1600

EUGENE DIETZGEN CO.

DRAWING MATERIALS, MATHEMATICAL and SURVEYING INSTRUMENTS

Chicago New York San Francisco New Orleans Pittsburg Toronto

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

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

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

1600

CITY ENGINEER'S OFFICE

The paper stock of this book is made of a **high grade 50% rag** paper having a **water resisting surface** and is sewed with Bing **Special Enamel Waterproof Thread.**

Made in U. S. A.

INDEX

Cross Section 64th St.

See Page 74

BM			4.69	237.67 .62	℄ Mon Brooklyn 64th 237.63
TP	6.89	242.56 .31	2.44	235.46	
8+46					
8+35.05 = S.L. Brooklyn					
8+13	7.0	Lt of ℄ = Wly Tel Pole			
8+0					
7+75					
7+45					

Plot - 11-3-41 CDH

237.90 .86

St Ford From Page 79

Lt = W		℄		Rt = E
				1
			133.2	
			1.7 22.5 = W End Foot Bridge	
238.9	236.9	234.9	232.2	227.1
+1.0 G.0	1.0 1.5	G.0	5.7 1.5	10.8 G.5
232.9	231.7	231.0	228.5	225.4
G.5 G.0	6.3 G.5	6.9	9.4 1.5	12.5 2.8
230.0	228.2	227.5	227.9	223.0
7.9 G.5	9.7 1.5	10.4	13.0 1.5	14.9 2.5
223.6	223.2	223.0	223.6	225.6
14.3 4.0	14.7 1.5	14.9 = Bot Gulch	14.3 1.0	12.3 1.5

Rt = E	
225.4	226.8
12.5 1.5	11.1 4.0
224.1	
13.9 3.4 = Bot of Gulch	
225.4	230.1
12.5 G.5	7.8 2.5
Bot Gulch	

Walker
Bliss
Isbell
3-14-41

CROSS SECTIONS HARBOR DRIVE
100' Wide 5' cbs. 22.5' 1/4s. See Sketch P-39
from Station 59+63.69, Harbor Plan #151-L-5
to Station 71+63.66 = 0+00 City Datum
thence to Station 45+24.57 " "
for Alignment & Ties See F.B. 572

FB. 1597 P-30

3.89	7.07 ✓		3.18 ✓	Temp. BM. 43+13.09 FB. 1597-30 C.T. W Pkg. S.cb
59+63.66 = B.C. Lt.				
S-15 on Walk = S edge		3.75	3.32 ✓	
S-10 " " = N "		3.80	3.27 ✓	
S on cb.		3.90	3.17 ✓	
" " Gut.		4.6	2.5 ✓	
Exist cb +5' = cb proposed		4.5	2.6 ✓	
1/4		4.4	2.7 ✓	
℄		4.7	2.4 ✓	
N 1/4.		4.9	2.2 ✓	
cb.		4.7	2.4 ✓	
+5' = Exist cb Gut		4.6	2.5 ✓	
+5' on N cb.		3.93	3.14 ✓	
60+00				
-5' on cb.		3.96	3.11 ✓	
-5 Gut.		4.8	2.3 ✓	

Indexed LM

707

Reduced and checked 3/20/41 H.F.M. Settled 3 per alignment ... on.

2

Sheet #6

N cb.		4.9	2.2 ✓
N 1/4		5.0	2.1 ✓
℄		5.1	2.0 ✓
S 1/4		4.7	2.4 ✓
cb.		4.5	2.6 ✓
+5' = S Gut. = S.L.		4.6	2.5 ✓
+5' on S cb. = S.L.		3.96	3.11 ✓
S.L. +10" Walk N edge		3.84	3.23 ✓
+15" " S "		3.81	3.26 ✓
	60+50		
-15 on Walk		3.91	3.16 ✓
-10 " "		3.97	3.10 ✓
S.L. on cb.		4.09	2.98 ✓
S.L. Gut.		4.6	2.5 ✓
S cb.		4.5	2.6 ✓
1/4		5.0	2.1 ✓
℄		5.3	1.8 ✓
N 1/4		5.2	1.9 ✓
N cb.		4.9	2.2 ✓
+5 = N Gut.		4.9	2.2 ✓
+5 on N cb.		4.04	3.03 ✓

	7.07		
61+00			
N.L. on N cb		4.19	2.88
" " Gut.		4.9	2.2
N cb.		5.2	1.9
1/4		5.5	1.6
℄		5.3	1.8
1/4		5.3	1.8
cb.		4.8	2.3
S.L. = Gut.		4.9	2.2
" " on cb.		4.17	2.90
+10' on Walk, N, edge		4.06	3.01
+15		4.04	3.03
61+20.5 = End East cb on N			
N.L. on cb.		4.17	2.90
T.P. 4.06	6.96	4.17	2.90
61+50			
-15 on W		4.02	2.94
-10 " "		4.11	2.85
S.L. on cb.		4.14	2.82
S.L. Gut		5.2	1.8
cb.		5.3	1.7

	6.96		
1/4		5.3	1.7
℄		5.8	1.2
1/4		5.5	1.5
N cb		5.3	1.7
N		5.2	1.8
+10		5.2	1.8
61+74.5 = End Walk on S			
S.L. -15 on S, edge Walk		4.03	2.93
S.L. -10 " N " "		4.13	2.83
S.L. on cb		4.18	2.78
62+00			
N-10		3.4	3.6
N		3.4	3.6
cb		3.5	3.5
+3		4.6	2.4
1/4		5.2	1.8
℄		5.5	1.5
1/4		5.7	1.3
S.L. Gut.		5.4	1.6
S.L. on cb.		4.23	2.73
62+50			
S.L. on cb.		4.38	2.58
" " Gut.		5.3	1.7

cb.		6.0	1.0 ✓
½		5.9	1.1 ✓
L		5.7	1.3 ✓
½		5.5	1.5 ✓
+5		4.3	2.7 ✓
cb.		3.1	3.9 ✓
N		3.2	3.8 ✓
+10		3.2	3.8 ✓
	63+00		
-10		3.2	3.8 ✓
N		3.2	3.8 ✓
cb.		3.2	3.8 ✓
½		5.1	1.9 ✓
L		5.1	1.9 ✓
½		5.9	1.1 ✓
cb.		5.9	1.1 ✓
+5		5.3	1.7 ✓
=S. Gut. = SL.			
SL. on cb.		4.45	2.51 ✓
	63+15.86 = End East cb. on South.		
SL. on cb.		4.46	2.50 ✓

	63+16.79 = E.C.		
-10		3.0	4.0 ✓
SL.		4.5	2.5 ✓
cb.		5.2	1.8 ✓
½		5.7	1.3 ✓
L		5.3	1.7 ✓
½		5.0	2.0 ✓
cb.		4.6	2.4 ✓
N.		2.7	4.3 ✓
+10		2.7	4.3 ✓
	63+50		
-10		4.7	2.3 ✓
N		4.7	2.3 ✓
cb.		4.9	2.1 ✓
½		5.0	2.0 ✓
L		5.3	1.7 ✓
½		5.6	1.4 ✓
cb.		4.8	2.2 ✓
S		4.7	2.3 ✓
+5		4.7	2.3 ✓
	63+96.09 = B.C.		

		696'		
		64+00		
S-5			4.0	2.6 ✓
S			4.4	2.6 ✓
cb.			4.5	2.5 ✓
1/4			5.2	1.8 ✓
℄			5.1	1.9 ✓
1/4			4.9	2.1 ✓
cb.			5.0	2.0 ✓
N			4.6	2.4 ✓
+10			4.0	3.0 ✓
		64+50		
-10			4.0	3.0 ✓
N			4.0	3.0 ✓
cb.			4.7	2.3 ✓
1/4			4.7	2.3 ✓
℄			4.8	2.2 ✓
1/4			5.0	2.0 ✓
cb.			4.4	2.6 ✓
S			4.4	2.6 ✓
+5			4.4	2.6 ✓
		65+00		

		696'	Harbor Drive	
-5			4.9	2.1 ✓
S			4.9	2.1 ✓
cb.			4.6	2.4 ✓
1/4			5.3	1.7 ✓
℄			5.4	1.6 ✓
1/4			5.2	1.8 ✓
cb.			4.9	2.1 ✓
N			4.6	2.4 ✓
+5			4.6	2.4 ✓
		65+50		
-5			4.9	2.1 ✓
N			4.8	2.2 ✓
cb.			4.0	3.0 ✓
1/4			5.3	1.7 ✓
℄			5.0	2.0 ✓
1/4			5.1	1.9 ✓
cb.			5.2	1.8 ✓
S			5.4	1.6 ✓
		66+00		
-20			11.3	- 4.3 ✓
S			11.3	- 4.3 ✓

	6.96		
cb.	10.8	- 3.8	
1/4	6.8	+ 0.2	
L	6.3	0.7	
1/4	5.3	1.7	
cb	4.1	2.9	
N	4.0	3.0	
+5	4.9	2.1	
chk. & Por. Stake	5.89	1.07	36+72.8 FB. 1597-79
		1.05 = Stake	
		0.02	
Note: 66+30 to 69+90 = Cholla Creek Sections			
TP 3321 4.26		1.05 = Horse Stake	
66+30			
-20	3.3	1.0	
N	2.5	1.8	
cb	2.5	1.8	
1/4	2.6	1.7	
L	4.2	+ 0.1	
1/4	8.0	- 3.74	
cb.	8.2	- 3.9	
S	8.3	- 4.0	
+25	8.4	- 4.1	

	4.26	Harbor Drive	
	66+45		
-25	8.4	- 4.1	
S	8.3	- 4.0	
cb.	8.3	- 4.0	
1/4	9.0	- 4.7	
L	9.0	- 4.7	
1/4	8.3	- 4.0	
+10	6.1	- 1.8	
cb.	3.2	+ 1.1	
N	3.8	0.5	
+20	3.8	0.5	
	66+75		
-25	5.5	- 1.2	
N	7.8	- 3.5	
cb.	8.0	- 3.7	
1/4	8.1	- 3.8	
L	9.0	- 4.7	
1/4	9.0	- 4.7	
cb.	8.4	- 4.1	
S	8.4	- 4.1	
+25	8.4	- 4.1	

426

66+80

S-25	10.7	- 6.4
S	10.7	- 6.4
CL	10.6	- 6.3
1/4	10.5	- 6.2
L	10.4	- 6.1
1/4	8.5	- 4.2
CL	8.5	- 4.2
N	8.5	- 4.2
+25	8.5	- 4.2

66+85

-25	8.5	- 4.2
N	8.5	- 4.2
CL	8.5	- 4.2
1/4	8.5	- 4.2
L	8.7	- 4.4
1/4	9.0	- 4.7
S	9.2	- 4.9
+25	10.6	- 6.3

67+50

-25	8.2	- 3.9

426 Harbor Drive

N	8.2	- 3.9
CL	8.2	- 3.9
1/4	8.2	- 3.9
L	8.2	- 3.9
1/4	8.2	- 3.9
CL	9.2	- 4.9
S	9.2	- 4.9
+25	10.2	- 5.9

68+00

-25	11.6	- 7.3
S	11.1	- 6.8
CL	11.1	- 6.8
+17	11.1	- 6.8
1/4	8.5	- 4.2
L	8.4	- 4.1
1/4	8.3	- 4.0
CL	8.3	- 4.0
N	8.3	- 4.0
+25	8.2	- 3.9

68+25

-25	8.3	- 4.0

4.26 ✓

N	8.3	- 4.0	✓
cb	8.3	- 4.0	✓
1/4	8.3	- 4.0	✓
+10	11.2	- 6.9	✓
℄	12.0	- 7.7	✓
1/4	12.0	- 7.7	✓
cb.	14.0	- 9.7	✓
S	14.0	- 9.7	✓
+25	14.3	-10.0	✓
68+50			
-25	14.3	-10.0	✓
S	14.3	-10.0	✓
cb.	14.3	-10.0	✓
1/4	14.0	- 9.7	✓
℄	13.0	- 8.7	✓
1/4	12.0	- 7.7	✓
cb.	11.2	- 6.9	✓
N	11.2	- 6.9	✓
+25	10.0	- 5.7	✓
69+00			
-25	14.0	- 9.7	✓

4.26 ✓

N	14.3	- 10.0	✓
cb.	14.3	- 10.0	✓
1/4	14.5	- 10.2	✓
℄	14.6	- 10.3	✓
1/4	13.3	- 9.0	✓
+10	10.6	- 6.3	✓
S	9.6	- 5.3	✓
+25	8.6	- 4.3	✓
69+50			
-15	2.3	+ 2.0	✓
S	7.1	- 2.8	✓
cb.	7.4	- 3.1	✓
1/4	8.3	- 4.0	✓
℄	8.4	- 4.1	✓
1/4	8.6	- 4.3	✓
cb.	8.8	- 4.5	✓
N	9.0	- 4.7	✓
+25	9.3	- 5.0	✓
69+68			
-25	8.8	- 4.5	✓
N	8.6	- 4.3	✓

	4.26			
¼		8.3	− 4.0	
℄		7.3	− 3.0	
¼		2.3	+ 2.0	
cb		1.7	2.6	
S		1.5	2.8	
+10		1.3	3.0	
	69+76			
−10		0.3	4.0	
S		0.5	3.8	
cb		0.7	3.6	
¼		1.6	2.7	
℄		2.2	+ 2.1	
+12		7.1	− 2.8	
¼		7.6	− 3.3	
cb		8.4	− 4.1	
N		8.4	− 4.1	
+25		8.0	− 3.7	
	69+90			
−25		7.9	− 3.6	
N		7.6	− 3.3	
cb		6.9	− 2.6	

	4.26			
¼		2.0	+ 2.3	
℄		1.4	2.9	
¼		0.2	4.1	
cb		0.1	4.2	
S		0.1	4.2	
+10		0.0	4.3	
TP	7.66	9.26	2.66	1.60
chk. Stake 31+86.4		FB 1537-29	3.68	5.58

Levels cont p-10

Note: Levels in Main Channel were estimated to be about the same as those under Santa Fe R.R. Bridge 100' N of ℄, the Rods shown in Cross Sections being interpolated from those obtained along R.R. bridge. CB. Walker

Harbor Drive
Cont from P-9

	5.37	10.95		5.58	BM. Stake E Sewer Line 31+864 FB. 1597-29
	70+00				
-47.64 = South Rail AT+SF			7.51	+ 3.44	
-25			12.4	- 1.4	
-10			9.3	+ 1.7	
N.L.			9.0	2.0	
cb.			8.6	2.4	
1/4			7.7	3.3	
℄			7.0	4.0	
1/4			6.5	4.5	
cb			6.6	4.4	
S.L.			6.6	4.4	
+10			6.6	4.4	
	70+50				
-10			5.7	5.3	
S.L.			5.7	5.3	
cb.			5.7	5.3	
1/4			5.6	5.4	
℄			5.8	5.2	
1/4			5.9	5.1	

	10.95			
cb.			7.0	+ 4.0
N			7.2	3.8
+25			9.4	1.6
	71+00			
-25			9.1	1.9
N			6.7	4.3
cb			5.6	5.4
1/4			5.1	5.9
℄			4.9	6.1
1/4			5.1	5.9
cb			4.9	6.1
S.L.			4.9	6.1
+10			4.9	6.1
	71+50			
-10			4.6	6.4
S			4.6	6.4
cb.			4.6	6.4
1/4			4.8	6.2
℄			5.0	6.0
1/4			4.9	6.1
cb.			5.5	5.5

10.95

N			6.9	+ 4.1
+25			8.9	2.1
+47.64	= S Rail AT+S.F.R.R.		6.96	3.99
		71+63.66 = B.C. = 0+00 } = Equation No Section.		
		0+50		
-25			9.0	2.0
N			6.3	4.7
cb.			5.0	6.0
1/4			4.5	6.5
℄			4.5	6.5
1/4			4.4	6.6
cb.			4.4	6.6
S			4.5	6.5
+10			4.4	6.6
		1+00		
-10			4.0	7.0
S			4.0	7.0
cb.			4.0	7.0
1/4			4.3	6.7
℄			4.6	6.4
1/4			4.8	6.2
cb			4.9	6.1

N			5.9	+ 5.1
+25			8.6	2.4
		1+50		
-30			8.5	2.5
N			5.9	5.1
cb.			5.0	6.0
1/4			4.7	6.3
℄			4.5	6.5
1/4			4.0	7.0
cb.			3.7	7.3
S			3.7	7.3
+10			3.7	7.3
		2+00		
-10			4.0	7.0
S			4.0	7.0
cb.			4.0	7.0
1/4			4.5	6.5
℄			4.5	6.5
1/4			5.0	6.0
cb.			5.6	5.4
N			5.9	5.1
+30			8.6	2.4

10.95

2+50

-30	9.0	+ 2.0
-5	7.4	3.6
N	5.7	5.3
cb.	5.6	5.4
1/4	5.1	5.9
℄	5.0	6.0
1/4	4.9	6.1
cb.	4.4	6.6
S	4.4	6.6
+10	4.3	6.7

3+00

-10	4.9	6.1
S	4.9	6.1
cb.	5.0	6.0
1/4	5.1	5.9
℄	5.2	5.8
1/4	5.9	5.1
cb.	7.0	4.0
N	7.8	3.2
+25	8.6	2.4
+42 = W Rail Spur	8.30	2.65

10.95

Harbor Drive

12

3+50

-18 on W Rail Spur		8.43	+ 2.52
N		8.6	2.4
cb.		8.5	2.5
+14		7.7	3.3
+18		6.6	4.4
1/4		6.6	4.4
℄		5.4	5.6
1/4		5.0	6.0
S cb		5.1	5.9
S		5.0	6.0
+10		5.0	6.0
T.P.	2.86	9.36	4.45	6.50

4+00

-10	3.3	6.1
S.	3.5	5.9
cb.	3.5	5.9
1/4	3.6	5.8
℄	3.9	5.5
1/4	5.5	3.9
+10	7.7	1.7
+17 = W Rail Spur	6.71	2.65

9.36 ✓

N.cb.	7.2	+ 2.2	✓
N	7.8	1.6	✓
+20	7.1	2.3	✓
4+50			
-20	7.2	2.2	✓
N	7.0	2.4	✓
cb.	7.0	2.4	✓
℄	7.2	2.2	✓
+8.5	6.73	2.63	✓
+14	7.0	2.4	✓
℄	5.6	3.8	✓
+3	4.7	4.7	✓
℄	4.2	5.2	✓
cb.	3.9	5.5	✓
S	3.3	6.1	✓
+10	3.3	6.1	✓
5+00			
-10	3.6	5.8	✓
S	3.7	5.7	✓
cb.	3.8	5.6	✓
℄	4.1	5.3	✓

9.36 ✓ Harbor Drive

+4	5.1	+ 4.3	✓
+19.5 = W Rail Spur.	6.90	2.46	✓
℄	7.3	2.1	✓
℄	6.9	2.5	✓
cb.	6.4	3.0	✓
N	6.3	3.1	✓
+15	5.4	4.0	✓
5+50			
-5	4.7	4.7	✓
N	5.0	4.4	✓
cb.	5.2	4.2	✓
℄	5.4	4.0	✓
℄	6.7	2.7	✓
℄	7.8	1.6	✓
+5	6.1	3.3	✓
cb.	5.4	4.0	✓
S	5.3	4.1	✓
+10	4.7	4.7	✓
5+74.04 = E.C.			
-10	6.6	2.8	✓
S	6.9	2.5	✓

		9.36 ✓			
cb.			7.0	+ 2.4	✓
1/4			7.4	2.0	✓
+05 = W Rail Spur			7.05	2.31	✓
+10			7.4	2.0	✓
+15			6.5	2.9	✓
℄			6.5	2.9	✓
1/4			5.7	3.7	✓
cb.			4.7	4.7	✓
H			4.7	4.7	✓
+10			4.4	5.0	✓
	6+11.59 = Shina Bay Front St.				
-10			4.3	5.1	✓
N = Lt.			4.5	4.9	✓
+7.96 on Conc. Mon			5.12	4.24	✓
cb			4.5	4.9	✓
1/4			5.2	4.2	✓
℄			5.7	3.7	✓
+18			6.8	2.6	✓
1/4			8.0	1.4	✓
+7.3 = W Rail Spur			7.07	2.29	✓
+15 on Rail Spur ℄			7.11	2.25	✓

		9.36 ✓	Harbor Drive		
+18			8.0	+ 1.4	✓
cb.			6.8	2.6	✓
S = Rt			7.1	2.3	✓
+10			7.2	2.2	✓
T.P.	5.68	9.92 ✓	5.12	4.24 ✓	on Con Mon 6+11.59 7.96' S of ℄
	6+25				
-10			8.1	1.8	✓
S			7.8	2.1	✓
cb.			7.7	2.2	✓
1/4			8.2	1.7	✓
+5			8.8	1.1	✓
+6			7.2	2.7	✓
+12			5.6	4.3	✓
℄			5.2	4.7	✓
1/4			4.7	5.2	✓
+19			4.8	5.1	✓
cb.			4.8	5.1	✓
N			4.8	5.1	✓
+10			4.8	5.1	✓
T.P.	4.82	10.13 ✓	4.61	5.31	✓

10.13

6+80

N-10	4.8	+ 5.3
N	4.8	5.3
cb.	4.8	5.3
1/4	5.0	5.1
L	5.2	4.9
1/4	6.5	3.6
+12	7.6	2.5
+14	8.9	1.2
cb	8.5	1.6
S	8.7	1.4
+10	8.3	1.8

7+00

-10	8.3	1.8
S	8.5	1.6
cb.	8.8	1.3
+6	9.1	1.0
+8	8.1	2.0
1/4	8.2	1.9
L	7.8	2.3
1/4	7.6	2.5

10.13

Harbor Drive

15

+11	7.3	+ 2.8
+18	5.0	5.1
cb	4.9	5.2
N	4.9	5.2
+10	4.9	5.2

7+50

-10	4.6	5.5
N	4.7	5.4
cb.	4.8	5.3
+3	5.0	5.1
+6	5.4	4.7
+12	8.0	2.1
1/4	8.2	1.9
L	8.4	1.7
1/4	8.4	1.7
cb.	8.5	1.6
S	9.5	0.6
+8.5 +W Rail Spur.	8.29	1.84
+10	8.9	1.2
T.P.	6.65 12.47	4.31 5.82

12.47

	8+00		
-18 = 14 Rail Spur	10.95	+ 1.52	
-10	11.2	1.3	
S	10.8	1.7	
cb.	10.8	1.7	See F.B. 1597 for location court + Bldg
¼ on Conc. Tennis Ct.	10.30	2.17	
℄ " " "	10.3	2.2	
½	10.3	2.2	
+7	10.0	2.5	
+11	7.5	5.0	
cb.	6.5	6.0	
N	6.5	6.0	
+10	6.2	6.3	
+20	6.0	6.5	
	8+50		
-20	5.7	6.8	
-10	5.9	6.6	
N	6.3	6.2	
cb.	6.3	6.2	
+19	7.6	4.9	
¼	10.0	2.5	

12.47 Harbor Drive

℄ on Conc. Tennis Ct.	10.20	+ 2.3
½ " " "	10.22	2.25
cb.	10.3	2.2
S	10.4	2.1
+10	10.7	1.8
+27.5 = W Rail Spur	11.20	-1.3
	9+00	
-10	10.4	2.1
S	10.4	2.1
cb.	10.4	2.1
¼	10.4	2.1
℄	10.3	2.2
+9	9.6	2.9
+16	7.0	5.5
¼	7.2	5.3
cb.	6.7	5.8
N	6.6	5.9
+10	6.4	6.1
+20	6.2	6.3
	9+50	
-20	5.3	7.2

12.47

N	5.8	+ 6.7
cb.	5.9	6.6
¼	6.3	6.2
L	6.6	5.9
+2	7.0	5.5
+7	9.4	3.1
¼	9.9	2.6
cb.	10.5	2.0
S	10.6	1.9
+10	11.1	1.4
+33.4 = N Rail Spur.	11.15	1.32
10+00		
-10	10.1	1.4
S	11.1	1.4
cb.	11.1	1.4
+17	10.7	1.8
¼	9.3	3.2
+5	7.6	4.9
L	6.6	5.9
¼	5.1	7.4
cb.	5.0	7.5

12.47 Harbor Drive

17

N	4.9	+ 7.6
+20	4.7	7.8
10+50		
-20	3.9	8.6
N	4.3	8.2
cb.	4.4	8.1
⅛	4.7	7.8
+15	5.0	7.5
L	8.3	4.2
+4	10.4	2.1
½	10.7	1.8
cb	11.3	1.2
S	11.0	1.5
+10	11.3	1.2
+22.7 = S Rail Spur.	11.30	1.17
11+00		
-5 = Fence at	11.4	1.1
S	11.6	0.9
cb.	11.4	1.1
¼	10.7	1.8
+19	10.0	2.5

12.47 ✓

℄		8.9 + 3.6	✓
+8		5.1 7.4	✓
½		4.5 8.0	✓
cb.		4.1 8.4	✓
N		4.0 8.5	✓
+20		3.7 8.8	✓
	11+41.82 = BC. Lt.		
-20		3.3 9.2	✓
N		3.6 8.9	✓
cb.		3.6 8.9	✓
¼		4.2 8.3	✓
+15		4.7 7.8	✓
℄ on Rev. Stake		8.88 3.59	✓
+3		10.3 2.2	✓
½		11.1 1.4	✓
cb.		11.5 1.0	✓
S		11.8 0.7	✓
+4 at fence		11.8 0.7	✓
TP 10.07	13.66 ✓	8.88 3.59	✓
	12+00		
-5 at fence		12.4 1.3	✓

13.66 ✓ Harbor Drive

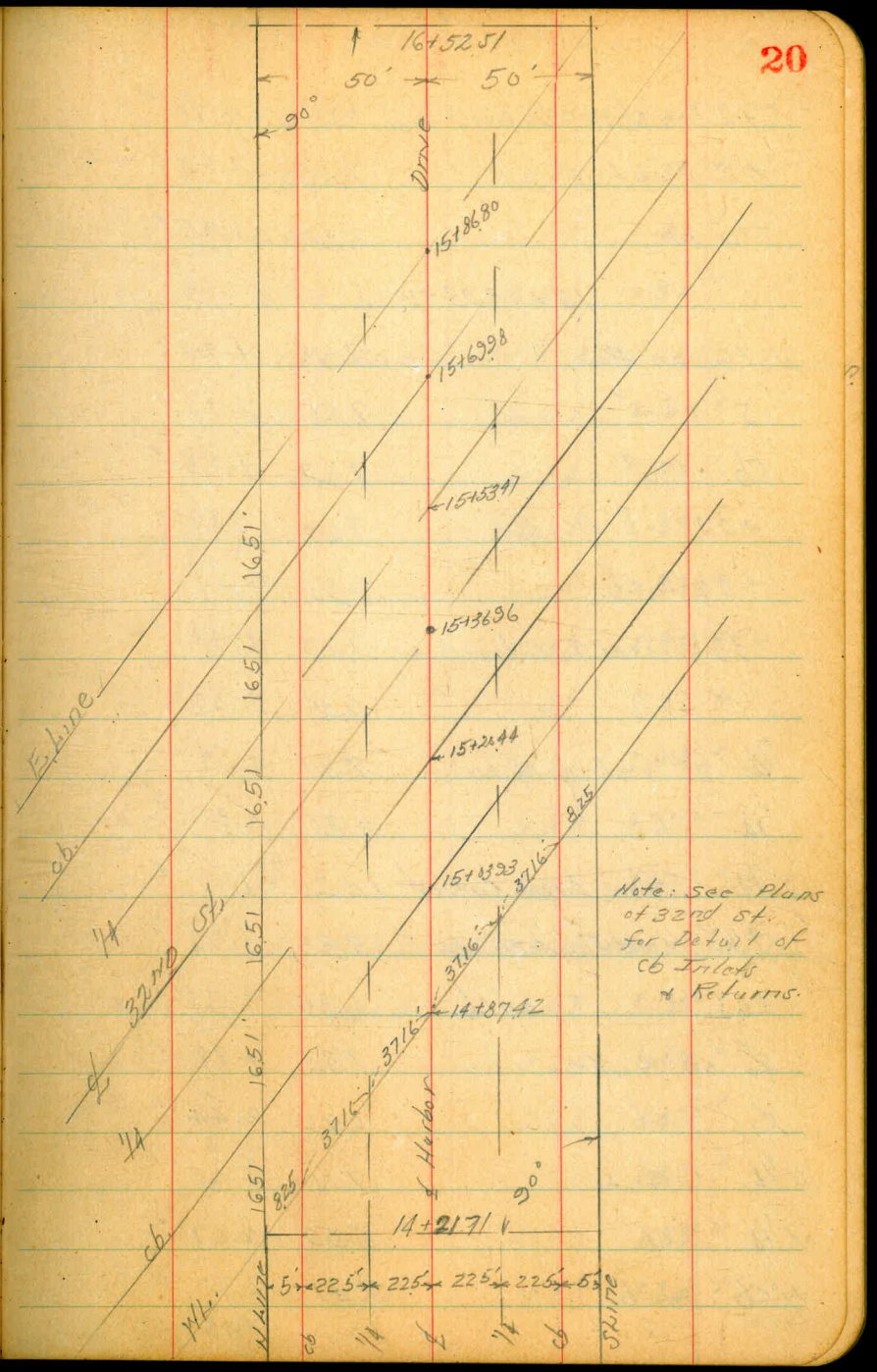
S		13.0 + 0.7	✓
cb.		12.9 0.8	✓
¼		12.2 1.5	✓
+7		11.7 2.0	✓
℄		8.4 5.3	✓
+6		5.6 8.1	✓
¼		4.9 8.8	✓
cb.		4.1 9.6	✓
N		4.1 9.6	✓
+10		4.0 9.7	✓
+20		4.0 9.7	✓
	12+50		
-10		3.0 10.7	✓
N		3.2 10.5	✓
cb.		3.3 10.4	✓
¼		3.5 10.2	✓
+9		4.5 9.2	✓
+19		5.0 8.7	✓
℄		7.5 6.2	✓
+6		11.7 2.0	✓
¼		12.9 1.3	✓

cb.	12.6	+ 1.1	✓
S	12.6	1.1	✓
+6 at fence	12.6	1.1	✓
12+61			
-6 at fence	12.5	1.2	✓
S	12.3	1.4	✓
cb.	12.3	1.4	✓
¼	12.3	1.4	✓
℄	11.3	2.4	✓
+7	4.8	8.9	✓
¼	3.7	10.0	✓
cb.	3.3	10.4	✓
N	3.3	10.4	✓
+10	3.1	10.6	✓
13+00			
-10	3.6	10.1	✓
N	3.6	10.1	✓
cb.	3.8	9.9	✓
¼	5.0	8.7	✓
+8	11.2	2.5	✓
℄	11.8	1.9	✓

¼	12.1	+ 1.6	✓
cb.	12.1	1.6	✓
S	12.1	1.6	✓
+7 at fence	12.1	1.6	✓
13+50			
-7 at fence	11.9	1.8	✓
S	12.0	1.7	✓
cb.	12.1	1.6	✓
¼	11.9	1.8	✓
℄	11.6	2.1	✓
¼	11.4	2.3	✓
cb.	11.3	2.4	✓
N	11.2	2.5	✓
+10	11.1	2.6	✓
14+00			
-10	10.8	2.9	✓
N	11.0	2.7	✓
cb.	11.0	2.7	✓
¼	11.2	2.5	✓
℄	11.6	2.1	✓
¼	11.8	1.9	✓

13.66 ✓ Harbor Drive
Cross Sections

cb.			12.0	+ 1.7	✓
S			12.1	1.6	✓
+5 at fence			12.2	1.5	✓
		14+21.71			
-5 at fence			12.2	1.5	✓
S			12.1	1.6	✓
cb.			12.0	1.7	✓
¼			11.9	1.8	✓
℄			11.6	2.1	✓
¼			11.2	2.5	✓
cb.			10.9	2.8	✓
N			10.8	2.9	✓
TP	6.43	9.20 ✓	10.89	2.77	✓
		14+87.42 = N.L. 32nd, diag, station			
-50			6.3	2.9	✓
N			6.4	2.8	✓
cb.			6.4	2.8	✓
¼			6.7	2.5	✓
℄			6.7	2.5	✓
¼			6.9	2.3	✓
S cb.			7.2	2.0	✓
S			7.3	1.9	✓



9.20 ✓

S+2' on cb. to Destroyer Base	7.29	1.91	✓
+2 " Gut. "	7.66	1.54	✓
+10 on " "	7.75	1.45	✓
15+03.93 = W cb 32nd diag. Section			
-10 on Par.	7.96	1.24	✓
S " "	7.85	1.35	✓
cb. " "	7.67	1.53	✓
+22 " " Pc. Ret.	7.69	1.51	✓
+22 " cb.	6.93	2.27	✓
+33.8 = Send Inlet on Gut.	7.79	1.41	✓
" " " " "	6.85	2.35	✓
1/4 on Grating of Inlet	7.81	1.39	✓
1/4 " cb.	6.85	2.35	✓
1/4 " Flow Line Culvert	10.20	-1.0	✓
+6.5 = N end Inlet = Gut.	7.83	1.37	✓
+6.5 = N " " on cb.	6.85	2.35	✓
L on Gut.	7.32	1.88	✓
L " cb.	6.76	2.44	✓
N 1/4 " Gut.	7.15	2.05	✓
N 1/4 " cb	6.59	2.61	✓
N cb. on cb	6.47	2.73	✓
" " "Gut.	7.02	2.18	✓

811-L 1703B. 831-G 901-G 9.20 Harbor Drive 21

N Line on Gut.	6.95	+ 2.25	✓
" " " cb.	6.45	2.75	✓
N+50 on Gut.	6.79	2.41	✓
N+50 " cb.	6.26	2.94	✓
15+20.44 = W 1/4 32nd diag. Section			
-50 on Par.	6.61	-2.59	✓
N " "	6.78	2.42	✓
" cb " "	6.81	2.39	✓
N 1/4 " "	6.93	2.27	✓
L " "	7.25	1.95	✓
S 1/4 " "	7.48	1.72	✓
S cb. " "	7.76	1.44	✓
S " "	7.83	1.37	✓
+10 " "	7.93	1.27	✓
15+36.96 = E 32nd. diag. Section			
-0.9 on cb to Destroyer Base	7.47	1.73	✓
-0.9 " Gut. " "	7.78	1.42	✓
S on Par.	7.77	1.43	✓
cb. " "	7.74	1.46	✓
1/4 " "	7.35	1.85	✓
+1.5' on Rim MH	7.36	1.84	✓

	9.20 ✓			
℄ on Pav.		7.26	+ 1.94 ✓	
1/4 " "		6.98	2.22 ✓	
cb. " "		6.77	2.43 ✓	
N " "		6.73	2.47 ✓	
+50 on Pav.		6.62	2.58 ✓	
15+53.47 = E 1/4 32nd. diag. Sect.				
-50 on Pav.		6.73	2.47 ✓	
N " "		6.90	2.30 ✓	
cb. " "		6.93	2.27 ✓	
1/4 " "		7.16	2.04 ✓	
℄ " "		7.39	1.81 ✓	
S 1/4 " "		7.47	1.73 ✓	
S cb " "		7.50	1.70 ✓	
S ℄ " "		7.41	1.79 ✓	
+7 on Dirt		7.3	1.9 ✓	
T.P. Chk. CT. +1d Plg.		7.26	1.94 ✓	on ℄ Tack 15+36.96 F.B. 1597-28 =15+40.84 Sta. Sewers from East
		CT =	1.92	
			0.02 Error.	
	✓			
T.P. 10.05	11.97	7.26	1.92 = Above CT.	
15+69.98 = E. cb. 32nd				
-5		9.8	.2	

	11.97 ✓	Harbor Drive		22
S		10.0	+ 2.0 ✓	
cb.		10.1	1.84 ✓	
+8 = on Paving		10.13	1.84 ✓	
1/4 " "		10.38	1.59 ✓	
℄ " "		10.53	1.44 ✓	
+7 = B.C. Ret. on Pav.		10.45	1.52 ✓	
+7 " " " cb.		9.60	2.37 ✓	
1/4 on Gut.		10.25	1.72 ✓	
" " cb.		9.55	2.42 ✓	
cb. " Gut.		10.04	1.93 ✓	
N " " cb.		9.50	2.47 ✓	
N on Gut.		10.03	1.94 ✓	
" " cb.		9.44	2.53 ✓	
+50 " Gut.		9.83	2.14 ✓	
" " cb.		9.24	2.73 ✓	
15+86.8 = E.L. 32ND				
-50		9.1	2.9 ✓	
N		9.3	2.7 ✓	
cb		9.3	2.7 ✓	
1/4		9.4	2.6 ✓	
+34.2 on diag. = end cb.		9.65	2.32 ✓	on cb.
" " "		10.49	1.48 ✓	" Gut.

11.97 ✓

1/4+22.86 (7.8 Rt = HLY and cb Inlet)			
" on cb.		9.62	+ 2.35 ✓
" " Gut.		10.63	1.34 ✓
1/4+26.8 4.8' Rt. ℄ Inlet			
" on cb.		9.62	2.35 ✓
" " Grating.		10.63	1.34 ✓
" " Flow		12.34	− 0.37 ✓
1/4 +31 = 1.8' Rt. HLY and cb Inlet			
" on cb.		9.63	+ 2.34 ✓
" Gut.		10.66	1.31 ✓
℄ on Pav.		10.46	1.51 ✓
1/4		10.2	1.8 ✓
cb.		9.9	2.1 ✓
S		9.7	2.3 ✓
+6		9.3	2.7 ✓
15+95 = Section Parallel to 32nd.			
-6		9.3	2.7 ✓
S		9.6	2.4 ✓
cb.		9.8	2.2 ✓
1/4		10.2	1.8 ✓
℄		10.1	1.9 ✓

11.97 ✓ Harbor Drive 23

℄ +9		10.0	+ 2.0 ✓
+25		4.9	7.1 ✓
1/4		4.9	7.1 ✓
cb.		4.2	7.8 ✓
N		4.2	7.8 ✓
+10		4.2	7.8 ✓
16+52.51 Rt ∠ to SE. Cor.			
-10		4.6	7.4 ✓
N		4.8	7.2 ✓
cb.		5.0	7.0 ✓
1/4		5.2	6.8 ✓
+11		5.2	6.8 ✓
+17		9.6	2.4 ✓
℄		9.6	2.4 ✓
1/4		10.0	2.0 ✓
cb		9.9	2.1 ✓
S		9.8	2.2 ✓
+5 at fence		9.4	2.6 ✓
17+00			
-5		9.6	2.4 ✓
S		9.6	2.4 ✓

11.97 ✓

cb.	9.4	+ 2.6	✓
¼	9.6	2.4	✓
℄	9.2	2.8	✓
+8	9.1	2.9	✓
+10	5.4	6.6	✓
¼	5.7	6.3	✓
cb	5.1	6.9	✓
N	5.0	7.0	✓
+20	5.0	7.0	✓
17+33.12 BC. Lt.			
-20	5.0	7.0	✓
N	5.0	7.0	✓
cb.	5.8	7.0	✓
½	5.7	6.3	✓
+12	5.8	6.2	✓
+14	8.3	3.7	✓
℄ on Par. Stake	8.77	3.20	✓
¼	9.7	2.3	✓
cb.	9.4	2.6	✓
S	9.2	2.8	✓
+5 at fence.	10.0	2.0	✓

11.97 ✓ Harbor Drive 24

					on ℄ Stake BC
TP	7.93	11.13 ✓	8.77	3.20 ✓	
17+50					
-5-			8.8	+ 2.3	✓
S			8.7	2.4	✓
cb.			8.5	2.6	✓
¼			8.7	2.4	✓
℄			7.7	3.4	✓
+7			7.5	3.6	✓
+9			5.2	5.9	✓
¼			5.1	6.0	✓
cb.			4.4	6.7	✓
N			4.1	7.0	✓
+10			3.9	7.2	✓
18+00					
-10			4.2	6.9	✓
N			4.5	6.6	✓
cb.			4.7	6.4	✓
¼			5.2	5.9	✓
+16			5.7	5.4	✓
+19			7.4	3.7	✓
℄			7.7	3.4	✓

11.13 ✓

¼	8.7	+ 2.4	✓
cb.	8.5	2.6	✓
S	8.6	2.5	✓
+5	9.2	1.9	✓
18+50			
-17 at fence	9.3	1.8	✓
S	8.2	2.9	✓
cb.	8.0	3.1	✓
¼	8.2	2.9	✓
+20	7.8	3.3	✓
L	7.2	3.9	✓
¼	7.0	4.1	✓
cb	7.1	4.0	✓
N	6.9	4.2	✓
+10	6.4	4.7	✓
19+00			
-10	7.8	3.3	✓
N	7.7	3.4	✓
cb.	8.2	2.9	✓
¼	7.7	3.4	✓
L	7.3	3.8	✓

11.13 ✓ Harbor Drive 25

+9	7.1	+ 4.0	✓
+10	8.1	3.0	✓
¼	8.3	2.8	✓
cb.	8.2	2.9	✓
S	8.0	3.1	✓
+20	8.5	2.6	✓
19+50			
-20	8.0	3.1	✓
S	8.1	3.0	✓
cb	8.1	3.0	✓
¼	7.1	4.0	✓
+3	5.5	5.6	✓
L	6.4	4.7	✓
¼	5.7	5.4	✓
cb.	5.8	5.3	✓
N	5.4	5.7	✓
+10	5.7	5.4	✓
20+00			
-10	5.8	5.3	✓
N	6.0	5.1	✓
cb	6.1	4.9	✓

11.13 ✓

¼	6.8	+ 4.3	✓
℄	7.0	4.1	✓
¼	7.1	4.0	✓
cb.	7.3	3.8	✓
S	7.9	3.2	✓
+20	7.9	3.2	✓
20+50			
-20	7.8	3.3	✓
S	7.7	3.4	✓
cb.	7.1	4.0	✓
¼	6.4	4.7	✓
℄	6.8	4.3	✓
¼	6.0	5.1	✓
cb.	6.2	4.9	✓
N	6.1	5.0	✓
+10	6.0	5.1	✓
21+00			
-10	6.0	5.1	✓
N	5.9	5.2	✓
cb.	6.2	4.9	✓
¼	6.2	4.9	✓

11.13 ✓ Harbor Drive 26

℄	6.1	+ 5.0	✓
¼	6.7	4.4	✓
cb.	7.1	4.0	✓
S	7.4	3.7	✓
+10	7.3	3.8	✓
21+50			
-15	6.9	4.2	✓
S	6.5	4.6	✓
cb.	6.5	4.6	✓
¼	6.5	4.6	✓
℄	6.3	4.8	✓
¼	6.5	4.6	✓
cb.	6.4	4.7	✓
N	6.4	4.7	✓
+10	6.3	4.8	✓
22+00			
-10	5.9	5.2	✓
N	6.2	4.9	✓
cb.	6.1	5.0	✓
¼	5.8	5.3	✓
℄ on New Fill	4.7	6.4	✓

11.13

℄ old Ground	6.0	+ 5.1	✓
½ " "	6.2	4.9	✓
cb. " "	6.3	4.8	✓
S " "	6.4	4.7	✓
+10	6.6	4.5	✓
22+50			
-10	6.5	4.6	✓
S	6.2	4.9	✓
cb on New Fill	5.7	5.4	✓
½ " " "	4.5	6.6	✓
" " Nat Grd.	6.2	4.9	✓
℄ "	6.2	4.9	✓
℄ " Fill	4.5	6.6	✓
½ " Nat. Grd.	6.0	5.1	✓
cb. on " "	6.3	4.8	✓
N " " "	6.2	4.9	✓
+10 " "	6.2	4.9	✓
23+00			
-10 Natl Ground.	7.0	4.1	✓
N on New fill	2.6	8.5	✓
cb. " " "	2.4	8.7	✓

11.13

½ on New fill	3.6	+ 7.5	✓
℄ " " "	5.0	6.1	✓
½ " " "	3.8	7.3	✓
+8 on Nat Grd.	5.8	5.3	✓
cb. " "	5.6	5.5	✓
S " " "	5.6	5.5	✓
+10	5.6	5.5	✓
TP 7.85 13.51	5.47	5.66	✓
23+50			
-10 Nat Ground	7.6	5.9	✓
S " "	7.5	6.0	✓
cb. " "	7.5	6.0	✓
½ " "	7.5	6.0	✓
℄ " "	8.4	5.1	✓
½ " "	8.7	4.8	✓
cb.	9.3	4.2	✓
N	9.3	4.2	✓
+10	9.6	3.9	✓
24+00			
-10	9.3	4.2	✓
N	9.0	4.5	✓

13.51 ✓

cb.	8.8	+ 4.7	✓
¼	7.9	5.6	✓
℄	7.9	5.6	✓
¼	7.3	6.2	✓
cb.	7.2	6.3	✓
S	7.2	6.3	✓
+10	7.6	5.9	✓
24+50			
-10	7.5	6.0	✓
S	7.2	6.3	✓
cb.	7.0	6.5	✓
¼	7.1	6.4	✓
℄	7.4	6.1	✓
¼	8.6	4.9	✓
cb.	8.9	4.6	✓
N	9.1	4.4	✓
+10	9.2	4.3	✓
25+00			
-10	8.8	4.7	✓
N	8.8	4.7	✓
cb.	8.8	4.7	✓

13.51 ✓ Harbor Drive 28

¼	8.0	+ 5.5	✓
℄	7.9	5.6	✓
¼	6.8	6.7	✓
cb.	6.8	6.7	✓
S	6.5	7.0	✓
+10	6.9	6.6	✓
25+50			
-10	7.6	5.9	✓
S	7.6	5.9	✓
cb.	7.7	5.8	✓
¼	7.4	6.1	✓
℄	7.7	5.8	✓
¼	8.0	5.5	✓
cb.	6.9	6.6	✓
N	6.8	6.7	✓
+10	7.1	6.4	✓
26+00			
-10	7.7	5.8	✓
N	7.7	5.8	✓
cb.	7.7	5.8	✓
¼	7.6	5.9	✓

	13.51		
℄		7.2	+6.3 ✓
¼		6.8	6.7 ✓
cb.		6.9	6.6 ✓
S		6.9	6.6 ✓
+10		7.2	6.3 ✓
	26+50		
-10		7.5	6.0 ✓
S		7.4	6.1 ✓
cb.		7.4	6.1 ✓
¼		7.3	6.2 ✓
℄		7.3	6.2 ✓
¼		6.8	6.7 ✓
cb		6.5	7.0 ✓
N		6.6	6.9 ✓
+10		6.5	7.0 ✓
	27+00		
-10		6.9	6.7 ✓
N		6.1	7.4 ✓
cb.		6.3	7.2 ✓
¼		6.3	7.2 ✓
℄		6.6	6.9 ✓

	13.51 ✓ Harbor Drive		
¼		6.9	+6.6 ✓
cb.		7.0	6.5 ✓
S		7.1	6.4 ✓
+10		7.1	6.4 ✓
	27+50		
-10		6.3	7.2 ✓
S		6.3	7.2 ✓
cb.		6.3	7.2 ✓
¼		5.7	7.8 ✓
℄		5.9	7.6 ✓
¼		5.4	8.1 ✓
cb.		5.3	8.2 ✓
N		5.3	8.2 ✓
+10		5.6	7.9 ✓
	28+00		
-10		5.8	7.7 ✓
N		5.8	7.7 ✓
cb.		5.6	7.9 ✓
¼		5.4	8.1 ✓
℄		5.5	8.0 ✓
¼		5.7	7.8 ✓

		13.51			
cb.			6.0	+ 7.5	
S			6.0	7.5	
+20			6.0	7.5	
TP	551	13.72	5.30	8.21	13' Mon Unu & Kingwood
		28+50			
-20			5.5	8.2	
S			52	8.5	
cb.			55	8.2	
1/4			47	9.0	
L			53	8.4	
1/4			53	8.4	
cb.			55	8.2	
N			55	8.2	
+10			55	8.2	
		29+00			
-10			5.5	8.2	
1/4			56	8.1	
cb.			56	8.1	
1/4			53	8.4	
L			51	8.6	
1/4			5.1	8.6	

		13.72			
cb.			53	+ 8.4	
S			52	8.5	
+20			4.6	9.1	
		29+50			
-20			50	8.7	
S			50	8.7	
cb.			49	8.8	
1/4			51	8.6	
L			56	8.1	
1/4			59	7.8	
cb.			66	7.1	
N			66	7.1	
+20			69	6.8	
		30+00			
-20			57	7.0	
N			51	8.6	
cb			43	8.8	
1/4			53	8.4	
L			55	8.2	
1/4			57	8.0	
cb.			54	8.3	

13.72

S	5.4	+ 8.3
+20	5.4	8.3
30+50		
-20	5.0	8.7
S	5.0	8.7
cb	5.0	8.7
1/4	5.0	8.7
℄	4.7	9.0
1/4	5.7	8.0
cb	6.4	7.3
N	6.4	7.3
+20	6.6	7.1
31+00		
-20	7.1	6.6
N	6.8	6.9
cb	6.6	7.1
1/4	6.4	7.3
℄	5.7	8.0
1/4	5.3	8.4
cb	5.2	8.5
S	5.1	8.6
+20	5.0	

13.72

31+50		
-20	3.9	+ 9.8
S	4.4	9.3
cb	4.5	9.2
1/4	5.5	8.2
℄	6.5	7.2
1/4	7.1	6.6
cb	7.3	6.4
N	7.4	6.3
+20	8.7	5.0
32+00		
-20	12.1	1.6
N	10.3	3.4
cb	9.8	3.9
1/4	9.3	4.4
℄	7.4	6.3
1/4	6.5	7.2
cb	5.3	8.4
S	5.0	8.7
+20	4.9	8.8

		13.72		
		32+50		
-20			4.9	+ 8.8
S			5.9	7.8
cb			6.5	7.2
1/4			8.4	5.3
℄			9.4	4.3
1/4			10.7	3.0
cb			13.0	0.7
N			13.6	+ 0.1
+20			14.7	− 1.0
T.P. on BC Nob	4.35	12.88	5.19	8.53
		33+00		
-25			15.3	− 2.4
N			15.3	− 2.4
cb			15.8	− 2.4
+10	on New fill		13.7	− 0.8
1/4	" " "		11.3	+ 1.6
℄	" " "		9.0	3.9
1/4	" " "		8.3	4.6
cb	" " "		8.0	4.9
S	" " "		8.0	4.9
+10	" " "		7.9	5.0

	12.88		
+20	on new fill	2.8	+ 10.1
	33+50		
-20	on new fill	7.2	5.7
S	" " "	9.4	3.5
cb	" " "	10.4	2.5
1/4	" " "	13.0	− 0.1
℄	" Lake	13.5	− 0.6
1/4	on Bottom Lake	15.3	− 2.4
cb	" " "	15.3	− 2.4
N	" " "	15.3	− 2.4
+25	" " "	15.3	− 2.4

Above shots on Bottom Lake = Approx. 13' Mon Kingwood + Vesta

T.P.	7.40	7.76	12.52	0.36

All of this section 34+00 = Bottom of Lake

Elev. Bottom of Lake = − 2.4 Approx.

34+50

S 1/2 of Section = Bottom of Lake

℄	7.7	+ 0.1
N 1/4	6.7	1.1
cb	6.5	1.3
N	6.4	1.4
+20	6.6	1.2

35+00

-20	5.7	+ 2.1	✓
N	5.4	2.4	✓
cb.	5.5	2.3	✓
1/4	6.4	1.4	✓
℄	6.9	+ 0.9	✓
1/4	7.9	− 0.1	✓
cb.	7.7	+ 0.1	✓
S	7.7	+ 0.1	✓
+20	7.6	+ 0.2	✓

35+09.8 = W Rail Spur. Appro Rt. ℄ to ℄

S.L. on Rail Spur.	5.38	2.38	✓
℄ " N " "	5.24	2.52	✓
N.L. " W R "	4.77	2.99	✓

35+50

-20	6.5	1.3	✓
S	7.0	0.8	✓
cb.	7.0	0.8	✓
1/4	7.2	0.6	✓
℄	7.1	0.7	✓
1/4	6.9	0.9	✓
cb.	6.3	1.5	✓

N	6.1	+ 1.7	✓
+20	5.5	2.3	✓

36+00

-20	5.3	2.5	✓
N	5.4	2.4	✓
cb.	5.4	2.4	✓
1/4	5.7	2.1	✓
℄	5.8	2.0	✓
1/4	4.8	3.0	✓
cb.	5.6	2.2	✓
S	5.4	2.4	✓
+20	5.4	2.4	✓

36+50

-20	5.4	2.4	✓
S	5.4	2.4	✓
cb.	5.4	2.4	✓
1/4	5.6	2.2	✓
℄	5.5	2.3	✓
1/4	5.5	2.3	✓
cb.	5.4	2.4	✓
N	5.3	2.5	✓
+20	5.0	2.8	✓

	37+00		
-20	4.3	+ 3.5	✓
N	4.7	3.1	✓
cb.	4.8	3.0	✓
1/4	4.9	2.9	✓
℄	5.3	2.5	✓
1/4	5.7	2.1	✓
S cb.	6.5	1.3	✓
S	6.7	1.1	✓
+20	6.7	1.1	✓
	37+50		
-20	6.5	1.3	✓
S	6.5	1.3	✓
cb.	6.5	1.3	✓
1/4	5.8	2.0	✓
℄	5.4	2.4	✓
1/4	4.8	3.0	✓
cb.	4.9	2.9	✓
N	4.8	3.0	✓
+20	4.7	3.1	✓

	38+00		
-20	6.1	+ 1.7	✓
N	5.7	2.1	✓
cb.	5.6	2.2	✓
1/4	5.3	2.5	✓
℄	5.5	2.3	✓
1/4	5.6	2.2	✓
cb.	5.9	1.9	✓
S	5.9	1.9	✓
+20	6.3	1.5	✓
	38+50		
-20	6.1	1.7	✓
S	5.9	1.9	✓
cb.	5.9	1.9	✓
1/4	6.0	1.8	✓
℄	6.8	1.0	✓
1/4	7.2	0.6	✓
cb.	7.6	0.2	✓
N	7.8	0.0	✓
+20	8.7	-0.9	✓

		7.76 ✓			
	38+75				
N-20, and N to N cb. in Bottom of Lake Elev. = -1.4 Approx.					
N ¼			8.6	- 0.8 ✓	
℄			7.9	- 0.1 ✓	
¼			6.9	+ 0.9 ✓	
cb.			6.3	+ 1.5 ✓	
S			6.3	1.5 ✓	
+20			6.3	1.5 ✓	
T.P.	10.07	10.43 ✓	7.40	0.36 ✓	13' Mon. Kingwood & Vista
T.P.	7.54	7.70 ✓	10.27	0.16 ✓	
	39+00	Section	Elev. -2.5		in Lake Approx Elev.
	40+00	"	" = -2.5		
	41+00	"	" = -2.5		
	41+53	"	" = -3.0		
	41+60 = Section in 1st St.				
-20			6.2	1.5 ✓	
S = Rt			5.9	1.8 ✓	
cb.			5.9	1.8 ✓	
¼			6.1	1.6 ✓	
℄			6.4	1.3 ✓	
¼			6.8	0.9 ✓	

		7.70 ✓	Harbor Drive		
cb.			6.8	+ 0.9 ✓	
N = Lt.			6.6	1.1 ✓	
+20			6.6	1.1 ✓	
+100			6.1	1.6 ✓	
	41+90 Section in 1st St.				
-100			6.1	1.6 ✓	
N = Lt.			6.8	0.9 ✓	
cb.			6.8	0.9 ✓	
¼			6.6	1.1 ✓	
℄			6.5	1.2 ✓	
¼			7.0	0.7 ✓	
cb.			6.7	1.0 ✓	
S = Rt.			6.7	1.0 ✓	
+ 100			7.3	0.4 ✓	on ℄ 1st St
+ 590 = ℄ Road to Warehouse			4.3	3.4 ✓	
	42+50				
-20			6.1	1.6 ✓	
S			6.0	1.7 ✓	
cb.			6.0	1.7 ✓	
¼			6.0	1.7 ✓	
℄			6.8	0.9 ✓	

7.70 ✓

N 1/4	7.2	+ 0.5	✓
cb.	6.3	1.4	✓
N	6.1	1.6	✓
+20	5.9	1.8	✓

Note: from Sta 42+00 to end = Hydraulic Fill

43+00

-20	6.1	1.6	✓
N	6.1	1.6	✓
cb.	6.6	1.1	✓
1/4	6.4	1.3	✓
℄	6.3	1.4	✓
1/4	6.4	1.3	✓
cb.	6.4	1.3	✓
S	6.2	1.5	✓
+20	5.7	2.0	✓

43+50

-20	5.7	2.0	✓
S	5.9	1.8	✓
cb.	5.9	1.8	✓
1/4	5.7	2.0	✓
℄	6.1	1.6	✓

7.70 ✓

1/4	6.1	+ 1.6	✓
cb.	6.1	1.6	✓
N	6.1	1.6	✓
+25	6.1	1.6	✓

44+00

-20	6.1	1.6	✓
N	5.7	2.0	✓
cb.	5.6	2.1	✓
1/4	5.4	2.3	✓
℄	5.5	2.2	✓
1/4	5.4	2.3	✓
cb.	5.4	2.3	✓
S	5.5	2.2	✓
+20	4.7	3.0	✓

45+00

-20	5.0	2.7	✓
S	5.2	2.5	✓
cb.	5.2	2.5	✓
1/4	5.2	2.5	✓
℄	5.1	2.6	✓
1/4	5.1	2.6	✓

770

Cb.		5.2	+ 2.5 ✓
N		5.2	2.5 ✓
+20		5.4	2.3 ✓

45+24.37 = E.C. No Section taken

46+00

-25		5.1	2.6 ✓
N		5.1	2.6 ✓
L		4.8	2.9 ✓
+25		4.9	2.8 ✓

47+00

-25		4.9	2.8 ✓
S		5.0	2.7 ✓
L		5.0	2.7 ✓
N		5.0	2.7 ✓
+25		5.0	2.7 ✓

48+00

-25		4.4	3.3 ✓
N		4.4	3.3 ✓
L		4.3	3.4 ✓
S		4.3	3.4 ✓
+25		4.3	3.4 ✓

770 ✓

49+00

-25		2.8	+ 4.9 ✓
S = Rt		2.8	4.9 ✓
L		3.0	4.7 ✓
N = Lt		3.5	4.2 ✓
+25		3.5	4.2 ✓

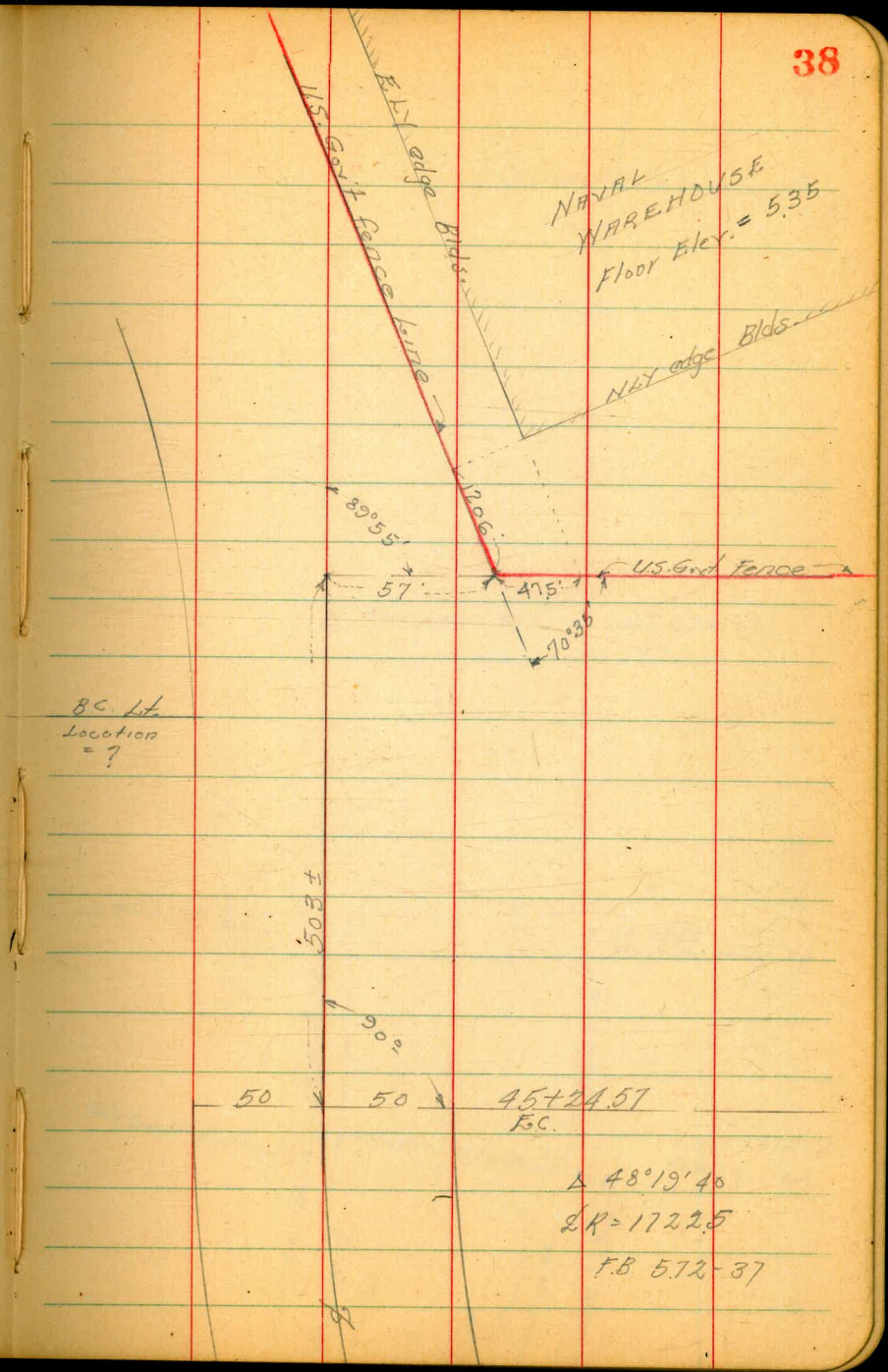
50+27

-25		4.2	3.5 ✓
N = Lt		4.2	3.5 ✓
L		3.4	4.3 ✓
S		2.7	5.0 ✓
+25		2.3	5.4 ✓
Floor Elev. Naval Warehouse		Rd = 2.35	5.35 ✓
U.S. Govt. Mon		4.41	3.29 ✓
TP	8.87 12.27	4.30	3.40 ✓
TP	4.29 ✓ 13.52 ✓	3.04	9.23 ✓
Chk. 13' Mon Unat Kingwood	BM.	5.35	8.17 ✓

8.22 - BM. Station
.005 Error.

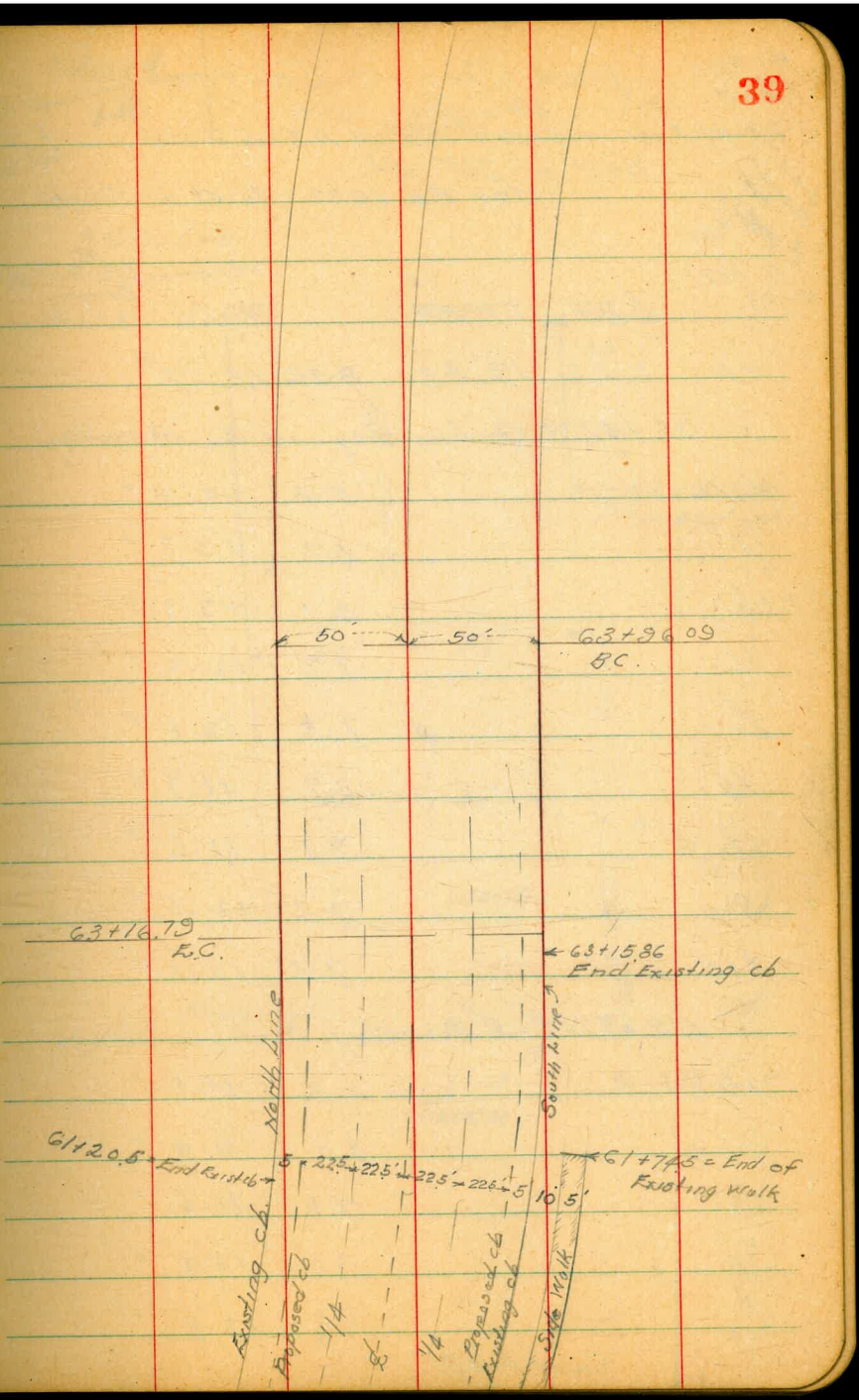
Harbor Drive
Cross Section

Note: E.C. 45+24.57 Located by Stadia from P.T. on true Angle, and dist from there to Intersection of Govt. Fence was chained, So True location of Bldg are within the limit of this method only.



Harbor Drive
Cross Sections

Completed 3-19-91



Walker
Isbell
3-27-41

CROSS SECTION COLTON ST. 100' wide 90' Roadway 5' C/s. 22.5/45
from Beardsley St.
to Intersection of A.T.&S.F.R.R.
West of 9TH St.

See F.B. 1039 - 46-48 for Survey

[illegible]

F.B. 1547
p-33

				City Datum	U.S. Govt. BM.
	3.87	21.53		17.66	Dewey & Colton
T.P.	6.26	19.43	8.36	13.17	

112+47.33 Section diag. on E.L. Beardsley.

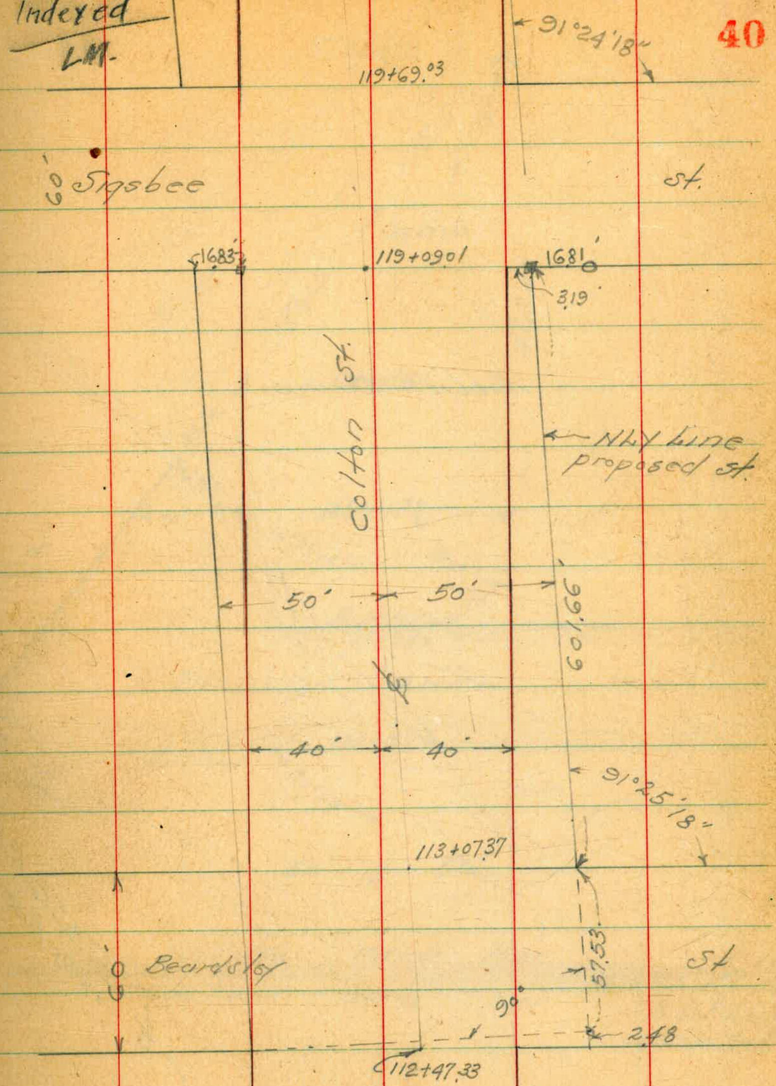
N-10			5.4	14.0 ✓
N			5.7	13.7 ✓
+5' = cb.			6.1	13.3 ✓
1/4			7.2	12.2 ✓
℄			7.3	12.1 ✓
1/4			7.7	11.7 ✓
cb.			7.8	11.6 ✓
S			7.3	12.1 ✓
+10			7.3	12.1 ✓

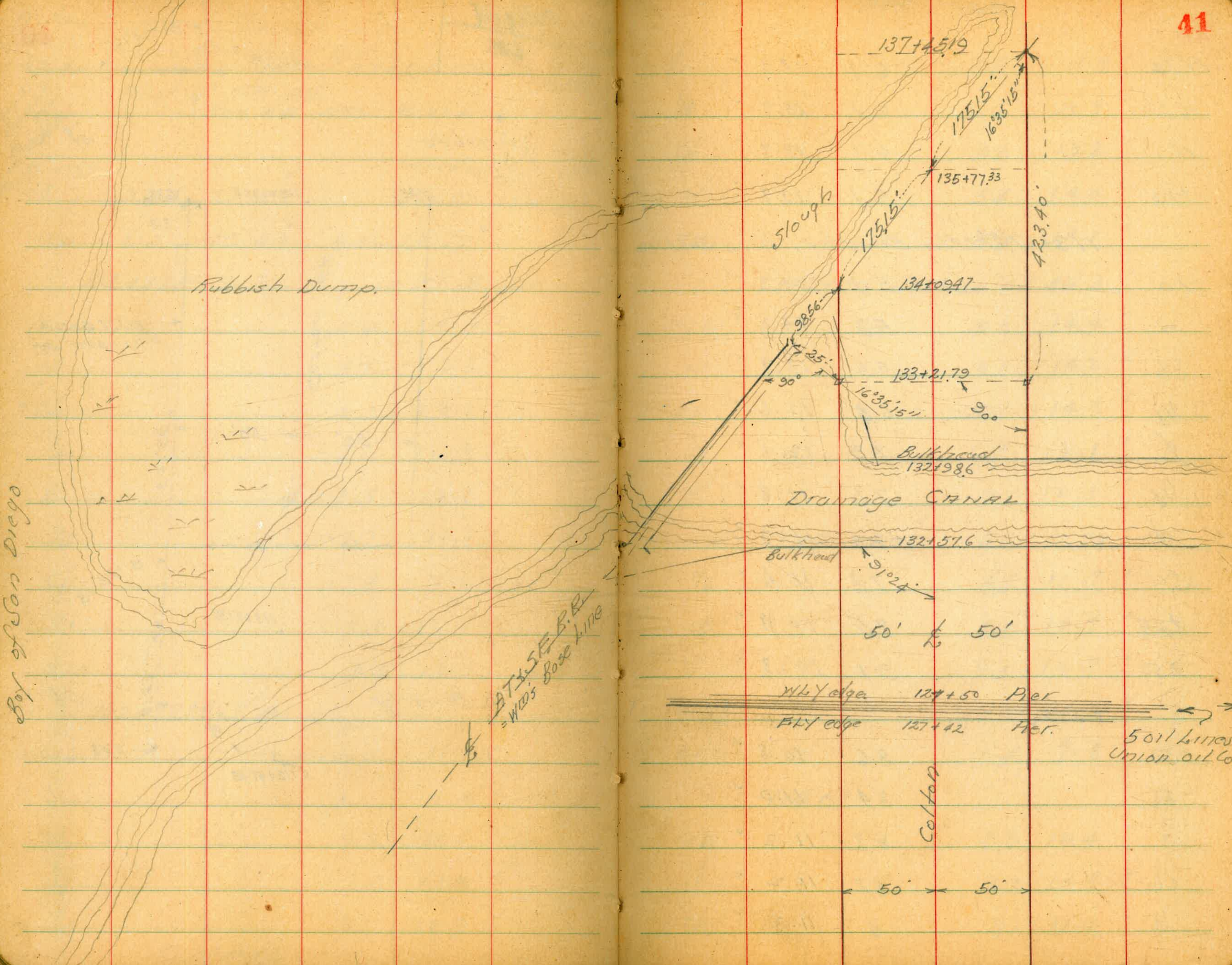
112+77.34 = ℄ Beardsley, section diag.

-10			8.3	11.1 ✓
S			8.0	11.4 ✓
cb.			7.8	11.6 ✓
1/4			7.0	12.4 ✓
℄			6.6	12.8 ✓

Cont P-42

Indexed
LM.




Rubbish Dump.
Bay of San Diego
A.T.&S.F. R.R.
= W.O.'s Base Line
Slough
137+45.19
175.15'
16°35'15"
135+77.33
175.15'
423.40'
134+09.47
98.56'
25'
90°
133+21.79
16°35'15"
90°
Bulkhead
132+98.6
Drainage CANAL
132+57.6
Bulkhead
91°24'
50'
50'
WLY edge 127+50 Pier
ELY edge 127+42 Pier.
5 oil Lines
Union oil Co.
Colton
50'
50'

1943

N 1/4			6.1	13.3
N cb.			6.1	13.3
N			6.1	13.3
+10			6.1	13.3
	113+07.37 = 1/4. Beardsley, drag Section			
-10			5.1	14.3
N			5.2	14.2
cb			5.5	13.9
1/4			6.8	12.6
℄			7.3	12.1
1/4			7.6	11.8
cb.			7.7	11.7
S			7.8	11.6
+25			8.5	10.9
+50			9.1	10.3
	113+25			
-50			8.6	10.8
-25			8.4	11.0
S			8.2	11.2
cb.			8.2	11.2
1/4			8.1	11.3

1943

℄			7.5	11.9
1/4			6.6	12.8
cb			5.6	13.8
N			5.4	14.0
+10			5.3	14.1
	113+50 Section of R/A			
-10			5.0	14.4
N			5.2	14.2
cb			5.1	14.3
1/4			6.3	13.1
℄			7.1	12.3
TP	7.47	20.25	6.65	12.78
1/4			8.5	11.7
cb			9.3	10.9
S			9.5	10.7
+25			10.0	10.2
+50			10.4	9.8
	114+00			
-10			9.8	10.4
S			9.3	10.9
cb.			9.1	11.1

20.25 ✓

¼		8.0	12.2 ✓
℄		6.7	13.5 ✓
+15		6.0	14.2 ✓
¼		6.3	13.9 ✓
cb.		5.4	14.8 ✓
N		5.5	14.7 ✓
+10		5.3	14.9 ✓
	114+50		
-50 ± on Rail 50+A Main Line		6.94	13.31 ✓
-10		5.1	15.1 ✓
N		5.1	15.1 ✓
cb		5.2	15.0 ✓
+70'		4.8	15.4 ✓
+15		6.2	14.0 ✓
¼		5.6	14.6 ✓
℄		6.0	14.2 ✓
¼		7.8	12.4 ✓
cb.		8.7	11.5 ✓
S		8.9	11.3 ✓
+10		9.2	11.0 ✓
	115+00.		

115+00

20.25 ✓

-10		9.5	10.7 ✓
S		9.3	10.9 ✓
cb.		9.2	11.0 ✓
¼		8.8	11.4 ✓
℄		8.1	12.1 ✓
¼		6.9	13.3 ✓
+15		6.9	13.3 ✓
+18		6.0	14.2 ✓
cb.		5.5	14.7 ✓
N		5.4	14.8 ✓
+10		5.4	14.8 ✓
	115+50		
-10		5.6	14.6 ✓
N		5.3	14.9 ✓
cb.		5.1	15.1 ✓
+10		5.9	14.3 ✓
+13		7.5	12.7 ✓
¼		7.3	12.9 ✓
℄		8.4	11.8 ✓
¼		8.7	11.5 ✓
cb.		8.9	11.3 ✓

20.25

S			9.9	10.3
+10			7.3	10.9
	116+00			
-10			10.1	10.1
S			9.7	10.5
cb			9.6	10.6
1/4			9.1	11.1
L			8.7	11.5
1/4			7.9	12.3
+12			7.8	12.4
+15			5.8	14.4
cb.			5.3	14.9
N			5.4	14.8
+25			5.2	15.0
	116+50			
-10			7.3	12.9
N			7.0	13.2
cb.			6.9	13.3
+6			7.2	13.0
+10			8.6	11.6
1/4			8.4	11.8

20.25

+15			8.7	11.5
L			9.5	10.7
1/4			10.3	9.9
cb.			10.0	10.2
S			10.1	10.1
+10			10.1	10.1
T.P	4.25	16.87	7.63	12.62
	117+00			
-10			7.9	9.0
S			7.7	9.2
cb.			7.8	9.1
1/4			7.6	9.3
L			7.1	9.8
1/4			6.4	10.5
+14			6.4	10.5
+17			5.5	11.4
cb			5.3	11.6
N			5.3	11.6
+10			5.3	11.6
	117+50			
-10			5.9	11.0

117+50 ℄ 16.87 ✓

N		6.0	10.9 ✓
cb.		6.1	10.8 ✓
+3		6.4	10.5 ✓
+7		7.6	9.3 ✓
½		7.6	9.3 ✓
L		7.8	9.1 ✓
½		8.0	8.9 ✓
cb		8.0	8.9 ✓
S		8.3	8.6 ✓
+10		8.7	8.2 ✓
	118+00		
-10		9.3	7.6 ✓
South		9.3	7.6 ✓
cb.		9.1	7.8 ✓
½		8.8	8.1 ✓
L		8.5	8.4 ✓
¼		8.4	8.5 ✓
+19		8.3	8.6 ✓
cb.		6.9	10.0 ✓
N		6.8	10.1 ✓
+15		6.6	10.3 ✓

℄ 16.87 ✓

	118+50			
-15			7.0	9.9 ✓
N			7.8	9.1 ✓
cb			8.0	8.9 ✓
+3			8.8	8.1 ✓
½			8.8	8.1 ✓
L			9.1	7.8 ✓
¼			9.3	7.6 ✓
cb.			9.6	7.3 ✓
S			9.6	7.3 ✓
+10			9.7	7.2 ✓
TP	2.29	12.53 ✓	6.63	10.24 ✓
	119+09.01 = EL Sigsbee, diag. section			
-10			7.8	4.7 ✓
S			7.8	4.7 ✓
cb.			7.6	4.9 ✓
½			6.5	6.0 ✓
L			5.9	6.6 ✓
¼			5.3	7.2 ✓
cb.			5.0	7.5 ✓
N on Hub		top Cap brk.	5.39	7.14 ✓

12.53

+10		50	7.5	✓
+50 ±	S. Rail Siding SOth	320	9.33	✓
	119+89.02 = ℄ Sigsbee. diag Section			
-10		46	7.9	✓
N		49	7.6	✓
cb		51	7.4	✓
¼		56	6.9	✓
℄		66	5.9	✓
¼		77	4.8	✓
cb		83	4.2	✓
S		83	4.2	✓
+10		87	3.8	✓
	119+69.03 = W.L. Sigsbee, diag. Section			
-10		104	2.1	✓
S		102	2.3	✓
cb.		103	2.2	✓
¼		98	2.7	✓
℄		90	3.5	✓
¼		83	4.2	✓
cb.		66	5.9	✓
N		62	6.3	✓
+10		56	6.9	✓

12.53

	120+00			
-10		81	4.4	✓
N		88	3.7	✓
cb.		86	3.9	✓
¼		97	2.8	✓
℄		102	2.3	✓
¼		108	1.7	✓
cb.		105	2.0	✓
S		107	1.8	✓
+10		110	1.5	✓
T.P.	6.30	9.32 ✓	9.51	3.02 ✓
	120+50			
-10 in Fill			9.2	0.1 ✓
S " "			9.0	+ 0.3 ✓
cb " "			9.5	− 0.2 ✓
¼ " "			8.7	+ 0.6 ✓
℄ " "			6.8	2.5 ✓
¼ " "			7.4	1.9 ✓
cb. " "			7.2	2.1 ✓
N " "			7.0	2.3 ✓
+10 " "			6.5	2.8 ✓
+30 = Nat. Ground			5.3	4.0 ✓

9.32 ✓

120+97 = Intersection Sewer on N.W. St.

top of Sewer Pipe = Rod 5.70 3.62 ✓

121+00 Section in Fill

-15	5.7	3.6 ✓
N	6.7	2.6 ✓
cb.	7.6	1.7 ✓
1/4	8.4	+ 0.9 ✓
℄	9.5	- 0.2 ✓
1/4	9.6	- 0.3 ✓
cb.	9.6	- 0.3 ✓
S	9.8	- 0.5 ✓
+15	9.8	- 0.5 ✓

121+50 Section in Fill

-15	9.4	- 0.1 ✓
S	10.2	- 0.9 ✓
cb.	9.9	- 0.6 ✓
1/4	9.6	- 0.3 ✓
℄	10.2	- 0.9 ✓
1/4	8.6	+ 0.7 ✓
cb.	8.8	0.5 ✓
N	9.3	0.0 ✓
+15	8.8	0.5 ✓

9.32 ✓

122+00 Section in Fill

47

-37 = South Rail Siding	3.43	+ 5.89 ✓ SOIL
-15	9.7	- 0.4 ✓
N	9.8	- 0.5 ✓
cb.	9.8	- 0.5 ✓
1/4	10.0	- 0.7 ✓
℄	10.5	- 1.2 ✓
1/4	9.8	- 0.5 ✓
cb.	10.1	- 0.8 ✓
S	9.5	- 0.2 ✓
+15	9.0	+ 0.3 ✓

122+50 = Section in Fill

-15	8.8	0.5 ✓
S	9.2	+ 0.1 ✓
cb.	9.5	- 0.2 ✓
1/4	9.2	+ 0.1 ✓
℄	10.2	- 0.9 ✓
1/4	10.8	- 1.5 ✓
cb.	10.3	- 1.0 ✓
N	10.3	- 1.0 ✓
+12 = Toe RR Fill	10.3	- 1.0 ✓
+25 = Top " "	5.3	+ 4.0 ✓

9.32 ✓

123+00 = Section in Fill

-22 = top RR Fill	5.3	+ 4.0	✓
-11 = toe " "	10.1	- 0.8	✓
N	10.7	- 1.4	✓
Cb.	10.4	- 1.1	✓
¼	11.1	- 1.8	✓
℄	9.0	+ 0.3	✓
¼	8.8	0.5	✓
Cb.	7.9	1.4	✓
S	7.7	1.6	✓
+15	7.7	1.6	✓

123+50 = Section in Fill

-15	8.8	0.5	✓
S	8.0	1.3	✓
Cb.	7.5	1.8	✓
¼	7.7	1.6	✓
℄	9.1	0.2	✓
¼	8.5	0.8	✓
+5	8.7	+ 0.6	✓
+15	11.0	- 1.7	✓
Cb.	10.9	- 1.6	✓
N	10.2	- 0.9	✓

9.32 ✓

N + L = Toe R.R. Fill	10.6	- 1.3	✓
+12 = top R.R. "	5.7	+ 3.6	✓
+28 = South Rail, Siding, SD4A	4.85	4.47	✓
TP 2.73 6.85	5.20	4.12	✓

124+00 Section in Fill

-15 = top RR Fill	3.6	+ 3.2	✓
-7 = toe " "	8.3	- 1.5	✓
N	8.5	- 1.7	✓
Cb.	7.5	- 0.7	✓
¼	6.2	+ 0.6	✓
℄	6.0	+ 0.8	✓
¼	5.2	1.6	✓
Cb.	4.6	2.2	✓
S	4.3	2.3	✓
+15	4.5	2.3	✓

124+50 Section in Fill

-15	4.6	2.2	✓
S	5.4	1.4	✓
Cb.	5.6	1.2	✓
¼	5.1	1.7	✓
℄	5.4	1.4	✓

6.85 ✓

N ¼	7.0	- 0.2 ✓
N cb.	7.1	- 0.3 ✓
N	7.1	- 0.3 ✓
+6 - toe RR Fill	9.5	- 2.7 ✓
+16 - top " "	4.0	+ 2.8 ✓
12.5 + 00	Section in Fill	
-18' - top RR Fill	4.5	2.3 ✓
-2 - toe " "	9.6	- 2.8 ✓
N	8.1	- 1.3 ✓
cb.	7.5	- 0.7 ✓
¼	5.6	+ 1.2 ✓
℄	4.6	2.2 ✓
¼	5.7	1.1 ✓
cb.	4.9	1.9 ✓
S	4.6	2.2 ✓
+15	4.6	2.2 ✓
12.5 + 50	Section in Fill	
-15'	6.1	0.7 ✓
S	5.7	1.1 ✓
cb.	5.8	1.0 ✓
¼	5.6	1.2 ✓

6.85 ✓

℄	5.0 + 1.8 ✓
+12	5.0 + 1.8 ✓
¼	7.6 - 0.8 ✓
+10	10.3 - 3.5 ✓
N cb.	10.3 - 3.5 ✓
N	10.3 - 3.5 ✓
+10 - toe RR Fill	10.0 - 3.2 ✓
+18 - top " "	4.7 + 2.1 ✓
12.5 + 85 This section = Average 1.0' Fill	
-20 - top RR Fill	5.6 + 1.2 ✓
-9' - toe " "	10.4 - 3.6 ✓
N	10.4 - 3.6 ✓
cb	10.4 - 3.6 ✓
¼	10.5 - 3.7 ✓
℄	10.5 - 3.7 ✓
¼	9.7 - 2.9 ✓
cb.	9.2 - 2.4 ✓
S	9.2 - 2.4 ✓
+15	9.3 - 2.5 ✓

6.85 ✓

Section = Bottom of Slough, No Fill
127+50 = W'ly edge Union Oil Pier.

-15 - Bottom of Slough	11.5	- 4.7	✓
-15 on top Oil Pipe	5.50	+ 1.3	✓
S " Slough	11.4	- 4.6	✓
S " Pipe	5.5	+ 1.3	✓
cb	11.4	- 4.6	✓
cb. on Pipe	5.5	+ 1.3	✓
1/4 " Slough	11.4	- 4.6	✓
1/4 " Pipe	5.53	+ 1.32	✓
ℒ on Slough	11.2	- 4.4	✓
ℒ " Pipe	5.43	+ 1.42	✓
1/4 " Slough	11.3	- 4.5	✓
1/4 " Pipe	5.34	+ 1.51	✓
cb. on Slough	11.3	- 4.5	✓
" " Pipe	5.35	+ 1.50	✓
N " Slough	11.1	- 4.3	✓
N " Pipe	5.36	+ 1.49	✓
+6 " "	5.37	+ 1.48	✓
+15 " Ground	10.3	- 3.5	✓
+23 " Pipe	7.98	- 1.13	✓
+23 on Ground	8.0	- 1.2	✓

6.85 ✓

+35 = top R.R. Fill	5.1	+ 1.7	✓
+51.5 = South Rail Siding 504A.	4.15	+ 2.70	✓

Note: Pipes Across Pier are of the following dimensions 2,- 4" pipes
2,- 6" "
1,- 9" Line

129+85 = end of Natural Mud Bottom of Slough

-50 = Top R.R. Fill	5.6	+ 1.2	✓
-35 = toe R.R. Fill	11.3	- 4.5	✓
N = Natural	11.3	- 4.5	✓
cb.	11.3	- 4.5	✓
1/4	11.3	- 4.5	✓
ℒ	11.3	- 4.5	✓
1/4	11.3	- 4.5	✓
cb.	11.3	- 4.5	✓
S	11.3	- 4.5	✓
+25	11.3	- 4.5	✓

130+00 = Fill Section.

-50 = top R.R. Fill	5.9	+ 0.9	✓
N on Dump heap.	7.7	- 0.9	✓
cb " "	7.6	- 0.8	✓

	6.85		
N ½ on Dump	7.9	− 1.1	
+15 on Natural Mud	11.5	− 4.7	
℄ " " "	11.5	− 4.7	
½ " " "	11.5	− 4.7	
cb " " "	11.5	− 4.7	
S " " "	11.5	− 4.7	
+25 " " "	11.5	− 4.7	
130+50			
−25 = Natural Mud	11.6	− 4.8	
S " "	11.6	− 4.8	
cb " "	11.6	− 4.8	
+5 = toe Rubbish Dump	11.6	− 4.8	
+18 = on " "	6.6	+ 0.2	
½ " " "	6.3	+ 0.5	
℄ " " "	6.8	0.0	
½ " " "	7.5	− 0.7	
cb " " "	7.4	− 0.6	
N " " "	7.5	− 0.7	
+25 " " "	6.8	0.0	
+70 = S Rail Siding SD+A	4.53	+ 2.32	

		6.85			
T.P.	5.01	6.88	4.98	1.87	
131+00 = Fill Section					
−15 on Rubbish Dump			7.6	− 0.7	
N " " "			7.6	− 0.7	
cb " " "			7.7	− 0.8	
½ " " "			7.5	− 0.6	
℄ " " "			7.3	− 0.4	
½ " " "			7.7	− 0.8	
cb " " "			7.6	− 0.7	
S " " "			7.6	− 0.7	
+15 " " "			8.1	− 1.2	
+25 = toe " "			11.4	− 4.5	Natural Mud Bottom
132+00 Fill Section					
−20 = Nat Mud Bottom			12.1	− 5.2	
−10 = top Rubbish Dump			7.4	− 0.5	
S			6.9	0.0	
cb.			7.1	− 0.2	
½			7.4	− 0.5	
℄			7.4	− 0.5	
½			6.9	0.0	
cb.			6.5	+ 0.4	

6.88

N		6.4	+ 0.5
+15		6.5	0.4
	132+50 - Fill Section		
-15	on Rubbish Dump.	6.5	0.4
N	" " "	6.8	0.1
C6.	" " "	6.9	0.0
1/4	" " "	6.5	0.4
+10	" " "	7.1	- 0.2
L	" " "	8.5	- 1.6
1/4	" " "	10.3	- 3.4
C6.	Nat mud	11.0	- 4.1
S	" "	11.8	- 4.9
+15	" "	11.8	- 4.9
	132+57.6 = Disc Section = Wly edge of East Bulkhead		
-15	on Bulkhead	5.7	+ 1.2
-15	" Canal Bed	12.6	- 5.7
L	" " "	12.8	- 5.9
L	" top Bulkhead	5.7	+ 1.2
S	on "	5.7	+ 1.2
"	" Canal Bed	12.8	- 5.9
+25	" " "	12.8	- 5.9
+	on Mainline Santa Fe R R	4.65	+ 2.23

6.88

52

	132+98.6 = Ely edge of West Bulkhead.		
S - 25	on Rail Santa Fe	4.65	+ 2.23
S - 28	on Canal Bed	12.8	- 5.9
S	on " " "	12.0	- 5.1
C6	" " " "	12.1	- 5.2
+18	= Δ in Bulkhead	12.1	- 5.2 Canal Bed.
+18	on Bulkhead	5.6	+ 1.3
L	" "	5.6	+ 1.3
L	" Canal Bed	12.1	- 5.2
N	on " "	12.0	- 5.1
N	" Bulkhead	5.6	+ 1.3
+15	" "	5.6	+ 1.3
+15	" Canal Bed	12.0	- 5.1
	133+00 in Fill of Brick, dirt etc.		
-15		6.6	+ 0.3
N		6.7	+ 0.2
C6.		8.0	- 1.1
1/4		8.0	- 1.1
L		7.1	- 0.2
1/4		7.0	- 0.1
+7		7.7	- 0.8

6.88 ✓

℄+10	10.6	− 3.7 ✓
cb.	11.0	− 4.1 ✓
S	12.0	− 5.1 ✓
+15	12.6	− 5.7 ✓
	132+21.79	
-26 on Rail Santa Fe	4.65	+ 2.23 ✓
-15	10.4	− 3.5 ✓
S	10.4	− 3.5 ✓
cb	10.4	− 3.5 ✓
+8	10.4	− 3.5 ✓
+10	7.4	− 0.5 ✓
℄	7.4	− 0.5 ✓
℄	6.5	+ 0.4 ✓
℄	6.1	+ 0.8 ✓
cb	6.4	+ 0.5 ✓
N, on Copper Disk & Hub	6.31	+ 0.57 ✓
+40	6.3	+ 0.6 ✓
+95 ± S Rail S.D.P.	4.42	+ 2.46 ✓
	133+50 = Brick etc. Fill	
-15	7.4	− 0.5 ✓
N	7.6	− 0.7 ✓
cb.	7.6	− 0.7 ✓

6.88 ✓

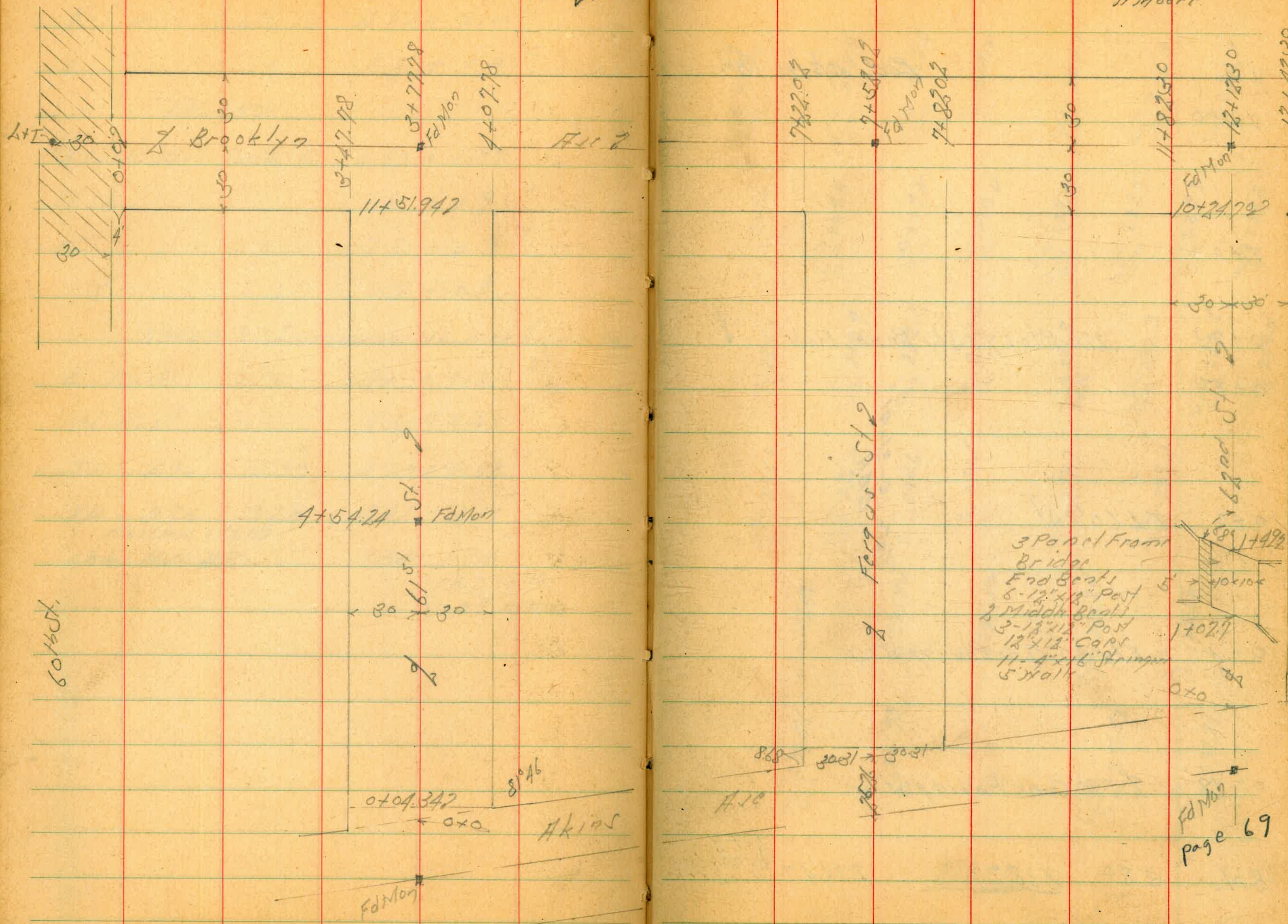
℄	7.0	− 0.1 ✓
℄	6.3	+ 0.6 ✓
℄	6.7	+ 0.2 ✓
cb.	6.6	+ 0.3 ✓
S	6.7	+ 0.2 ✓
+12 ± Santa Fe Rail	4.72	+ 2.16 ✓
	134+09.47 = Brick & Rock & Dirt Fill etc.	
S	5.4	+ 1.5 ✓
S on Rail	4.72	+ 2.16 ✓
cb	5.4	+ 1.5 ✓
℄	7.0	− 0.1 ✓
℄	7.7	− 0.8 ✓
℄	7.7	− 0.8 ✓
cb.	7.9	− 1.0 ✓
N	7.9	− 1.0 ✓
+15	7.7	− 0.8 ✓
	135+77.33 = Brick etc. Fill	
-15	7.7	− 0.8 ✓
N	7.7	− 0.8 ✓
cb.	7.7	− 0.8 ✓
℄	6.7	+ 0.2 ✓

		6.88 ✓	Colton St.
℄	R.R. Santa Fe		488 + 2.00 ✓
℄			5.5 + 1.4 ✓
		136+50	
¼+5 = N	R.R. Santa Fe		4.89 + 1.99 ✓
N	Cb.		7.8 − 0.9 ✓
N			7.8 − 0.9 ✓
+15			7.7 − 0.8 ✓
		137+45.19 = Intersection N.L. with ℄ Santa Fe	
℄	Truck		5.4 + 1.5 ✓
N	R.R.		4.85 + 2.03 ✓
T.P.	4.90	6.99 ✓	4.79 + 2.09 ✓
T.P.	5.70	9.28 ✓	3.41 3.58 ✓
	Newton +16th		
Chk.	N.W. B.P.		7.54 1.74 ✓
			1.82 = B.M.
			10.08 error.

Cross Section Brooklyn Ave.
60th St. to 62nd St.

Indexed
LM

Oct 24-41
Sisson
Hortberg
H Moore



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Brooklyn Ave

Red. 10/31/41 (initials)

Plot- 10-31-41 GBH

Station	Note	Lt = N			℄			Rt = S	
1+50		229.1 / 9.2 / 40	228.9 / 9.4 / 30	228.5 / 9.8 / 10	228.2 / 10.1	228.1 / 10.2 / 15	226.9 / 11.4 / 30	226.8 / 11.5 / 40	
1+0		229.6 / 8.7 / 40	229.3 / 9.0 / 30	229.2 / 9.1 / 10	229.2 / 9.1	229.0 / 9.3 / 15	228.7 / 9.5 / 24	229.3 / 9.0 / 30	229.3 / 9.0 / 40
0+73	22.0 Rt of ℄ = Sly Power Pole ✓								
0+50		234.1 / 4.2 / 30	232.9 / 5.4 / 17	232.1 / 6.2 / 9	232.0 / 6.3	231.3 / 7.0 / 15	232.3 / 6.0 / 17	232.5 / 5.8 / 30	232.4 / 5.9 / 40
0+0	= F.L. 60th St	236.3 / 2.0 / 30	236.0 / 2.3 / 20	234.6 / 3.7 / 15	234.5 / 3.8	233.7 / 4.6 / 15	233.4 / 4.9 / 30		
0−4'	= Ely 30' Conc Paving Strip	237.42 / 0.85 / 50	235.82 / 2.45	234.52 / 3.75	233.34 / 4.93 / 20	232.56 / 5.71 / 50			
0−19'	= ℄ 30' Conc Paving Strip	237.55 / 0.72 / 50	235.93 / 2.34 / 30	234.66 / 3.61	233.53 / 4.74 / 30	232.81 / 5.46 / 50			
BM.	3.80 238.27 234.47 L+℄ Brooklyn x 102 60th St			238.27					

Brooklyn Ave

BM		3.08	235.19	℄ Mon Brooklyn + 61st St
3+47.78	= WL 61st St		22.6 Rt of ℄ = Sly Power Pole	✓
3+0				
2+56	= ℄ 6.6 2-2' Conc Ribbon Drive on Lt			
2+36				
2+0				
1+95	22.0' Rt of ℄ = Sly Power Pole			✓
1+95				

228.27

Lt ℄ Rt

Station (left page)	From left to right
3+47.78	236.6 (1.7 / 30), 235.7 (2.6 / 18), 234.0 (4.3 / 14), 233.7 (4.6), 233.0 (5.3 / 12), 233.9 (4.4 / 14), 232.9 (5.4 / 30)
3+0	232.8 (5.5 / 30), 232.6 (5.7 / 20), 231.1 (7.2 / 11), 231.1 (7.2), 230.7 (7.6 / 10), 231.2 (7.1 / 15), 230.7 (7.6 / 30), 230.2 (8.1 / 40)
2+56	231.27 (7.00 / 30.4 - Sly Ribbon Conc Drive), 230.1 (8.2 / 24), 229.3 (9.0 / 12), 229.3 (9.0), 229.3 (9.0 / 10), 228.6 (9.7 / 20), 228.1 (10.2 / 30), 227.6 (10.7 / 40)
2+36	231.4 (6.9 / 31.2 Top Cobble Wall), 229.3 (9.0 / 30), 229.6 (8.7 / 22.5 - Sly Cobble Wall), 228.9 (9.4 / 10), 228.8 (9.5), 228.8 (9.5 / 12), 227.8 (10.5 / 18), 227.6 (10.7 / 30), 227.1 (11.2 / 40)
2+0	231.1 (7.2 / 31.1 - Top Cobble Wall), 229.8 (8.5 / 31.1 - Base Cobble Wall), 229.7 (8.6 / 30), 228.5 (9.8 / 15), 228.3 (10.0), 228.2 (10.1 / 15), 227.4 (10.9 / 20), 226.9 (11.4 / 30), 226.3 (12.0 / 20)
1+95	230.9 (7.4 / 40), 230.8 (7.5 / 30), 230.6 (7.7 / 26), 228.8 (9.5 / 21), 228.5 (9.8 / 10), 228.1 (10.2), 227.9 (10.4 / 15), 227.0 (11.3 / 30), 226.6 (11.7 / 40)

228.27

Brooklyn Ave.

6+19   24.0 Rt of ℄ = Sly Power Pole

6+0

5+50

5+14   23.5 Rt of ℄ = Sly Power-Pole

5+0

4+50

4+07.78 = E.L. 61st St.

TP   9.19   246.88   0.58   237.69

3+77.78 = ℄ 61st St.

238.27

Lt | ℄ | Rt

242.3 / 4.6 / 30	240.8 / 6.1 / 15	240.4 / 6.5 / 12	239.9 / 7.0	239.5 / 7.4 / 15	238.6 / 8.3 / 30	237.8 / 9.1 / 40		
243.0 / 2.9 / 30	242.2 / 4.7 / 20	240.9 / 6.0 / 12	240.4 / 6.5	239.7 / 7.2 / 15	239.3 / 7.6 / 30	238.7 / 8.2 / 40		
242.2 / 4.7 / 30	240.9 / 6.0 / 13	240.9 / 6.0	240.5 / 6.4 / 12	241.0 / 5.9 / 20	240.6 / 6.3 / 30	239.8 / 7.1 / 40		
241.7 / 5.2 / 30	241.1 / 5.8 / 22	239.5 / 7.4 / 14	239.2 / 7.7	238.2 / 8.7 / 13	238.8 / 8.1 / 15	238.9 / 8.0 / 20	238.7 / 8.2 / 20	238.1 / 8.8 / 40
241.46 / 5.42 / 31 = Top Conc Wall	239.6 / 7.3 / 31 = Base Ely Conc Wall	239.6 / 7.3 / 30	237.4 / 9.5 / 15	236.8 / 10.1	236.9 / 11.0 / 13	236.6 / 10.3 / 15	236.2 / 10.7 / 30	
240.9 / +2.6 / 31.6 = Top Conc Wall	238.6 / +0.3 / 31.6 = Base Conc Wall	238.6 / +0.3 / 30	237.2 / 1.1 / 20	235.9 / 2.4 / 10	235.6 / 2.7	234.9 / 3.4 / 15	233.8 / 4.5 / 30	

246.88

238.27

Brooklyn Ave

8+82	22.6 Rt of ℄ = Sly Power Pole			
8+0				
7+95	22.0 = Nly 24" Pepper Tree			
7+82.02 = E.L. Fergus				
TP	9.29	255.85	0.32	246.56
7+52.02 = ℄ Fergus	22.0 Lt of ℄ = Nly 18" Pepper Tree			
BM			2.32	244.56
				Mag Nail Brooklyn & Fergus
7+22.02 = W.L. Fergus	21 Rt of ℄ = Sly Power Pole			
7+12	21.5 Lt of ℄ = Nly 12" Pepper Tree			
7+0				
6+72	22.8 Lt of ℄ = Nly 16" Pepper Tree			
6+50	21 Lt of ℄ = Nly 14" Pepper Tree			
	246.88			

	Lt	℄	Rt	
	250.2	248.0	246.9	246.2
	5.7 30	7.9 10	9.0 15	9.7 30
	248.8	247.0	246.1	245.2
	7.1 30	8.9 10	9.8 15	10.4 30
		255.85		
247.1	246.4	245.0	244.6	243.8
+0.2 30	0.6 20	1.9 11	2.6 15	3.1 30
245.3	244.8	243.9	243.1	243.6
1.6 30	2.1 20	3.0 15	3.8 15	3.4 30
244.5	243.7	242.9	241.9	241.2
2.4 30	3.2 20	4.0 15	5.0 15	5.1 30
243.1	241.5	241.1	240.6	239.2
3.8 30	5.4 15	5.8 11	6.3 15	7.1 30
		240.9	242.3	243.2
		6.0	4.6	3.7
		246.88		

	245.2
	10.7 40
	238.8
	8.1 40

Station	Note	Lt			℄		Rt		
10+47	232 Rt of ℄ = S/y Power Pole ✓								
10+50		0.8/30 255.1	1.8/20 254.1	3.4/10 252.5	3.9 252.0	4.5/13 251.4	5.2/15 250.7	6.5/30 249.4	7.2/40 248.7
10+0		0.0/30 255.9	0.8/20 255.1	3.0/10 252.9	3.8 252.1	4.5/13 251.4	5.4/20 250.5	6.5/30 249.4	7.5/40 248.4
9+50		0.7/30 255.2	2.3/17 253.6	3.8/11 252.1	4.8 251.1	5.6/15 250.3	7.6/30 248.3	8.6/40 247.3	
9+27	℄ 70' Conc. Drive on Lt. ✓	0.12/37' on Conc Drive 255.73 ✓		0.80/32.5' = S/y Conc. Drive 255.05 ✓					
9+15	233 Rt of ℄ = S/y Power Pole ✓								
9+0		2.4/30 253.5	3.4/20 252.5	5.3/15 250.6	6.2 249.7	7.0/15 248.9	8.4/30 247.5	9.4/40 246.5	
8+50		4.0/30 251.9	4.7/24 251.2	6.1/15 249.8	7.5 248.4	8.3/15 247.6	9.8/30 246.1	10.8/40 245.1	

255.85

255.85

Brooklyn

Sta.					
12+42.30 = E.L. 62nd St.					
12+12.30 = ℄ 62nd St					
TP	4.67	249.29	11.23	244.62	S.W. Spk Pole Brooklyn & 62nd St
11+82.30 = W.L. 62nd St.					
11+50					
11+0					
		255.85			

Lt ℄ Rt

243.0	242.9	242.7	242.7	242.5	242.2	241.1	239.3		
6.3/45	6.4/30	6.7/20	6.6/10	6.8	7.1/10	8.2/15	10.0/30		
245.2	243.3	243.4	243.3	242.7	241.0	239.7			
4.1/30	6.0/16	5.9/10	6.0	6.6/10	8.3/20	9.6/30			
			249.29						
249.0	248.2	246.9	245.9	245.3	244.6	245.8	244.9	244.1	
6.9/30	7.7/20	9.0/16	10.0/11	10.6	11.3/11	10.1/13	11.0/18	11.8/30	
251.8	250.9	249.6	248.8	248.4	248.4	246.9	248.4	247.3	246.5
4.1/30	5.0/20	6.3/15	7.1/11	7.5	7.5/5	9.0/13	7.5/15	8.6/30	9.4/40
253.7	253.1	251.7	251.4	250.7	249.9	248.8	248.0		
2.2/30	2.8/20	4.2/15	4.5/10	5.2	6.0/15	7.1/30	7.9/40		
			255.85						

Cross Section 61st St
Akins Ave to Brooklyn Av

Oct. 25 41

Indexed
FM

Red. 10/31/41 (W)

Plotted 11-1-41
GBH

1+0					
0+70					
TP	10.75	184.58	2.55	173.83	
0+45					
0+30	= N'ly Cut Channel				
0+0	= S'ly Cut Channel in Bottom = N.L. Akins Ave on Diagonal				
TP	0.52	177.38	7.40	176.86	
0-96.5	℄ S.D.A. & F. RR Track on Diagonal				
BM	5.52	184.26		178.74	℄ Mon. Akins & Fergus

Lt = 1st   Rt = F

Sta.									
1+0	173.5 11.1/40	173.7 10.9/30	173.7 10.9/15	174.2 ℄ 10.4	173.8 10.8/20	174.6 10.0/30	174.6 10.0/40		
0+70	173.5 11.1/40	173.6 11.0/30	173.6 11.0/15	173.9 10.7	174.0 10.6/15	174.4 10.2/30	174.4 10.2/40		
TP				184.58					
0+45	171.7 5.7/50	172.1 5.0/40	173.9 3.5/30	173.7 3.7/15	173.6 3.8	173.0 4.4/10	174.1 3.3/20	174.5 2.9/30	174.6 2.8/40
0+30	168.9 8.8/50	169.9 7.5/30	169.1 8.3/20	169.2 8.2/10	169.4 8.0	169.9 7.5/15	170.1 7.3/30	170.6 6.8/50	
0+0	168.6 8.8/50	168.8 8.6/30.3	168.9 8.5/15	169.2 8.2	169.3 8.1/15	169.6 7.8/30.3	169.6 7.8/50		
TP				177.38					
0-96.5	176.48 7.78/50	176.78 7.48/30.3 Top Rail	177.16 7.10 Top Rail	177.55 6.71/30.3 Top Rail	177.78 6.48/50 Top Rail				
BM				184.26					

61st St

Sta.					Lt.				℄			Rt	
2+28												4.32 / 29.7 — 191.40 [illegible] Conc	
2+14					4.7/40 191.0; 4.1/30 191.6; 4.0/20 191.7	4.7/14 191.0	7.7/10 188.0		8.2 187.5	7.9/15 187.8		6.6/20 189.1	6.7/30 189.0
2+10									8.5 187.2	9.1/15 186.6		9.30/30 186.42 – 11 1/ Garage Conc Floor	
2+0					9.1/40 186.6; 8.7/30 187.0	8.9/15 186.8	9.8/10 185.9		10.3 185.4	9.4/15 186.3		9.6/30 186.1	9.56/30.5 186.16 – 5 1/ Garage Conc Floor
TP	11.38	195.72	0.24	184.34					195.72				
1+70					9.6/40 175.0; 10.0/30 174.6	9.9/15 174.7	5.9/5 178.7		5.8 178.8	5.6/10 179.0	8.7/40 175.9	9.3/30 175.3	10.0/50 174.6
1+85					10.9/40 173.7	11.0/30 173.6	10.6/10 174.0		9.2 175.4	9.4/10 175.2	10.5/20 174.1	10.0/30 174.6	10.0/40 174.6
		184.58							184.58				

61st St

Station					
4+06					
4+0					
TP	12.23	207.82	0.13	195.59	
3+54	22.9 Lt of ℄ = Wly Power Pole ✓				
3+50					
3+0					
2+75					
2+53	22.5 Lt of ℄ = Wly Power Pole ✓				
	195.72				

Lt — ℄ — Rt

4+06: 196.61 — 11.21 / 30 = Wly 4" Conc Wall ✓

4+0: 195.8 (12.0 / 40); 195.6 (12.2 / 30); 195.6 (12.2 / 15); 195.7 (12.1); 195.7 (12.1 / 15); 196.2 (11.6 / 30)

207.82

3+50: 194.2 (1.5 / 40); 194.4 (1.3 / 30); 194.3 (1.4 / 15); 194.6 (1.1 / 10); 194.5 (1.2); 194.3 (1.4 / 15); 194.7 (1.0 / 30)

3+0: 192.5 (3.2 / 40); 192.6 (3.1 / 30); 192.6 (3.1 / 15); 192.9 (2.8); 193.4 (2.3 / 15); 194.3 (1.4 / 30)

2+75: 191.7 (4.0 / 40); 192.3 (3.4 / 30); 192.5 (3.2 / 15); 192.4 (3.3); 193.1 (2.6 / 15); 194.1 (1.6 / 30)

2+53: 191.7 (4.0 / 40); 192.9 (2.8 / 30); 192.9 (2.8 / 14); 191.6 (4.1 / 9); 191.7 (4.0); 192.2 (3.5 / 10); 193.0 (2.7 / 15); 192.8 (2.9 / 30)

195.72

61st St.

Station	Note	Lt			℄		Rt	
5+79	22.? Rt of ℄: Ely 12" Pepper Tree							
5+54	22.0 Lt of ℄: Wly Power Pole							
5+50		197.1 10.7/40	198.8 9.0/30	200.7 7.1/15	201.4 6.4	201.6 6.2/15	201.7 6.1/30	
5+25		199.8 8.0/40	200.8 7.0/30	200.7 7.1/15	200.6 7.2	200.3 7.5/10	200.9 6.9/20	200.6 7.2/30
5+0		199.0 8.8/40	199.1 8.7/30	199.2 8.6/20	200.4 7.4/7	199.6 8.2	198.9 8.9/15	199.4 8.4/30
4+50		197.5 10.3/40	197.8 10.0/30	197.5 10.3/15	197.4 10.4	197.3 10.5/15	197.4 10.4/30	
4+41						197.62 10.20 30.4 = Wly 4" Conc. Wall		
4+25		197.3 10.5/40	197.8 10.0/30	196.3 11.5/20	196.3 11.5/10	196.9 10.9/0.6		

207.82

207.82

6th St.

8+0					
7+54	22.5 Lt of ℄ : Wly Power ✓				
7+50					
7+0					
TP	11.74	217.12	2.44	205.38	
6+50	23.4' Rt of ℄ : Ely 24" Pepper Tree ✓				
6+27	23.7 Rt of ℄ : E'ly 16" Pepper Tree ✓				
6+09					
6+0					
		207.82			

Sta.		Lt			℄			Rt	
8+0	213.3 3.8/40	213.4 3.7/30	212.7 4.4/20	213.2 3.9/10	212.1 5.0/8	212.7 4.4	212.7 4.4/10	214.3 2.8/14	214.2 2.9/30 ✓
7+50	209.4 7.7/40	209.8 7.3/30	210.4 6.7/20	210.1 7.0/7	209.7 7.4/6	209.9 7.2	209.8 7.3/12	210.7 6.4/15	210.8 6.3/30
7+0	203.7 13.4/40	204.7 12.4/30	205.8 11.3/12	207.2 9.9/6	206.4 10.7/5	206.4 10.7	206.5 10.6/15		207.4 9.7/30
TP					217.12				
6+50	199.7 8.1/40	200.5 7.3/30	201.9 5.9/15	204.1 5.7/5	204.2 3.6	205.1 2.7/15	206.1 1.7/23		206.1 1.7/30
6+09							204.63 3.19/30 Conc Drive		✓
6+0	196.5 11.3/50	197.4 10.4/30	200.2 7.6/15	202.5 5.3/5	202.7 5.1	203.3 4.5/15		203.9 3.9/30	
					207.82				

61st St.

9+73					
9+52	22.8	Lt of ℄ = W'ly Power Pole ✓			
9+50					
9+15	17.5	Lt of ℄ = W'ly Pepper Tree ✓			
9+0	18.6	Lt of ℄ = W'ly 4" Pepper Tree ✓			
TP	12.69	229.79 ✓	0.02	217.10	
8+81	19.0	Lt of ℄ = W'ly 10" Pepper Tree ✓			
8+56					
8+50					
8+30					
		217.12			

Lt — ℄ — Rt

9+73: 222.79 — 7.00 / 20 = W'ly 3' Conc Walk ✓; 223.12 — 6.67 / 30 on Walk ✓

9+50: 220.4 (9.4 / 40); 220.5 (9.3 / 30); 220.8 (9.0 / 20); 220.9 (8.9 / 10); 220.4 (9.4 / 8); 221.0 (8.8 ℄); 221.1 (8.7 / 15); 221.9 (7.9 / 30)

9+0: 217.6 (12.2 / 40); 218.0 (11.8 / 30); 218.8 (11.0 / 11); 217.1 (12.7 / 9); 218.8 (11.0 ℄); 218.4 (11.4 / 13); 219.4 (10.4 / 15); 219.7 (10.1 / 30)

229.79

8+56: 216.62 — 0.50 / 32.3 = ℄ 10' Garage Plank Floor ✓

8+50: 215.8 (1.3 / 40); 216.3 (0.8 / 30); 216.1 (1.0 / 20); 216.4 (0.7 / 9); 215.6 (1.5 / 8); 215.7 (1.4 ℄); 215.9 (1.2 / 15); 216.1 (1.0 / 30)

8+30: 215.58 — 1.54 / 28.8 = ℄ 3' Conc Walk ✓

217.12

61st St.

BM			2.40	235.13	℄ Mon Brooklyn 61st St 235.19
11+51.94 = S.L. Brooklyn					
11+21	22 Lt of ℄: Wd Power Pole				✓
11+0					
TP	999	238.53	1.25	228.54	
10+50					
10+06	25 Rt of ℄: Ely 8" Olive Tree				✓
10+0					
		229.99			

Lt		℄		Rt	
5.7 / 30	232.8	5.6 / 30	232.9	5.6 / 30	235.9
5.7 / 30	233.5	5.0 / 15	233.7	5.0 / 10	233.5
9.3 / 20	227.3	9.3 / 10	229.2	7.0 / 15	231.5
8.8 / 30	229.7	8.0 / 12	230.3	8.2 / 10	230.3
5.4 / 30	232.1	5.4 / 30	232.1	5.4 / 30	232.1
			238.53		
3.7 / 40	226.1	4.0 / 9	225.8	3.4 / 10	226.4
3.5 / 30	226.3	3.1 / 8	225.4	2.8 / 13	227.0
3.6 / 20	226.5	3.2 / 10	226.5	3.8 / 30	229.0
3.2 / 10	226.5				
6.9 / 40	222.9	6.8 / 8	223.0	6.4 / 10	223.4
6.6 / 30	223.2	6.6 / 8	223.5	5.5 / 20	224.3
6.2 / 12	223.6			5.2 / 30	224.6
			229.79		

Cross Section 62nd St.
Akins Ave to Brooklyn Ave.

Indexed LM

Red. 10/31/41 (W.)

Plotted 2-6-42 C.B.H.

		Lt: W			℄		Rt: E	
1+25 = Aprox ℄ Channel		179.9 — 15.3 / 50	180.2 — 15.0 / 32.4		180.4 — 14.8	180.9 — 14.3 / 32.4	181.3 — 13.9 / 50	
1+02.7 = S End Bridge on Diagonal	186.2 — 9.0 / 40; 186.3 — 8.9 / 32.4; 185.2 — 10.0 / 16	189.4 — 4.25 / 15.8	190.94 — 4.25 / 10.5 = Top Ped. Walk	190.39 — 4.80 / 10.5 = Deck	190.29 — 4.90	190.29 — 4.90 / 10.5 on Deck	182.9 — 12.3 / 11	183.4 — 11.8 / 20; 182.7 — 12.5 / 32.4
0+75	186.9 — 8.3 / 40	187.6 — 7.6 / 30	188.4 — 6.8 / 15		188.8 — 6.4	188.9 — 6.3 / 15	188.0 — 7.2 / 30	
0+72 28.0' Lt of ℄ Wly Acacia Tree ✓								
0+64						188.29 — 6.90 / 29.4 = ℄ Garage Conc Floor 13' opening		✓
0+53 26.0 Rt of ℄ = 5' Palm Tree ✓								
0+50	186.7 — 8.5 / 40	187.2 — 8.0 / 30	187.3 — 7.9 / 15		187.5 — 7.7	187.7 — 7.5 / 15	187.5 — 7.7 / 30	
0+48 21.2 Lt of ℄ = Wly of Power Pole ✓								
0+0 = N.L. Akins on Diagonal	186.2 — 9.0 / 40	186.3 — 8.9 / 30.3	186.1 — 9.1 / 15		186.4 — 8.8	186.7 — 8.5 / 15	186.9 — 8.3 / 30.3	187.7 — 7.5 / 40

BM	9.51	195.19 ✓	185.68	℄ Mon Akins & 62nd St

195.19

62nd St.

Station	Rod	H.I.	F.S.	Elev.	Readings (rod / distance, elevation)
					Lt ℄ Rt
3+50					7.9/40 199.9; 8.6/30 199.2; 9.1/15 198.7; 8.6 199.2; 9.0/15 198.8; 9.3/22 198.5; 8.5/25 199.3; 9.0/30 198.8
TP	12.76	207.82	0.13	195.06	207.82
3+0					1.9/40 193.3; 2.4/30 192.8; 3.3/15 191.9; 3.3 191.9; 3.3/15 191.9; 3.6/24 191.6; 2.8/25 192.4; 2.9/30 192.3; 3.6/40 191.6
2+50					7.3/40 187.9; 7.3/30 187.9; 7.2/15 188.0; 6.5 188.7; 6.4/15 188.8; 6.4/30 188.8; 6.7/40 188.5
2+0	19.6 Lt of ℄ : Wly Power Pole ✓				8.8/40 186.4; 8.6/30 186.6; 7.5/15 187.7; 7.3 187.9; 7.7/15 187.5; 7.6/30 187.6; 7.5/40 187.7
1+70					10.0/40 185.2; 9.8/30 185.4; 6.5/22 188.7; 5.8/15 189.4; 6.0 189.2; 6.0/15 189.2; 6.8/22 188.4; 9.0/30 186.2; 8.7/40 186.5
1+49.2 = N End Bridge on Diagonal					11.1/40 184.1; 14.0/32.4 181.2; 13.8/16 181.4; 4.3/15.7 190.9; 4.3/10.5 Top Walk 190.9; 4.9/10.5 on Deck 190.3; 5.0 on Deck 190.2; 5.0/10.5 on Deck 190.2; 12.6/11 182.6; 10.7/33.4 184.5; 9.2/50 186.0
		195.19			195.19

62nd St.

5+55					
5+50					
5+0					
TP	11.48	219.28	0.02	207.80	
4+50					
4+30	25' Rt of ℄ = E'ly 6" Pepper				✓
4+19	19' Lt of ℄ = W'ly Power Pole				✓
4+0					
3+55					
		207.82			

Lt. ℄ Rt.

✓ 218.98
0.30
27.4 = E'ly 18" Conc Top 10"

2.2/40 217.1 — 2.4/30 216.9 — 2.8/15 216.5 — 3.1 216.2 — 3.8/3 215.5 — 5.0/5 214.3 — 4.7/15 214.6 — 5.1/30 214.2 — 5.4/40 213.9

6.3/40 213.0 — 6.7/30 212.6 — 7.2/15 212.1 — 8.0 211.3 — 8.1/3 211.2 — 9.4/6 209.9 — 8.8/15 210.5 — 8.3/30 211.0 — 8.5/40 210.8

219.28

+1.8/40 209.6 — +1.2/30 209.0 — 0.0/15 207.8 — 0.8 207.0 — 1.3/23 206.5 — 0.6/25 207.2 — 0.5/30 207.3

2.6/40 205.2 — 3.1/30 204.7 — 3.8/15 204.0 — 4.1 203.7 — 5.1/6 202.7 — 5.4/24 202.4 — 4.3/25 203.5 — 4.4/30 203.4

✓ 7.22
28.3 = 28.5 Conc Walk

207.82

Station	B.S.	H.I.	F.S.	Elev.	
7+50					
TP	10.98	240.00	2.05	229.02	
7+0					
6+50					
TP	11.94	231.07	0.15	219.13	
6+24		184 to ℄ = Wly Power Pole			✓
6+0					
5+90					
5+80					
		219.28			

Lt — Rt

Station										
7+50	229.4 / 10.6 / 40	230.2 / 9.8 / 30	231.2 / 8.8 / 15	231.8 / 8.2	231.7 / 8.3 / 3	232.4 / 7.6 / 15	232.4 / 7.6 / 22	233.2 / 6.8 / 25	233.0 / 7.0 / 30	232.8 / 7.2 / 40
				240.00						
7+0	228.7 / 2.4 / 40	228.8 / 2.3 / 30	228.7 / 2.4 / 15	228.5 / 2.6	227.8 / 3.3 / 3	228.4 / 2.7 / 15	228.0 / 3.1 / 22	228.8 / 2.2 / 25	228.3 / 2.8 / 30	228.1 / 3.0 / 40
6+50	224.7 / 6.4 / 40	224.5 / 6.6 / 30	224.4 / 6.7 / 15	223.9 / 7.2	223.8 / 7.3 / 3	222.0 / 9.1 / 40	223.1 / 8.0 / 15	222.2 / 8.9 / 21	223.2 / 7.9 / 25	222.8 / 8.2 / 30
				231.07						
6+0	220.5 / +1.2 / 40	220.3 / +1.0 / 30	219.7 / +0.4 / 15	218.8 / 0.5	218.1 / 1.2 / 3	219.1 / 0.2 / 15	218.7 / 0.6 / 30	218.5 / 0.8 / 40		
5+90						218.43 / 0.85 / 25 = Top 4" Wall Conc				
5+80					215.5 / 0.8 / 65 = ℄ Garage Dirt Floor ✓					
				219.28						

62nd St.

B.M.			4.67	244.64	S.W. Spk Pole Brooklyn + 62nd St. 244.62
10+24.70 – S.L. Brooklyn					
TP	9.57	249.31	0.26	239.74	
10+0					
9+93	16.9 Lt of ℄ = W'ly Power Pole				
9+50					
9+0					
8+78	℄ = ℄ Cluster 5 Pepper Trees Small ✓				
8+50					
8+48	5' Rt of ℄ = ℄ 5 Pepper Tree ✓				
8+30	16.8' Lt of ℄ = W'ly Power Pole ✓				
8+0					

240.00

Lt — ℄ — Rt

Sta.										
10+24.70	244.0 (3.5/30)	243.0 (6.3/20)	241.5 (7.8/10)	239.8 (9.5/8)	239.7 (9.6)	239.8 (9.5/10)	239.3 (10.0/20)	239.3 (10.0/30)		
					249.31					
10+0	243.7 (+3.7/40)	242.3 (+2.3/30)	240.8 (+0.8/15)	239.1 (0.9/6)	237.4 (2.6/4)	237.4 (2.6)	237.2 (2.8/15)	236.9 (3.1/20)	236.9 (3.1/30)	237.6 (3.4/40)
9+50	239.0 (1.0/40)	238.2 (1.8/30)	237.3 (2.7/20)	236.5 (5.5/10)	234.2 (5.8)	234.3 (5.7/15)	234.0 (6.0/30)	235.8 (4.2/40)		
9+0	233.4 (6.6/40)	232.8 (7.2/30)	231.6 (8.4/15)	232.1 (7.9)	233.5 (6.5/5)	233.5 (6.5/27)	234.1 (5.9/30)	235.5 (4.5/40)		
8+50	228.6 (11.4/40)	228.7 (11.3/30)	229.4 (10.6/10)	231.5 (8.5)	233.2 (6.8/8)	234.0 (6.0/24)	234.9 (5.1/26)	235.8 (4.3/30)	236.7 (3.3/40)	
8+0	228.4 (11.6/40)	229.5 (10.5/30)	231.0 (9.0/15)	232.8 (7.2)	233.1 (6.9/3)	233.8 (6.2/15)	234.2 (5.8/22)	235.2 (4.8/25)	235.5 (4.5/30)	235.8 (4.2/40)

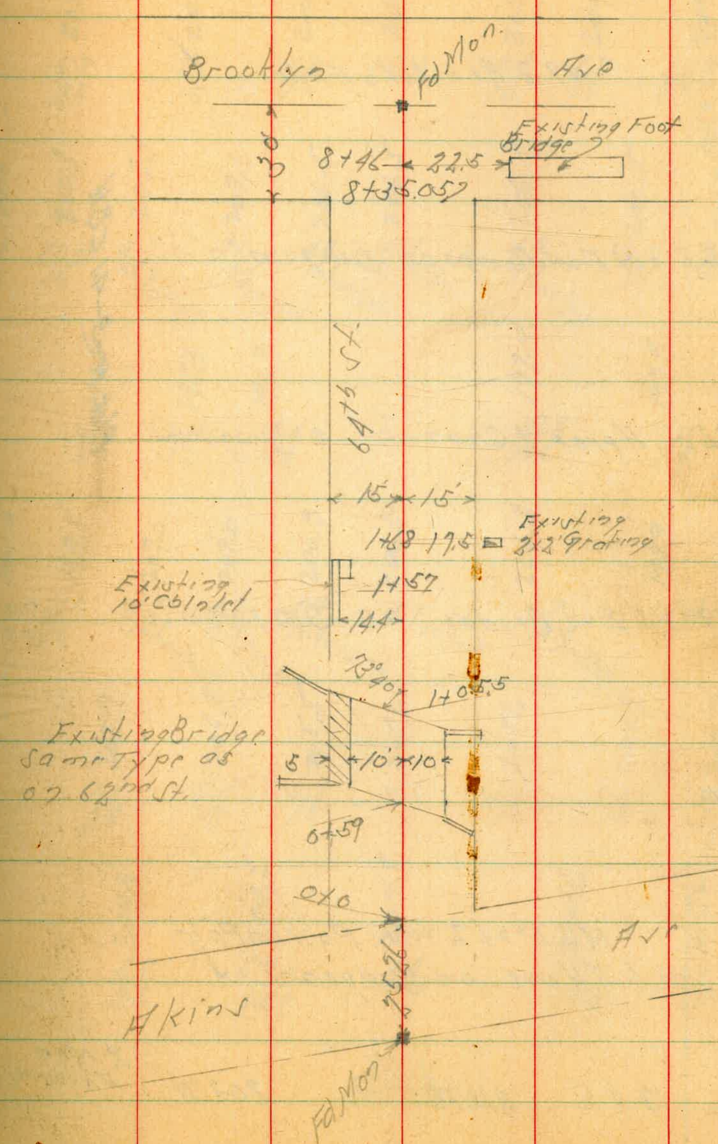
240.00

Cross Section 64th St.
Akins Ave to Brooklyn Ave

Indexed
LM

Bliss + Party

Oct 29-41
Sisson
Northern
H Moore



Red. 10/31/41 ⓦ.

		Lt.-W		℄		Rt.-E	
1+16 19.8' Rt = Lots Fence ✓	5.8 / 25 / 205.4	5.6 / 15 / 205.6	5.3 / 10 / 205.9	5.3 / 205.9	5.4 / 10 / 205.8	6.8 / 15 / 204.4	6.80 / 27.? / 204.36
1+05.5 = N End Bridge on Diagonal	6.4 / 25 / 194.8; 10.4 / 16 / 200.8	4.1 / 15.6 on Wall / 207.1; 4.1 / 10.6 on Wall / 207.1	4.7 / 10.6 on Deck / 206.5	4.7 on Deck / 206.5	4.7 / 9.8 on Deck / 206.5	10.7 / 11 / 200.5	8.5 / 15.6 ℄ Conc Wall / 202.7; 7.4 / 40 / 203.8
0+82 : Aprox ℄ Channell on Diagonal	16.7 / 50 / 194.5	15.9 / 30 / 195.3	14.3 / 15.6 / 196.9		13.8 / 15.6 / 197.4	13.3 / 25 / 197.9	13.6 / 50 / 197.6
0+59 = S End Bridge on Diagonal 7.5 / 50	6.8 / 25 / 204.4; 11.7 / 16 / 199.5	4.2 / 15.6 on Wall / 207.0; 4.2 / 10.4 top Wall / 207.0	4.9 / 10.4 on Deck / 206.3	4.9 on Deck / 206.3	4.9 / 10.4 on Deck / 206.3	12.3 / 11 / 198.9	12.4 / 15.6 / 198.8; 11.9 / 25 / 199.3
0+40	7.3 / 25 / 203.9	5.4 / 15 / 205.8	5.7 / 10 / 205.5	5.6 / 205.6	5.6 / 10 / 205.6	6.5 / 15 / 204.7	7.5 / 25 / 203.7
0+0 = N.L. Akins on Diagonal ✓ (14.2 Lt of ℄ = Wly Power Pole)	6.9 / 25 / 204.3	6.7 / 15.2 / 204.5		6.4 / 204.8	6.6 / 15.2 / 204.6		6.0 / 25 / 205.2

Plot. 11-3-41 CBH

BM 7.45 211.16 203.71 ℄ Mon Akins +64

211.16

Station	Notes	Lt.	℄	Rt.
1+88				204.16 / 7.00 / 22.5 = ℄ Garage Conc Floor ✓
1+68				202.93 / 8.23 / 17.5 = ℄ 2'x2' Grating ✓
1+66		203.50 / 7.66 / 15.3 = ℄ 3' Conc Walk ✓		
1+62				203.56 / 7.64 / 14.9 = ℄ 3.5' Conc Walk ✓
1+57	: ℄ 10' Curb Inlet on Lt. ✓	203.5 / 7.7 / 25; 204.56 / 6.60 / 14.4 Top Cb; 203.41 / 7.75 / 14.4 = Grating	203.9 / 7.3 / 10; 203.9 / 7.3	203.6 / 7.6 / 15; 203.6 / 7.6 / 20
1+35	15.2 Lt of ℄ : Sly Wire Fence ✓ 14.7 Lt of ℄ = Nly Power Pole ✓			203.9 / 7.3 / 21.6 = ℄ Garage Dirt Floor ✓

211.16

211.16

3+0					
TP	13.05	223.98	0.23	210.93	
2+75					
2+66					
2+54	14.7 Lt of Δ = Wly Power Pole				✓
2+50					
2+28					
2+0	15.8 Lt of Δ = Wire Fence				✓

211.16

Lt

213.2	213.1	212.9	212.2 Δ	212.4	212.3	212.0
10.8 / 25	10.9 / 15	11.1 / 10	11.8	11.6 / 10	11.7 / 15	12.0 / 15
209.3	209.5	209.3	208.4	208.7	208.9	
1.9 / 15	1.7 / 15	1.9 / 10	2.7	2.5 / 15	2.5 / 15	
				208.0		
				3.2 / 21.4 = Δ to Garage Diff Floor		✓
	206.5	206.8	206.2 ✓	206.1	206.5 ✓	
	4.7 / 25	4.4 / 15	5.0	5.1 / 15	4.7 / 15	
	205.0					
	6.2 / 15.5 = Δ Garage Diff Floor	✓				
203.2 ✓		204.6	204.6	204.4	204.5 ✓	
8.0 / 20		6.4 / 15	6.6	6.8 / 15	6.7 / 20	

211.16

Sta.	B.S.	H.I.	F.S.	Elev.	Remarks		Lt.		℄		Rt.		
5+0							5.8/25 238.6	4.8/15 239.8	3.9 240.7	3.4/10 241.2	2.1/13 242.5	2.0/15 242.6	1.2/20 243.4
4+74						7.0/25 237.6	6.5/20 238.1	5.4/15 239.2	5.2 239.4	5.0/10 239.6	4.0/15 240.6	2.9/20 241.7	2.6/27 = ℄ Garage Dirt Floor 242.0 ✓
4+55					16.8' Rt of ℄ = Ely 2' Pepper Tree ✓								
TP	8.29	~~244.60~~ 244.56	0.22	236.31					~~244.60~~ 244.56				
					18' Lt of ℄ = Sly Picket Fence ✓								
4+34					16' Lt of ℄ = Wly Power Pole ✓		1.4/25 235.1	0.8/15 236.2	0.5 236.0	0.7/9 235.8	+0.6/10 237.1	+1.2/15 237.9	+1.8/20 238.3
4+0						5.1/25 230.4	4.5/15 232.0	4.5/10 232.0	4.6 231.9	5.5/10 231.0	3.8/11 232.7	3.5/15 233.0	2.1/20 234.4
3+70					19.0 Rt of ℄ = Wire Fence ✓	8.4/25 228.1	8.4/15 228.1	9.6/10 228.9	9.4 227.1	9.4/10 227.1	8.0/12 228.2	8.2/15 228.3	7.4/20 229.1
TP	12.55	~~236.53~~ 236.49	0.04						~~236.53~~ 236.49				
					15.8' Lt of ℄ = Wire Fence ✓								
3+25					19.2 Rt of ℄ = Wire Fence ✓	2.5/25 221.5	3.8/15 220.2	4.0/10 220.0	4.5 219.5	4.7/11 219.3	3.4/12 220.6	3.1/15 220.9	1.7/20 222.3
		223.98							223.98				

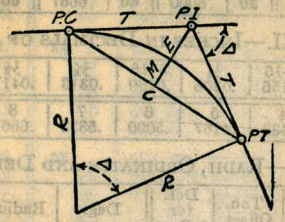
64+57

Cont Page 1

7+20				
TP	4.33	237.86	11.03	232.57
700				
6765				
6740	75 Lt of Z - NW Tel. Pole ✓			
670				
6745				
		24460		

Lt		Z		Rt
221.8	226.9	230.1	233.9	236.4
16.1	11.0	7.8	4.0	1.6
40 Bot Gulch				
		239.90		
		237.86		
231.2	233.4	235.2	237.0	238.9
13.4	11.2	9.4	7.6	5.7
234.9	237.0	238.6	241.6	242.3 242.5 243.4
9.7	7.6	6.0	3.0	2.3 2.1 1.2
237.1	238.7	239.6	242.1	242.4 242.2 243.9
7.5	5.9	5.0	2.5	2.2 1.4 +1.3
239.3	240.5	241.1	242.5	243.2 244.8
5.3	4.1	3.5	2.1	1.4 +0.2
239.2	240.4	241.6	242.2	243.0 243.6 244.3
5.4	4.2	3.0	2.4	1.6 1.0 0.3
			24460	

DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES



CURVE FORMULAS

Radius=R=$\frac{50}{\sin. D/2}$ (1) Degree of Curve=D and sin. $\frac{D}{2}=\frac{50}{R}$ (2)

Tangent=T=R tan $\frac{\Delta}{2}$ (3) Length of Curve=L=100$\frac{\Delta}{D}$ (4)

Middle ordinate=M= R(1—cos. $\frac{\Delta}{2}$) (5) =R vers $\frac{\Delta}{2}$ (6)

External=E=T tan $\frac{\Delta}{4}$ (7) =R ÷ cos. $\frac{\Delta}{2}$ —R (8)=R exsec $\frac{\Delta}{2}$ (9)

Long Chord=C=2 R sin. $\frac{\Delta}{2}$ (10) Δ=Central Angle

EXPLANATION AND USE OF TABLES

Stations.—Given P. I.=Sta. 161+60.35 to find Sta. of P. C. and P. T. Δ=62° 10′ D=8° 20′. From Table IV for 1° curve T=3454.1 and ÷8⅓=414.49 ft. From Table V correction=.36 or T=414.85 ft. P. C.=Sta. P.I.—T=157+45.50. Also from (4) L=746.00 and P. T.=Sta. P. C.+L=164+91.50.

Offsets.—Tangent offsets vary (approximately) directly with D and with square of the distance. Thus tangent offset for Sta. 158 on above curve is 2.16 ft. found as follows. From Table III tangent offset for 100 ft.=7.27 ft. Distance=158—Sta. P. C.=54.50, hence offset=7.27 (54.50÷100)²=2.16 ft. Also square of any distance divided by twice the radius equals (approximately) the distance from tangent to curve. Thus (54.50)² ÷ (2 x 688.26)=2.16 ft.

Deflections.—Deflection angle=½ D for 100 ft., ¼ D for 50 ft., etc. For c ft.=(in minutes) .3 x C x D° or=defl. for 1 ft. from Table III x C. For Sta. 158 of above curve=.3 x 54.5 x 8⅓=136.2′ or 2° 16.2′, or=2.50 x 54.5=136.2′ from Table III. For Sta. 159 deflection angle=2° 16.2′ +8° 20′ ÷2=6° 26.2′, etc.

Externals.—May be found in similar manner to tangents. Thus E for curve above is 91.37. For from Table IV for 1° curve E=960.6 for 8° 20′=960.6 ÷8⅓=91.27 and from Table V correction=.10 or E=91.37 ft. Or suppose Δ=32° and E is measured and found to be 42 ft. What is D? From Table IV E=230.9 and ÷42=5.5 or D=5° 30′.

Table IV.—Tangents and Externals to a 1° Curve.

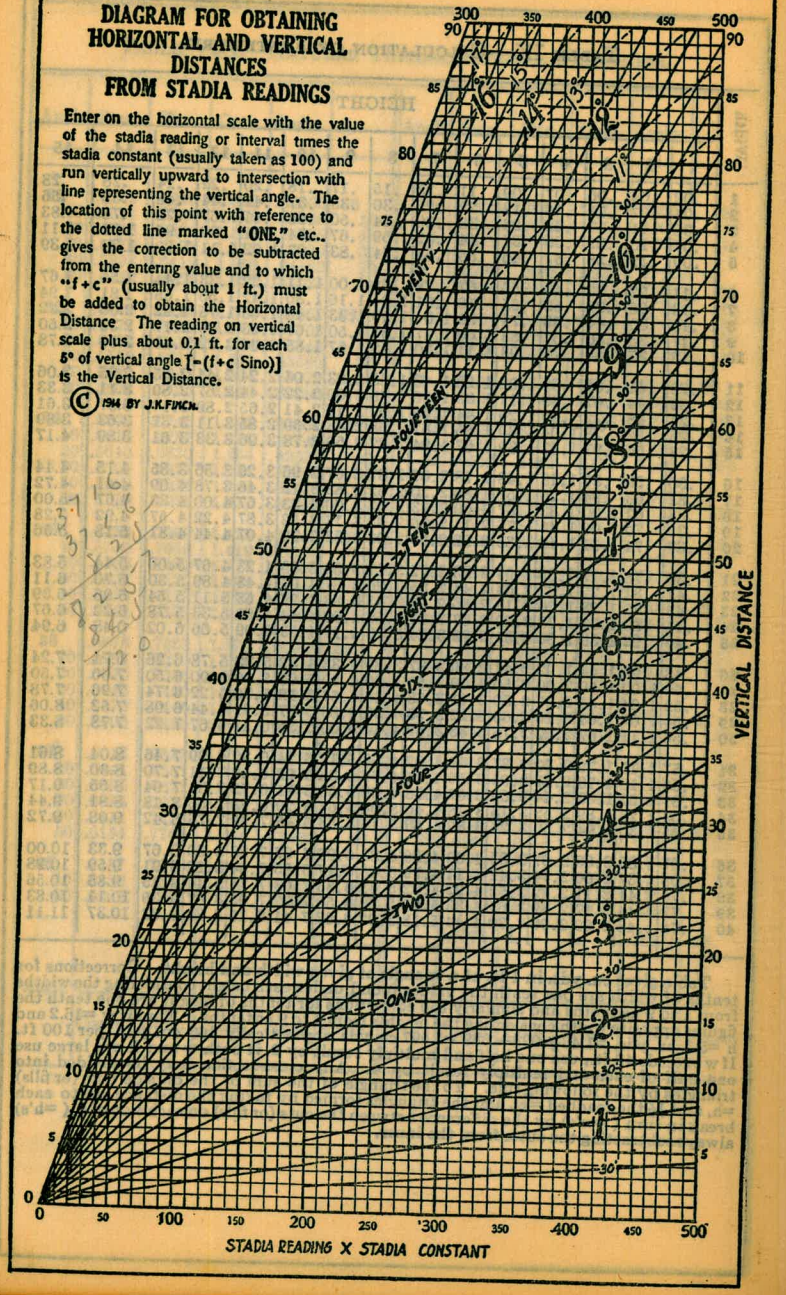
Central Angle	Tangent	External	Central Angle	Tangent	External	Central Angle	Tangent	External
31°	1589.0	216.3	41°	2142.2	387.4	51°	2732.9	618.4
10′	1598.0	218.7	10′	2151.7	390.7	10′	2743.1	622.8
20	1606.9	221.1	20	2161.2	394.1	20	2753.4	627.2
30	1615.9	223.5	30	2170.8	397.4	30	2763.7	631.7
40	1624.9	226.0	40	2180.3	400.8	40	2773.9	636.2
50	1633.9	228.4	50	2189.9	404.2	50	2784.2	640.7
32	1643.0	230.9	42	2199.4	407.6	52	2794.5	645.2
10	1652.0	233.4	10	2209.0	411.1	10	2804.9	649.7
20	1661.0	235.9	20	2218.6	414.5	20	2815.2	654.3
30	1670.0	238.4	30	2228.1	418.0	30	2825.6	658.8
40	1679.1	241.0	40	2237.7	421.4	40	2835.9	663.4
50	1688.1	243.5	50	2247.3	425.0	50	2846.3	668.0
33	1697.2	246.1	43	2257.0	428.5	53	2856.7	672.7
10	1706.3	248.7	10	2266.6	432.0	10	2867.1	677.3
20	1715.3	251.3	20	2276.2	435.6	20	2877.5	682.0
30	1724.4	253.9	30	2285.9	439.2	30	2888.0	686.7
40	1733.5	256.5	40	2295.6	442.8	40	2898.4	691.4
50	1742.6	259.1	50	2305.2	446.4	50	2908.9	696.1
34	1751.7	261.8	44	2314.9	450.0	54	2919.4	700.9
10	1760.8	264.5	10	2324.6	453.6	10	2929.9	705.7
20	1770.0	267.2	20	2334.3	457.3	20	2940.4	710.5
30	1779.1	269.9	30	2344.1	461.0	30	2951.0	715.3
40	1788.2	272.6	40	2353.8	464.6	40	2961.5	720.1
50	1797.4	275.3	50	2363.5	468.4	50	2972.1	725.0
35	1806.6	278.1	45	2373.3	472.1	55	2982.7	729.9
10	1815.7	280.8	10	2383.1	475.8	10	2993.3	734.8
20	1824.9	283.6	20	2392.8	479.6	20	3003.9	739.7
30	1834.1	286.4	30	2402.6	483.8	30	3014.5	744.6
40	1843.3	289.2	40	2412.4	487.2	40	3025.2	749.6
50	1852.5	292.0	50	2422.3	491.0	50	3035.8	754.6
36	1861.7	294.9	46	2432.1	494.8	56	3046.5	759.6
10	1870.9	297.7	10	2441.9	498.7	10	3057.2	764.6
20	1880.1	300.6	20	2451.8	502.5	20	3067.9	769.7
30	1889.4	303.5	30	2461.7	506.4	30	3078.7	774.7
40	1898.6	306.4	40	2471.5	510.3	40	3089.4	779.8
50	1907.9	309.3	50	2481.4	514.3	50	3100.2	784.9
37	1917.1	312.2	47	2491.3	518.2	57	3110.9	790.1
10	1926.4	315.2	10	2501.2	522.2	10	3121.7	795.2
20	1935.7	318.1	20	2511.2	526.1	20	3132.6	800.4
30	1945.0	321.1	30	2521.1	530.1	30	3143.4	805.6
40	1954.3	324.1	40	2531.1	534.2	40	3154.2	810.9
50	1963.6	327.1	50	2541.0	538.2	50	3165.1	816.1
38	1972.9	330.2	48	2551.0	542.2	58	3176.0	821.4
10	1982.2	333.2	10	2561.0	546.3	10	3186.9	826.7
20	1991.5	336.3	20	2571.0	550.4	20	3197.8	832.0
30	2000.9	339.3	30	2581.0	554.5	30	3208.8	837.3
40	2010.2	342.4	40	2591.0	558.6	40	3219.7	842.7
50	2019.6	345.5	50	2601.1	562.8	50	3230.7	848.1
39	2029.0	348.6	49	2611.2	566.9	59	3241.7	853.5
10	2038.4	351.8	10	2621.2	571.1	10	3252.7	858.9
20	2047.8	354.9	20	2631.3	575.3	20	3263.7	864.3
30	2057.2	358.1	30	2641.4	579.5	30	3274.8	869.8
40	2066.6	361.3	40	2651.5	583.8	40	3285.8	875.3
50	2076.0	364.5	50	2661.6	588.0	50	3296.9	880.8
40	2085.4	367.7	50	2671.8	592.3	60	3308.0	886.4
10	2094.9	371.0	10	2681.9	596.6	10	3319.1	892.0
20	2104.3	374.2	20	2692.1	600.9	20	3330.3	897.5
30	2113.8	377.5	30	2702.3	605.3	30	3341.4	903.2
40	2123.3	380.8	40	2712.5	609.6	40	3352.6	908.8
50	2132.7	384.1	50	2722.7	614.0	50	3363.8	914.5

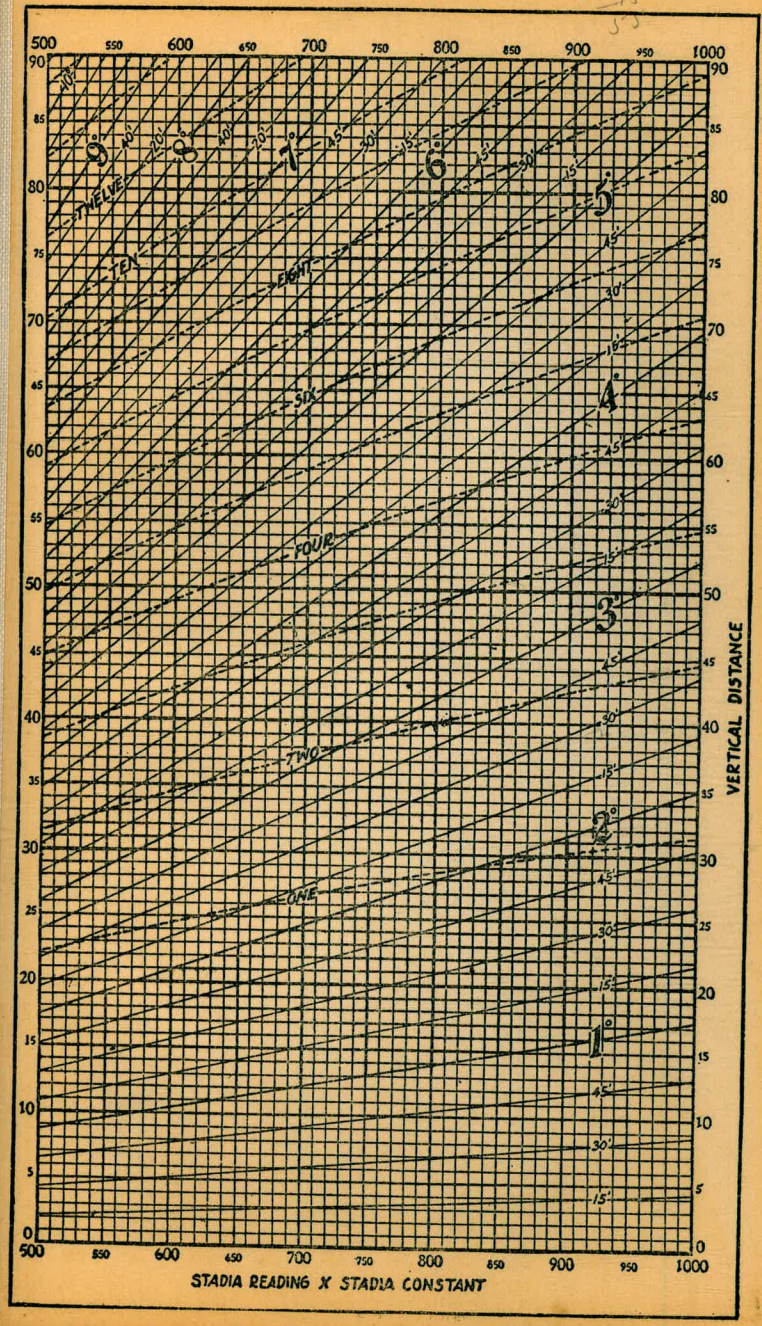
Table IV.—Tangents and Externals to a 1° Curve.

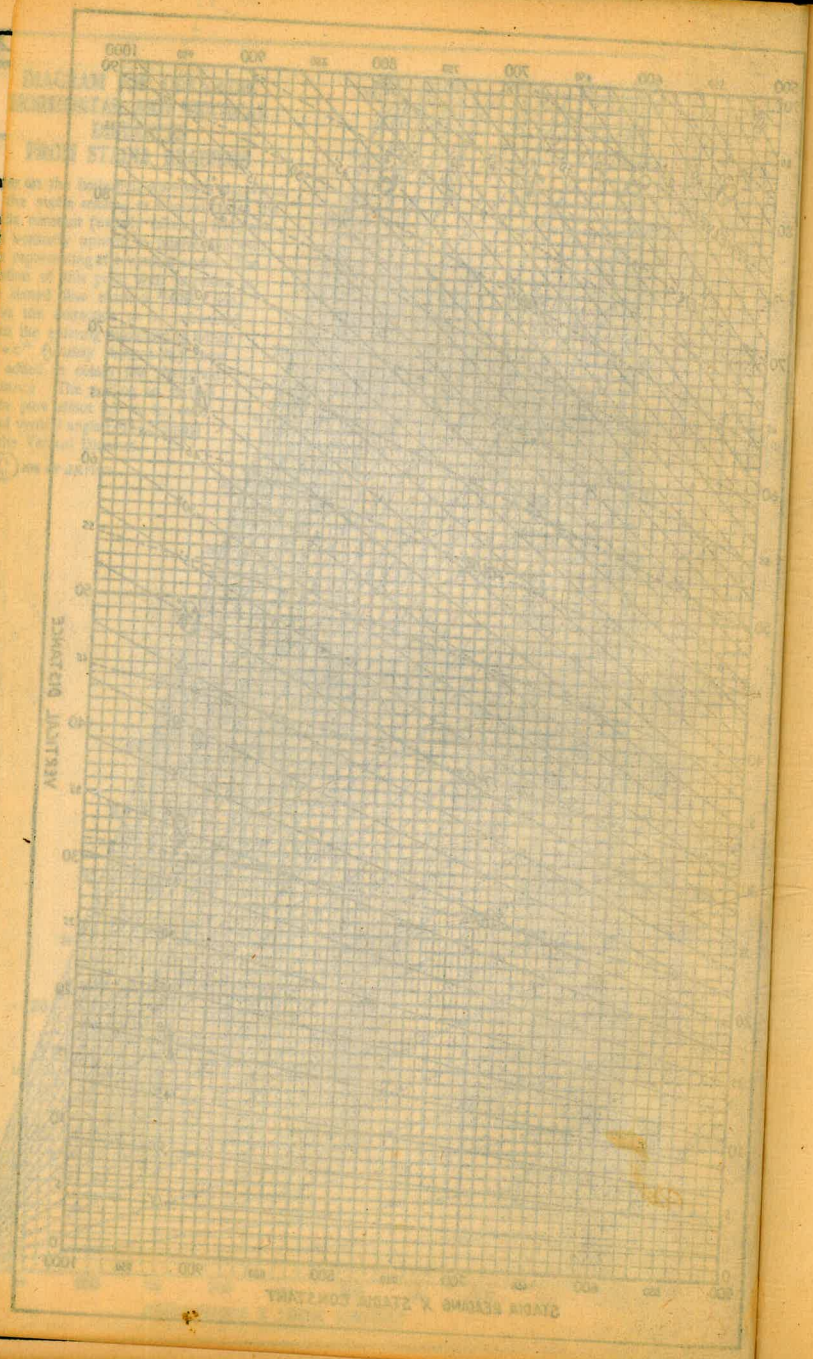
Central Angle	Tangent	External	Central Angle	Tangent	External	Central Angle	Tangent	External
61°	3375.0	920.2	71°	4086.9	1308.2	81°	4893.6	1805.3
10′	3386.3	925.9	10′	4099.5	1315.6	10′	4908.0	1814.7
20	3397.5	931.6	20	4112.1	1322.9	20	4922.5	1824.1
30	3408.8	937.3	30	4124.8	1330.3	30	4937.0	1833.6
40	3420.1	943.1	40	4137.4	1337.7	40	4951.5	1843.1
50	3431.4	948.9	50	4150.1	1345.1	50	4966.1	1852.6
62	3442.7	954.8	72	4162.8	1352.6	82	4980.7	1862.2
10	3454.1	960.6	10	4175.6	1360.1	10	4995.4	1871.8
20	3465.4	966.5	20	4188.5	1367.6	20	5010.0	1881.5
30	3476.8	972.4	30	4201.2	1375.2	30	5024.8	1891.2
40	3488.3	978.3	40	4214.0	1382.8	40	5039.5	1900.9
50	3499.7	984.3	50	4226.8	1390.4	50	5054.3	1910.7
63	3511.1	990.2	73	4239.7	1398.0	83	5069.2	1920.5
10	3522.6	996.2	10	4252.6	1405.7	10	5084.0	1930.4
20	3534.1	1002.3	20	4265.6	1413.5	20	5099.0	1940.3
30	3545.6	1008.3	30	4278.5	1421.2	30	5113.9	1950.3
40	3557.2	1014.4	40	4291.5	1429.0	40	5128.9	1960.2
50	3568.7	1020.5	50	4304.6	1436.8	50	5143.9	1970.3
64	3580.3	1026.6	74	4317.6	1444.6	84	5159.0	1980.4
10	3591.9	1032.8	10	4330.7	1452.5	10	5174.1	1990.5
20	3603.5	1039.0	20	4343.8	1460.4	20	5189.3	2000.6
30	3615.1	1045.2	30	4356.9	1468.4	30	5204.4	2010.8
40	3626.8	1051.4	40	4370.1	1476.4	40	5219.7	2021.1
50	3638.5	1057.7	50	4383.3	1484.4	50	5234.9	2031.4
65	3650.2	1063.9	75	4396.5	1492.4	85	5250.3	2041.7
10	3661.9	1070.2	10	4409.8	1500.5	10	5265.6	2052.1
20	3673.7	1076.6	20	4423.1	1508.6	20	5281.0	2062.5
30	3685.4	1082.9	30	4436.4	1516.7	30	5296.4	2073.0
40	3697.2	1089.3	40	4449.7	1524.9	40	5311.9	2083.5
50	3709.0	1095.7	50	4463.1	1533.1	50	5327.4	2094.1
66	3720.9	1102.2	76	4476.5	1541.4	86	5343.0	2104.7
10	3732.7	1108.6	10	4489.9	1549.7	10	5358.6	2115.3
20	3744.6	1115.1	20	4503.4	1558.0	20	5374.2	2126.0
30	3756.5	1121.7	30	4516.9	1566.3	30	5389.9	2136.7
40	3768.5	1128.2	40	4530.4	1574.7	40	5405.6	2147.5
50	3780.4	1134.8	50	4544.0	1583.1	50	5421.4	2158.4
67	3792.4	1141.4	77	4557.6	1591.6	87	5437.2	2169.2
10	3804.4	1148.0	10	4571.2	1600.1	10	5453.1	2180.2
20	3816.4	1154.7	20	4584.8	1608.6	20	5469.0	2191.1
30	3828.4	1161.3	30	4598.5	1617.1	30	5484.9	2202.2
40	3840.5	1168.1	40	4612.2	1625.7	40	5500.9	2213.2
50	3852.6	1174.8	50	4626.0	1634.4	50	5517.0	2224.3
68	3864.7	1181.6	78	4639.8	1643.0	88	5533.1	2235.5
10	3876.8	1188.4	10	4653.6	1651.7	10	5549.2	2246.7
20	3889.0	1195.2	20	4667.4	1660.5	20	5565.4	2258.0
30	3901.2	1202.0	30	4681.3	1669.2	30	5581.6	2269.3
40	3913.4	1208.9	40	4695.2	1678.1	40	5597.8	2280.6
50	3925.6	1215.8	50	4709.2	1686.9	50	5614.2	2292.0
69	3937.9	1222.7	79	4723.2	1695.8	89	5630.5	2303.5
10	3950.2	1229.7	10	4737.2	1704.7	10	5646.9	2315.0
20	3962.5	1236.7	20	4751.2	1713.7	20	5663.4	2326.6
30	3974.8	1243.7	30	4765.3	1722.7	30	5679.9	2338.2
40	3987.2	1250.8	40	4779.4	1731.7	40	5696.4	2349.8
50	3999.5	1257.9	50	4793.6	1740.8	50	5713.0	2361.5
70	4011.9	1265.0	80	4807.7	1749.9	90	5729.7	2373.3
10	4024.4	1272.1	10	4822.0	1759.0	10	5746.3	2385.1
20	4036.8	1279.3	20	4836.2	1768.2	20	5763.1	2397.0
30	4049.3	1286.5	30	4850.5	1777.4	30	5779.9	2408.9
40	4061.8	1293.6	40	4864.8	1786.7	40	5796.7	2420.9
50	4074.4	1300.9	50	4879.2	1796.0	50	5813.6	2432.9

DIAGRAM FOR OBTAINING HORIZONTAL AND VERTICAL DISTANCES FROM STADIA READINGS

Enter on the horizontal scale with the value of the stadia reading or interval times the stadia constant (usually taken as 100) and run vertically upward to intersection with line representing the vertical angle. The location of this point with reference to the dotted line marked "ONE," etc., gives the correction to be subtracted from the entering value and to which "f+c" (usually about 1 ft.) must be added to obtain the Horizontal Distance The reading on vertical scale plus about 0.1 ft. for each 5° of vertical angle [=(f+c Sino)] is the Vertical Distance.







41+53 = End Lake

+60 top.

119 07 79
1096
130+01.79

127+46.8 = W Pipe. Huron 01

135+77.33
134 09.87
167.86
137+45.19

119 09 01
1 12
119+07.79

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1½
For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.2	8.3	8.5	8.6	8.8	8.9	9.1	9.2	9.4	0
1	9.5	9.7	9.8	10.0	10.1	10.3	10.4	10.6	10.7	10.9	1
2	11.0	11.2	11.3	11.5	11.6	11.8	11.9	12.1	12.2	12.4	2
3	12.5	12.7	12.8	13.0	13.1	13.3	13.4	13.6	13.7	13.9	3
4	14.0	14.2	14.3	14.5	14.6	14.8	14.9	15.1	15.2	15.4	4
5	15.5	15.7	15.8	16.0	16.1	16.3	16.4	16.6	16.7	16.9	5
6	17.0	17.2	17.3	17.5	17.6	17.8	17.9	18.1	18.2	18.4	6
7	18.5	18.7	18.8	19.0	19.1	19.3	19.4	19.6	19.7	19.9	7
8	20.0	20.2	20.3	20.5	20.6	20.8	20.9	21.1	21.2	21.4	8
9	21.5	21.7	21.8	22.0	22.1	22.3	22.4	22.6	22.7	22.9	9
10	23.0	23.2	23.3	23.5	23.6	23.8	23.9	24.1	24.2	24.4	10
11	24.5	24.7	24.8	25.0	25.1	25.3	25.4	25.6	25.7	25.9	11
12	26.0	26.2	26.3	26.5	26.6	26.8	26.9	27.1	27.2	27.4	12
13	27.5	27.7	27.8	28.0	28.1	28.3	28.4	28.6	28.7	28.9	13
14	29.0	29.2	29.3	29.5	29.6	29.8	29.9	30.1	30.2	30.4	14
15	30.5	30.7	30.8	31.0	31.1	31.3	31.4	31.6	31.7	31.9	15
16	32.0	32.2	32.3	32.5	32.6	32.8	32.9	33.1	33.2	33.4	16
17	33.5	33.7	33.8	34.0	34.1	34.3	34.4	34.6	34.7	34.9	17
18	35.0	35.2	35.3	35.5	35.6	35.8	35.9	36.1	36.2	36.4	18
19	36.5	36.7	36.8	37.0	37.1	37.3	37.4	37.6	37.7	37.9	19
20	38.0	38.2	38.3	38.5	38.6	38.8	38.9	39.1	39.2	39.4	20
21	39.5	39.7	39.8	40.0	40.1	40.3	40.4	40.6	40.7	40.9	21
22	41.0	41.2	41.3	41.5	41.6	41.8	41.9	42.1	42.2	42.4	22
23	42.5	42.7	42.8	43.0	43.1	43.3	43.4	43.6	43.7	43.9	23
24	44.0	44.2	44.3	44.5	44.6	44.8	44.9	45.1	45.2	45.4	24
25	45.5	45.7	45.8	46.0	46.1	46.3	46.4	46.6	46.7	46.9	25
26	47.0	47.2	47.3	47.5	47.6	47.8	47.9	48.1	48.2	48.4	26
27	48.5	48.7	48.8	49.0	49.1	49.3	49.4	49.6	49.7	49.9	27
28	50.0	50.2	50.3	50.5	50.6	50.8	50.9	51.1	51.2	51.4	28
29	51.5	51.7	51.8	52.0	52.1	52.3	52.4	52.6	52.7	52.9	29
30	53.0	53.2	53.3	53.5	53.6	53.8	53.9	54.1	54.2	54.4	30
31	54.5	54.7	54.8	55.0	55.1	55.3	55.4	55.6	55.7	55.9	31
32	56.0	56.2	56.3	56.5	56.6	56.8	56.9	57.1	57.2	57.4	32
33	57.5	57.7	57.8	58.0	58.1	58.3	58.4	58.6	58.7	58.9	33
34	59.0	59.2	59.3	59.5	59.6	59.8	59.9	60.1	60.2	60.4	34
35	60.5	60.7	60.8	61.0	61.1	61.3	61.4	61.6	61.7	61.9	35
36	62.0	62.2	62.3	62.5	62.6	62.8	62.9	63.1	63.2	63.4	36
37	63.5	63.7	63.8	64.0	64.1	64.3	64.4	64.6	64.7	64.9	37
38	65.0	65.2	65.3	65.5	65.6	65.8	65.9	66.1	66.2	66.4	38
39	66.5	66.7	66.8	67.0	67.1	67.3	67.4	67.6	67.7	67.9	39
40	68.0	68.2	68.3	68.5	68.6	68.8	68.9	69.1	69.2	69.4	40

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

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