

G-224

G-224

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THE FREDERICK POST CO.

ENGINEERING and DRAFTING SUPPLIES

P. O. Box 803

CHICAGO

MICROFILMED

APR 13 1965

Index

- P 1-2 Water Grades Niagara St. Santa Barbara
to Venice 6" Line
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to Catalina 8" Line
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Catalina 6"
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		T				
		222.65				
4+20	P.V.C.		4.8	217.8	215.10	2.7
+40			3.8	218.8	216.20	2.6
+60			3.1	219.5	216.88	2.6
+80			2.8	219.8	217.18	2.6
5+00			2.9	219.7	217.05	2.6
+20	E.V.C.		3.3	219.3	216.66	2.6
+70			4.4	218.2	215.61	2.6
6+20	⁷ w/line Venice		5.6	217.0	214.5	2.5
Check B.M.			4.94	217.71	5 W. S.P. Venice station	

See page 6 for continuation
Venice to Catalina

Bliss
King
Davis
9/27/46

Grades Orchard St Water Main Santa Barbara to Catalina 8" line

BM 186 259.07 252.21 cuts

0700

INDEXED
WK
NOV 19 1948

0720 4.3 49.8 246.69 3.1

0750 P.V.C. 5.0 49.1 246.15 3.0

0770 5.5 48.6 245.61 3.0

0730 6.1 48.0 245.01 3.0

1710 6.9 47.2 244.20 3.0

1730 8.0 46.1 243.21 2.9

1750 E.V.C. 9.0 45.1 242.08 3.0

270 11.9 42.2 239.19 3.0

TP 101 242.06 13.02 241.05

2750 2.9 39.2 236.30 2.9

3700 6.0 36.1 233.41 2.7

750 9.1 33.0 230.52 2.5

T
242.06

4

440			12.0	230.1	✓ 227.63	2.5	
TP.	0.94	230.12	12.88	229.18			
+50			2.9	227.2	✓ 224.74	2.5	
540			5.7	224.4	✓ 221.85	2.5	
+50			8.6	221.5	✓ 218.96	2.5	
6400			11.2	218.9	✓ 216.07	2.8	
6420 ⁷⁰			12.1	218.0	214.84	3.2	W line of fence
T.P.	0.41	217.55	12.98	217.14			
6480 ⁶⁰			2.4	15.2	212.32	2.9	E " "
740			3.5	214.1	✓ 211.33	2.8	
+50			6.1	211.5	208.77	2.7	
8			8.7	208.9	206.20	2.7	
+50			11.2	206.4	203.54	2.8	
TP	1.05	205.87	12.73	204.82			
9			2.0	203.9	✓ 201.08	2.8	
+40 PVC			3.7	202.5	199.02	3.2	
+60			4.4	201.5	198.18	3.3	

205.87

5

9+80	E.V.C.	4.8	01.1	197.51	3.5	
10.		5.4	60.5	197.17	3.3	
750		6.5	199.4	196.27	3.1	
11.		7.4	98.5	195.45	3.0	
150		8.5	97.4	194.61	2.8	
12		9.1	96.8	193.80	3.0	
133		9.4	96.5	193.30	3.2	Curb. B.C. S. Side Orchard + Catalina.
144		9.50	96.4			on oil upp. of Pipe on oil Paving
check BM		9.34	196.53			S.W. B.P. Catalina + Orchard.

Bliss
King
Davis
10/21/48

Water Grades - Niagara St 6" line
Venice to Catalina Continued from 2

6

					Cuts	
	302	220.74		217.72		
6+80 ²⁰			3.4	217.3	213.83	3.5
50	INDEXED					
7+30 ⁷⁰			4.6	216.1	212.49	3.6
50	WK					
	NOV 19 1948					
7+80 ²⁰			6.1	214.6	211.15	3.5
12						
7+93 ⁴³			6.4	214.3	210.86	3.5
30						
8+23 ⁴²			8.0	212.7	209.22	3.5
20						
7+43 ⁴³			10.0	210.7	207.34	3.4
20 TP						
7+63 ⁴³			13.1	207.6	204.69	2.9
20 TP	0.55	208.99	12.30	208.44		
7+93 ⁴³			6.9	202.1	199.46	2.6
50 TP	0.61	196.54	12.46	196.53		
9+43 ⁴³			4.3	192.2	189.46	2.7
40						
83 ⁴³			12.2	184.3	181.46	2.8
20 TP	1.46	185.77	12.23	184.31		
10+03 ⁴³			5.2	180.6	177.67	2.9
20						
7+23 ⁴³			8.7	177.1	174.29	2.8
20						

18577

+93 ⁴³			11.6	174.2	171.34	2.9
TP	0.36	173.72	12.91	173.36		
+63 ⁴³			2.0	171.7	168.82	2.9
20 TP						
+83 ⁴³			4.0	169.7	166.63	3.0
20						
11+03 ⁴³			5.8	167.9	164.78	3.1
20						
11+23 ⁴³			7.9	165.8	162.76	3.0
20						
+93 ⁴³			10.2	163.5	160.56	2.9
20 TP						
+63 ⁴³			12.7	161.0	158.16	2.8
20 TP	1.19	162.18	12.73	160.99		
+83 ⁴³			3.8	158.4	155.55	2.8
1657						
12+00			6.0	156.2	153.21	3.0
TP						
59.92	1.84	154.59	9.43	152.75		
+53 ⁸²	Edge Parving Catalina		6.75	147.84	144.67	3.2
check BM			11.18	143.41	NW 8P Catalina	

Bliss

King

Davis

Water Grades on Venice

+93 10/5/95 St. Orchard to N. line of alley

T. to South. Pipe Line 15' East of E. St

+6 BM. 6.34 222.34 216.00

S.E. Top Curb See FB. 1720 P 18

cots

20 T

+8 0+00

INDEXED

WK

NOV 19 1948

20

11+0 0+50 B-K 5.4 216.9 214.07 2.8

20

11+2

20 1+00 4.7 217.6 214.53 3.1

+9

20 T

+6 +50 3.9 218.4 214.99 3.4

20 T

+8 +70 B-K N. line of Alley 3.8 218.5 215.17 3.3

1657

12+4

59.92

+50

check b

Curb Levels. Del Monte St

from Guizot to Catalina

Note of 20 = 0100 = ^{for curbs} E line Guizot

20	BM.	9.29	227.32	218.03 217.82	
20	0120. S = Elm Guizot		8.07	219.25	
20	" " N		9.05	218.27	
20	0180 BK N		7.17	220.15	
20	" " " S		5.85	221.47	
20	1400 S		5.10		
16.5	" " N		6.38		
59.9	1750 N		9.37		
	" " S		3.22		
check	2400 S		1.30		
	" " N		2.35		
TP.	9.88	236.51	0.69	226.63	

SWBP. Guizot + Del Monte

INDEXED

WK

NOV 19 1948

π
 236.51

	2750 S		8.45	
	" N		9.56	
2	3700 N		7.57	
	" " S		6.49	
11	3750 S		4.40	
	" " N		5.52	
20	4100 "		3.53	
	" " S		2.26	
16	4750 S		0.23	
59	" N		1.55	
	TP	7.53	243.61	0.43
	5700 N		6.71	236.08
chec	5700 S		5.36	
	5720 N Lin. Santa Barbara N		5.88	237.73

X
243.61

5+20 W. line Santa Barbara S	4.61	239.00
Check BM	6.15	237.46 237.48 Record
5+80 N E line Santa Barbara N PVC	5.90	237.71
" " S " " "	4.16	239.45
6+00 S	3.72	239.89
6+00 N	5.48	238.13
6+20 S	3.35	240.26
" " N	5.18	238.43
6+40 S	3.14	240.47
" " N	4.92	238.69
6+60 S	3.15	240.46
che " " N	4.82	238.79
6+80 S	3.22	240.39

π
243.61

6780 N

4.73 238.88 ✓

7400 S

3.63 239.98 ✓

7400 N

4.90 238.71 ✓

7420 N

5.25 238.36 ✓

" " S

9.14 239.47 ✓

7490 N

5.82 237.79 ✓

" " S

4.86 238.75 ✓

7460 N

6.65 236.96 ✓

" " S

5.85 237.75 ✓

7780 N EXC.

7.81 235.80 ✓

" " S

7.06 236.55 ✓

8100 S

8.28

" " N

8.97

T
293.61

8+50 N

12.02

9 " S

11.32

TP.

0.16

230.93

12.84

230.77

9+00 S

1.82

11 " N

2.30

9+50 N

5.32

225.51

11 " S

4.94

225.99

10+00 S

8.05

10+00 N

8.30

10+60 Brk N

11.98

218.95

11 " S Brk

11.79

219.14

TP.

0.66

219.20

12.39

218.54

11+00 S

2.35

11 " N

2.41

11+50 N

5.08

7
21920

11+50 S			5:15	
11+80 S	W Line Venice St		6.78	212.45
" " N	" "		6.58	212.62
Check BM			6.76	212.44
				212.39 record - 0.05
12+90 S	E Line Venice		2.22	209.98
" " N	" "		2.24	209.96
12+70 S	from existing P.C. N Profile		10.99	208.30
" " S	" "		10.20	209.00
12+80 S			11.96	207.24
" " S			10.9.8	208.22
13+10 S			11.81	207.39
TP	0.35	207.05	12.50	206.70
13+10 S			1.04	206.01
13+30 S			2.30	204.75

S.W. Venice + Del Monte

T
207.05

1318 ⁵ S		0.74	206.31
1315 ⁵ N		3.64	203.41
1315 ⁵ S		1.95	205.10
1317 ⁵ S		3.24	203.81
1317 ⁵ N		5.02	202.03
1317 ⁵ S		4.70	202.31
1319 ⁵ N		6.60	200.45
1411 ⁵ S		6.81	200.24
1411 ⁵ N		8.62	198.43
1413 ⁵ S		9.20	197.85
1413 ⁵ N		11.03	196.02
1415 ⁵ S EVC.		11.89	195.16
TP.	0.54	194.70	12.89
1415 ⁵ N. EVC.		1.32	193.38

π
194.70

1476		4.98	189.72	
1485 ^S		4.71	189.99	
1520 ^S	PVC	10.02	184.68	180.17
1540	S	12.87	181.83	
TP	0.24	181.93	13.01	181.69
1560 ^S		2.70	179.23	
1572 ^S N		6.16	175.77	
1580 ^S		5.06	176.87	
" " N		6.98	174.95	
1600 ^S N		9.11	172.82	
1600 ^S S		7.22	174.71	
1610 ^S	N EVC from existing profile	10.08	171.85	
1610 ^S S	" " " "	8.26	173.67	

Curb is out from 1476 on North to 1572^S

Curb on North in position on Grade

Bliss Notes
 King T. 10/8/46
 Davis 86-51
 52' Roadway
 0.52 Grassy
 Finished Grade

18

Grades for 6" Water Main on Del Monte Ave. Ocean Beach Guizot to Venice

8 P.S.W. Guizot r Del Monte

BM.	12.02	230.05	218.93	grade
0+00				cuts
0+20 Guizot				
0+50				
0+80				
1+00				
1+50				
2				
+50				
3				
T.P.	12.26	242.40		
+50				
4				
+50				
5				

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11.3	218.7	215.47	3.2
10.5	219.5	216.52	3.0
9.4	220.6	217.57	3.0
8.5	221.5	218.87	3.1
6.4	223.5	220.36	3.2
4.1	225.9	222.37	3.5
2.2	227.8	224.37	3.4
0.4	229.6	226.37	3.2
0.41	229.64		
10.8	231.6	228.35	3.2
8.8	233.9	230.35	3.2
6.8	235.6	232.34	3.3
5.0	237.4	234.33	3.1

X
24240

5720. W. line Santo Barbara	4.3	238.1	235.12	3.0
5780 E. line " " P.V.C.	3.9	238.5	235.43	3.1
6700	3.4	239.0	235.86	3.1
6720	3.0	239.4	236.15	3.2
6740	2.7	239.7	236.43	3.3
6760	2.6	239.8	236.43	3.4
6780	2.8	239.5	236.44	3.2
7700	3.2	239.2	236.10	3.1
7720	3.7	238.7	235.62	3.1
7740	4.5	237.9	234.96	2.9
7760	5.5	236.9	234.01	2.9
7780 E.V.C.	6.6	235.8	232.82	3.0
8700	7.8	234.6	231.53	3.0

		Σ 242.40					
8+50			10.9	231.5	228.51	cuts	7
TP	0.45	231.20	11.65	230.75		3.0	
9+00			2.9	228.3	225.44		2.9
+50			6.2	225.0	222.36		2.6
10.			9.2	222.0	219.28		2.7
+60 BK			12.8	218.4	215.59		2.8
TP	2.30	220.69	12.81	218.39			
11			4.5	216.2	213.40		2.8
+50			7.2	213.5	210.66		2.8
+80 ⁵⁰ White Venice			8.6	212.1	208.99		3.1
check BM	0.63	213.06	8.26	212.43			
# Note				212.39	Record		SW. B.P. Venice + Del Monte
From Venice to Catalina 20' obs - 40' Roadway 0.40 Crown							
12+40 ⁵⁰ E. Line Venice			3.5	209.6	206.53		3.1
12+70 ⁵⁰ P.V.C.			4.6	208.5	204.88		3.6

Note. Pipe was lowered 0.4 below figured grade
and all points that have a cross fall of
1" or more are .05 below figured grade + 8" on the authority of A. J. Brown

T
213.06

12+90 ⁵			5.5	207.6	203.93	3.7
13+10 ⁵			6.3	206.8	203.0	3.8
13+30 ⁵			7.3	205.8	201.88	3.9
13+50 ⁵			8.5	204.6	200.63	4.0
13+70 ⁵			9.9	203.2	199.37	3.9
13+90 ⁵			11.6	201.5	197.80	3.7
T.P.	0.15	200.51	12.70	200.36		
14+10 ⁵			1.1	199.4	195.72	3.7
14+30 ⁵			3.4	197.1	193.30	3.6
14+50 ⁵ E.V.C.			6.0	194.5	190.67	3.8
14+85 ⁵			11.1	189.4	185.42	4.0
T.P.	0.66	188.12	13.05	187.46		
15+20 ⁵ P.V.C.			4.0	184.1	180.17	3.9
15+40 ⁵			6.7	181.4	177.27	4.1

188.2

15+60⁵ 2.4 178.7 174.72 4.0

15+80⁵ 11.8 176.3 172.35 4.0

T.P. 0.34 175.65 12.81 175.31

16+00⁵ 1.7 174.0 170.19 3.8

16+10⁵ E.V.C. 2.8 172.9 169.17 3.7

16+50 6.9 168.8 165.10 3.7

17+00 11.7 163.9 159.96 3.9

T.P. 3.12 166.35 12.92 163.23

17+90⁵ ex paving 6.1 160.3 157.09 3.2

Check B.M. 5.93 160.36
 160.33 Record
 0.03

Note Crown sec. figured for these
 two stations instead a straight Grade
 2' crossfall

Note 3.17 below existing paving

SW. Del Monte & Catalina

Grades for 8" Water Main on Nashville Midway Drive to Lapwai

BM	+ 4.26	+ 7.26	-	Elev 3.00	Elev 3.00	Cuts
0+00						
0+50 Brk.			7.02	0.24	-3.92	3.7
TP.	1.85	4.65	4.46	2.80		
1+0			9.5	0.15	-3.44	3.5
1+48 ^{Brk}			4.55	0.10	-3.96	3.5
1+98 ^{Brk}			4.67	-0.04	-3.60	3.6
2+50			4.7	0.0	-3.65	3.6
3			4.7	0.05	-3.71	3.6
+50			4.8	-0.15	-3.77	3.6
4+0 ^{Brk}			4.92	-0.27	-3.83	3.5
+50 ^{Brk}			4.92	-0.27	-3.83	3.5
5			4.9	-0.25	-3.92	3.7
+50			5.1	-0.5	-4.01	3.5
TP.	4.56	4.08	5.13	-0.48		
6			4.6	-0.5	-4.11	3.6

INDEXED
WK
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Brass Plug & West End Tripk Box Collected
E. Ex. 16" Main on Midway
100' West of Midway
W. Pt. 400' S.W.
5' West of line
Note. Art. Brms
said to use ex. curbs
for Grades. No Grade
has been established

W. Line Jupiter
E. Line Jupiter
1' E. W. Line La. Solle
1' E. E. " "

	π 7.08		Grade		Cuts	
6+50		4.95	-0.87	-4.20	3.3	1' E. W. line Western St
7+0		4.93	-0.85	-4.20	3.3	1' E E " " "
+50		4.9	-0.8	-4.34	3.5	
8		5.0	-0.9	-4.47	3.6	
+50		5.2	-1.1	-4.61	3.5	
+ 98' D.K		5.27	-1.19	-4.75	3.6	W. line Kapwai Record - 1.16 off profile
9+34		4.25	-0.17	-4.84	4.6	10' E $\frac{1}{2}$ of Kapwai - stake set 4' E, 5' S.

B/ice
King
Davis
10/24/48

Grades for 8" water Main Nordica St

40th to 42nd Co. St.

Brass Cap. N.W. Corner 40th & Cottonwood. (Water) Prop. Return

check SK

5.91 20.80

14.89

16.50
Profile

cuts

SE Top Reting Nordica + 4th

Prop.
(Water)

INDEXED

WK
NOV 19 1948

0400		4.60	16.20	16.50	3.1	
0420		5.0	15.8	12.65	3.1	
450		4.8	16.0	12.78	3.2	
1		4.5	16.3	13.00	3.3	
50		4.4	16.4	13.21	3.2	
2		4.4	16.4	13.42	3.0	
450		4.3	16.5	13.64	2.9	
340	5.62	22.27	4.13	16.67	13.86	2.8
3439 Brk			3.8	18.5	14.01	4.5
3448 Brk			8.2	14.1	10.0	4.1
3466 Brk			8.1	14.2	10.0	4.2
3479			4.7	17.6	13.0	4.6
4400			7.7	14.6	13.29	1.3
450			4.9	17.4	14.00	3.4
5			4.6	17.7	14.72	3.0

0098 grade

		X					
		22.29					
BrK					cuts		
5+28 ²²			4.5	17.8	14.85	3.0	W Line 41 st
188 ²¹ BrK			4.0	18.3	15.30	3.0	E " "
6			4.0	18.3	15.40	2.9	
+50			3.7	18.6	15.81	2.8	
7			3.5	18.8	16.22	2.6	
+50			3.1	19.2	16.63	2.6	
8			2.8	19.5	17.04	2.5	
TP	6.27	26.36	2.20	20.09			
+50			2.6	19.8	17.45	2.4	
9			6.1	20.3	17.86	2.4	
+50			5.6	20.8	18.27	2.5	
10			5.1	21.3	18.68	2.6	
+50			4.9	21.5	19.09	2.4	
11			4.5	21.9	19.50	2.4	

T
26.86

1150

4.2 22.2 1391 2.3

JK

188⁹⁷3.6 22.8 2023 2.6 W. Line 4th

Scf BM

3.82 27.24 2.94 23.92

13 Mon 92

1228⁹⁷

End 0

4.2 23.0 2056 2.4 10' East of 4th

Check BM

0.30 26.34 ✓

Record 26.34 Walker

See also 40th St
Nordica st East

Alignment 8th W Main 40th St

Continued p. 30

4+29 ±

22°-27'-00" L

INDEXED

WIK

NOV 19 1948

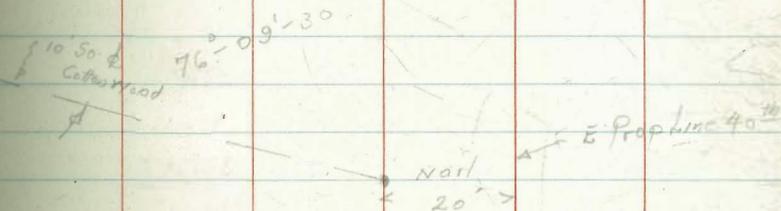
0+54 ±

44°-27'-00" R

0+00

Cottonwood to Sta

4
Pipe



Profile over Drainage Ditch on Nordica St. between 40th + 41st

↑
22.29

3+18 5.6 16.7

+26 4.2 18.1

" Flow: 15' culvert ^{NE 1/4} 5.9 16.4

+49 4.4 17.9

Culvert 2.1 lower on outlet end 16' long
& int at 3+25

+50 9.0 13.3

INDEXED
WK

+64 NOV 19 1948 9.3 13.0

+74 5.3 17.0

+88 5.2 17.1

4 5.4 16.9

2' RT 7.4 14.9

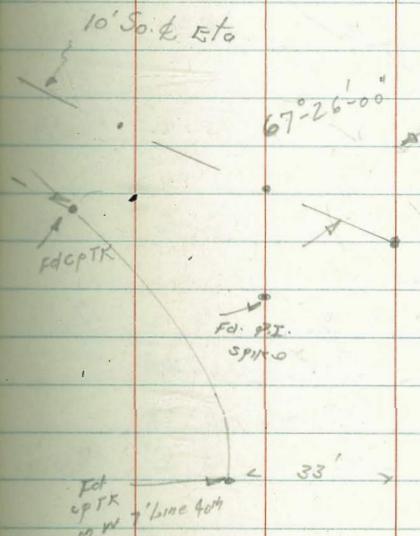
4' RT 7.7 14.6

4+10 5.7 16.6

£ of Pipe.
10' E & 40' E

6706 5

Ed CPTK
31.51
See Tr. Book 27.
P. 53



Ed CPTK on W
"Line 40"
33'

Grades for 8" Water Main on 40th St

Cottonwood to Eto

BM	642	21.31	14.89		
00		6.9	14.9	10.87	4.0
0727		7.1	14.2	10.87	3.3
0754.90		6.5	14.8	11.27	3.5
140		6.6	14.7	11.59	3.1
+50		6.4	14.9	11.95	3.0
2		6.1	15.2	12.31	2.9
+50		5.5	15.8	12.68	3.1
+61 ¹ / ₂ Brk		5.3	16.0	12.77	3.2
		5.05	16.26		
		4.22	17.09		
3422 ¹⁰ Brk		4.1	17.2	14.02	3.2
+22 ¹⁰		3.88	17.43		
"					
"		2.83	18.48		

INDEXED
w/k
NOV 19 1948

Gross Cap on 7" line N.W. Cor. 40th & Cottonwood (Walker)

Note: This pt. lowered 0.46 To put pipe below low pt 27' N
Low pt Gutter across Cottonwood

SE Top curb
W. Cbat Rt L. to above

E. Top curb

W. Top curb at Rt to above

		21.31	cuts				
3436	³⁰ BK		3.3	18.0	14.67	3.3	
"			2.40	18.91			W Top curb at 80
"			3.12	18.19			E Top curb at L to above
3450			2.6	18.7	15.37	3.3	
T.P.	10.57	31.28	0.60	20.71			
4			9.9	21.4	17.99	3.5	change
4294	L.H.		8.2	23.1	19.45	3.6	
4732	B.K.		5.9	25.4	21.72	3.7	change
"	"		6.39	24.94			W Top curb Shown on profile to be 25.00
"	"		5.29	25.99			E " " Shown on profile to be 24.8
5			4.5	26.8	23.24	3.6	
450			1.9	29.4	26.13	3.3	
T.P.	6.72	38.00	0.00	31.28			
481	³ B.K.		6.9	31.1	27.93	3.2	
"			6.52	31.48			W Top curb at 60

↑
28.00

0.5740

6406⁵

5.7

32.3 ✓ 2886

3.4 ✓

INDEXED
NOV 10 1948

Profile Dawson St Pipe Line
EL CAJON TO CONTOUR BLVD

11-17-46
cloudy-cool

Nelson
Leonard
Griffin

34

	1.53	393.61		392.08
TP	4.12	391.42	6.31	387.30
0+00			6.2	385.2
				381.9
0+20			5.8	385.6
				382.0
+50			7.6	386.8
				382.1
1+00			3.3	388.1
				382.2
+50			3.8	387.6
				382.9
2+00			4.3	387.1
				382.6
+50			4.4	387.0
				382.8
3+00			4.2	387.2
				382.9
+50			4.0	387.4
				383.1
4+00			3.8	387.6
				383.3
+50			3.4	388.0
				383.4
+88.52				383.64

B.M. Nail in Power Pole S.E. corner Monroe

Contour

cut

INDEXED

WK

NOV 19 1948

3.8
3.6

4.9
4.7

6.0
5.9

5.3
5.2

4.6
4.5

4.3
4.2

4.3

4.3

4.3

4.6

		391.92				cut 7	
5 + 00			3.0	388.4	383.74	4.8	
T.P	6.44	394.91	2.95	388.47			
5 + 47 $\frac{1}{2}$ Brk				388.6	389.20	4.4	N Line Monroe
+50			6.4	388.5	384.22	4.3	
6 + 00			6.3	388.6	384.68	3.9	
+47 $\frac{1}{2}$ Brk.					385.15		
+50			5.9	389.0	385.14	3.9	
7 + 00			5.6	389.3	385.60	4.3	
+28 $\frac{53}{8}$ Brk			5.6	389.3	384.93	4.4	
+50			5.8	389.1	384.93	4.2	
+75.72							
+82.30	End Cassville line		7.0	387.9	384.93	3.0	
=	CK B.M.		2.82		= 392.09		

Grades for Water Contour Blvd

4.52 396.60 392.08

+100

INDEXED

WK

NOV 19 1948

5.0 391.6 386.97 4.6

+50

4.9 392.2 386.65 5.5

1

6' line

4.7 391.9 386.3 5.4

+50

5.7 390.9 386.0 4.9
4.9

2

6.6 390.0 385.7 4.3

+50

7.8 388.8 385.4 3.4

Brexit

2+94^e

West Dawson Lane

384.23

3

8.7 387.9 384.8 3.1

+50

9.7 386.9 384.0 2.9

4

5.35 391.32 10.63 385.97 383.1 2.9

+61²⁴

3x

5.4 385.9
5.7 385.6 382.0 3.9
3.6

10' offset. changed to get out of Muck

5+0

5.6 385.7 381.6 4.1

Bliss

King

Phillips

Davis

Nov. 1948

T
39/32

5728 ¹⁶ BC.	Δ 29-55.00		5.5	385.8	381.4	4.4	
	R. 440						
	L 18495						
	Def. No. 13907						
5750			5.5	385.8	381.2	4.6	
775			5.4	385.3	380.9	5.0	
6			6.0	385.3	380.6	4.7	
+25			6.3	385.0	380.4	4.6	
+50			7.1	384.2	380.1	4.1	
+75			7.7	383.6	379.8	3.8	
700			7.8	383.5	379.6	3.9	
+134 EC.			8.1	383.2	379.4	3.8 ✓	
Set BM	1.73	388.54	4.51	386.81			S.E. Top F.Hy 52 nd & Contour
7750			6.4	382.1	378.9	3.2	

8403 BK			6.9	381.6	378.1	3.5
+50			7.0	381.5	378.5	3.0
9			6.6	381.9	379.0	2.9
+35. ²² BK			6.0	382.5	379.3	3.2
+75. ²² BC			4.9	383.6	380.0	3.6
10			4.3	384.2	380.5	3.7
+25			3.8	384.7	381.0	3.7
+50			3.4	385.1	381.6	3.5
+75			2.9	385.6	382.1	3.5
11400 ³⁸ LC			2.7	385.8	382.6	3.2
+50			2.5	386.0	382.8	3.2
T.P.	6.13	392.47	2.20	386.34		
12			6.0	386.5	383.1	3.4
+50			5.6	386.9	383.3	3.6

	+	π 392.47	-	Elev	Elev Grade	Cuts	
13			5.5	387.0	383.5	2.5	
+50			5.3	387.2	383.8	3.4	
14			5.0	387.5	384.0	3.5	
+50			4.9	387.6	384.2	3.4	
15			4.7	387.8	384.5	3.3	
+50			4.3	388.2	384.7	3.5	
16			4.1	388.4	389.9	3.5	
+50			3.8	388.7	385.1	3.6	
17			2.5	389.0	385.4	3.6	
+4%			6.3	386.2	385.6		Top Ex. 6" on Adams
T.P.	3.81	390.80	5.48	386.99			
set BM			1.77	389.03			SE Top Hy. 51.5f + Madison
check BM			5.01	385.79			SE E. C. Hob. 52 nd + Conbar FB. 1601. P. 30
				385.74	Record.		

6' line

Grades for waterline from
 the W. line, ^{on Madison} 51st to Intersection with
 Contour Blvd. 8' line.

	290	391.23	389.03	cuts			
0700			4.4	387.5	383.90	3.6	W. line 51 st + Madison Brk.
0760			5.0	386.9	383.22	3.7	E " " " " Brk
1			5.4	386.5	382.22	4.3	
+50			7.2	384.7	380.97	3.7	
+ 67.88					380.5		Note Lines Int at 9+97 ⁴ on Contour at 10100 ^{sec cut} ^{on Contour} ^{line}

Blist. Notes
King &
Phillips
Davis

Grades for Water Main - Viola St

Nov - 1948
Memo to Lillian.

BM.	1.31	105.26		103.95	
TP	1.90	93.57	13.09	92.17	
TP	0.97	81.39	12.55	81.02	
TP	0.64	69.99	12.62	69.37	
TP	0.33	57.53	12.79	57.20	
TP	0.07	45.01	12.59	44.29	
TP	0.52	32.78	12.75	32.26	cots

0+00			10.6	22.2	18.50	3.7
0+05 ^{FH.}	INDEXED		9.40	23.38	22.32	1.06
0+55	WK		7.7	25.1	22.0	3.1
	NOV 19 1948					

To Top C6

1+10 ^{BK}			3.1	29.7	25.50	4.2
TP	12.82	45.08	0.52	32.26		
+60			12.0	33.1	28.83	4.3

2			8.9	35.2	32.59	3.6
---	--	--	-----	------	-------	-----

+29 ⁷			5.4	39.7	35.3	4.4
------------------	--	--	-----	------	------	-----

+58.14 ⁸⁰			1.8	43.3	38.65	4.9
----------------------	--	--	-----	------	-------	-----

TP	12.44	57.38	0.14	44.94		
+75			12.0	45.4	39.6	5.8

3			9.4	48.0	41.9	6.1
---	--	--	-----	------	------	-----

+25			7.9	49.5	44.2	5.3
-----	--	--	-----	------	------	-----

57.38

42

3+50			5.0	52.4	46.5	5.9	
+80 ⁰⁷ EC.			2.6	54.8	49.25	5.5 ✓	
4			1.0	56.4	51.2	5.2	
T.P.	12.34	69.55	0.17	57.21			
+50			16.3	59.2	56.4	3.1	
+93 ⁶ L.R. 1:55-00			6.7	62.8	60.3	2.5	
5 + 29.32 B.C.			3.61	66.0	63.78	2.2	
+50			2.1	67.5	65.3	2.2	
T.P.	777 782	77.02 76.07	6.30	69.25			
5+75			7.4	69.6	67.2	2.4	
6			4.9	72.1	69.1	3.0	
+25			3.4	73.6	71.0	2.6	
+39 ²⁷ EC.			1.5	75.5	72.04	3.5	
+45 ²⁴ +							k + on Lull, 60
+51 ¹⁴			1.1	75.9	72.37	3.5	Brk
T.P. ⁷⁴ +71.	13.06	89.95	0.13	76.89	72.88	4.0	Brk

7
8995

+31.74			11.7	78.3	74.53	3.8	
7+06 87			10.4	79.6	76.28	3.3	E.V.C. on Prop Curve. Lillian + Viola
+56 87			4.9	85.1	82.0	3.1	
T.P.	1161	101.10	0.46	89.49			
8+06 70			9.1	92.6	87.70	4.3	P.Y.C.
+26 70			7.1	94.0	89.9	4.1	
+46 70			6.1	95.0	91.5	3.5	
+66 70			5.0	95.5	92.2	3.3	
+86 19			5.3	95.8	92.8	3.7	E.V.C. N. line Dorcas
							Note Grade dropped 0.7 Below figured grade to get Pipe below Gutter at 8+36.
+38.45			3.9	97.2	94.0	3.3	Int. Curve S. line Evergreen
+41.42			2.7	98.4	94.9	3.5	
T.P.	12.65	113.56	0.19	100.91			Note this T.P. used for B.M. on Dorcas. see page 55
+60.93			12.8	100.8	97.6	3.2	
+80.44			9.8	103.8	100.4	3.4	

Continued Page 49

Water Grades Emerald St

Gresham to Haines Elev. Stake Elev. Grade

S.E. BP. Emerald + Tanuel

Bless
Krog
Phillips
Davis
Nov. - 1948

6.68	64.94		58.26		
7 TP	9.56	71.78	2.72	62.22	Cuts
0100			8.8	63.0	59.88 3.1
0405 FH.			8.43	63.35	63.15 50.20 Top, curb Grade.
0450			7.6	64.2	61.51 2.7
8					
1			6.4	65.4	63.14 2.3
+50			5.3	66.5	64.77 1.7
2			3.5	68.2	66.40 1.8
+30 Brk			2.8	69.0	67.38 1.6
+50			2.2	69.6	67.56 2.0
3			0.5	71.3	68.02 3.3
TP	6.54	77.84	0.48	71.30	
+50			5.9	71.9	68.48 3.4
4			5.3	72.5	68.94 3.6
+50			5.1	72.7	69.40 3.3
5			5.0	72.8	69.88 2.9
+50 End			4.8	73.0	69.88 3.1
TP	6.92	81.15	3.11	74.93	
Check R.M.			3.00	78.15	
				78.11 Record	

B.P. Stop. S.E. Cor. School House N.W. Cor. Emerald + Ingraham

Bliss

King

Phillips

Water Grades Hornblende, Cass

Davis

to Gresham

Nov/1946

291

34.95

32.54

NW 8P

TP

2.85

28.64

31.6

25.79

Dawes + Garnet

7 0+00

6.7

21.9

18.93

3.0

0+50

INDEXED

6.5

22.1

19.20

2.3

1

WK

6.2

22.4

19.50

2.9

+50

NOV 19 1948

5.8

22.8

19.8

3.0

2

5.6

23.0

20.1

2.9

+50

5.2

23.4

20.9

3.0

3

5.1

23.5

20.7

2.8

+50

5.1

23.5

21.0

2.5

4

4.6

24.0

21.3

2.7

+50

7.41

31.86

4.19

24.45

21.6

2.8

5

6.7

25.2

21.93

3.3

M. Linc. Dawes Brk.

+40

D. Dawes

6.2

25.7

22.18

3.5

D. Dawes

+80

6.0

25.9

22.43

3.5

56.11

+85

F.H.

5.85

26.01

25.57

Ca44

To Top Corb

6

6.0

25.9

22.7

3.2

+50

5.5

26.4

23.3

3.1

7

5.2

26.7

24.0

2.7

+50

4.5

27.4

24.6

2.8

8

3.4

28.5

25.3

3.2

+50

2.5

29.4

25.9

3.5

9

2.1

29.8

26.6

3.2

+50

10.24

41.22

1.58

30.28

27.2

3.1

4/22

4/22 46
264 FH
34.58 Everts

10			10.1	31.1	27.9	3.2	
7	+50		9.5	31.7	28.5	3.2	
	+80		9.0	32.2	28.93	3.3	White Everts Break
	+20		8.3	32.9	29.4	3.5	" "
8	+60		7.7	33.5	29.93	3.6	" " Back
	11.65 FH		6.87	34.35	33.07	1.28	To Top of curb
	14		6.5	34.7	30.51	4.2	
	+50		5.9	35.8	31.2	4.6	
13			4.3	36.9	32.0	4.9	
	+50		3.7	37.5	32.7	4.8	
14			2.8	38.4	33.4	5.0	
	+60		1.9	39.3	34.3	5.0	
15	TP	7.28	47.08	1.42	39.80	34.9	4.9
	+50		6.9	40.2	35.6	4.6	
16			6.5	40.6	36.3	4.3	

π
47.08

16	60		7.1	40.0	37.8	2.8	W. Line Fanceal
"	"	Topcb	6.08	41.00			Topcb N.W.
7	17		6.5	40.6	37.6	3.0	
	+90		6.3	40.8	38.10	2.7	E. Line Fanceal
8	18		5.2	41.9	38.44	3.5	
	+50		4.9	42.2	38.7	3.5	
	19		4.7	42.4	39.0	3.4	
	+50		4.6	42.5	39.3	3.2	
	20		4.4	42.7	39.6	3.1	
	+60		3.9	43.2	39.98	3.2	Break
	T.P.	9.74	52.86	3.96	43.12		
	21		9.2	43.7	40.60	3.1	
	+50		8.6	44.3	41.5	2.8	
	22		7.8	45.1	42.30	2.8	
	+90		6.9	46.0	42.98	3.0	W. Line Gresham
	+90		5.4	47.5	43.67	3.8	End 10' E. of Gresham
	Fire Plug		4.37	48.49	47.18	1.31	To Top curb
	Top ex cb		3.32	49.54			Top ex curb 75' East on Hornblende
	" " " 125' East on Hornblende		1.97	50.83			50' curb in front of Residence

48.49
 9.74
 53.23
 5.2
 48.1
 44
 c. 4.1

T 52.86

T.P. 5.56 56.49 1.93 50.93

T.P. 8.21 60.60 4.10 52.39

7 B.M. 2.23 58.27 59.26 S.E. Cor. Faniel + Emerald

Continued from
page 43

49

1

113.56

9+99 ⁹⁵			7.1	106.5	103.5	3.0	
10+19 ⁹⁶			3.6	110.0	106.9	3.1	
T.P. +38 ⁹⁷	12.74	126.09	6.21	113.35	110.6	2.7	lowered or below figured grade for Cover
+58 ⁹⁸			8.3	117.8	114.6	3.2	
+77 ⁹⁹			3.6	122.5	118.9	3.6	
T.P. +77 ⁵⁰	12.45	138.05	6.49	125.60			
			11.4	126.7	122.9	3.8	
11+17 ⁰¹			7.3	130.8	127.3	3.5	
+36 ⁵²			3.9	134.36 134.2	130.9	3.3	
+56 ⁹³			1.0	137.1	133.9	3.2	
T.P. +75 ⁹⁴	11.94	149.71	6.28	137.77			
			10.3	139.4	136.3	3.1	
+25 ⁴⁵			8.6	141.1	137.9	3.2	
12+14 ⁹⁶			7.3	142.4	132.1	3.3	
+24 ²⁴ P.R.C.			6.8	143.25 142.9	139.4	3.3	

Continued from
page 43

49

1

113.56

9+99 ⁹⁵			7.1	106.5	103.5	3.0	
10+19 ⁹⁶			3.6	110.0	106.9	3.1	
T.P. +38 ⁹⁷	12.74	126.09	6.21	113.35	110.6	2.7	↑ lowered or below figured grade for Center
+58 ⁹⁸			8.3	117.8	114.6	3.2	
+77 ⁹⁹			3.6	122.5	118.9	3.6	
T.P. +77 ⁵⁰	12.45	138.05	6.49	125.60			
			11.4	126.7	122.9	3.8	
11+17 ⁰¹			7.3	130.8	127.3	3.5	
+36 ⁵²			3.9	134.36 134.2	130.3	3.3	
+56 ⁴³			1.0	137.1	133.9	3.2	
T.P. +75 ⁹⁴	11.94	149.71	0.28	137.77			
			10.3	139.4	136.3	3.1	
+25 ⁴⁵			8.6	141.1	137.9	3.2	
12+14 ⁹⁶			7.3	142.4	132.1	3.3	
+24 ²⁴ P.R.C.			6.8	143.25 142.9	139.6	3.3	

T
149.71

12+50			5.8	143.9	1407	3.2	
+75			4.8	144.9	1418	3.1	
13			4.1	145.6	1429	2.7	
+11 ⁸²			3.5	146.2	1435	2.7	PKG.
+32 ²⁵			2.2	147.5	1447	2.8	
+54 ⁰⁸			10.05 0.9	149.76 148.8	1461	2.7	
T.P.	12.68	162.16	0.23	149.98			
+75 ²¹			11.5	150.6	1479	2.7	
+96 ³⁹			8.67 9.7	153.49 152.5	1498	2.7	
14 +17 ⁴⁷			7.0	155.2	1521	3.1	
+38 ⁶⁰			4.1	158.1	1548	3.3	F.V.C.
+62 ⁸⁶			0.8	161.4	1580	3.4	
T.P.	12.98	174.33	0.81	161.35			
+87 ¹²			10.0	164.3	1612	3.1	EC.
15+24 ⁶²			5.1	167.2	1656	3.6	

		184.26				
18+92	66 EVC	47600 5.2	179.50 179.1	176	cuts 3.1	
TP.	13.07	197.12	0.21	184.05		
19+47	66	11.9	185.2	181.8	3.4	
20+02	66 PVC	6.5	190.6	187.6	3.0	
+22	66	4.9	192.2	189.2	3.0	
+42	66	3.2300 4.1	193.89 193.0	190.0	3.0	
Dropped 0.3 Balcony figured						
+67	66	3.8	193.3	190.2	3.1 W line Elmer Road*	
21+02	66 L	2.9500 3.6	194.17 193.5	190.3	3.2 Spike to pt of line	
+62	66 BC+	1.4	195.7	192.6	3.1	
TP.	11.79	208.60	0.31	196.81		
+75		12.5	196.1	193.1	3.1	
22		10.8800 10.6	197.72 198.0	194.2	3.8	
+25		8.7	199.9	195.3	4.6	
+50		7.6	201.0	196.3	4.7	
+76	32 EC.	7.1	201.5	197.5	4.0	
23	Brk	6.3700 6.8	202.23 201.8	198.7	3.1 - Set Brk. 4' N N side Brownlee	

		x 208.60				cuts		
2350		5.3	203.3	200.8	3.3			
24		3.8	204.8	201.2	3.6			
+50	5' ahead curve po	2.26 2.5	206.34 206.1	202.55	3.5			
+91.27	L. Pt	1.0	207.6	203.6	4.0			L. Pt 30'-00'-00. Fly Road + Plain view
T.P.	9.50	217.29	0.81	207.79				
25441.27		8.35 8.8	208.94 208.5	205.4	3.1			
25491.27		6.6 7.1	210.7 210.2	207.1	3.1			P.V.C.
26416.27		5.3400 6.3	211.55 211.0	208.4	2.6 3.0			
36.27		4.6 5.4	212.7 211.9	203.1	2.8 3.0			lowered base figured grade for cover
56.27		3.9 4.7	213.4 212.6	209.8	2.8 3.0			
72.27		3.6 4.1	213.7 213.2	210.1	3.1			
+96.27		3.4 3.9	213.9 213.4	210.3	3.1			
27416.27		3.5006 4.0	213.79 213.3	210.2	3.1			
+36.27		4.2	213.1	210.0	3.1			
+54.47		4.60	212.69	213.25	F 0.51 Curb			To Top F.Hy.

217.29

759 ⁴⁷

4.9

212.3

2095

2.8/30

E.V.C. 1 Prop. P.C.

lowered or below figured for cover

729 ²⁷

5.1

212.2

209.1

3.1

End 10' N.E. Cushman

Water Grades Dorcas St Lillian

to 173⁸² W

6"

Bliss

King

Phillips

P.O.C. 0+00	0.69	101.60	4.08cb 4.4	100.91 97.52	93.3	3.9	T.P. Near int Lillian + Dorcas See page 43 Nov 1948 See page 43 Int of curve with Lillian
P.O.C. +29 ⁰¹	INDEXED			7.9	93.7	90.2	3.5
	WK						
	NOV 19 1948						
P.O.C. 0+58 ⁰³				11.4	90.2	87.2	3.0
TP 0+87 ⁰⁵	0.85	89.60	12.85 178.06 2.4	88.75 87.82 87.2	84.1	3.1	
	EC.						
1+37 ⁰⁵				8.0	81.6	78.6	3.0
							check Rod on this
+73 ⁸³			11.64 12.2	77.96 77.4	74.5	2.9	
check BM			11.64	77.96			B.P. in Curb. SE. CB. Pot

Water grades Feldspar St.
From Kamel to Haines
62.736 6" Transit

4.1
Apr. 23, 1947
cuts cloudy Cool

Rainey
King
Niznow
Watts

56

B.M. # SE Cor. Garret/Hingham

62.74

626 69.00

TP #1 1.85 67.15

7.47 74.62

TP #2 4.91 69.71

6.35 76.06

TP #3 4.25 71.81

1.35 73.16

TP #4 11.12 62.04

0.75 62.79

TP #5 7.60 55.19

3.36 58.55

SE Curb Feldspar Kamel 7.38 51.17

10' from SE Feldspar 7.62 50.93

NE Curb Feldspar + Kamel 6.63 51.92

0+00 7.9 50.7

0+00 = Int. Existing Main

0+50 6.9 51.7 47.1 4.6

1+00 6.5 52.1 47.5 4.6

1+50 6.2 52.4 48.1 4.3

INDEXED

WK

NOV 19 1948

Water Grades (Feldspar)
From Fanuel to Heines
Cont.

57

58.55

2+00 5.9 52.7 48.5 4.2

2+50 5.1 53.5 49.0 4.5

3+00 5.0 53.6 49.4 4.2

3+50 4.1 54.5 50.1 4.4

4+00 3.6 55.0 50.7 4.3

4+50 3.3 55.3 51.5 3.8

5+00 2.8 55.8 52.4 3.4

o T.P. #6 2.81 55.74

9.05 64.79

5+50 8.3 56.5 53.1 3.4

6+00 6.9 57.9 54.4 3.5

6+50 4.9 59.9 55.9 4.0

7+00 2.8 62.0 58.1 3.9

7+50 0.6 64.2 60.3 3.9

Water Grades (Feldspar)
From Farnuel to Haines
Cont

58

64.79

T.P.#7

0.56 64.23

10.95 75.18

8+00

8.5 66.7 62.5 4.2

8+50

6.3 68.9 64.3 4.6

9+00

4.1 71.1 65.6 5.5

9+50

3.4 71.8 66.4 5.4

10+00

2.3 72.9 66.5 6.4

10+50

2.6 72.6 66.7 5.9

11+00

3.4 71.8 66.8 5.0

T.P.#8

3.38 71.80

3.24 75.04

11+50

End approx Hain A.2 70.8 66.7 4.1

T.P.#9

7.72 67.32

3.14 70.46

B.M. on SE. Cor. Garnet + Ingraham

7.73 62.73

Water Grades (Sherman)
From Marino Blvd. to Custer

Cloudy, Cool
Apr. 24, 1947

Rainey
King
Nisnow
Watte

59

cuts

BM SW End of Old Town Br	20.07				
	3.85	23.92			
T.P.#1			11.03	12.89	
	4.68	17.57			
T.P.#2			3.28	14.29	
	4.76	19.05			
			4.51	14.54	
	0.89	15.43			
0+00			0.9	14.5	
					Int. With exist. Main On Marino
0+50			2.6	12.8	10.0 3.6
1+00			4.8	10.6	8.2 3.6
1+50			5.9	9.5	7.4 3.6
2+00			6.5	8.9	5.2 3.7
2+50			6.3	9.1	4.5 4.6
3+00			6.1	9.3	4.3 5.0
3+50			5.8	9.6	4.0 5.6
T.P.#3			5.85	9.58	
	3.61	13.19			

INDEXED
WK
NOV 19 1948

Water Grades (Sherman)
From Marino Blvd. To Custer

cuts

13.19

4+00	2.9	10.3	3.7	6.6
4+50	2.9	10.3	3.4	6.9
5+00	3.8	9.4	3.1	6.3
5+50	4.7	8.5	2.8	5.7
6+00	7.1	6.1	2.5	3.6
6+50	9.6	3.6	2.2	3.6
7+00	11.2	2.0	2.0	3.6
7+50	11.6	1.6	2.0	3.6
8+00	7.9	5.3	2.0	3.8
8+50	5.8	7.4	2.7	4.7
9+00	5.6 ⁵⁵	7.6	2.7	4.9
9+50 End	5.6	7.6	2.8	4.0

Water Grades (Sherman)
From Marino Blvd. To Custer

1319

T.P. #4 360 9.59

4.70 14.29

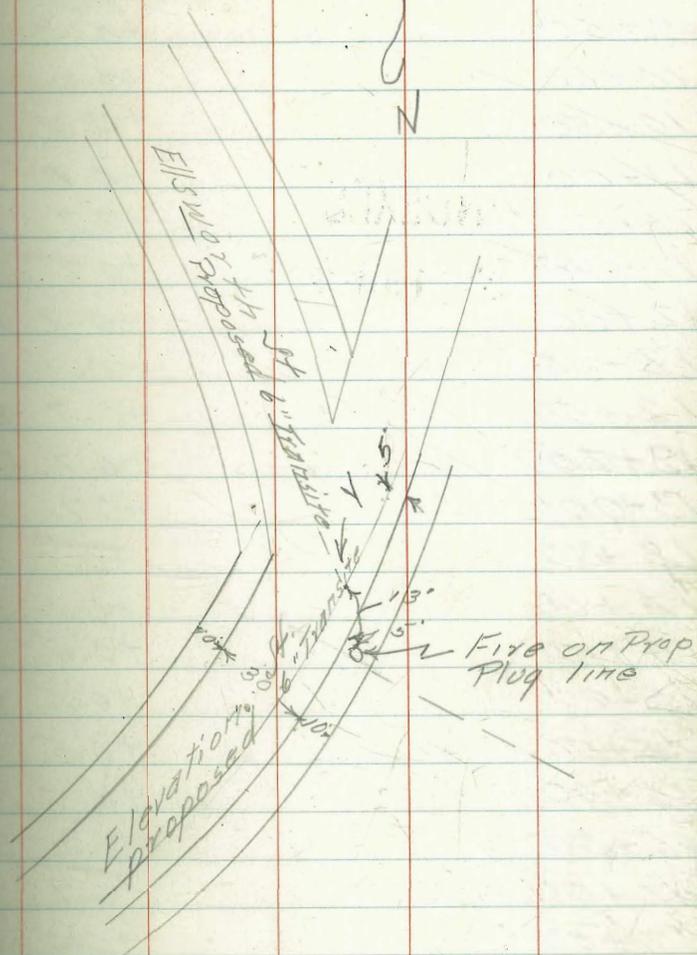
B.M. P3 Book 1693 1.80 12.49

Elevation on Rd
 Monitor To Solar
 All Grades 3.5 below Low Curb

	Curb Above Sta	Cuts
0+50	+0.4	3.2
1+00	+0.6	2.9
1+50	+0.7	2.8
2+00	+0.5	3.0
2+50	+0.5	3.0
3+00	+0.8	3.0
3+50	+0.9	3.0
4+00	+0.6	3.0
4+25	+0.1	3.4
4+50	+0.2	3.3
4+75	+0.4	3.1
5+00	+0.5	3.0
5+25	+0.5	3.0
5+50	+0.5	3.0
5+75	+0.6	2.9
6+00	+0.7	2.8
6+25	+0.4	3.1
6+50	+0.5	3.0
6+75	+0.6	2.9
7+00	+0.5	3.0
7+50	+0.6	2.9
8+00	+0.6	2.9
8+50	+0.5	3.0
9+00	+0.5	3.0

INDEXED
 WK
 NOV 19 1948

Overlooks Heights Rainey 62
 Apr. 25+28
 King
 Nissen
 Walte



Elevation

Rd. Cont

Overlooks Heights

63

Elevation	Rd. Cont	Cuts
9+50	+0.5	3.0
10+00	+0.6	2.9
10+50	+0.6	2.9
11+00	+0.8	2.4
11+50	+0.7	2.8
11+75	+0.7	2.8
12+00	+0.7	2.8
12+25	+0.7	2.8
12+50	+0.7	2.8
12+75	+0.7	2.8
13+00	+0.7	2.8
13+50	+0.7	2.8
14+00	+0.5	3.0
14+50	+0.5	3.0
15+00	+0.5	3.0
15+50	+0.5	3.0
16+00	+0.5	3.0
16+50	+0.2	3.3
17+00	+0.7	2.8
17+50	+0.7	2.8

All grades 3.5 below
low curb, minimum cut 2.8

Solar St. curb above sidewalk

Station	Cuts
0+00	
0+50	3.0
1+00	3.0
1+50	3.0
1+95	3.0

Int. of Solar + Elevation

Brownell St.

Station	Cuts
0+00	
0+50	3.5
1+00	3.0
1+50	3.0
2+00	3.0
2+50	3.0
2+80	2.8

Int. of Brownell + Elevation

Plainview St.

Station	Cuts
0+00	
0+50	10.2 3.3
1+00	3.0
1+50	3.0
2+00	0.6 2.9
2+50	
3+00	0.6 2.9
3+50	0.6 2.9

Int. of Plainview + Elevation

Existing Main Monitor Rd.

Plainview St. Cont.

	curb above gnd.	Cuts
4+00	0.6	2.9
4+50	0.5	3.0
4+75	0.5	3.0
5+00	0.5	3.0
5+25	0.3	3.2
5+50	0.2	3.3
6+00	0.5	3.0
6+50	0.7	2.8
7+00	0.9	3.0
7+50	0.5	3.0
8+00	0.2	3.3
8+50	0.3	3.2
9+00	0.3	3.2
9+50	0.1	3.4
10+00	0.4	3.1

Onstad St.

0+00		
0+50	0.5	3.0
1+00	0.6	2.9
1+50	0.5	3.0
1+80	0.7	3.1

Int. Eyerview + Onstad

Crown St. curb above Sta. cuts.

0+00			3.	Int. Elevation + Crown
0+50		0.4	3.1	
1+00		0.4	3.1	
1+50		0.3	3.2	
2+00		0.4	3.1	
2+50		0.4	3.1	
3+00		0.5	3.0	

Ellsworth

0+00				Int. Ellsworth + Elevation
0+50		0.3	3.2	
1+00		0.4	3.1	
1+50		0.4	3.1	
2+00		0.4	3.1	
2+50		0.3	3.2	
3+00		0.4	3.1	
3+50		0.4	3.1	
4+00		0.4	3.1	
4+50		0.4	3.1	
5+00		0.3	3.2	
5+50		0.0	3.5	

Water Grades (Venice)
From Brighton to Plattinica

cloudy Cool Apr. 6, 1947

Rainier
King
Nichols
Walke

67

Sta B.M. B.P.S.W. curb Brighton + Venice 151.35

6.89 158.24

0+00		6.5	151.7	151.0	4.2
0+50		6.3	151.9	151.5	3.9
1+00		5.8	152.4	152.1	3.8
1+50		5.3	152.9	152.7	3.7
2+00		4.9	153.3	153.3	3.5
2+50		4.3	153.9	153.6	3.8
2+77.32	4. P4 24° 23' 14"	3.8	154.4	153.8	4.3
3+00		3.6	154.6	154.1	4.0
3+50		2.7	155.5	154.8	4.4
4+00		1.6	156.6	156.7	4.4
T.P.#1		0.41	157.83		

12.69 180.52

4+50		12.0	158.5	157.9	4.1
5+00		8.7	161.8	161.3	4.0
5+50		5.1	165.4	165.0	3.9
6+00		1.7	168.8	168.3	4.0
T.P.#2		0.36	170.16		

12.83 182.99

6+50		10.6	172.4	171.8	4.1
7+00		7.2	175.8	175.3	4.0
7+50	1/2 N Curve Slope 10%	4.8	178.2	177.7	4.0
8+00		3.2	179.8	179.0	4.3

Start of Int. 1 to Ext. 2" W.M. on Brighton

odd cuts to Clear Gas Main

Water Grades (Venice)
 From Brighton to Staffman

Cuts

	182.99				
8+50		1.2	181.8	182.0	3.3
T.P.#3		0.64	182.35		
	11.92	194.27			
9+00		9.9	184.4	185.0	2.9
9+50		6.8	187.5	188.0	3.0
10+00		3.6	190.7	191.2	3.0
10+50		0.5	193.8	194.2	3.1
T.P.#4		0.52	193.75		
	13.04	206.79			
11+00		10.0	196.8	197.2	2.9 3.0
11+50		7.4	199.4	199.5	3.4
12+00		6.0	200.8	200.7	3.6
12+04 End		5.8	201.0	200.9	3.6
T.P.#5		0.47	206.32		End L to Exist. 6" line on Staffman
	12.93	219.25			
T.P.#6		0.17	219.08		
	12.26	231.34			
B.M. B.P. SW Cor	Newport Venice	1.25	230.09		

Water Grades (Draper)

Bon Air to Gravilla Pl.

Sta

Low Cor'd
Elev

Cuts

Apr. 7, 1947

Rain Elev 104.50

King
Kierow
Watts

69

INDEXED

WK

NOV 19 1948

B.M. B.P. SW Cor Draper + Bonair St.

10.13 115.63 0.48 94.68

10.13 115.63 0.48 94.68

10.13 115.63 0.48 94.68

10.13 115.63 0.48 94.68

0+00 9.3 106.3 106.0 9.8 14ft. W Proposed Line Bonair

0+50 8.6 107.0 107.0 3.5

1+00 7.3 108.3 108.3 3.5

1+50 6.2 109.4 109.5 3.4

2+00 5.1 110.5 110.7 3.3

2+50 4.1 111.5 111.3 3.9

3+00 3.8 111.8 111.5 3.8

3+50 4.5 111.1 110.7 3.9

Water Grades (Draper)
 From Bon Air to Gravilla Pl.
 Elev. Low Cuts

	115.63				
4+00	6.8	108.8	108.4	3.9	
4+50	9.3	106.3	105.0	4.8	
5+00	End Oil	10.1	105.5	105.0	4.0
5+50		10.6	105.0	104.7	3.8
6+00		11.0	104.6	104.3	3.8
6+50		11.3	104.3	103.8	4.0
7+00		11.7	103.9	103.5	3.9

End 30' Back of int w/ proposed
 line on Gravilla Pl.

B.M. BP. SW. Cor. Draper + Gravilla St
 → 11.14 104.49 corr 104.50

Water Grades (Bon Air)

May 15, 1947

Rainey
King
Nichow
Walte

71

Sta. From Draper to End

El. Low
Curb

Cuts

B.M. B.P. Cor. Bon Air + Draper

105.50

12.01 117.51

0+00

11.4 106.1 C105.9

C 3.8

Int. w/ proposed line Draper + Bon Air

0+21

10.7 106.8 106.4

3.9 w/ curb return

0+50

INDEXED

7.8 109.7 109.7

3.5

1+00

WK
NOV 19 1948

2.2 115.3 114.9

3.9

TP#1

0.14 117.37

12.20 129.57

1+50

8.9 120.7 120.0

4.2

2+00

5.0 124.6 123.5

4.4

2+50

1.5 128.1 126.8

4.8

curb opp 2+00 121.2

TP#2

0.46 129.11

3+00

11.83 140.94

3+00

10.8 130.1 130.1

3.5

3+50

6.5 134.4 133.4

4.5

4+00

2.5 138.4 136.6

5.3

4+50

40.3 141.2 139.9

4.8 end of line

TP#3

11.83 129.11

0.37 129.48

TP#4

12.54 118.94

0.14 118.08

B.M. B.P. Bon Air
+ Draper

11.55 105.53

Water Grades (Dorcias)
From Everview to Onstad

May 15, 1947

Rainer
King
N. 2nd
W. 1st

72

Cuts

BM. B.P. on Porch NW Cor. Onstad + Everview

177.69

0.59 178.23

TP#1

12.34 165.89

0.48 166.37

4+10

8.5 157.9

4+00

INDEXED

10.1 156.3

3+90

WK
NOV 19 1948

11.7 154.7

TP#2

12.32 154.05

0.32 154.37

3+80

1.4 153.0 152.2

3+70

3.2 151.2 151.8

3+60

4.5 149.9 150.2

3+50

5.8 148.6 148.7

3+42^{3/4}

B.C.

6.9 147.5 147.6

3+00

12.2 142.2 142.2

TP#3

11.97 142.40

0.28 142.68

2+50

6.9 135.8 135.6 3.7

2+00

12.7 130.0 130.2 3.3

TP#4

12.45 130.23

0.73 130.96

1+50

6.1 124.9 125.4 4.0

1+00

11.6 119.4 120.2 4.3

TP#5

12.90 118.06

1.48 119.46

(12) Some Cuts would be 8'

Cut Varied due to Grade Variation

3.6 4+20 Dorcas = 1480 Onstad

4.0

4.5

4.5

4.3

2.9

3.2

3.4

3.4

3.5

90°
Fire Hydrant at 4' E of offset line

Water Grades (Dorcas)

Everview to Onstad

76.20

78

Sta

119.46

0+75³⁸

3.2

116.3

117.0

28

4 55°30' Rt.

0+50

1.2

118.3

117.0

48

0+00

+0.8

120.3

Int. w/ Existing line on Everview

T.P.#6

12.35

107.11

0.21 107.32

T.P.#7

12.58

94.74

0.55 95.29

T.P.#8

12.47

82.82

1.45 84.27

B.M. Guinea in Hilda Rd.

7.93

76.34

76.36

corr.

Paving Grades - So 1/2 Myrtle
Euclid - west to Alley

N.O. 80041

(6938-L)

N.W. Dwight
+ 47th

1.57	341.54	—	337.97
6.75	338.44	7.85	331.69
4.76	336.37	6.83	331.61

N.W. 69

S. Butler

S 1/4

X
335.45

Φ

1425[±]
E.L. Alley

327.13
9.24

335.45 X
327.50
7.75
33
8.48 sub
Grade

335.45 X
327.71

7.71 Finish
Grade

Gutter grades S.W. 1/4 corner around return

#1	#2	#3	#4
S. End Ret.		W. Line Euclid	W. End Return
331.15 5.22V	331.30 5.07V	331.17 5.20V	330.90 5.47V

INDEXED

WK
NOV 19 1948

Φ Grades

331.15 sensor
4.76 gutter

335.45 X

Wly Gutter Euclid

0+00
W.L. Euclid

S. Butler S 1/4 Φ Euclid

S.E. Euclid S. 1/4 S 1/4 Φ Myrtle

331.17 5.20V	31.36 4.09	331.51 3.94 3.95 FOOS
-----------------	---------------	--------------------------------

336.37 X	331.15	331.42 4.75 4.25 5.20V	331.51 4.86 4.25 5.11	331.60 4.77 4.25 5.02 sub grade
----------	--------	---------------------------------	--------------------------------	--

0 + 10

330.90 5.47V	31.15 4.30	331.36 4.09 3.91 CO 48
-----------------	---------------	---------------------------------

check curb stake S. End
S.W. Ret. Euclid + Myrtle

4.71 331.66 SB. 331.65
pk.

0+30

330.24 6.13V	330.61 4.84	330.85 4.20
-----------------	----------------	----------------

Roko

336.37 X	9 th Alley Ret.	S. End Alley Ret.
+ 6.17	327.33 9.04V	327.15 9.22V
+ 93.44		327.19 7.18V
1+19 [±]	BC. Alley Ret.	

Water Grades (Draper)
Pearl to MAYIRK

Curb
10d

Rainy All Grades 3.5 below low
curb
KING
BERRY June 12, 1947
Cuts

75

BM. BP St. Cor Cuvier + Pearl					
			81.06		
	10.22	91.28			
T.P.#1			1.91	89.37	
	10.36	99.73			
0+00			9.3		
0+50			8.9	9.1	3.7
1+00			7.8	7.7	3.4
1+50			6.6	6.3	3.3
2+00			5.4	4.9	3.0
2+50			4.1	3.7	3.1
3+00			2.6	2.6	3.5
3+50			1.3	1.2	3.4
T.P.#2			0.16	99.57	
	4.74	104.31			
4+00			4.4	4.4	3.5
4+33 ²⁵ APT			3.7	3.8	3.6
4+50			3.8	3.8	3.5
5+00			3.9	4.1	3.7
5+50			4.3	4.4	3.6
6+00			4.6	4.6	3.5
6+31 ⁶⁹			4.9	4.8	3.4
T.P.			12.64	91.67	
	0.92	92.59			
			11.50	81.09	81.06

INDEXED

WK

NOV 19 1948

Water Grades (Dorcas)

Morena to Weeks

Pencil
Curb
Elev.

Cuts

June 12, 1947

Rincon
King
Baker

76

BM. Guinea in Hilda Rd.		76.36		
	0.30	76.66		
T.P.#1		12.90	63.76	
	0.34	64.10		
T.P.#2		12.40	61.70	
	0.02	51.72		
T.P.#3		12.56	39.16	
	0.17	39.33		
T.P.#4		12.75	26.58	
	0.19	26.77		
T.P.#5		7.81	18.96	
	4.40	23.36		
0+00		6.4	17.0	18.5
0+50		7.0	16.4	17.6
1+00		7.2	16.2	16.8
1+50		7.0	16.4	16.0
2+00		6.0	17.4	15.3
2+50		6.3	17.1	14.6
2+90 ⁹³		8.6	14.8	14.0
0+00 P41		1.20	22.16	

INDEXED
WK
NOV 19 1948

Opp. Gate Valve on prop line

App. to
int. w/ existing water

Water Grades (Beyr 1)
Ingerham to

cuts

July 15, 1947

Rainey
King
Mehow
Baker

77

Sta.

B.P. School house Emerald ct. Ingerham 78.11

3.63 81.74

T.P.#1

0.67 81.07

11.36 92.43

T.P.#2

0.32 92.11

12.68 104.79

T.P.#3

0.67 104.12

12.12 116.24

T.P.#4

0.08 116.16

12.95 129.11

0+00

2.5 126.6

10' E of d Ingerham

T.P.#5

0.24 128.87

11.84 140.71

0+50

6.3 134.4 129.6 10.3

1+00

1.2 139.5 133.4 9.6

T.P.#6

0.52 140.17

11.76 151.95

1+50

8.0 144.0 139.3 8.2

2+00

3.1 148.9 144.9 7.5

T.P.#7

0.03 151.92

8.60 160.52

2+50

7.4 153.1 149.2 6.4

3+00

5.5 155.0 152.3 6.2

3+50

5.1 155.4 155.0 3.9

4+00

5.2 155.3 155.8 3.2

INDEXED

WIK

NOV 19 1948

Water Grades (Beyrl)
Ingerham to

Cuts

160.52

4+50	4.9	155.6	156.7	3.2
5+00	4.3	156.2	157.6	3.2
5+50	3.3	157.2	158.4	3.2
6+00	2.4	158.1	159.1	3.2
T.P.#8	2.44	158.08		

13.05 171.13

6+50	10.8	160.3	159.7	4.1
7+00	8.4	162.7	160.3	5.9
7+50	6.9	164.2	160.6	7.1
8+00	8.1	163.0	161.4	4.1
8+50	10.4	160.7	161.9	3.2
9+00	10.8	160.3	162.8	3.2
9+50	9.2	161.9	164.0	3.2
10+00	6.5	164.6	165.5	3.2
10+50	5.0	166.1	167.1	2.5
11+00	1.4	169.7	168.8	4.6
11+50	4.3	172.4	169.7	6.2

IMPROVED TABLES AND INFORMATION

HORIZONTAL STADIA CORRECTIONS

2°-00' — 0.1	21°-00' — 12.3	33°-00' — 29.7
3°-00' — 0.3	21°-30' — 13.4	33°-15' — 30.1
4°-00' — 0.5	22°-00' — 14.0	33°-30' — 30.5
5°-00' — 0.8	22°-30' — 14.7	33°-45' — 30.9
6°-00' — 1.1	23°-00' — 15.3	34°-00' — 31.3
7°-00' — 1.5	23°-30' — 15.9	34°-15' — 31.7
8°-00' — 1.9	24°-00' — 16.5	34°-30' — 32.1
9°-00' — 2.5	24°-30' — 17.2	34°-45' — 32.5
10°-00' — 3.0	25°-00' — 17.9	35°-00' — 32.9
10°-30' — 3.3	25°-30' — 18.6	35°-15' — 33.3
11°-00' — 3.6	26°-00' — 19.2	35°-30' — 33.7
11°-30' — 4.0	26°-30' — 19.9	35°-45' — 34.1
12°-00' — 4.3	27°-00' — 20.6	36°-00' — 34.6
12°-30' — 4.7	27°-30' — 21.3	36°-15' — 35.0
13°-00' — 5.1	28°-00' — 22.0	36°-30' — 35.4
13°-30' — 5.5	28°-30' — 22.8	36°-45' — 35.8
14°-00' — 5.9	29°-00' — 23.5	37°-00' — 36.2
14°-30' — 6.3	29°-30' — 24.3	37°-15' — 36.6
15°-00' — 6.7	30°-00' — 25.0	37°-30' — 37.1
15°-30' — 7.2	30°-15' — 25.4	37°-45' — 37.5
16°-00' — 7.6	30°-30' — 25.8	38°-00' — 37.9
16°-30' — 8.1	30°-45' — 26.2	38°-15' — 38.3
17°-00' — 8.5	31°-00' — 26.5	38°-30' — 38.7
17°-30' — 9.0	31°-15' — 26.9	38°-45' — 39.1
18°-00' — 9.5	31°-30' — 27.3	39°-00' — 39.6
18°-30' — 10.1	31°-45' — 27.7	39°-15' — 40.0
19°-00' — 10.6	32°-00' — 28.1	39°-30' — 40.5
19°-30' — 11.2	32°-15' — 28.5	
20°-00' — 11.7	32°-30' — 28.9	
20°-30' — 12.3	32°-45' — 29.3	

Chains to Feet

1	66
2	132
3	198
4	264
5	330
6	396
7	462
8	528
9	594
10	660

Feet to Chains

100	1.515
200	3.030
300	4.545
400	6.060
500	7.575
600	9.090
700	10.606
800	12.121
900	13.636
1,000	15.151

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.

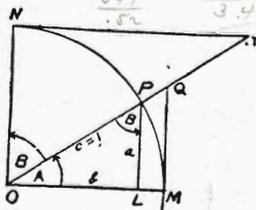


TABLE II
TRIGONOMETRIC FORMULÆ.

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

$$R = OB = c = 1$$

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

18.58
547
22.05
347
.52

25.53
18.58
76.30
3.47 80/200
160

25 25
50 35
125.0 50

215.47
125
216.72
75
217.87

217.57
215.47
210
262
80 210
160
500
480

262 110
50 780
131.00
70
210

215.47
131
216.78
75
217.57

$$\begin{array}{r} 25 \\ 16 \overline{) 410} \\ \underline{320} \\ 90 \end{array}$$

$$\begin{array}{r} 22 \\ 18 \overline{) 400} \\ \underline{360} \\ 40 \end{array}$$

138

W. Cor
B.P. IN MON. \$7.60 - Prop Mon

Cuvier - \$1.06 - S.E

SW. B.P. De Monte + Guzet

S.E.B

218.03

217.82

57° 27' 00" - 57° 46' 30" W

$$\begin{array}{r} 63.0 \\ 59.9 \\ \hline 3.1 \end{array}$$

56.66

48.49 - 485

58

54.39

4.85

99.54

75

2

1.50

49.54

48.

1.05

05

47.00

1.05

48.05

48.50

48.00

1.50

49.50

76.36

$$\begin{array}{r} 92.59 \\ 81.06 \\ \hline 11.53 \end{array}$$