.0
11.09		

55

5th. Cor. Hub.
Plum. + Poe
Page 17
99.74 = BM
99.74 = BM
0.00 = Error

Y/1 Ker.
Y/2 Bliss
Drebot 3-26-30
Maffoon

FOSS SECTION Clove st. 60' wide 10' obs.
Bet. Macaulay And Oliphant st. 10' 1/2 s.

123.74

56

110.89-7 from P-55

on Pueblo Hill
W 2 1/2' line (Newell)
East of Clove

T.P. 12.91 120.39 3.35 107.48
4.53 123.74 1.18 112.21

NBY line Macaulay = 0+00

M 4.2 119.5

cb. 5.4 118.3

1/2 5.5 118.2

E 6.0 117.7

1/2 5.8 117.9

cb. 7.1 116.6

E 8.0 115.7

0+25 = 2' Con. steps on West 6' wide ✓

-10 10.0 113.7

E 8.2 115.5

cb. 7.4 116.3

1/2 6.8 116.9

E 6.7 117.0

1/2 6.6 117.1

cb. 6.3 117.4

M at steps on Ground. 5.8 117.9 ✓

" on " 5.22 118.52 ✓

+55 = top " 2.55 121.19 ✓

0+50

-5 4.1 119.6

M 6.3 117.4

cb. 7.2 116.5

1/2 7.5 116.2

1/2 7.6 116.1

1/2 7.6 116.1

cb. 8.3 115.4

E 9.0 114.7

+5 10.3 113.4

+10 10.9 112.8

0+75

-10 11.5 112.2

-5 11.0 112.7

E 10.0 113.7

cb. 9.2 114.5

1/2 8.4 115.3

E 8.4 115.3

1/2 8.4 115.3

cb. 8.1 115.6

M 6.9 116.8

+5 8.9 114.8

0+99 = 2' Con Walk on West 2' wide on line

-25 on Con. Walk 5.21 118.53 ✓

M " " 7.89 115.85 ✓

M " Ground at end Walk 8.3 115.4

cb. 8.7 115.0

1/2 9.0 114.7

1/2 9.1 114.6

1/2 9.2 114.5

C.B.H.

Plotted 4-24-30

123.74

Force st.

cb.	9.7	1140
E	10.3	1134
+4	11.4	1123
110	11.8	1119
1+25		
-10	12.2	1115
E	10.9	1128
cb.	10.5	1132
z	10.0	1137
z	9.7	1140
z	9.7	1140
cb.	9.3	1144
11	8.7	1150
+5	8.1	1156
1+50		
-5	8.8	1149
11	9.1	1146
cb.	10.1	113.6
z	10.3	1134
z	10.4	1133
z	10.3	1134
cb.	11.0	1127
E	10.8	1129
+10	11.3	1124
1+75		
-10	11.6	112.1

123.74

57

E	11.3	1124
cb.	10.6	1131
z	10.6	1131
z	11.0	1127
z	10.8	1129
cb.	10.0	113.7
11	9.8	113.9
+5	9.5	114.2
T.P.	2.70	114.61
	11.83	111.91
2+00± = 51y' Pipe Newell of 1866s 8.5' 40.		
-5	0.8	113.8
11	0.6	114.0
cb.	1.4	113.2
z	2.1	112.5
z	2.3	112.3
z	2.0	112.6
cb.	2.4	112.2
E	2.8	111.8
51y' cb.		
E	3.4	111.2
cb.	2.9	111.7
z	3.0	111.6
z	3.1	111.5
z	2.6	112.0
cb.	2.6	112.0
11	2.2	112.4
+5	2.2	112.4

11461

Clove st

shy 7 Newell

-5		2.7	1119
11		2.9	1117
cb.		3.0	1116
7		3.4	1112
2		3.6	1110
7		3.6	1110
cb.		3.5	1111
E		2.7	1119
	L		
E		4.0	1106
cb.		4.0	1106
7		4.0	1106
+6		3.9	1107
+7		4.4	1102
2		4.4	1102
7		4.3	1103
+6		4.0	1106
cb.		3.3	1113
11		3.0	1116
+5		2.8	1118
	NLY 7		
-5		3.8	1108
11		3.8	1108
cb.		4.1	1105
+5		4.8	1098

11461

58

7		5.0	1096
2		5.1	1095
+2		5.0	1096
+3		4.5	1101
7		4.5	1101
cb.		4.3	1103
E		4.6	1100
	NLY cb.		
E		5.1	1095
cb.		5.2	1094
7		5.0	1096
+8		5.0	1096
+9		5.9	1087
7		5.8	1088
7		5.8	1088
+5		5.6	1090
cb.		4.8	1098
11		4.4	1102
+5		4.4	1102
	NLY 'large Newell = 0+00		
-5		6.3	1083
11		6.3	1083
+5		6.4	1082
cb.		6.9	1077
+5		6.9	1077
7		6.6	1080

114.61

Clove st.

+8	70	107.6
L	64	108.2
z	61	108.5
cb.	62	108.4
E	6.2	108.4
0+25		
-10	6.7	107.9
E	6.9	107.7
cb.	7.5	107.1
z	7.9	106.7
L	7.7	106.9
+7	7.9	106.7
+8	8.8	105.8
z	8.8	105.8
cb.	8.2	106.4
M	8.1	106.5
+10'	8.1	106.5
0+50		
-10	9.3	105.3
M	9.7	104.9
cb.	9.9	104.7
z	10.5	104.1
+2	9.3	105.3
L	9.1	105.5
z	9.0	105.6
cb.	9.1	105.5

114.61

CLOVE st.

59

E	9.0	105.6
+10	8.5	106.1
0+85		
-10	10.0	104.6
E	10.5	104.1
cb.	11.0	104.6
z	11.6	103.0
L	12.0	102.6
+3	12.0	102.6
+5	12.9	101.7
z	12.3	102.3
cb.	12.5	102.1
M	12.3	102.3
+10	12.4	102.2
1+25		
T.P.	0.85	102.55
-10	12.91	101.70
M	2.6	100.0
cb.	2.6	100.0
z	3.0	99.6
L	3.6	99.0
z	4.4	98.2
+3	4.2	98.4
z	4.3	98.3
cb.	4.4	98.2
E	4.3	98.3
+10	4.4	98.2

114.61
102.55

Clare St.

1+70		
-10	6.4	962
E	5.9	967
cb.	6.1	965
4	6.9	957
+1	7.8	948
L	7.7	949
4	8.0	946
cb.	7.9	947
M	7.7	949
+10	7.6	950

1490

-10	8.9	937
M	9.7	929
cb.	9.8	928
4	9.8	928
L	9.6	930
4	10.7	919
cb.	10.5	921
E	10.2	924
+10	11.1	915

2+05.31

E	13.4	892
cb.	12.5	901
4	12.8	899
L	11.9	907

102.55

60

4		11.9	907	
cb.		12.1	905	
M		11.9	907	
T.P.	0.57	90.64	12.48	90.07

Note: For check out see continuation levels for the above

H.S. on pages 61 - to 66

Walker
11/21/85

CROSS SECTION OLIPHANT St. 60' wide 10' cbs
From WLY line close to Pueblo line
thence 70' wide 18' cbs 8.5' $\frac{1}{4}$ s to same point
East of Plum St.

90.64

61

90.64 = Page 60

WLY line close 10' cbs 10' $\frac{1}{4}$ s

S		+1.1	91.7
cb.		1.3	89.3
$\frac{1}{4}$		3.0	87.6
$\frac{1}{2}$		4.3	86.3
$\frac{1}{4}$		5.9	84.7
cb.		7.2	83.4
N		8.5	82.1
+15		10.3	80.3
	WLY cb. close		
-20		11.8	78.8
N		9.3	81.3
cb.		7.8	82.8
$\frac{1}{4}$		5.9	84.7
$\frac{1}{2}$		4.5	86.1
$\frac{1}{4}$		3.2	87.4
cb.		1.7	88.9
S		0.1	90.5
	Plotted 4-24-30		
S		0.0	90.6
cb.		1.2	89.4
$\frac{1}{4}$		2.7	87.9
+2		2.9	87.7
+5		4.3	86.3

WLY $\frac{1}{4}$

$\frac{1}{2}$		4.4	86.2
$\frac{1}{4}$		5.7	84.9
cb.		8.1	82.5
N		10.0	80.6
+20		12.9	77.7
	$\frac{1}{2}$		
-20		14.0	76.6
N		10.6	80.0
cb.		8.3	82.3
$\frac{1}{2}$		6.1	84.5
$\frac{1}{4}$		4.2	86.4
$\frac{1}{4}$		3.0	87.6
cb.		1.4	89.2
S		0.0	90.6
	WLY $\frac{1}{4}$		
S		0.6	90.0
cb.		1.9	88.7
$\frac{1}{4}$		3.4	87.2
$\frac{1}{2}$		4.6	86.0
$\frac{1}{4}$		6.6	84.0
cb.		9.3	81.3
N		11.6	79.0
+20		15.3	75.3
	WLY cb.		
-20		16.3	74.3
N		12.5	78.1

9064

Olyphant

cb.	11.7	789
$\frac{7}{2}$	8.0	826
$\frac{2}{2}$	5.9	847
+6	5.9	847
+9	3.9	867
$\frac{7}{2}$	3.6	870
cb.	1.7	88.9
S	0.6	900

Ely line Clove = 0+00

S	1.4	89.2
cb.	2.2	88.4
$\frac{7}{2}$	3.8	86.8
+1	4.2	86.4
+4	7.1	83.5
+8	6.5	84.1
$\frac{2}{2}$	6.7	83.9
$\frac{7}{2}$	8.6	82.0
cb.	11.4	79.2
N	13.6	77.0
+20	17.8	72.8

0+40

-20	25.5	65.1
N	21.1	69.5
cb.	19.2	71.4
+5	17.2	73.4
$\frac{7}{2}$	16.4	74.2

9064

62

$\frac{2}{2}$	13.8	76.8
+6	14.4	75.2
+9	12.5	78.1
$\frac{7}{2}$	12.1	78.5
cb.	9.6	81.0
S	7.0	83.6
+5	5.5	85.1

0+75.52 = Pueblo line this Section 60' wide ^{10' cbs} 10' 45'

T.P.	0.22	78.07	12.79	77.85
S			1.2	76.9
cb.			3.2	74.9
$\frac{7}{2}$			5.8	72.3
+1			6.1	72.0
+4			8.5	69.6
+7			8.0	70.1
$\frac{2}{2}$			8.5	69.6
$\frac{7}{2}$			10.2	67.9
+5			11.4	66.7
cb.			13.6	64.5
N			16.0	62.1

0+75.52 = 0+00 = Pueblo line this Section
And all other Sections
Most are 70' wide
18' cbs. 8.5' 4.5'

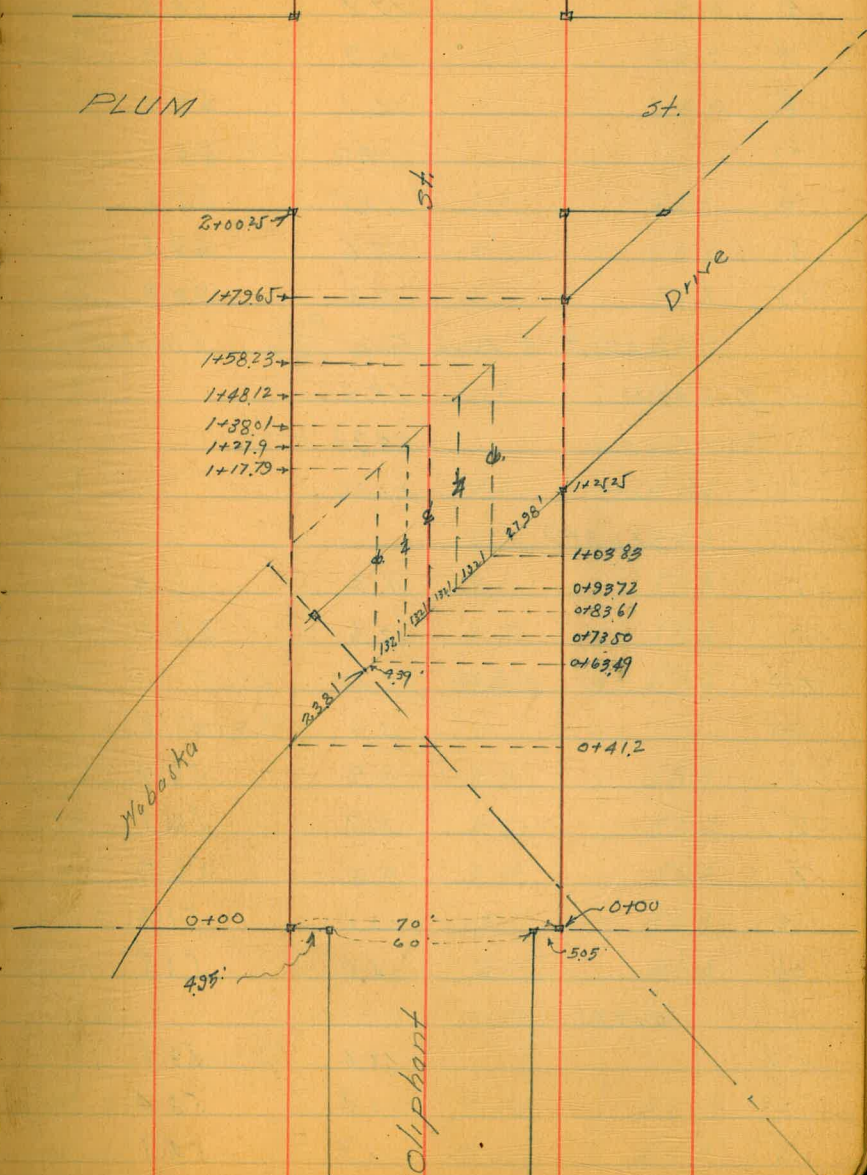
-33 = Approx line Webster	25.1	53.0
-17	24.0	54.1
-9	18.2	59.9
N	17.2	60.9
cb.	13.0	65.1

7807

oliphant

63

+5		11.0	671
$\frac{1}{2}$		9.9	682
$\frac{1}{2}$		8.5	696
+7		8.6	695
$\frac{1}{2}$		7.3	708
+1		6.0	721
cb.		4.0	741
5		+0.4	785
+5		+1.5	796
	0+25		
-5		3.8	743
5		5.0	731
cb.		9.8	683
+7		11.2	669
$\frac{1}{2}$		12.2	659
$\frac{1}{2}$		13.6	645
$\frac{1}{2}$		15.2	629
cb.		17.6	605
+14'		20.3	57.8
N		23.3	54.8
+4		25.1	53.0
+15		26.0	52.1
	0+41.2		
N		25.0	53.1
+10		24.7	53.4
cb.		20.2	57.9



7807

oliphant

cb+2		18.6	595
4		17.7	604
4		16.9	612
4		16.1	620
+2		14.0	641
cb.		12.5	656
S		8.6	695
+5		7.3	708
0+50.4 = 1/2 Exist. Sewer ^{Drop.} M.H. in 1/2 oliphant			
on Rim M.H.		18.56	
" Flow From West.		29.98	
" " to East.		31.36	
0+63.49			
-5		11.3	668
S		12.6	655
T.P.	0.19	65.82	12.44 656.3
cb.		4.0	618
4		6.9	589
4		8.7	571
4		9.8	560
+4		13.5	513
cb.		14.0	518
0+735			
N 4		13.7	521
+2		12.4	534
4		11.7	541

6582

64

4		8.3	575
cb.		6.6	592
5		2.5	633
+5		1.1	647
0+8361			
-5		3.7	621
S		5.0	608
cb.		8.5	573
1/4		13.1	527
4		13.7	521
0+9372			
4		14.0	518
cb.		13.0	528
+5		9.1	567
S		7.2	586
+5		6.2	596
1+0388			
-5		7.3	585
S		8.6	572
+5		9.4	564
+12		13.5	523
cb.		14.0	518
T.P.	1.69	54.93	12.58 53.24
1+17.79 on N			
N-60		2.6	523
N-22		10.2	447

5493

Elephant st.

5493

65

N- 13'	15.7	392
N	15.0	399
+R	13.7	412
13	11.0	439
cb	10.3	44.6

1+27.9

NLY 4'	11.0	439
cb.	10.8	44.1
+10	11.1	438
+11	14.6	403
N	15.7	392
+4	15.7	392
+18	10.2	347
+50	3.2	51.7

1+38.01

-40	3.7	51.2
-22	8.1	46.8
-7	10.7	44.2
N	16.0	389
+10	16.0	389
+14	14.8	40.1
cb.	11.5	43.4
1/2	11.4	43.5
2	11.4	43.5

1+48.12

SLY 4'	11.8	43.1
--------	------	------

2	11.8	43.1
+3	12.0	42.9
4	14.5	40.4
cb.	16.2	38.7
+9	16.2	38.7
+16	11.0	43.9
N	11.0	43.9
+14	8.7	46.2
+30	4.7	50.2

1+58.23

-25	3.5	51.4
N	9.7	45.2
+11	11.3	43.6
cb.	16.1	38.8
2	16.1	38.8
2	16.3	38.6
4	14.7	40.2
+2	12.2	42.7
cb.	12.0	42.9

1+79.65 = 70'

5' L.Y. Line	12.0	42.9
+3	12.8	42.1
+5	14.7	40.2
+8	17.3	37.6
cb.	17.3	37.6
4	14.3	40.6

7+3	12.2	427
2	11.9	430
+5	11.7	432
7	11.0	439
cb.	9.4	455
N	4.7	502
+15	+0.3	55.2

2+00.25 = MLY Line Plum Intersection See P-51-53

For X-Section Notes This

N	+2.9	57.8
cb.	3.4	51.4
7	6.2	48.1
2	8.7	46.2
7	11.1	43.8
cb.	12.2	42.7
+5	12.3	42.6
+12	16.0	38.9
5	16.6	38.3

check. on BM 442181 & 442182 P-30 7.28

47.65
47.66 = 817
0.01 = ERROR

25' EAST E. line Plum

-25	8.0	469
5	1.6	533
cb.	+4.0	589
7	+7.1	620
2	+10.8	65.7
7	+14.3	69.2

cb.	+16.9	71.8
N	+22.9	77.8
12.5	+33.7	88.6
50' E. to line Plum		
-10'	+36.0	90.9
N	+31.6	86.5
cb.	+26.5	81.4
7	+22.3	77.2
2	+19.2	74.1
7	+17.0	71.9
cb.	+14.4	69.3
5	+8.6	63.5
+15	+3.9	58.8
+25	0.2	55.1

Walker
New Blgs
Drebert 3-27-30
Mattoon

Cross Section NEWELL St. 70' Wide 18' cbs
Bet. Clove and Millport Sts.
8.5' cbs

112.28

4.80 112.28 107.48
B.M. on Pueblo
Hub on P-56

E.L.Y. line Clove St. = 0+00

S	0.5	111.8
cb.	1.0	111.3
1/4	1.3	111.0
1/2	1.6	110.7
3/4	2.2	110.1
cb.	2.8	109.5
N	3.9	108.4
0+50		
N-10	4.0	108.3
N	3.7	108.6
cb.	3.2	109.1
1/4	3.2	109.1
1/2	2.8	109.5
3/4	2.6	109.7
cb.	2.5	109.8
S	2.0	110.3
+10	1.9	110.4
0+90		
-10	3.6	108.7
S	3.1	109.2
cb.	4.0	108.3
1/4	4.5	107.8
1/2	5.0	107.3

CBH

Plotted 4-24-30

1/4	5.0	107.3 67
cb.	5.3	107.0
N	6.6	105.7
+10	7.2	105.1
1+20		
-10	10.6	101.7
N	10.2	102.1
cb.	9.1	103.2
1/4	8.4	103.9
1/2	8.1	104.2
3/4	7.9	104.4
cb.	7.7	104.6
S	7.1	105.2
+10	7.0	105.3
1+50		
-10	10.0	102.3
S	10.0	102.3
cb.	10.9	101.4
1/4	11.0	101.3
1/2	11.0	101.3
3/4	11.5	100.8
cb.	12.2	100.1
N	12.9	99.4
+10	13.4	98.9
1+69 = 2' Dbk. Garage on S 18' wide dirt floors. on line ✓		
N-10	15.5	96.8

112.28

Newell St.

N		16.1	962
cb.		13.9	984
$\frac{1}{2}$		13.5	988
$\frac{1}{4}$		12.8	995
$\frac{1}{4}$		12.5	998
cb.		12.1	1002
S	dirt. 9+ Garage Floor.	11.5	1008
	2+00		
-10		12.4	999
S		12.9	994
T.P.	0.68 100.48	12.48	99.80
cb.		2.1	984
$\frac{1}{2}$		2.8	975
$\frac{1}{4}$		3.4	971
$\frac{1}{4}$		4.5	960
cb.		4.9	956
N		6.5	940
+10		6.9	936
	2+25		
-10		11.0	895
N		10.1	904
cb.		8.2	923
$\frac{1}{4}$		7.3	932
$\frac{1}{4}$		5.9	946
$\frac{1}{2}$		5.8	947
cb.		5.2	553

100.48

S		3.4	971 ⁶⁸
+2		2.2	983
+10		2.0	985
	2+50		
-10		5.7	948
S		6.5	940
cb.		8.0	925
$\frac{1}{4}$		8.7	918
$\frac{1}{4}$		9.1	914
$\frac{1}{2}$		10.2	903
cb.		11.0	895
N		13.7	868
+10		14.9	856
	2+76.88 = 2 1/2' base Plum		
N		16.9	836
cb.		14.6	859
$\frac{1}{4}$		13.4	871
$\frac{1}{4}$		11.9	886
+6		11.7	888
$\frac{1}{2}$		10.5	900
cb.		9.8	907
S		9.3	912
T.P.	0.27 88.00	12.75	87.73
	5 1/2' base Plum = 0+00		
S		6.7	813
cb.		7.9	801

88.00

Newell St.

7			9.2	78.8
+2			10.6	77.4
±			11.1	76.9
7			12.0	76.0
cb.			12.6	75.4
N			18.1	69.9
T.P.	0.18	75.22	12.96	75.04
	0+25			
-25'			16.0	59.2
N			10.3	64.9
+14			7.2	68.0
cb.			5.5	69.7
7			4.9	70.3
±			4.2	71.0
+6			3.8	71.4
+1/4			2.5	72.7
cb.			1.0	74.2
S			+1.8	77.0
+10'			+3.3	78.5
	0+50			
-10'			2.9	72.3
S			4.6	70.6
cb.			7.0	68.2
7			8.0	67.2
+1			9.5	65.7
±			9.7	65.5

75.22

69

7			10.5	64.7
cb.			10.9	64.3
+4			13.4	61.8
N			17.5	57.7
+23			22.3	52.9
	0+75			
-15'	Approx. Line Mbackto		30.3	44.9
-13			30.3	44.9
N			24.9	50.3
+13			21.7	53.5
cb.			18.7	56.5
+1			17.7	57.5
7			16.9	58.3
±			15.8	59.4
+7			15.0	60.2
7			13.7	61.5
cb.			12.3	62.9
S			9.8	65.4
+10			8.2	67.0
T.P.	0.04	62.56	12.70	62.52
	0+92.97	See sketch	P-27	
±-10			+11	63.7
S			1.4	61.2
cb.			3.8	59.8
7			5.9	56.7
±			7.8	54.8

62.56

Newell St.

NLY 2	9.4	53.2
+7	10.2	52.4
cb.	11.0	51.6
+6	14.6	48.0
+13	18.2	44.4
N	18.3	44.3

1+14.39 Sketch P-27

N cb	18.1	44.5
+4	15.7	46.9
2	15.0	47.6
1	14.0	48.6
1/2	12.6	50.0
cb.	10.5	52.1
S	4.6	58.0
+10	1.8	60.8

1+00.2 = 1/2 M.H. in 1/2 Newell St.

on Rim MH	10.87	51.69	-
" Floor to East	2.185	40.71	-

1+24.5 Sketch P-27

-10	3.4	59.2
S	5.9	56.7
cb.	11.5	51.1
2	14.8	47.8
1	15.7	46.9
1/2	16.6	46.0

1+34.61

62.56

70

2	17.2	45.4
4	17.0	45.6
cb.	12.7	49.9
S	7.5	55.1
+10	4.9	57.7

1+44.72 See Sketch P-27

-10	5.7	56.9
S	8.8	53.8
+15	12.6	50.0
cb.	15.5	47.1
+3	18.8	43.8
1/2	18.9	43.7

1+54.83 See Sketch P-27

cb.	13.6	43.0
+7	18.8	43.8
+14	10.8	51.8
S	9.6	53.0
+10	7.2	55.4

T.P.	10.9	50.78	12.87	42.69
T.P.	3.52	45.96	8.44	42.34

1+68.80 on N Sketch P-27

N-40	0.1	45.8
N-13	7.8	38.1
-6	12.1	33.8
N	12.8	33.1
+8	12.3	33.6

4536

Newell St.

N+13	8.3	376
N cb.	5.4	405
1+7891 on N		
N 1/2	5.8	40.1
+6	8.6	373
cb.	11.5	344
N	12.5	334
+5	7.4	385
+40	+2.2	48.1
1+78902 sketch P-27		
-35	+4.0	429
-28	+0.9	46.8
N	6.6	393
+7	8.5	374
+10	12.7	332
cb.	13.1	328
1/2	12.7	332
1/2	8.6	373
1+9913		
S 1/2	10.1	358
+4	12.5	334
1/2	13.5	324
N 1/2	13.7	322
+5	13.7	322
+6	8.4	375
cb.	8.0	379

4536

71

N	4.9	410
+10	3.2	427
+30	+2.7	48.6
2+09,24		
-30	+4.1	500
-12	1.5	444
N	2.4	435
cb.	7.1	388
1/2	8.4	375
+3	8.7	372
+4	14.0	319
1/2	14.0	319
1/2	13.8	321
+5	12.9	330
Scb.	11.2	347
2+30.66 = 70' sketch P-27		
S	11.8	341
+3	14.0	319
+15	14.3	316
cb.	13.2	327
1/2	10.5	354
+3	7.7	382
1/2	7.0	389
1/2	5.5	404
cb.	3.8	421
N	0.3	456

4596

+10		+12	47.1
	Z+50		
-10		+4.9	50.8
N		+1.8	47.7
cb.		2.5	43.4
4		4.2	41.7
8		5.5	40.4
4		7.4	38.5
cb.		8.9	37.0
+5		9.7	36.2
+10		15.0	30.9
S		15.0	30.9

Z+70

S	For oaks on South Sec. 16 blocks	11.2	34.7
+5		8.4	37.5
cb.		6.9	39.0
4		5.3	40.6
8		3.5	42.4
4		1.3	44.6
cb.		+0.9	46.8
N		+5.6	51.5
+10		+9.4	55.3

Z+99.81 - Willow

N		+12.8	58.7
cb.		+7.0	52.9
4		+4.5	50.4

4536

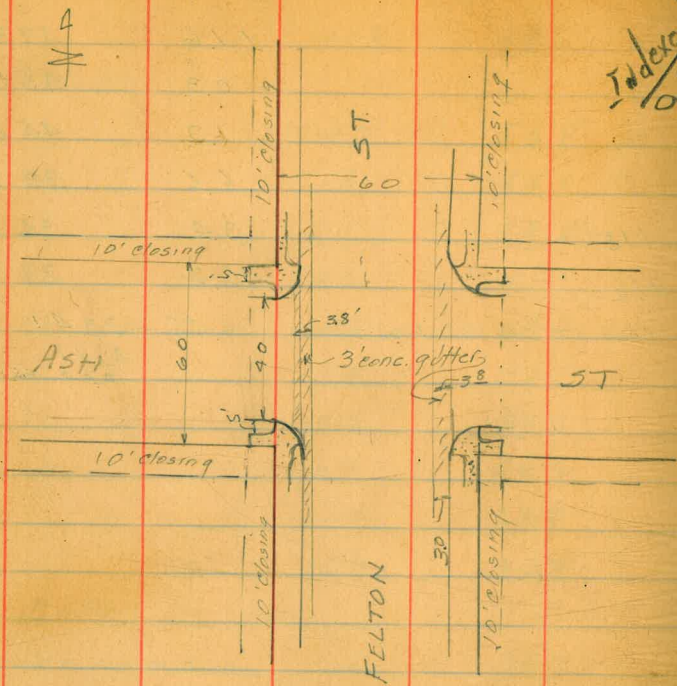
8		+1.6	47.5
4		0.3	45.6
cb.		1.9	44.0
S		6.6	39.9
+15		9.4	36.5
+16		16.2	29.7
Check. SY Prop Hub Page 27		6.55	33.41
			39.41
			0.00 - Error

72

Willow

+ Newell

7/29/30 London



Indexed
98

X Sec. Intersection Felton & Ash -
60' wide 10' cbs 40' Rdway.
Sections normal to Ash.

73

Men SW
Felton & Ash

B.M.	5.80	207.77	201.99
W.L. Felton - 10' end cbs - walk			
S.L. back walk	4.59		203.20
cb	4.80		202.99
gut	5.8		202.0
+6	5.2		202.6
1/4	5.2		202.6
+	4.6		203.2
1/4	4.5		203.3
gut	4.4		203.4
cb	4.30		203.49
N.L. back walk	4.08		203.71
W.L. Felton			
N.L. back walk	4.07		203.72
cb	4.33	203.46	
gut	4.8		203.0
1/4	4.8		203.0
+	4.8		203.0
1/4	5.1		202.7
+5	5.0		202.8
gut	5.5		202.3
cb	4.86	202.93	
S.L. back walk	4.63		203.16

207.79

W.L. +9.2 West edge cross gutter

S.L.		4.77	202.00
+4 ^S	top cb on rot.	4.88	202.91
+4 ^S	gut	5.34	202.45
cb		5.32	202.47
1/4		5.21	202.58
±		5.12	202.67
1/4		4.99	202.80
cb		4.88	202.91
+5 ^S	gut	4.83	202.96
+5 ^S	top cb	4.30	203.49
N.L.	back walk	4.25	203.54
web line Felton			
N.L.	top cb	4.27	203.52
N.L.	gut	4.87	202.92
cb		4.93	202.86
1/4		5.07	202.72
±		5.20	202.59
1/4		5.27	202.52
cb		5.39	202.40
S.L.	gut	5.48	202.31
S.L.	top cb	4.82	202.97

207.79

74

Web line +0.9 dip in gutter.

S.L.		5.42	202.37
cb		5.39	202.40
1/4		5.29	202.50
±		5.20	202.59
1/4		5.10	202.69
cb		4.99	202.80
N.L.		4.86	202.93
Web line +3' East edge same gutter			
N.L.		4.75	203.04
cb		4.87	202.92
1/4		4.96	202.83
±		5.07	202.72
1/4		5.15	202.64
cb		5.25	202.54
S.L.		5.33	202.46
W 1/4 line Felton.			
S.L.		4.9	202.9
cb		4.7	203.1
1/4		4.6	203.2
±		4.6	203.2
1/4		4.5	203.3
cb		4.4	203.4
N.L.		4.3	203.5

207.79

E Felton.

N.L.	3.8	204.0
cb	3.9	203.9
1/4	4.1	203.7
⊕	4.1	203.7
1/4	4.1	203.7
cb	4.2	203.6
S.L.	4.3	203.5

E 1/4 Felton.

S.L.	4.0	203.4
cb	4.2	203.6
1/4	4.1	203.7
⊕	4.0	203.8
1/4	3.9	203.9
cb	3.8	204.0
N.L.	3.8	204.0

E 1/4 + 7 w edge conc gutter

N.L.	3.96	203.83
cb	4.10	203.69
1/4	4.20	203.59
⊕	4.32	203.47
1/4	4.40	203.39
cb	4.43	203.36
S.L.	4.44	203.35

207.79

75

207.79

E 1/4 + 9.1" dip in gutter

S.L.	4.57	203.22
cb	4.59	203.20
1/4	4.52	203.27
⊕	4.47	203.32
1/4	4.38	203.41
cb	4.24	203.55
N.L.	4.13	203.66

E cb line Felton.

N.L. top cb	3.42	204.37
N.L. gut	4.11	203.68
cb	4.20	203.59
1/4	4.36	203.43
⊕	4.46	203.33
1/4	4.52	203.27
cb	4.55	203.24
S.L. gut	4.62	203.17
S.L. top cb	3.84	203.95

E cb + 0.8 East edge gutter

S.L. back walk	3.83	203.96
+1.5 top cb ret	3.86	203.93
+4.5 gut	4.52	203.25
cb	4.51	203.28
1/4	4.48	203.31
⊕	4.39	203.40
1/4	4.30	203.49
cb	4.18	203.61

207.79

Feb + 0⁸

+5 ⁵ get	4.15	203.64
+5 ⁵ top eb ret.	3.44	204.35
N.L. back walk	3.40	204.39

East line Felton

N.L.	3.20	204.59
eb	3.43	204.36
get	3.7	204.1
1/4	3.6	204.2
+	3.8	204.0
1/4	4.0	203.8
get	4.3	203.5
eb	3.70	204.09
S.L. back walk	3.59	204.20

East line + 10 end inputs

S.L.	2.2	205.6
eb grid	2.8	205.0
S.L. top eb	3.77	204.02
1/4	3.0	204.8
+	3.0	204.8
1/4	3.2	204.6
get	3.1	204.7
eb	3.44	204.35
+3	2.7	205.1
N.L. back walk	3.22	204.57

76

207.79

T.P.	4.08	201.43	10.44	197.35
B.M.	Mon NE	204.35	8.53	192.85

cb K.

Stake Lot 2 Blk. 9
Pt. Loma Hqts

W.O. 90005

12-8-47

Sommermeier
W Moore
E Sherman

- = Set. 2x2 Hub + C.T.
- = Fd. 4x2 Hub
- = Fd. Mon.

Reference Books

T.P. 26 - P. 6

1387 - 7 + 8

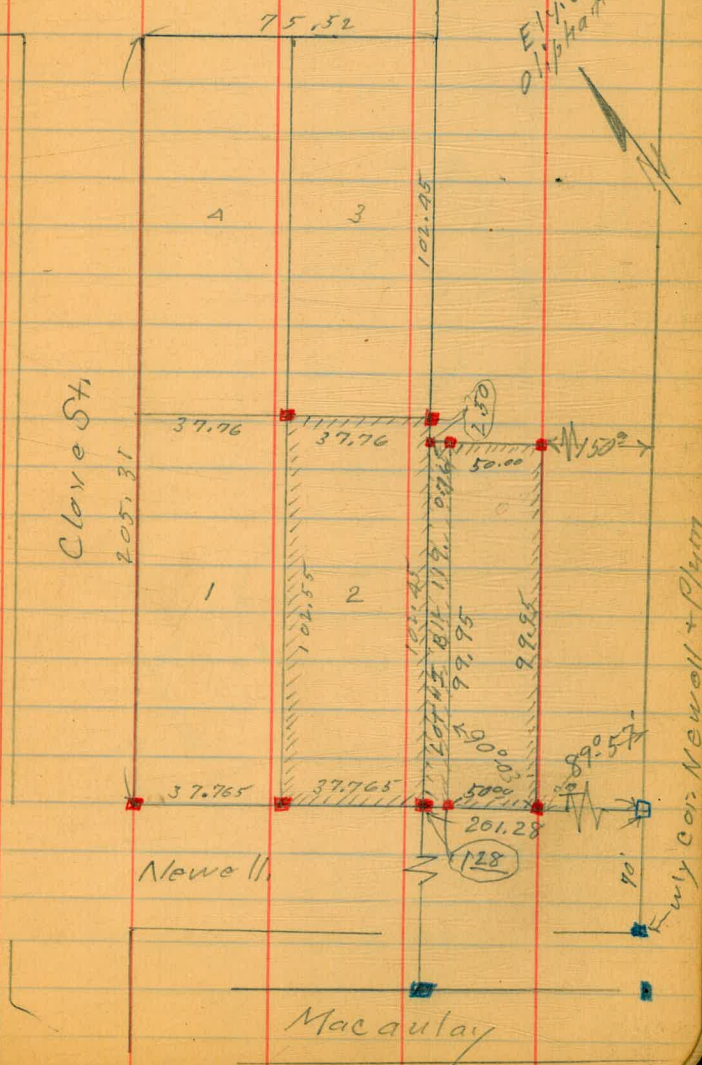
Lot corners marked by
2x2 Hubs + tack. and guard
stakes with flags.

Lots 1+2 Blk 119
Roseville

Indexed
JR

77
Sterne

oliphant



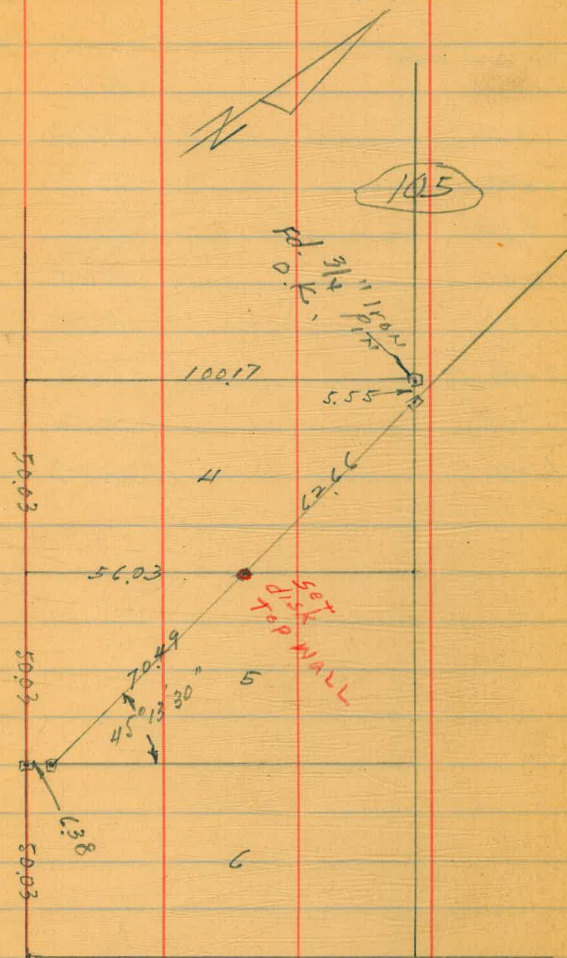
Survey Lots 4-5-6
Blk 105 Roseville

2 x 2 hubs, disks

Moore
Sheehan
Bunch
8-11-48
W.O. 90051

78

Lowell



P. 80 for Tie pts Evergreen

Walker
 No. 8185
 Dredged 3-20-30
 Mather

indexed
 case

LEVELS For Ditch.
 ON MACAULAY ST. East of Rosecrans St.
 GRADE = 0.5%

Flow Line outlet	2.85	15.41	12.56	5 ft. Top Hyd. Rosecrans + Macaulay		
			Elev	Stub. Ground	Flow Pipe	Cuts.
= 0+00		8.9	6.5		6.5	
+50		7.28	8.13		6.25	+1.88
1+00		7.72	7.69		6.00	+1.69
+50		8.07	7.34		5.75	+1.6
2+00		8.41	7.00		5.50	+1.5
+50		8.96	6.45		5.25	+1.2
3+00		9.40	6.01		5.00	+1.0
+50		9.86	5.45		4.75	+0.7
4+00		10.95	4.46		4.50	+0.0

Survey lots 11+12 BIA 105

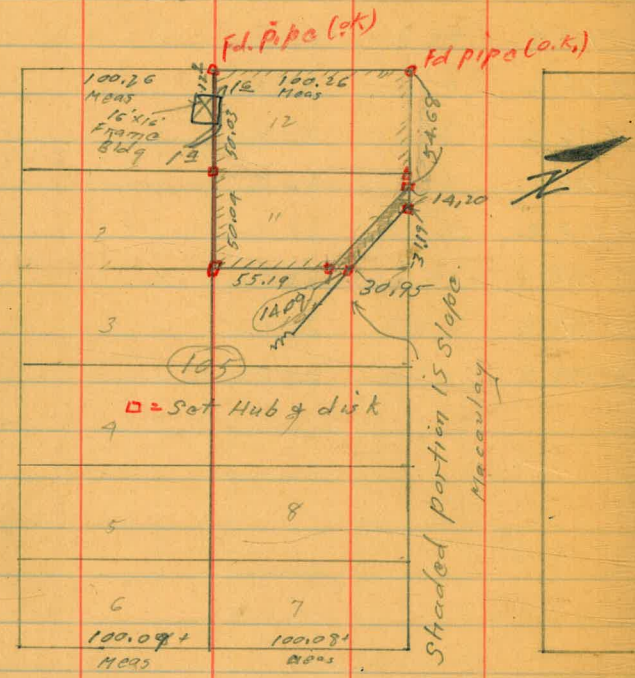
3-8-49

Roseville

Southwest 1/4 Sec. 10
McCoy &
W Moore
E Sherman
Ed. Man
T. R. 15

Lat. T. R. 15

Lowell



Evergreen

Ed. Lat. T. R. 15

6.5
3.5

200.16

15° 55'
Ed. Man
T. R. 15

INDEXED
MAR 8 1948

DIRECTIONS FOR USE OF TABLES 80

TABLE No. 1.

Choice of slope stake from side of shoulder
for any width roadway, slope 1/2 to 1.
If road is nearly level, the cut or fill at side
stake is located by the double entry method in
left column and top row. The number in body
of table in same row and column gives
from side stake to slope stake. If ground is not
level, the side stake and slope stake, lower tangent by this
amount if cut, elevate if fill. Add this amount
to cut or fill and find in table. Set up
rod at this point and line of sight should cut
target.

**IMPROVED TABLES
AND
INFORMATION**

To find Tangent and T and T
any other degree, divide
add correction found in
Degree of curve with a given I may be found
by dividing tangent, (or external), opposite I by
given tangent, (or external).
The distance from a point on the tangent to
the curve is very nearly the square of the tangent
length divided by twice the radius.

10 0.07
5 468
3 119
2 420
0 1

20131
1537
8968

DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder stake for any width roadway, slope $1\frac{1}{2}$ to 1. If ground is nearly level, the cut or fill at side stake is located by the double entry method in left column and top row. The number in body of table in same row and column gives distance from side stake to slope stake. If ground is not level estimate the difference in elevation between the side stake and slope stake, lower target by this amount if cut, elevate if fill. Add this amount to cut or fill and find distance in table. Set up rod at this point, and line of sight should cut target. If it does not make the slight adjustment necessary.

TABLE No. 9.

To find Tangent and External for curve of any other degree, divide by degree of curve and add correction found in column of corrections.

Degree of curve with a given I may be found by dividing tangent, (or external), opposite I by given tangent, (or external).

The distance from a point on the tangent to the curve is very nearly the square of the tangent length divided by twice the radius.

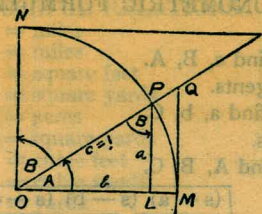


TABLE II

TRIGONOMETRIC FORMULÆ.

$$\angle A = \angle MOP \quad \angle B = \angle PON = \angle OPL$$

$$R = OB = c = 1$$

$$\sin A = \frac{a}{c} = \frac{a}{1} = a = \cos B = LP$$

$$\cos A = \frac{b}{c} = \frac{b}{1} = b = \sin B = OL$$

$$\tan A = \frac{a}{b} = \frac{MQ}{OM} = \frac{MQ}{1} = MQ = \cot B = MQ$$

$$\cot A = \frac{NT}{ON} = \frac{NT}{1} = NT = \tan B = NT$$

$$\sec A = \frac{OQ}{OM} = \frac{OQ}{1} = OQ = \csc B = OQ$$

$$\csc A = \frac{OT}{ON} = \frac{OT}{1} = OT = \sec B = OT$$

$$\text{vers } A = \frac{LM}{OP} = LM = \text{covers } B \#$$

$$\text{covers } A = \frac{OP - LP}{OP} = OP - LP = \text{vers } B$$

$$\text{exsec } A = PQ = \text{coexsec } B$$

$$\text{coexsec } A = PT = \text{exsec } B$$

$$\sin \frac{1}{2} A = \sqrt{\frac{1 - \cos A}{2}} \quad \cos \frac{1}{2} A = \sqrt{\frac{1 + \cos A}{2}}$$

$$\sin 2A = 2 \sin A \cos A \quad \cos 2A = \cos^2 A - \sin^2 A$$

$$\text{Law of Sines} \quad \frac{\sin A}{a} = \frac{\sin B}{B} = \frac{\sin C}{C}$$

$$\text{Law of Cosines} \quad c^2 = a^2 + b^2 - 2ab \cos C$$

$$\text{Law of Tangents} \quad \frac{a+b}{a-b} = \frac{\tan \frac{1}{2}(A+B)}{\tan \frac{1}{2}(A-B)}$$

$180^\circ 39'$
 $90^\circ 19' 30''$
 $179^\circ 59' 30''$
 $89^\circ 40' 30''$
 $90^\circ 19' 30''$
 $90^\circ 17' 30''$
 $0^\circ 00' 00''$
 $152^\circ 15'$
 $12^\circ 15'$
 $15^\circ 45'$

TABLE II—Continued
TRIGONOMETRIC FORMULAE (continued)

In any triangle:

Given a, b, C; to find c, B, A.

Use Law of Tangents.

Given A, B, c; to find a, b, C.

Use Law of Sines.

Given a, b, c; to find A, B, C.

$$\text{Let } \frac{a+b+c}{2} = s, \sqrt{\frac{(s-a)(s-b)(s-c)}{s}} = r$$

$$\cos \frac{1}{2} A = \sqrt{\frac{s(s-a)}{bc}}$$

$$\tan \frac{1}{2} A = \frac{r}{s-a}$$

$$\tan \frac{1}{2} B = \frac{r}{s-b}$$

$$\tan \frac{1}{2} C = \frac{r}{s-c}$$

Area of a triangle:

$$\text{Area} = \frac{1}{2} ab \sin C$$

$$\text{Area} = \sqrt{s(s-a)(s-b)(s-c)}$$

PRISMOIDAL FORMULA.

$$\text{Vol.} = \frac{h}{6} (B+b+4M)$$

h = altitude; b, B = bases; M = midsection

TABLE III
INCHES AND FRACTIONS OF AN INCH IN DECIMALS OF A FOOT

	0	1	2	3	4	5	6	7	8	9	10	11	
$\frac{1}{16}$	.0052	.0885	.1719	.2552	.3385	.4219	.5052	.5885	.6719	.7552	.8385	.9219	$\frac{1}{16}$
$\frac{1}{8}$	.0104	.0938	.1771	.2604	.3438	.4271	.5104	.5938	.6771	.7604	.8438	.9271	$\frac{1}{8}$
$\frac{3}{16}$	.0156	.0990	.1823	.2656	.3490	.4323	.5156	.5990	.6823	.7656	.8490	.9323	$\frac{3}{16}$
$\frac{1}{4}$	.0208	.1042	.1875	.2708	.3542	.4375	.5208	.6042	.6875	.7708	.8542	.9375	$\frac{1}{4}$
$\frac{5}{16}$	.0260	.1094	.1927	.2760	.3594	.4427	.5260	.6094	.6927	.7760	.8594	.9427	$\frac{5}{16}$
$\frac{3}{8}$	.0313	.1146	.1979	.2813	.3646	.4479	.5313	.6146	.6979	.7813	.8646	.9479	$\frac{3}{8}$
$\frac{7}{16}$	.0365	.1198	.2031	.2865	.3698	.4531	.5365	.6198	.7031	.7865	.8698	.9531	$\frac{7}{16}$
$\frac{1}{2}$	.0417	.1250	.2083	.2917	.3750	.4583	.5417	.6250	.7083	.7917	.8750	.9583	$\frac{1}{2}$
$\frac{9}{16}$	.0469	.1302	.2135	.2969	.3803	.4635	.5469	.6302	.7135	.7969	.8802	.9635	$\frac{9}{16}$
$\frac{5}{8}$	.0521	.1354	.2188	.3021	.3854	.4688	.5521	.6354	.7188	.8021	.8854	.9688	$\frac{5}{8}$
$\frac{11}{16}$	.0573	.1406	.2240	.3073	.3906	.4740	.5573	.6406	.7240	.8073	.8906	.9740	$\frac{11}{16}$
$\frac{3}{4}$	.0625	.1458	.2292	.3125	.3958	.4792	.5625	.6458	.7292	.8125	.8958	.9792	$\frac{3}{4}$
$\frac{13}{16}$	.0677	.1510	.2344	.3177	.4010	.4844	.5677	.6510	.7344	.8177	.9010	.9844	$\frac{13}{16}$
$\frac{7}{8}$	.0729	.1563	.2396	.3229	.4063	.4896	.5729	.6563	.7396	.8229	.9063	.9896	$\frac{7}{8}$
$\frac{15}{16}$	.0781	.1615	.2448	.3281	.4115	.4948	.5781	.6615	.7448	.8281	.9115	.9948	$\frac{15}{16}$
1	.0833	.1667	.2500	.3333	.4167	.5000	.5833	.6667	.7500	.8333	.9167	1.000	1
	0	1	2	3	4	5	6	7	8	9	10	11	

TABLE IV
USEFUL RELATIONS.

Lineal feet	×.00019	= miles
Lineal yards	×.0006	= miles
Square inches	×.007	= square feet
Square feet	×.111	= square yards
Square yards	×.0002067	= acres
Acres	×4840	= square yards
Cubic inches	×.00058	= cubic feet
Cubic feet	×.03704	= cubic yards
Links	×.22	= yards
Links	×.66	= feet
Feet	×1.5	= links
360° = 21600' = 1296000"		
Radius = arc of 57.2957790°		
Arc of 1° (radius = 1) = .017453292		
Arc of 1' (radius = 1) = .000290888		
Arc of 1" (radius = 1) = .000004848		

$$\pi = 3.141592654 \quad \sqrt{\frac{1}{4}} = 0.564190$$

$$\frac{\pi}{4} = 0.785398163 \quad \sqrt[3]{\frac{6}{\pi}} = 1.240700982$$

$$\frac{\pi}{6} = 0.523598776 \quad \pi^2 = 9.869604401$$

$$\sqrt{\frac{4}{\pi}} = 1.128379167 \quad \frac{1}{\pi^2} = 0.101321184$$

$$\frac{\pi}{6} = 0.523598776 \quad \sqrt{\pi} = 1.772453851$$

$$\frac{4\pi}{3} = 4.188790205 \quad \frac{1}{\pi} = 0.3183099$$

Curvature of Earth's surface = about 0.7 feet in 1 mile

Curvature in feet = 0.667 (Dist. in miles)²

Difference between arc and chord length, 0.05 feet in 11½ miles

$$\text{Probable error of a single observation} = 0.6754 \sqrt{\frac{\sum v^2}{n-1}}$$

Error in chaining of 0.01 feet in 100 feet:

Due to—

1. Length of tape error of 0.01 feet
2. Alignment. One end 1.4 feet out of line
3. Sag of tape at centre of 0.61 feet.
4. Temperature difference of 15°
5. Difference of pull of 15 lbs.

STADIA REDUCTION FORMULAE.

Horizontal Distance = R - R sin² a + C cos a

Vertical Distance = R ½ sin 2 a + C sin a

R = Reading × $\frac{\text{distance from Object glass to cross hairs}}{\text{distance between cross hairs}}$

C = distance from Object glass to cross hairs + distance from Object glass to center of instrument.

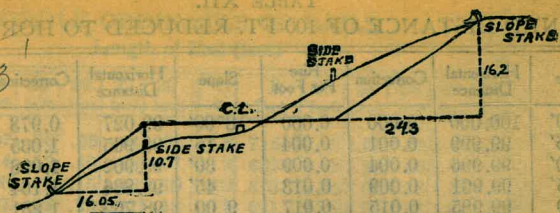
a = angle of elevation for mid Reading

N 53° 16' W
40° 03'
93
13913

51375
1471
52846

70
48
209

209
20
180



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

SLOPE 1/2 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.

148
35
113

To find

108.82
126

234.82

30.95
14.07

100.17
45.09

155.19

137.01
17.17

119.84

91.44
62.43

100.03
259.90

46.23
59

10.820

187

113
300

148
35

113

11083
2178

1109

210
105

105
10 03 30
50 02

1432.7

2

2865.4

.08774

114616

200578

200578

229232

251.410196

300
221.5

78.5

116.28
59

.46.23
221.51

.08774