

Bk. 68 Dr. 16

OFFICE OF COUNTY ENGINEER
RAMSEY CO. MINN.

Plan Survey

East Shore Drive

From Ea. City Limits To City Limits

Road Acc't. No. 82

Date Filed 6-11-41

File

PLAN SURVEY

~~DUALIN BLVD.~~
East Shore Drive

from City-County Line W. Side
to City-County Line E. Side

INDEX

Align - 1-9

Topog - 10-17

Sections - 18-32

Drawn up WGB 12-12-40

Sta.	Pt.	Δ Angle	Curve Data
		Lt. Rt.	

2 + 35.52	P.T.		
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0 ⁹ + 25			
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2			
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1 + 89.11	P.I.		
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+ 75			
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+ 50			
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1 + 41.96	P.C.		
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7° 01'			
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6° 13'	A	14° 02'	
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4° 21'	D	15°	
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14° 02'	T	47.15	✓
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2° 28'	L	93.56	✓
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0° 36'	R	383.065	✓
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0 + 00			
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Cor. G.B.
Grill



12.30

18.22

Cor. G.B.
Grill

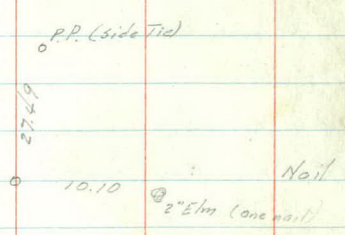
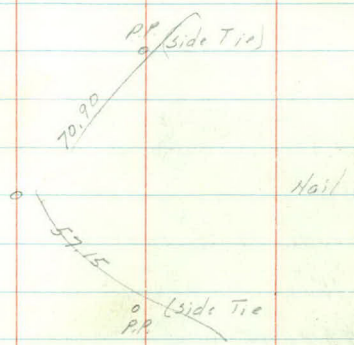
Drill Hole



Iron

Iron
Sta. 4112248

Sta	P.I.	Angle		Data
		Lt.	Rt.	
9 + 93.49	P.T.		7° 35'	
+75			6° 40'	
+50			5° 25'	Δ 15° 10' Rt.
+25			4° 10'	D 10°
9 + 18.19	P.I.		15° 10'	T 76.37 ✓
9			2° 55'	L 151.67 ✓
+75			1° 40'	R 573.686 ✓
+50			0° 25'	
8 + 41.82	P.C.			
+16.10	P.T.		14° 46'	
7			13° 38'	
+75			11° 53'	
+50			10° 08'	Δ 29° 32' Lt.
+25			8° 23'	D 14°
6 + 13.29	P.I.		29° 32'	T 108.14 ✓
6			6° 38'	L 210.95 ✓
+75			4° 53'	R 410.275 ✓
+50			3° 08'	
+25			1° 23'	
5 + 05.15	P.C.			



Sta	P.I.	Angle		Data
		L	R	
	+68.73 ^{+68.81} P.T.		20° 47'	
8	+50	-	18° 54'	
0	+25		16° 24'	
13		-	13° 54'	Δ 41° 34'
	+75		11° 24'	D 20°
12	+70.26 P.I.		41° 34'	T 109.28 ✓
	+50	-	8° 54'	L <u>207.75</u> 207.83
	+25		6° 24'	R 287.939 ✓
12		-	3° 54'	
6	+75		10° 24'	
11	+60.98 ✓ P.C.			

11 + 85.39 (P.O.S.T) = 11 + 85.28 P.I. "A" Line Rd Map Survey (10-82)

10 + 44.05 P.O.T.

Arc Light Pole
3

50.19

CORD

52.00

77.55

12" Witten

50.63

O.P.P.

Spike

Cor. Truss

32.88

32.16

Cor. Truss

Nail

Sta.	Pt.	Angle	Date
18 + 86.54 18 + 86.62 +75	P.T.	Rt. 9°20' 8°49'	
+50		7°34'	
+25		6°19'	A = 18°47' Rl.
18 17 + 93.68 17 + 93.60	P.I.	5°04'	D 10°
+75		18°47'	T - 94.89 ✓
+50		3°49'	L 187.83 ✓
+25		2°34'	R 573.686 ✓
		1°19'	
		0°04'	
17 16 + 98.79 16 + 98.71 +03.12 +03.04	P.C. P.T.	21°58'	
16		21°40'	
+75		19°10'	
+50		16°40'	
+25		14°10'	A. 43°56'
15 14 + 99.59 14 + 99.51	P.I.	11°40'	D = 20°
+75		43°56'	T - 116.14 ✓
+50		9°10'	L - 219.67 ✓
+25		6°40'	
		4°10'	R. 287.939 ✓
		1°40'	
14 13 + 83.45 13 + 83.37	P.C.		

50.04

End G.R.

11.77

Nail

18.31

D
P.P.

50.19

15" Oak

37.49

Bolt Spikes

9.32

50.19 chord

15" Oak

Sta.	Pt.	Angle Lt. Rt.	Data.
22+22.30 +22.22	P.T.	8° 33'	
22		7° 53'	
+75		7° 08'	
+50		6° 23'	
+25		5° 38'	A 17° 05' Rt.
21		4° 53'	D 6°
20+81.08 20+81.00	P.I.	17° 05'	T 143.50 ✓
+75		4° 08'	L 284.72 ✓
+50		3° 23'	R. 955.366 ✓
+25		2° 38'	
20		1° 53'	
+75		1° 08'	
+50		0° 23'	
19+37.58 19+37.50	P.C.		

24" Oak



37.98

31.52

8" E/m

Nail

45.45

pp.
(Side 1st)

Sta.	Pt.	Lt.	Angle	Dist	Data.
29+72.41 29+72.33	P.T.			16°18'	
+50				15°38'	
+25				14°53'	
29				14°08'	
+75				13°23'	
+50				12°38'	
+25				11°53'	
28				11°08'	
+75				10°23'	Δ 32°36' R!
+50				9°38'	D 6°
+25				8°53'	T 279.37 ✓
27+08.45 27+08.37	P.I.			32°36'	L 543.33 ✓
27				8°08'	R 955.366 ✓
+75				7°23'	
+50				6°38'	
+25				5°53'	
26				5°08'	
+75				4°23'	
+50				3°38'	
+25				2°53'	
25				2°08'	
+75				1°23'	
+50				0°38'	
24+29.08 24+29.00	P.C.			0°00'	

59.92

15" E/m

@

Bolt Spike

0.82

P.P.
(Side Tie)

Sta	Pt	Angle Lt Rt	Data
33+94.61	33+94.53		
	P.T.	9° 36'	
+75		8° 52'	
+50		7° 52'	
+25		6° 52'	$\Delta = 19^{\circ} 12' \text{ Lt}$
33		5° 52'	D = 8°
32+75.85	32+75.77		
	P.I.	19° 12'	T = 121.24 ✓
+75		4° 52'	L = 240.00 ✓
+50		3° 52'	R = 716.78 ✓
+25		2° 52'	PC = 312
32		1° 52'	
+75		0° 52'	
31+54.61	31+54.53		
	P.C.		

Arc Light Pole
O

79.33

38.88

6" Oak

Nail

56.15

P.P. Side Tie

Sta.	Pt.	Lt.	Angle	Rt.	Data
41+22.56 41+22.48	P.O.T.				(City - County Line)
37+75.06 37+74.98	P.T.				
+50				18° 00'	
+25				16° 15'	
37				14° 30'	
+75				12° 45'	A 36° 00' R
36+51.23 36+51.15	P.I.			11° 00'	D 14°
+50				36° 00'	T 133.31 ✓
+25				9° 15'	L 257.14 ✓
36				7° 30'	R 410.28 ✓
+75				5° 45'	
+50				4° 00'	
+25				2° 15'	
35+17.92 35+17.84	P.C.			0° 30'	

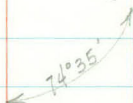
P.P.

85.38

50.95

Guy Pole

Iron



Iron at base

Base. Cor.
End G.R. Post

83.28

4" Lam. bardie Pop.



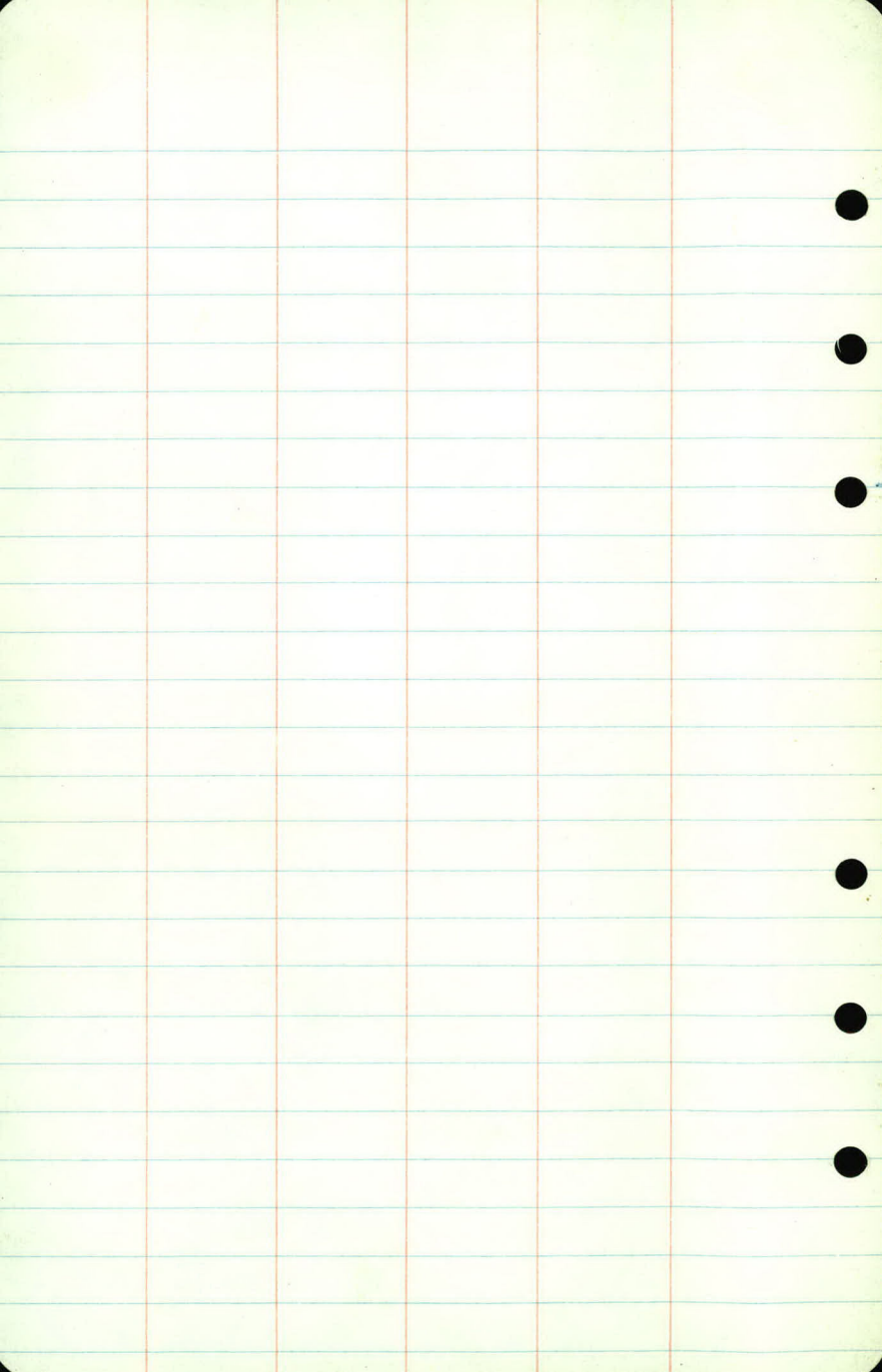
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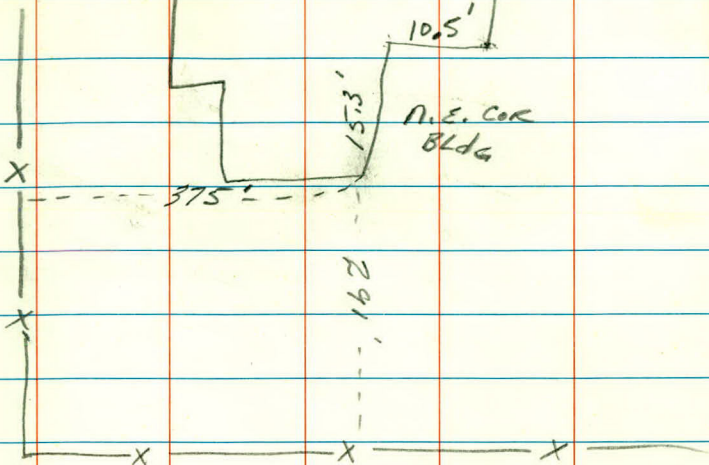


2 1/2" Hub.

62.59

6" Black Oak





20,000

TOPOGRAPHY

PHALEN BLVD

Edge Black Top

Edge Black Top

6	26.4	13.3	175	14.3
	26.4	13.7	150	14.0
5	1 1/2 SF	13.9	125	13.6
		14.2	105	13.4
		14.3	13.4	
4		13.9	13.6	
3		13.8	14.0	
	+35	13.5	135	14.4
2	+00	13.6	14.10	
	+42	13.8	14.2	+42
1		14.0	14.8	
+77	End Curb	16.2	18.3	End Curb +77
+77	Edge B.T.	14.2	16.4	Edge B.T. +77
+50		24.0	21.8	+50
+25	37.0	-116.3	26.0	+25
+14		63.8	30.1	
0		14.5		
+25		66.1		
-50		41.0	37.4	-50

+66 Cor. Hg. 140
 +62 15" Oak 98
 +55 2" Elm 42
 +29 Cor. Hg. 143
 +04 18" Oak 82
 +02 12" Oak 27

AREA

+47 Ent

+27 18" Oak 85
 +17 6" Oak 22
 +02 15" Oak 86
 +98 15" Oak 22
 +87 15" Oak 69
 +61 12" Oak 38
 +38 12" Oak 29
 +30 10" Oak 33
 +20 4" Pine 79
 +19 4" Oak 31
 +04 12" Oak 16
 +03 12" Oak 23
 +01 4" Pine 79
 +83 12" Oak 23

PARK

+51 12" Oak 34
 +40 12" Oak 51
 +35 Ent 60
 +29 15" Oak 19
 +00 Ent

+82 C.B. 139
 +71 12" Oak 63
 +57 18" Oak 55
 +52 12" Oak 35
 +32 15" Oak 51
 +05 12" Oak 87
 +02 18" Oak 46

+62 6" Oak 74

Lake 11 35
 +72 2" Elm 23
 +58 Spillway 137
 +50 Lake 34
 +33 2" Elm 23
 +06 P.P. 19
 Lake 35
 +93 2" Elm 22

+53 2" Elm 23
 +50 Lake 37

+13 2" Elm 23
 Lake 36

+83 P.P. 21
 +74 2" Elm 23

+50 Lake 36

+34 2" Elm 23

Lake 34
 +95 2" Elm 23

+60 2" Elm 24
 +50 P.P. 22

+35 Lake 37
 +20 2" Elm 23

Lake 39

+82 C.B. 142
 +82 Ent 18" C.M. 37
 +69 2" Elm 23

+42 Lake 38
 +30 2" Elm 23

+16 P.P. 21
 Lake 38
 +90 2" Elm 25

+50 2" Elm 30
 +50 Lake 48

+11 2" Elm 36
 +00 Twin Willows 62
 Lake 63

Note: 24" Conc. Gutter Outside Edge Pavement Both Sides
 4" Black Top walk on right side unless otherwise noted

	Edge	Black Top
13	38.4	105.2
+88	74.0	
+75	110.4	
+50	78.0	
+25	53.3	
12	34.1	
+75	23.8	
+61	20.6	
+30	16.0	

Edge	Black Top
	16.1
	16.2
	16.0
	15.8
	15.2
	14.6
	14.0

Wing	Guard
24.5	14.6
	+88.2

Guard	Wing
13.6	22.3
14.3	31.6

Wing	Guard
10	14.8
	+100.5 Begin Bridge
	14.6

Guard	Wing
13.8	22
13.5	30.8

+75	14.6
+50	14.6
+25	14.6
9	14.0
+75	14.2
+42	14.1
8	14.0

13.2
13.1
13.3
13.3
13.4
13.5
13.6

+16	13.7
7	13.7
+75	13.6
+50	13.4
+25	13.1
6	13.4

13.5
13.5
14.0
14.3
14.25
14.4

+95 Arc Light 28

+34-4 Will 73
+25 Lake 105
+05 6" Will 62
+01-4 Will 59
Lake 73

+61 Lake 58

+17 Twin Will 44
+01 Twin Will 36
Lake 44

+80 Twin Elm 23
+73.5 Truss Foot 16.0

+15.5 Truss Footing 16.2
+12 Twin Will 43
+09 Twin Will 25
Lake 68
+99-15" Will 60
+95 8" Will 33
+91-12" Will 35
+82-4 Willows 28
+50 Lake 135

Lake 180

+20 4' Exp 7.00-118
Ent. 63-163
+95 8" Oak 970

+72 10" Oak 60
+63 4' Ent

+34 12" Oak 25

+65 4-2" Oaks 108

+38 15" Oak 990

CANAL

WALK

PHALEN

LAKE

Lake 43

+81 P.P. 29

+74 8" Elm 29

+50 Lake 46

+28 10" Elm 30

Lake 51

+79 7" Elm 30

+61 Lake 50

+34 10" Elm 25

+21 P.P. 23

+16 6" Willow 47

Lake 51

+80 Twin Willow 28

+73.5 Truss Foot 15.2

+15.5 Truss Footing 15.2

Lake 59

+84 Arc Light Pole 25

+67 2" Elm 24

+50 Lake 60

+25 2" Elm 23

Lake 59

+85 2" Elm 22

+75 P.P. 33

+45 2" Elm 22

+42 Lake 55

+04 2" Elm 23

Lake 47

+66 P.P. 25

+58 2" Elm 23

+50 Lake 44

+24 2" Elm 22

Lake 38

+85 2" Elm 23

+50 Lake 37

+46 2" Elm 23

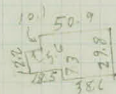
+36 P.P. 22

+07 2" Elm 23

Lake 35

30	13.6	13.0
+75	14.2	13.3
+50	13.7	13.8
+38	13.8	13.8
19	13.8	13.9
+75	13.5	13.9
+50	13.7	13.9
+25	13.7	13.9
18	13.8	13.8
	+16 E Ent. K = 1/2 Blvd.	
+75	13.8	13.8
+50	13.8	13.8
	+97 End 4.8 19'	
	+75 Ent. 6.8	
+25	13.9	13.9
17	13.8	13.8

16	13.7	14.1
+75	13.7	13.9
+50	13.5	13.9
+25	13.6	13.9
15	13.5	14.0
+75	13.9	14.0
+50	13.6	14.1
+25	13.8	14.0
14	13.7	14.0
	+88 10" Oak - 32'	
	+83 Cor. 14.0 11'	
+94	13.6	14.0
+69	13.8	14.3
+52	14.5	15.2
+25	17.7 - 1942	15.7
13	38.4 - 105.2	16.1



+83- 10" Oak 92
+70 12" Lump 57

+38- 12" Oak 60

+02 8" Oak 84

+09 P.R. 18

+66 12" Oak 100

+60 15" Oak 72

+48 Twin R.E. 65

+30 4" Oak 79

+16 6" Oak 54

+15 4" Oak 61

+00 Int. Ent. 28

+83.5 Grate 142

+77 P.R. 17

+65 Lump Brush 35

+52 15" Oak 67

+30 Ent. 59

+50 G.R. 19

+30 4" Oak 28

Ent 73

G.R. 19

+94 4" Oak 19

+52 P.R. 19

+50 Ent 103

+18 Rgo Tie Fe.

+14 8" Oak 27

+14 Bog Fe. 22

G.R. 19

+80 6" Oak 38

+50 Cor. Hedge 54

+50 G.R. 18

+25 P.R. 19

+21 Spruce 70

+20 10" Oak 43

+05 Spruce 79

+07 Cor. Ho. 105

G.R. 19

+73 Pine 51

+66 Bog Hedge 54

+60 Bog G.R. 19

+52 Hedge 43

+50 Ent. 19

+30 Rgo Tie Hedge

+28 End G.R. 19

+11 6" Oak 24

+09 6" Oak 22

G.R. 19

+97 P.R. 22

+84 G.R. 19

+76 8" Oak 83

+69 G.R. 19

+36 Bog G.R. 21

UNCULTIVATED

GROUNDS

PUMP

WOOD FE.

ARD

UNCULTIVATED

Lake 34
+98- 10" Elm 19

+55- 8" Elm 19

+50- Lake 34

+15- 6" Oak 20

Lake 36

+77 12" Elm 21

+50 Lake 40

+26- 12" Elm 21

Lake 43

+93 12" Elm 22

+83.5 Grate 142

+89.5 Ent. 18 G.M. 30

+58 8" Elm 21

+50 Lake 48

+15 12" Elm 20

Lake 51

+75 Walk 21-25

+73 8" Elm 19

+50 Lake 56

+30 Walk 21-25

+32 6" Elm 20

+14-3 wills 37

Lake 64

+92- 8" Elm. will. 22

+50 Lake 129

+07 3" will 40

+40 12" Elm. 4" will 23

+40 4" will 23

+38 3" will 34

+26 4" will -37

+20 4" will 34

+17 2-4" will 1637-42

+00 12" Elm 22

Lake 71

+72 6" will 42

+55 12" Elm 22

+50 Lake 66

+45 8" will 34

+35 8" will 36

+19 6" will 35

+05 10" Elm 23

Lake 57

+82 5" will 36

+60 12" Elm 23

+57 3 willows 42

+50 Lake 46

+17 6" Elm 29

+07 W. Row 40

Lake 43

27		12.9
+75		14.1
+50	12.6	15.1
-25	11.8	16.0
26	11.1	16.6
+75	10.9	17.0
+50	10.5	17.2
+25	10.5	17.0
25	10.8	16.8
+75	11.2	16.4
+50	12.0	15.5
+29	12.5	14.8
24		14.1

23	13.7	13.9
----	------	------

24.1
13.2

20.5

+22	13.9	13.9
-----	------	------

22	14.2	13.6
----	------	------

+75	14.2	13.1
-----	------	------

+50	14.7	12.7
-----	------	------

+25	15.0	12.6
-----	------	------

21	15.2	12.6
----	------	------

+75	15.2	12.3
-----	------	------

+50	15.2	12.2
-----	------	------

+25	15.1	12.7
-----	------	------

20	14.6	13.0
----	------	------

25.6
25.0
20.5
14.6
12.5

+86.5 End Rad 30.6
+18 P.P. 21
+67 Beg. Rad 12.3
+43 Twin Oak 35

+12 6" Ash 21
+04 8" Ash 21

+174 12" Oak 30
+50 P.P. 14

VACANT LOTS

+42.5 Grove 120
+29 End Rad 12.5
+18 P.P. 21
+08 Beg. Rad 32.0

+175 End Rad 36.6
+57 Beg. Rad 12.6

+06 P.P. 18
+00 3" B.E. 26
+91 Cor. Shack 100
+84 Cor. Shack 100
+77 15" Oak 81
+70 4" Oak 85
+78 Tie Ent. 68
+44 Cor. Shack 146

+28 Ent.

+75 P.P. 18
+61 End 12" Oak 33
+58 4" Ditch 66
+51 4" Willow 56

+31 L.D. ditch 78

+14 20" Oak 31

+64 Cor Play Ho 113
+52 Ent

+35 P.P. 19

+18 Cor Play Ho 123
+08 3" P.E. 38

CAMP
TOURIST

YARD

Lake 41 18
100 S.W. 15-19
175 S.W. 21-25
+67 10" Elm 20
+50 Lake 43
+50 S.W. 22-26
+26 8" Elm 21
Lake 40
+00 S.W. 24-28
+83 6" Elm 21
+50 Lake 45
+50 S.W. 24-28
+39 10" Elm 22
+25 S.W. 23-27
Lake 47
+99 10" Elm 23
+90 S.W. 19-23

+53 6" Elm 24
+50 Lake 47
+42.5 Grove 155
+42.5 End 18" Oak 39
+17 12" Elm 20
Lake 45

+79 6" Elm 21
+50 Lake 47
+36 8" Elm 20
+30 S.W. 16.3-20.3

+00 S.W. 21-25
Lake 45
+97 10" Elm 18

+54 12" Elm 18
+50 S.W. 21-25
+50 Lake 43

+11 8" Elm 18
+10.5 W. 20-24
Lake 40
S.W. 19.6-23.6

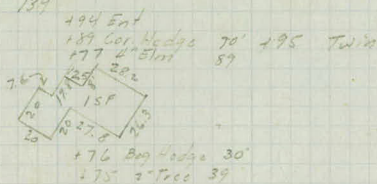
+75 S.W. 15-19
+67 End 12" Oak 33
+68 8" Elm 19
+50 Lake 38

+25 10" Elm 20
Lake 35
+85 8" Elm 20

+50 Lake 36
+20 14" Elm 19

Lake 34

36	13.7	13.9
+75	13.7	13.9
+50	13.7	14.0
+25	13.7	13.9
33	13.8	13.9
+75	13.9	13.7
+50	13.9	13.7
+25	14.0	13.7
32	13.9	13.6
+75	14.0	13.6
+55	13.9	13.7
31	13.8	13.8



30	13.7	+32 sh/dr X2 ±	13.8
+72	13.7	+09.75 - R.R. Sep. ± R/W.	13.9
+50	13.8	+02 sh/dr X3 ±	13.8
+25	14.7	+00 Lot Iron 47.6	12.9
29	16.1	+00. 4" Pop 78	11.4
+75	17.5	+94. 4" Pop 61	10.0
+50	18.4	+37. 2" Elm - 57	9.2
+25	19.0		8.7
28	18.9		8.7
+75	18.4		9.1
+50	17.6		10.1
+25			11.4
27			12.9

+47 P.R. 20
+46 Spruce 43.45 50.52

VACANT LOTS

+86 Spruce 56
+82 Spruce 41
+50 Spruce 40.51
+32 4" Elm 21
+32 P.R. 26
+18 3" 4" Elms 54.75-95
+55 Cor. Hd 50
+30 Curb 102
+33 Cor. Hd 69
+285 Grate 144
+18 2" Conc. Walk 16
+16 Spruce 72
+15 2" Elm 44
+10 2" Elm 83
+00 Curb 162
+00 Sid. 23
+98 Curb 324
+89 Curb 40

+62 Bag Curb 165
+54 P.R. 29

YARD

NEW GEARS (M/R) 2

+90 Spruce 71
+75 Spruce 68
+73 Lot Iron 45
+66 P.R. 27
+65 2" Tree 58
+47 3" Pop 57
+28 2" Elm 56
+23 Lot Iron 42.7
+14 2" B.E. 27
+07 2" Ash 55
+91 2" Ash 55

VACANT LOTS

+75 20"x20" Pier 433
+63 1" Elm 56
+54 20"x10" Bier W. 355
+53 Cor. Conc. Walk 355
+50 " " 355
+43 20"x20" Pier 45
+38 P.R. (Arc W) 27
+29 20"x20" Pier 46

YARD

+37 Grate 171
+33 End Rad 16.7
+13.5 Bag Rad 33.9

Lake 42
+85 3" Oak 26
+82 4" Ash 34
+72 3" Pop 38
+71 3" Oak 25
+50 Lake 42
+40 2" Pop 37
+21 4" Elm 32
+07 6" Oak 31
Lake 44

+92 2" Bass 33
+83 1" Spruce 36
+57 12" Oak 33
+50 Lake 45

+28 Guy Pole 31
Lake 49
+81 6" Ash 38
+61 4" Ash 35
+50 Lake 45
+49 6" Ash 38
+34 15" Will 29
+295 Grate 188
+285 18" G.M. 30
+24 3" B.E. 31
+16 1" B.E. 31
Lake 45

+72 2" Wills 35
+72 4" Wills 35

+50 Lake 47
+50 2" Tree 37
+34 Lilac Bush 26

Lake 48

+58 Twin Elm 36
+50 Lake 45

+14 Twin Elm 30
Lake 43

+67 4" B.E. 30
+50 Lake 42
+52 Conc. Steps 25.3
+47 2" 12" Oak 18.27
+35 4" Oak 17

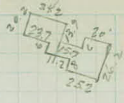
+15 3-4" Oaks 20
Lake 38
+94 14" Elm 15

+54 8" Elm 18
+50 Lake 42

+37 End 18" G.M. 36
+11 12" Elm 19
Lake 41

41 End Conc. Gutter

40



44.1

+75	25.0	39.0
+50	16.3	31.6
+25	13.6	21.5
40	13.0	14.8

39	13.2	14.3
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+87 4'-2.5' 67
 +77 Cor. No. 92
 +77 4'-2.5' 88

38	13.4	14.4
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193 Cor. No. 87
 189 8'-5" 85
 13.4 +83 8'-5" 88
 +72 Cor. No. 75
 13.6 +65 6' Conc. 34
 +52 6' Maple 82
 +48 Cor. No. 73
 13.5 +47 XFc 65
 127 Cor. No. 82
 37 13.5 +04 Cor. No. 82
 +98 Cor. No. 88

14.4
 14.3
 14.3
 14.1
 14.1

	13.5	14.3
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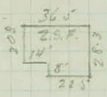
	13.3	14.4
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	13.6	14.1
--	------	------

36	13.6	13.8
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	13.7	14.2
--	------	------

	13.6	14.1
--	------	------



	13.7	14.0
--	------	------

35	13.6	13.9
----	------	------

	13.7	13.9
--	------	------

+98 3" Elm 51
 +85 Cor. Ho 104
 +77 4" Maple 78
 +66 Cor. Ho 109
 +50 Sapling 98
 +52 Sapling 78
 +43 G. Oak 60

+105 -3" B.E. 72

+83 Cor. Ho. 81

+53 Cor. Ho. 77

+66 4" Conc. Oak 85

+62 6" B.E. 53

+53 3" Tree 52

+46 Cor. Ho. 88

+31 12" Elm 64

+12 Cor. Ho. 92

+17 Bush 52

+12 4" Conc. Oak 37

+39 Bush 55

+02 10" Elm 61

+30 2 Trees 48

+24 4" Conc. Oak 31

+24 6" in soil 64

+17 6" Oak 70

+17 2 Cedar 48

+15 6" B.E. 62

+13 3" B.E. 35

+27 Cor. Ho. 82

+09 Lilac 61

+00 Lilac 49

+90 Lilac 41

+58 2" B.E. 58

+72 Cor. Ho. 90

+75 2 Trees 51

+70 2 B.E. Oak 42

+55 6" Oak 79

+36 2 Oaks 58

+28 2 Oaks 65

+23 2 Oaks 57

+15 2" Oak 79

+86 3" Oak 36

+77 6" Elm 33

+66 3" B.E. 33

+58 6" Oak 68

+52 Cor. Ho. 89

+44 6" Oak 35

+27 Cor. Ho. 89

+14 Elm 31

+90 B.E. 31

YARDS

YARDS

YARD

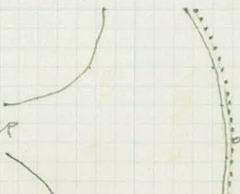
Vacant Lot

Note: Walk outside Grand Ball

+84 6" Oak 105
 +65 6" Oak 76
 +50 4" Oak 95
 +50 Lake 105
 +42 6" Oak 85
 +38 4" Oak 55
 +09 2 Oaks 51
 +01 W. Oak 82
 +00 G. Oak 18
 Lake 90
 +92 Maple 31
 +80 6" Oak 68
 +66 3" Oak 62
 +50 3" Oak 53
 +50 Lake 80
 +37 3" Oaks 53
 +19 6" B.E. 71
 +16 6" Oak 70
 +00 G. Oak 18
 Lake 75
 +85 3" Oak 34
 +81 6" Oak 34
 +64 4" Oak 68
 +58 4" Oak 69
 +56 4" Oak 42
 +50 Lake 75
 +50 Twin Oak 32
 +22 4" Oak 43
 +00 G. Oak 18
 Lake 72
 +80 6" Oak 37
 +52 12" Oak 60
 +50 Lake 75
 +31 4" Oak 50
 +19 6" Oak 45
 +14 6" Oak 66
 +21 2 Oak 17
 +05 4" Oak 64
 Lake 71
 +99 4" Oak 64
 +68 2" Oak 44
 +63 4" Oak 58
 +53 4" Oak 57
 +50 Lake 62
 +30 4" Oak 52
 +25 6" Maple 30
 +06 4" Oak 28
 +05 4" Oak 43
 Lake 54
 +78 8" Oaks 27
 +50 Lake 47
 +01 Tree 26
 Lake 44
 +97 Tree 26
 +93 6" Oak 28
 +71 Twin Elm 53
 +55 15" Elm 33
 +50 Lake 43
 +27 5" Elm 35
 +18 2 Oaks 23
 Lake 42

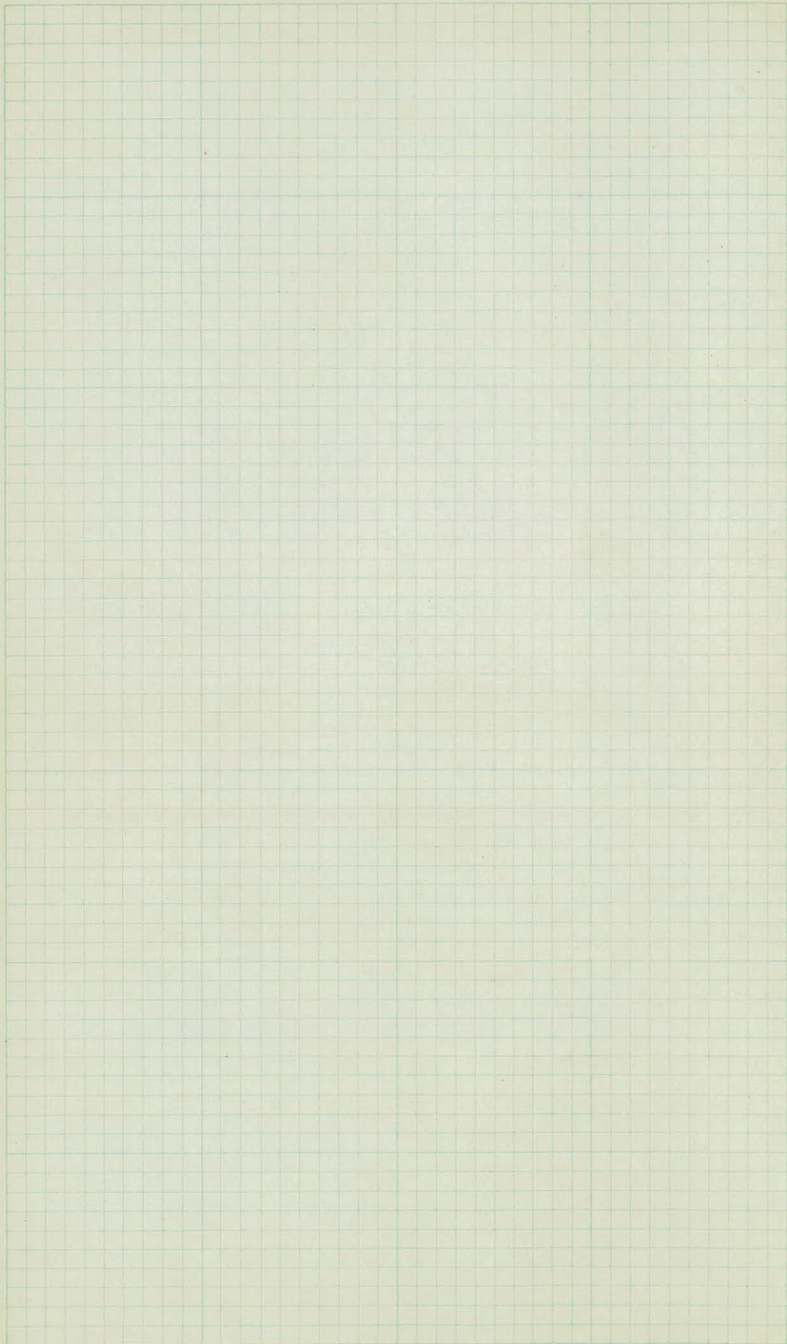
42	149	26.5
70	23.3	39.7
150	68	44.7
222	65	47.2
41	40.0	46.5

LARPEUR



End G.R. 30
Lake 122

+30 G.P. 16 51
+22 Lake 125
+18' 6" W 110
Lake 115
G.R. 48



Cross Sections

PHALEN BLYD

Sta.	+	π	-	Elev.
B.M.	2.44	869.05		866.61
0 + 00			3.32	65.73
+ 14			3.86	65.19
+ 35			5.45	63.60
+ 77			6.10	62.95
1			6.15	62.90
+ 42	P.C.		6.31	62.74
+ 75			6.50	62.55
+ 82				
2			6.47	62.58
+ 36	P.T.		6.35	62.70
+ 74			6.31	62.74
3			6.32	62.73
+ 50			6.30	62.75

Spike P.P. 30' PL 0+00

$\frac{1.5}{100}$	$\frac{1.55}{98}$	$\frac{2.00}{98}$	$\frac{1.95}{53}$	$\frac{4.48}{3.32}$	$\frac{4.06}{29}$	$\frac{4.2}{29}$	$\frac{6.2}{52}$	$\frac{10.2}{58}$	$\frac{11.21}{65}$
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$\frac{1.0}{100}$	$\frac{1.93}{79}$	$\frac{1.43}{79}$	$\frac{2.44}{56}$	$\frac{2.93}{56}$	$\frac{4.77}{3.86}$	$\frac{4.33}{28}$	$\frac{5.5}{28}$	$\frac{11.21}{47}$	Elev 857.84
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$\frac{+6.5}{100}$	$\frac{+12.8}{75}$	$\frac{+12}{58}$	$\frac{39}{30}$	$\frac{5.00}{21}$	$\frac{5.50}{21}$	$\frac{6.02}{5.45}$	$\frac{5.60}{22}$	$\frac{5.8}{22}$	$\frac{11.21}{41}$
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$\frac{16.5}{100}$	$\frac{13.2}{62}$	$\frac{0.0}{48}$	$\frac{2.7}{32}$	$\frac{5.88}{16}$	$\frac{6.16}{16}$	$\frac{6.43}{6.10}$	$\frac{6.11}{19}$	$\frac{5.9}{19}$	$\frac{11.21}{36}$
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$\frac{+6.0}{100}$	$\frac{+2.0}{63}$	$\frac{0.0}{43}$	$\frac{2.6}{32}$	$\frac{6.16}{16}$	$\frac{6.41}{15}$	$\frac{6.62}{6.15}$	$\frac{6.39}{16}$	$\frac{6.2}{17}$	$\frac{11.21}{32}$
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$\frac{19.0}{100}$	$\frac{16.5}{68}$	$\frac{+4.5}{57}$	$\frac{0.0}{38}$	$\frac{4.9}{24}$	$\frac{6.45}{16}$	$\frac{6.68}{15}$	$\frac{6.91}{6.31}$	$\frac{6.66}{15}$	$\frac{6.3}{32}$
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$\frac{18.8}{100}$	$\frac{15.0}{77}$	$\frac{+1.8}{56}$	$\frac{0.0}{44}$	$\frac{5.5}{35}$	$\frac{6.57}{16}$	$\frac{6.80}{15}$	$\frac{7.10}{6.50}$	$\frac{6.92}{15}$	$\frac{6.4}{16}$
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				$\frac{9.98}{13.9}$				$\frac{10.95}{14.2}$	$\frac{11.60}{37}$
$\frac{+6.0}{100}$	$\frac{+2.0}{71}$	$\frac{2.9}{51}$	$\frac{4.8}{41}$	$\frac{6.58}{16}$	$\frac{6.80}{15}$	$\frac{6.90}{6.47}$	$\frac{6.65}{15}$	$\frac{6.3}{16}$	$\frac{11.21}{32}$

$\frac{25.3}{100}$	$\frac{14.0}{86}$	$\frac{+1.5}{67}$	$\frac{1.0}{51}$	$\frac{4.3}{29}$	$\frac{6.52}{16}$	$\frac{6.75}{15}$	$\frac{6.83}{6.35}$	$\frac{6.58}{15}$	$\frac{6.3}{16}$
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$\frac{+6.2}{100}$	$\frac{+6.5}{89}$	$\frac{+4.4}{56}$	$\frac{12.5}{42}$	$\frac{0.5}{31}$	$\frac{5.1}{23}$	$\frac{6.44}{16}$	$\frac{6.67}{15}$	$\frac{6.82}{6.31}$	$\frac{6.62}{15}$
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$\frac{+7.3}{100}$	$\frac{+6.4}{76}$	$\frac{+5.4}{47}$	$\frac{+2.3}{35}$	$\frac{5.0}{22}$	$\frac{6.40}{16}$	$\frac{6.64}{15}$	$\frac{6.77}{6.32}$	$\frac{6.55}{15}$	$\frac{6.5}{16}$
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$\frac{+6.6}{100}$	$\frac{17.1}{90}$	$\frac{+4.6}{41}$	$\frac{4.9}{24}$	$\frac{6.39}{16}$	$\frac{6.60}{15}$	$\frac{6.80}{6.30}$	$\frac{6.51}{15}$	$\frac{6.4}{16}$	$\frac{11.21}{29}$
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25784

Sta.	+	π	-	Elev
		86905		
4			6.14	62.92
T.P.	10.04	872.97 55 80	6.12	862.93
+50			10.01	62.96
5	App. P.C.		9.81	63.16
+25			9.80	63.17
+75			9.72	63.25
6			9.73	63.24
+50			9.56	63.41
7			9.22	63.75
+50			8.74	64.23
T.P.	10.45	874.70 55 80	8.72	864.25
+69			10.28	64.42
8			9.87	64.83
+42	P.C.		9.40	65.30

$$\begin{array}{cccccccccccc} +46 & +48 & +30 & +20 & +00 & 44 & 632 & 653 & 656 & 634 & 60 & 1121 \\ 100 & 91 & 68 & 42 & 32 & 25 & 16 & 15 & 16 & 15 & 29 & 37 \end{array}$$

$$\begin{array}{cccccccccccc} 41 & 71 & 87 & 93 & 1012 & 1041 & 1045 & 1021 & 100 & 1513 \\ 100 & 64 & 47 & 28 & 16 & 15 & 1001 & 15 & 16 & 29 & 36 \end{array}$$

$$\begin{array}{cccccccccccc} 74 & 106 & 130 & 140 & 98 & 1012 & 1032 & 1040 & 1018 & 97 & 1513 \\ 100 & 80 & 64 & 44 & 30 & 16 & 15 & 981 & 15 & 16 & 27 & 35 \end{array}$$

$$\begin{array}{cccccccccccc} 63 & 101 & 129 & 142 & 138 & 102 & 1008 & 1032 & 1036 & 1029 & 99 & 1513 \\ 100 & 79 & 63 & 53 & 43 & 31 & 16 & 15 & 980 & 15 & 16 & 28 & 36 \end{array}$$

$$\begin{array}{cccccccccccc} 60 & 78 & 101 & 116 & 110 & 1000 & 1024 & 1026 & 1003 & 98 & 1513 \\ 100 & 88 & 68 & 47 & 29 & 16 & 15 & 972 & 15 & 16 & 27 & 34 \end{array}$$

$$\begin{array}{cccccccccccc} 32 & 52 & 70 & 84 & 988 & 1020 & 1025 & 1003 & 101 & 1513 \\ 100 & 84 & 53 & 31 & 16 & 15 & 973 & 15 & 16 & 28 & 35 \end{array}$$

$$\begin{array}{cccccccccccc} 151 & 150 & 62 & 84 & 925 & 997 & 995 & 973 & 97 & 1513 \\ 100 & 96 & 58 & 24 & 16 & 15 & 956 & 15 & 16 & 28 & 36 \end{array}$$

$$\begin{array}{cccccccccccc} 167 & 170 & 75 & 936 & 959 & 966 & 931 & 94 & 1513 \\ 100 & 91 & 51 & 16 & 15 & 922 & 15 & 10 & 31 & 38 \end{array}$$

$$\begin{array}{cccccccccccc} 157 & 154 & 136 & 99 & 901 & 922 & 902 & 878 & 101 & 1513 \\ 100 & 95 & 80 & 46 & 16 & 15 & 876 & 15 & 16 & 37 & 45 \end{array}$$

$$\begin{array}{cccccccccccc} 42 & 40 & 102 & 132 & 123 & 1048 & 1070 & 1052 & 1030 & 114 & 152 & 1686 \\ 100 & 87 & 63 & 48 & 34 & 16 & 15 & 1028 & 15 & 16 & 35 & 40 & 44 \end{array}$$

$$\begin{array}{cccccccccccc} 106 & 127 & 140 & 140 & 140 & 105 & 1019 & 1042 & 1013 & 984 & 112 & 152 & 1686 \\ 100 & 86 & 81 & 61 & 35 & 23 & 16 & 15 & 987 & 15 & 16 & 38 & 46 & 50 \end{array}$$

$$\begin{array}{cccccccccccc} 150 & 152 & 149 & 116 & 97 & 971 & 995 & 961 & 932 & 95 & 112 & 1686 \\ 100 & 75 & 41 & 30 & 21 & 16 & 15 & 940 & 15 & 16 & 25 & 45 & 55 \end{array}$$

Sta.	+	π	-	Elev.
		874.70		
8+75			8.46	66.24
9			7.63	67.07
+50			5.26	69.44
+75			3.97	70.73
B.M.	534	876.78	3.26	871.44
10			4.43	72.35
				(871.44)
+03			4.35	72.43
+15			3.39	73.39
+29			2.45	74.33
+58			2.41	74.37
+73			3.37	73.41
+86			4.29	72.49
+88			4.60	72.38

14.7 15.0 14.9 11.7 9.0 8.8 9.1 8.75 8.45 8.7 10.6 11.3 16.1 16.86
100 68 41 32 22 16 15 8.46 15 16 25 40 47 54 59

15.3 15.7 15.0 10.2 8.1 8.00 8.21 7.96 7.69 8.0 10.7 11.1 16.86
100 78 46 31 22 16 15 7.63 15 16 32 42 50 58

13.8 13.2 8.2 5.6 5.58 5.82 5.71 5.46 5.8 8.3 15.9 16.86
100 53 34 22 16 15 5.26 15 16 26 42 52 61

16.86 15.3 11.5 4.3 4.23 4.42 4.28 4.01 4.2 7.2 14.2 16.86
100 98 47 19 16 15 3.97 14 78 25 41 50 60

Spike Arc Light Pole 25' Rt. Sta. 9+84

18.94 1.2 4.84 4.59 4.45 4.23 4.2 10.7 15.1 18.4 18.94
74 35 16 75 44.3 75 16 24 40 47 58 61

18.94 13.2 10.5 11.9 4.31 4.29 3.8 3.8 10.4 14.8 18.0 18.94
70 50 26 16 76 43.5 14 10 22 31 50 53 60
11.9 11.4 11.6 11.4

18.94 3.42 3.39 2.95 3.15 18.1 18.94
35 16 3.39 16 14 22 42 52
17.8 17.1 17.5 16.8

2.45
18.94

2.41
18.94

18.94 3.45 3.39 2.91 3.11 18.94
27 16 16 3.37 14 16 22 30
14.7 13.4 14.7 15.2

18.94 13.1 4.23 4.29 3.79 3.95 6.7 13.5 18.94
39 27 16 4.29 14 14 22 22 32 46
11.8 11.7 11.7

18.94 4.25 4.33 4.75 4.08 4.11 7.6 18.94
40 16 15 4.42 14 16 20 28 46

Sta	+	π	-	±lev.
		876.78		
11			5.23	71.55
+36			7.52	69.26
+61	P.C		9.51	67.27
T.P.	3.11	869.24	10.65	66.13
12			3.88	65.36
+50			4.77	64.47
+91			4.89	64.35
13			4.85	64.39
+25			4.87	64.37
+50			5.03	64.21
+75	Approx P.C - P.T		5.09	64.15
14			5.09	64.15
+50			5.25	63.99

$\frac{18.94}{45}$ $\frac{10.7}{29}$ $\frac{5.4}{16}$ $\frac{5.82}{15.5}$ $\frac{5.62}{15}$ $\frac{5.38}{12}$ $\frac{5.2}{23}$ $\frac{7.9}{35}$ $\frac{11.7}{46}$ $\frac{18.94}{53}$

$\frac{18.94}{53}$ $\frac{12.2}{39}$ $\frac{7.8}{23}$ $\frac{7.81}{18}$ $\frac{8.06}{17}$ $\frac{7.92}{15}$ $\frac{7.75}{16}$ $\frac{7.9}{22}$ $\frac{10.3}{30}$ $\frac{11.7}{37}$ $\frac{14.7}{46}$ $\frac{18.94}{56}$

$\frac{18.94}{61}$ $\frac{17.3}{59}$ $\frac{15.0}{51}$ $\frac{12.8}{44}$ $\frac{11.2}{33}$ $\frac{7.8}{28}$ $\frac{7.64}{23}$ $\frac{7.91}{22}$ $\frac{7.51}{15}$ $\frac{9.76}{16}$ $\frac{9.55}{21}$ $\frac{9.6}{27}$ $\frac{11.9}{36}$ $\frac{12.8}{41}$ $\frac{15.0}{47}$ $\frac{15.7}{52}$ $\frac{18.94}{52}$

$\frac{11.40}{75}$ $\frac{9.5}{68}$ $\frac{7.3}{53}$ $\frac{4.9}{42}$ $\frac{4.75}{36}$ $\frac{4.99}{35}$ $\frac{4.16}{16}$ $\frac{3.96}{17}$ $\frac{3.7}{23}$ $\frac{5.0}{28}$ $\frac{6.4}{42}$ $\frac{8.8}{47}$ $\frac{11.40}{50}$

$\frac{7.9}{100}$ $\frac{7.8}{94}$ $\frac{5.9}{82}$ $\frac{5.78}{73}$ $\frac{6.05}{72}$ $\frac{5.30}{49}$ $\frac{5.03}{25}$ $\frac{5.14}{17}$ $\frac{4.89}{18}$ $\frac{4.9}{26}$ $\frac{6.6}{35}$ $\frac{7.4}{42}$ $\frac{11.4}{46}$

$\frac{5.72}{100}$ $\frac{5.84}{82}$ $\frac{5.60}{79}$ $\frac{5.39}{66}$ $\frac{5.63}{63}$ $\frac{4.93}{23}$ $\frac{5.46}{17}$ $\frac{5.23}{18}$ $\frac{5.3}{25}$ $\frac{6.7}{33}$ $\frac{7.8}{38}$ $\frac{10.4}{41}$ $\frac{11.4}{46}$

$\frac{6.5}{100}$ $\frac{6.1}{81}$ $\frac{5.3}{55}$ $\frac{5.14}{38}$ $\frac{5.38}{36}$ $\frac{4.98}{20}$ $\frac{5.68}{17}$ $\frac{5.25}{18}$ $\frac{5.3}{24}$ $\frac{6.3}{30}$ $\frac{7.9}{35}$ $\frac{10.6}{42}$ $\frac{11.4}{45}$

$\frac{8.1}{100}$ $\frac{8.2}{79}$ $\frac{7.2}{64}$ $\frac{5.8}{46}$ $\frac{5.1}{24}$ $\frac{5.15}{20}$ $\frac{5.39}{19}$ $\frac{5.56}{17}$ $\frac{5.35}{18}$ $\frac{5.6}{26}$ $\frac{7.2}{35}$ $\frac{10.4}{38}$ $\frac{11.40}{46}$

$\frac{9.0}{100}$ $\frac{8.8}{80}$ $\frac{8.0}{59}$ $\frac{6.4}{42}$ $\frac{5.8}{24}$ $\frac{5.0}{20}$ $\frac{5.11}{17}$ $\frac{5.31}{16}$ $\frac{5.56}{16}$ $\frac{5.35}{17}$ $\frac{5.6}{24}$ $\frac{6.6}{31}$ $\frac{7.8}{38}$ $\frac{10.2}{42}$ $\frac{11.40}{48}$

$\frac{8.4}{100}$ $\frac{8.0}{85}$ $\frac{7.8}{64}$ $\frac{7.2}{50}$ $\frac{6.5}{42}$ $\frac{6.2}{28}$ $\frac{4.8}{20}$ $\frac{5.07}{16}$ $\frac{5.32}{15}$ $\frac{5.63}{15}$ $\frac{5.38}{16}$ $\frac{5.4}{25}$ $\frac{6.8}{31}$ $\frac{9.6}{41}$ $\frac{10.7}{45}$ $\frac{11.40}{52}$

$\frac{7.9}{100}$ $\frac{7.3}{74}$ $\frac{7.3}{67}$ $\frac{7.4}{51}$ $\frac{7.0}{40}$ $\frac{6.0}{28}$ $\frac{5.1}{20}$ $\frac{5.31}{16}$ $\frac{5.54}{15}$ $\frac{5.75}{15}$ $\frac{5.50}{16}$ $\frac{5.4}{23}$ $\frac{7.0}{31}$ $\frac{8.1}{38}$ $\frac{9.5}{43}$ $\frac{10.6}{46}$ $\frac{11.40}{58}$

$\frac{7.5}{100}$ $\frac{8.0}{78}$ $\frac{7.6}{43}$ $\frac{5.61}{16}$ $\frac{5.70}{15}$ $\frac{5.79}{15}$ $\frac{5.58}{16}$ $\frac{5.6}{23}$ $\frac{7.9}{36}$ $\frac{9.0}{42}$ $\frac{11.40}{66}$

257.84

Sta.		π	-	Elev
		869.24		
15			5.38	63.86
	+50		5.46	63.78
16	Approx PT.		5.53	63.71
T.P.	3.30	868.25	4.29	864.95
	+50			63.44
17				63.27
	+50			63.14
	+83			63.16
18				63.25
	+50			63.35
19				63.43

lt

4

110

$\frac{7.1}{100} \quad \frac{7.2}{32} \quad \frac{6.5}{25} \quad \frac{5.3}{20} \quad \frac{5.57}{16} \quad \frac{5.81}{15} \quad \frac{5.38}{5} \quad \frac{5.88}{15} \quad \frac{5.62}{16} \quad \frac{5.6}{23} \quad \frac{7.2}{33} \quad \frac{9.3}{46} \quad \frac{9.7}{57} \quad \frac{11.40}{72}$

$\frac{8.5}{100} \quad \frac{8.2}{58} \quad \frac{7.2}{36} \quad \frac{5.5}{20} \quad \frac{5.81}{16} \quad \frac{5.97}{15} \quad \frac{5.46}{5} \quad \frac{6.06}{15} \quad \frac{5.81}{16} \quad \frac{5.8}{23} \quad \frac{7.9}{36} \quad \frac{9.6}{55} \quad \frac{11.40}{71}$

$\frac{8.6}{100} \quad \frac{8.3}{63} \quad \frac{6.8}{33} \quad \frac{5.8}{22} \quad \frac{5.90}{16} \quad \frac{6.03}{15} \quad \frac{5.53}{5} \quad \frac{6.13}{15} \quad \frac{5.90}{16} \quad \frac{5.9}{23} \quad \frac{9.2}{47} \quad \frac{11.40}{65}$

Top Bolt G.R - lt 16x03

$\frac{7.4}{100} \quad \frac{7.4}{80} \quad \frac{6.6}{45} \quad \frac{4.9}{32} \quad \frac{4.4}{19} \quad \frac{5.08}{16} \quad \frac{5.26}{15} \quad \frac{5.08}{13.5} \quad \frac{4.81}{13.5} \quad \frac{5.15}{14.5} \quad \frac{5.33}{16} \quad \frac{5.10}{25} \quad \frac{5.0}{42} \quad \frac{9.1}{55} \quad \frac{10.3}{55}$

$\frac{7.4}{100} \quad \frac{7.3}{80} \quad \frac{7.3}{69} \quad \frac{6.0}{47} \quad \frac{4.9}{40} \quad \frac{5.4}{35} \quad \frac{5.4}{26} \quad \frac{4.9}{19} \quad \frac{5.12}{16} \quad \frac{5.31}{15} \quad \frac{5.18}{14} \quad \frac{4.98}{13.5} \quad \frac{5.22}{14.5} \quad \frac{5.40}{16} \quad \frac{5.13}{24} \quad \frac{5.0}{35} \quad \frac{7.9}{57} \quad \frac{9.4}{57} \quad \frac{10.3}{49}$

$\frac{7.5}{100} \quad \frac{7.8}{77} \quad \frac{7.2}{68} \quad \frac{6.4}{51} \quad \frac{6.1}{25} \quad \frac{4.8}{18} \quad \frac{4.8}{17} \quad \frac{5.3}{15.8} \quad \frac{5.95}{14.8} \quad \frac{5.30}{13.8} \quad \frac{5.11}{13.7} \quad \frac{5.28}{14.7} \quad \frac{5.44}{16.7} \quad \frac{5.20}{23} \quad \frac{5.1}{34} \quad \frac{7.9}{37} \quad \frac{9.4}{37} \quad \frac{10.3}{47}$

(16.1 18.2 wt)

$\frac{5.8}{100} \quad \frac{6.2}{80} \quad \frac{6.5}{58} \quad \frac{6.5}{30} \quad \frac{6.4}{25} \quad \frac{5.3}{19} \quad \frac{4.9}{17} \quad \frac{5.21}{15.7} \quad \frac{5.45}{14.7} \quad \frac{5.32}{13.7} \quad \frac{5.09}{13.7} \quad \frac{5.3}{14.7} \quad \frac{5.39}{15.7} \quad \frac{5.24}{20} \quad \frac{5.10}{29} \quad \frac{6.7}{29} \quad \frac{8.49}{29} \quad \frac{9.2}{30} \quad \frac{9.7}{34} \quad \frac{10.3}{44}$

$\frac{5.7}{69} \quad \frac{4.3}{60} \quad \frac{5.9}{52} \quad \frac{5.9}{43} \quad \frac{6.1}{32} \quad \frac{5.4}{21} \quad \frac{5.15}{15.8} \quad \frac{5.43}{14.8} \quad \frac{5.3}{13.8} \quad \frac{5.0}{13.7} \quad \frac{5.25}{14.7} \quad \frac{5.42}{15.7} \quad \frac{5.12}{20} \quad \frac{4.95}{25} \quad \frac{5.4}{33} \quad \frac{7.2}{36} \quad \frac{9.2}{36} \quad \frac{10.3}{43}$

+ $\frac{6.3}{76} \quad \frac{5.1}{100}$

$\frac{4.60}{100} \quad \frac{5.0}{66} \quad \frac{6.5}{57} \quad \frac{6.9}{43} \quad \frac{6.1}{24} \quad \frac{5.1}{19} \quad \frac{5.0}{16} \quad \frac{5.3}{15.7} \quad \frac{5.43}{14.7} \quad \frac{5.3}{13.7} \quad \frac{4.9}{13.7} \quad \frac{5.28}{14.7} \quad \frac{5.42}{15.7} \quad \frac{5.18}{22} \quad \frac{5.1}{30} \quad \frac{6.5}{32} \quad \frac{7.6}{35} \quad \frac{9.5}{35} \quad \frac{10.3}{40}$

$\frac{7.2}{50} \quad \frac{7.3}{43} \quad \frac{6.5}{27} \quad \frac{5.1}{22} \quad \frac{4.9}{16} \quad \frac{5.09}{15.8} \quad \frac{5.32}{14.8} \quad \frac{5.08}{13.8} \quad \frac{4.82}{13.7} \quad \frac{5.18}{14.7} \quad \frac{5.32}{15.7} \quad \frac{5.08}{20} \quad \frac{4.9}{23} \quad \frac{5.1}{28} \quad \frac{6.3}{34} \quad \frac{10.0}{34} \quad \frac{10.3}{36}$

+ $\frac{5.0}{63} \quad \frac{0.0}{75} \quad \frac{4.95}{100} \quad L.O.$

Sta.	+	T	-	Elev.
		868.25		
19	+50			63.51
	+75			63.47
20	+11			63.61
T.P.	5.99	869.95	4.29	863.96
	+25			63.65
	+60			63.75
	+65			63.75
21				63.96

Lt

K

Pt

$\frac{00}{45}$ $\frac{56}{33}$ $\frac{58}{24}$ $\frac{49}{19}$ $\frac{494}{157}$ $\frac{52}{147}$ $\frac{50}{137}$ $\frac{474}{139}$ $\frac{505}{149}$ $\frac{523}{159}$ $\frac{492}{20}$ $\frac{47}{24}$ $\frac{54}{30}$ $\frac{73}{30}$ $\frac{94}{30}$ $\frac{103}{33}$

$\frac{+90}{71}$ $\frac{+90}{85}$ $\frac{+70}{95}$ $\frac{+53}{100}$ 55.

$\frac{+26}{58}$ $\frac{35}{27}$ $\frac{46}{23}$ $\frac{47}{17}$ $\frac{492}{162}$ $\frac{515}{152}$ $\frac{50}{142}$ $\frac{478}{135}$ $\frac{502}{145}$ $\frac{517}{155}$ $\frac{490}{20}$ $\frac{47}{25}$ $\frac{50}{27}$ $\frac{87}{30}$ $\frac{95}{30}$ $\frac{103}{33}$

$\frac{+15}{52}$ $\frac{+90}{58}$ $\frac{+90}{70}$ $\frac{+27}{100}$

$\frac{+60}{45}$ $\frac{16}{32}$ $\frac{33}{28}$ $\frac{46}{17}$ $\frac{480}{162}$ $\frac{505}{152}$ $\frac{488}{142}$ $\frac{464}{135}$ $\frac{491}{145}$ $\frac{50}{155}$ $\frac{477}{20}$ $\frac{46}{24}$ $\frac{50}{28}$ $\frac{65}{29}$ $\frac{90}{33}$ $\frac{103}{35}$

$\frac{+42}{64}$ $\frac{00}{85}$ $\frac{21}{95}$ $\frac{50}{100}$

$\frac{70}{100}$ $\frac{52}{63}$ $\frac{54}{50}$ $\frac{54}{24}$ $\frac{61}{18}$ $\frac{646}{171}$ $\frac{670}{160}$ $\frac{656}{151}$ $\frac{630}{127}$ $\frac{655}{137}$ $\frac{668}{147}$ $\frac{642}{19}$ $\frac{63}{24}$ $\frac{66}{30}$ $\frac{88}{30}$ $\frac{120}{35}$

$\frac{70}{100}$ $\frac{57}{50}$ $\frac{57}{28}$ $\frac{633}{173}$ $\frac{655}{163}$ $\frac{644}{153}$ $\frac{62}{125}$ $\frac{64}{135}$ $\frac{658}{145}$ $\frac{631}{19}$ $\frac{61}{24}$ $\frac{62}{29}$ $\frac{81}{31}$ $\frac{108}{31}$ $\frac{120}{35}$

$\frac{70}{100}$ $\frac{61}{53}$ $\frac{46}{51}$ $\frac{33}{38}$ $\frac{49}{29}$ $\frac{59}{19}$ $\frac{631}{17}$ $\frac{652}{76}$ $\frac{640}{15}$ $\frac{620}{15}$

$\frac{65}{59}$ $\frac{46}{50}$ $\frac{31}{38}$ $\frac{60}{27}$ $\frac{61}{18}$ $\frac{618}{173}$ $\frac{641}{163}$ $\frac{622}{153}$ $\frac{592}{123}$ $\frac{63}{133}$ $\frac{644}{143}$ $\frac{618}{19}$ $\frac{60}{26}$ $\frac{61}{26}$ $\frac{120}{34}$

$\frac{85}{77}$ $\frac{81}{80}$ $\frac{76}{100}$

Sta	+	T.	-	Elev	
		86895			
21	+50			63.90	
B.M.			4.58	865.37	(865.36)
+61	FL 10" V. + LT		9.25		60.70
+69	FL 12" V. + RT		10.43		59.52
22				64.15	
	+50			64.33	
23				64.44	
	+30			64.51	
	+51			64.59	

Lt

A

Rt

$\frac{85}{100}$ $\frac{91}{66}$ $\frac{78}{50}$ $\frac{60}{27}$ $\frac{58}{18}$ $\frac{608}{172}$ $\frac{63}{16.2}$ $\frac{2623}{152}$ $\frac{605}{12.8}$ $\frac{613}{138}$ $\frac{63}{148}$ $\frac{602}{25}$ $\frac{60}{34}$ $\frac{112}{37}$ $\frac{12.0}{57}$

Spk. in Light Pole

$\frac{7.6}{100}$ $\frac{8.0}{95}$ $\frac{87}{58}$ $\frac{79}{45}$ $\frac{61}{58}$ $\frac{55}{22}$ $\frac{588}{12.4}$ $\frac{618}{13.4}$ $\frac{605}{14.4}$ $\frac{58}{13.7}$ $\frac{602}{14.7}$ $\frac{62}{15.7}$ $\frac{593}{27}$ $\frac{58}{37}$ $\frac{116}{40}$ $\frac{12.0}{40}$

$\frac{63}{100}$ $\frac{58}{78}$ $\frac{53}{61}$ $\frac{43}{43}$ $\frac{48}{25}$ $\frac{53}{28}$ $\frac{52}{78}$ $\frac{507}{16}$ $\frac{609}{15}$ $\frac{585}{14}$ $\frac{562}{13.8}$ $\frac{588}{148}$ $\frac{602}{158}$ $\frac{575}{25}$ $\frac{56}{30}$ $\frac{65}{36}$ $\frac{108}{42}$ $\frac{12.0}{42}$

$\frac{111}{61}$ $\frac{111}{57}$ $\frac{0.5}{53}$ $\frac{0.3}{33}$ $\frac{46}{23}$ $\frac{49}{18}$ $\frac{564}{16}$ $\frac{586}{15}$ $\frac{57}{14}$ $\frac{551}{14.3}$ $\frac{563}{15}$ $\frac{582}{16.3}$ $\frac{561}{25}$ $\frac{54}{28}$ $\frac{57}{36}$ $\frac{7.3}{38}$ $\frac{107}{43}$ $\frac{115}{45}$ $\frac{12.0}{45}$

$\frac{1.3}{71}$ $\frac{14}{83}$ $\frac{10.3}{100}$

$\frac{121}{57}$ $\frac{124}{50}$ $\frac{118}{36}$ $\frac{45}{22}$ $\frac{52}{77}$ $\frac{56}{16}$ $\frac{583}{15}$ $\frac{502}{14}$ $\frac{544}{14}$ $\frac{566}{14}$ $\frac{58}{15}$ $\frac{515}{16}$ $\frac{63}{20}$ $\frac{59}{27}$ $\frac{72}{35}$ $\frac{105}{38}$ $\frac{12.0}{45}$

$\frac{130}{61}$ $\frac{130}{74}$ $\frac{125}{81}$ $\frac{133}{91}$ $\frac{133}{100}$

$\frac{115}{76}$ $\frac{126}{57}$ $\frac{113}{40}$ $\frac{49}{26}$ $\frac{45}{21}$ $\frac{547}{16}$ $\frac{572}{15}$ $\frac{558}{14}$ $\frac{536}{13.8}$ $\frac{552}{148}$ $\frac{566}{15.8}$ $\frac{544}{20}$ $\frac{53}{27}$ $\frac{58}{35}$ $\frac{68}{39}$ $\frac{108}{47}$ $\frac{12.0}{47}$

$\frac{1.1}{100}$

Sta	+	T	-	Elev
		869.95		

23	+71			64.73
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24				64.89
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	+29			64.95
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	+42			
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	+42			64.93
--	-----	--	--	-------

	+70			64.95
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2.5				64.98
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T.P.	5.56	871.81	3.70	866.25
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Lt

R

Rt

$$\frac{103}{100} \quad \frac{29}{61} \quad \frac{44}{39} \quad \frac{48}{23} \quad \frac{513}{213} \quad \frac{505}{20} \quad \frac{522}{138} \quad \frac{548}{148} \quad \frac{559}{158} \quad \frac{536}{20} \quad \frac{52}{29} \quad \frac{56}{35} \quad \frac{65}{38} \quad \frac{110}{38} \quad \frac{120}{46.0}$$

$$\frac{105}{100} \quad \frac{414}{87} \quad \frac{140}{69} \quad \frac{90}{58} \quad \frac{21}{50} \quad \frac{36}{40} \quad \frac{44}{34} \quad \frac{500}{141} \quad \frac{534}{151} \quad \frac{55}{11.1} \quad \frac{53}{34} \quad \frac{54}{38} \quad \frac{109}{44} \quad \frac{117}{44} \quad \frac{120}{46}$$

$$\frac{123}{73} \quad \frac{140}{66} \quad \frac{160}{47} \quad \frac{17}{38} \quad \frac{40}{23} \quad \frac{508}{144} \quad \frac{531}{124} \quad \frac{508}{124} \quad \frac{50}{148} \quad \frac{526}{158} \quad \frac{542}{169} \quad \frac{516}{24} \quad \frac{50}{32} \quad \frac{55}{35} \quad \frac{108}{43} \quad \frac{120}{43}$$

$$\rightarrow \frac{110}{85} \quad \frac{110}{100}$$

FL 10' 2" 20

$$\frac{174}{60} \quad \frac{176}{49} \quad \frac{05}{38} \quad \frac{30}{28} \quad \frac{44}{17} \quad \frac{51}{14} \quad \frac{531}{13} \quad \frac{516}{12} \quad \frac{502}{15.3} \quad \frac{525}{163} \quad \frac{54}{17.3} \quad \frac{515}{24} \quad \frac{49}{30} \quad \frac{54}{34} \quad \frac{75}{39} \quad \frac{922}{39}$$

$$\rightarrow \frac{140}{70} \quad \frac{120}{85} \quad \frac{115}{100}$$

$$\frac{120}{45} \quad \frac{115}{40} \quad \frac{93}{37} \quad \leftarrow$$

$$\frac{121}{48} \quad \frac{27}{39} \quad \frac{40}{21} \quad \frac{46}{13} \quad \frac{502}{73} \quad \frac{528}{12} \quad \frac{508}{11} \quad \frac{50}{163} \quad \frac{515}{173} \quad \frac{532}{183} \quad \frac{51}{23} \quad \frac{48}{31} \quad \frac{52}{35} \quad \frac{73}{37} \quad \frac{80}{39} \quad \frac{110}{45} \quad \frac{120}{47}$$

$$\rightarrow \frac{157}{49} \quad \frac{157}{55} \quad \frac{130}{62} \quad \frac{113}{80} \quad \frac{115}{100}$$

$$\frac{25}{29} \quad \frac{35}{25} \quad \frac{40}{10} \quad \frac{45}{14} \quad \frac{492}{12.7} \quad \frac{517}{117} \quad \frac{495}{107} \quad \frac{492}{168} \quad \frac{516}{178} \quad \frac{530}{188} \quad \frac{502}{24} \quad \frac{48}{52} \quad \frac{50}{38} \quad \frac{103}{43} \quad \frac{110}{43} \quad \frac{120}{45}$$

$$\rightarrow \frac{120}{38} \quad \frac{147}{39} \quad \frac{140}{58} \quad \frac{127}{84} \quad \frac{132}{100}$$

Nail in P.P.

Sta	+	π	-	Elev
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		871.81		
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25	+30			
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				65.13
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	+69			
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				65.23
--	--	--	--	-------

26				
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				65.29
--	--	--	--	-------

	+50			
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				65.58
--	--	--	--	-------

	+75			
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				65.67
--	--	--	--	-------

27				
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				65.83
--	--	--	--	-------

Lt

E

Rt

$$\begin{array}{cccccccccccccccc} +2.0 & 17 & 36 & 64 & 682 & 705 & 688 & 668 & 69 & 709 & 680 & 67 & 125 & 129 & 138 \\ 34 & 32 & 24 & 13 & 124 & 114 & 104 & & 17 & 18 & 19 & 31 & 39 & 43 & 44 \end{array}$$

$$\rightarrow \begin{array}{ccc} +2.0 & +2.0 & +3.0 \\ 50 & 70 & 100 \end{array}$$

$$\begin{array}{cccccccccccccccc} +1.8 & +0.9 & 62 & 65 & 678 & 685 & 68 & 658 & 68 & 694 & 670 & 67 & 138 \\ 59 & 33 & 26 & 13 & 125 & 115 & 105 & & 17 & 18 & 19 & 33 & 43 \end{array}$$

$$\rightarrow \begin{array}{ccc} +3.0 & +3.3 & +4.3 \\ 64 & 84 & 100 \end{array}$$

6.5

$$\begin{array}{cccccccccccccccc} 41 & 67 & 67 & 62 & 661 & 688 & 67 & 652 & 674 & 684 & 66 & 66 & 138 \\ 39 & 33 & 24 & 13 & 13 & 12 & 11 & & 16.7 & 17.7 & 18.7 & 32 & 42 \end{array}$$

$$\rightarrow \begin{array}{ccc} +1.5 & +1.4 & +4.6 & +5.0 \\ 50 & 69 & 77 & 100 \end{array}$$

6.2

$$\begin{array}{cccccccccccccccc} 71 & 65 & 58 & 645 & 665 & 65 & 623 & 642 & 661 & 637 & 63 & 138 \\ 42 & 25 & 18 & 195 & 135 & 125 & & 15 & 16 & 17 & 32 & 41 \end{array}$$

$$\rightarrow \begin{array}{ccc} +1.8 & +2.3 & +4.5 & +4.0 \\ 60 & 79 & 85 & 100 \end{array}$$

6.1

$$\begin{array}{cccccccccccccccc} 25 & 55 & 61 & 55 & 62 & 644 & 632 & 614 & 635 & 652 & 632 & 60 & 64 & 124 & 139 \\ 55 & 42 & 34 & 20 & 16.8 & 156 & 146 & & 14 & 15 & 16 & 24 & 28 & 34 & 40 \end{array}$$

$$\rightarrow \begin{array}{ccc} 2.2 & 0.9 & +1.0 & +3.5 & +2.8 \\ 60 & 62 & 72 & 78 & 100 \end{array}$$

6.0

$$\begin{array}{cccccccccccccccc} 26 & 45 & 58 & 54 & 585 & 598 & 616 & 63 & 261 & 2 & 60 & 66 & 124 & 139 \\ 100 & 70 & 67 & 50 & 15 & & 13 & 14 & 15 & 21 & 27 & 35 & 40 \end{array}$$

Sta	+	π	-	Elev.	
		871.81			
27	+25			66.03	
	+37	Top Grate Lt.	6.05		65.76
	+37	FL. 18" C.M. Rt.	10.49		61.32
	+50			66.20	
28				66.75	
	+50			67.35	
29				67.68	
T.P.	2.29	872.47	1.63	870.18	
	+50			67.84	
30				67.71	
	+50			67.31	

LH

R

RH

5.8

27	44	55	58	61	597	578	595	612	592	57	63	86	128	139
<u>100</u>	<u>50</u>	<u>21</u>	<u>19.8</u>	<u>18.8</u>	<u>178</u>	<u>176</u>	<u>176</u>	<u>126</u>	<u>136</u>	<u>18</u>	<u>24</u>	<u>30</u>	<u>35</u>	<u>40</u>

5.6

22	38	49	55	56	589	575	561	573	588	564	55	67	125	139
<u>100</u>	<u>79</u>	<u>50</u>	<u>20</u>	<u>19.6</u>	<u>176</u>	<u>176</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>20</u>	<u>28</u>	<u>35</u>	<u>39</u>	

5.1

64	22	38	37	45	50	519	546	527	506	524	534	513	50	58	78	130	139
<u>100</u>	<u>82</u>	<u>66</u>	<u>50</u>	<u>37</u>	<u>22</u>	<u>21</u>	<u>20</u>	<u>19</u>	<u>8.7</u>	<u>9.7</u>	<u>10.7</u>	<u>15</u>	<u>24</u>	<u>30</u>	<u>32</u>	<u>37</u>	

4.5

08	20	35	45.8	482	466	446	47	489	463	45	54	98	100	130	139
<u>100</u>	<u>72</u>	<u>44</u>	<u>24.3</u>	<u>19.3</u>	<u>18.3</u>	<u>9.3</u>	<u>10.3</u>	<u>11.3</u>	<u>76</u>	<u>23</u>	<u>32</u>	<u>39</u>	<u>40</u>	<u>42</u>	

4.1

05	15	26	36	32	42	445	429	413	431	446	423	40	47	95	107	127	139
<u>100</u>	<u>76</u>	<u>50</u>	<u>32</u>	<u>27</u>	<u>18.1</u>	<u>17.1</u>	<u>16.1</u>	<u>7.5</u>	<u>12.5</u>	<u>13.5</u>	<u>19</u>	<u>23</u>	<u>33</u>	<u>39</u>	<u>40</u>	<u>43</u>	

4.6

00	07	21	32	42	46	472	497	412	463	49	505	478	47	109	119	145
<u>100</u>	<u>75</u>	<u>50</u>	<u>28</u>	<u>23</u>	<u>17</u>	<u>16</u>	<u>15</u>	<u>14</u>	<u>13.8</u>	<u>14.8</u>	<u>15.8</u>	<u>21</u>	<u>31</u>	<u>43</u>	<u>45</u>	

4.8

428	408	16	26	37	495	523	508	476	509	523	50	48	98	133	145
<u>100</u>	<u>77</u>	<u>50</u>	<u>37</u>	<u>30</u>	<u>15.7</u>	<u>14.7</u>	<u>13.7</u>	<u>7.8</u>	<u>14.8</u>	<u>15.8</u>	<u>22</u>	<u>33</u>	<u>43</u>	<u>48</u>	

5.2

48	56	50	49	542	57	556	516	547	564	542	51	78	130	145
<u>42</u>	<u>27</u>	<u>24</u>	<u>20</u>	<u>15.8</u>	<u>14.8</u>	<u>13.8</u>	<u>7.4</u>	<u>15</u>	<u>16</u>	<u>22</u>	<u>30</u>	<u>40</u>	<u>47</u>	

→ $\frac{37}{74} \frac{40}{100}$

str	+	π	-	E/eV
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872.47

31				67.05
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429				67.01
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475				67.02
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32				67.11
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450				67.38
-----	--	--	--	-------

33				67.37
----	--	--	--	-------

450				67.73
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34				68.35
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Lt.

E

Rt.

S.4

$\frac{35}{80}$ $\frac{41}{50}$ $\frac{44}{32}$ $\frac{52}{18}$ $\frac{560}{15.9}$ $\frac{585}{14.9}$ $\frac{57}{13.9}$ $\frac{542}{13.8}$ $\frac{572}{14.8}$ $\frac{583}{15.8}$ $\frac{574}{22}$ $\frac{53}{35}$ $\frac{117}{40}$ $\frac{134}{40}$ $\frac{145}{44}$

$\frac{46}{92}$ $\frac{43}{100}$

S.5

(F.L. 1800.00)

$\frac{30}{100}$ $\frac{32}{70}$ $\frac{39}{50}$ $\frac{45}{16}$ $\frac{587}{15}$ $\frac{577}{14}$ $\frac{546}{13.8}$ $\frac{577}{14.8}$ $\frac{591}{15.8}$ $\frac{564}{20}$ $\frac{56}{25}$ $\frac{69}{28}$ $\frac{85}{30}$ $\frac{10.44}{30}$

$\frac{145}{42}$ $\frac{122}{31}$ X

S.5

$\frac{39}{100}$ $\frac{37}{91}$ $\frac{2.9}{87}$ $\frac{32}{65}$ $\frac{38}{50}$ $\frac{56}{21}$ $\frac{5.5}{16}$ $\frac{572}{15}$ $\frac{56}{14}$ $\frac{545}{13.7}$ $\frac{562}{14.7}$ $\frac{5.8}{15.7}$ $\frac{5.53}{21}$ $\frac{5.3}{28}$ $\frac{7.5}{36}$ $\frac{9.8}{44}$ $\frac{14.0}{48}$ $\frac{14.5}{48}$

S.4

$\frac{47}{100}$ $\frac{47}{75}$ $\frac{44}{65}$ $\frac{47}{50}$ $\frac{54}{34}$ $\frac{57}{24}$ $\frac{542}{16}$ $\frac{563}{15}$ $\frac{541}{14}$ $\frac{576}{13.7}$ $\frac{534}{14.7}$ $\frac{57}{15.7}$ $\frac{545}{20}$ $\frac{5.3}{23}$ $\frac{56}{31}$ $\frac{8.5}{37}$ $\frac{100}{41}$ $\frac{126}{41}$

$\frac{145}{49}$ X

S.1

$\frac{73}{100}$ $\frac{76}{84}$ $\frac{59}{73}$ $\frac{35}{69}$ $\frac{45}{33}$ $\frac{50}{17}$ $\frac{53}{16}$ $\frac{5.54}{15}$ $\frac{542}{14}$ $\frac{509}{13.8}$ $\frac{64}{14.8}$ $\frac{6.55}{15.8}$ $\frac{5.3}{22}$ $\frac{50}{37}$ $\frac{11.5}{40}$ $\frac{13.8}{44}$ $\frac{14.5}{44}$

$\frac{32}{100}$ $\frac{31}{74}$ $\frac{35}{50}$ $\frac{37}{32}$ $\frac{45}{22}$ $\frac{5.24}{15.7}$ $\frac{5.47}{14.7}$ $\frac{5.32}{13.7}$ $\frac{51}{14}$ $\frac{518}{15}$ $\frac{532}{16}$ $\frac{508}{22}$ $\frac{4.8}{36}$ $\frac{12.9}{42}$ $\frac{14.5}{42}$

A.7

$\frac{30}{100}$ $\frac{31}{84}$ $\frac{34}{50}$ $\frac{36}{33}$ $\frac{42}{18}$ $\frac{49.2}{15.7}$ $\frac{51.5}{14.7}$ $\frac{503}{13.7}$ $\frac{474}{14}$ $\frac{495}{15}$ $\frac{5.04}{16}$ $\frac{4.82}{23}$ $\frac{4.7}{25}$ $\frac{6.2}{37}$ $\frac{13.6}{41}$ $\frac{14.5}{41}$

A.1

$\frac{7.4}{58}$ $\frac{30}{47}$ $\frac{35}{31}$ $\frac{42}{17}$ $\frac{4.44}{15.7}$ $\frac{4.63}{14.7}$ $\frac{4.51}{13.7}$ $\frac{412}{14}$ $\frac{442}{15}$ $\frac{4.61}{16}$ $\frac{4.33}{21}$ $\frac{4.2}{35}$ $\frac{13.2}{39}$ $\frac{14.5}{39}$

$\frac{81}{63}$ $\frac{83}{78}$ $\frac{8.0}{100}$

Sta	+	π	-	Elev
		872.47		
34	+43			69.09
	+53			69.37
T.P.	8.95	876.95	4.47	862.00
35				70.63
	+10			70.89
	+50			72.31
36				74.52
T.P.	11.49	887.89	0.55	876.40
	+50			77.00
37				79.31

Lt.

E

Rt.

$$\frac{27}{66} \frac{7.0}{100}$$

3.4

$$\frac{64}{58} \frac{26}{46} \frac{33}{39} \frac{34}{17} \frac{368}{158} \frac{391}{148} \frac{577}{138} \frac{338}{14} \frac{36}{15} \frac{378}{16} \frac{353}{22} \frac{33}{36} \frac{131}{39} \frac{137}{41} \frac{14.5}{41}$$

$$\frac{66}{30} \frac{58}{25} \frac{3.4}{20} \frac{3.3}{16} \frac{345}{156} \frac{363}{196} \frac{352}{136} \frac{31}{14} \frac{336}{15} \frac{354}{16} \frac{328}{22} \frac{32}{36} \frac{13.0}{39} \frac{14.0}{42} \frac{14.5}{42}$$

$$\frac{7.3}{40} \frac{7.0}{73} \frac{6.3}{100}$$

$$E \ 549 \ 33+75$$

6.3

5.8

$$\frac{65}{100} \frac{71}{73} \frac{81}{44} \frac{83}{30} \frac{77}{25} \frac{63}{21} \frac{652}{158} \frac{682}{148} \frac{663}{138} \frac{632}{14} \frac{662}{15} \frac{674}{16} \frac{652}{22} \frac{64}{36} \frac{16.7}{42} \frac{19.1}{42}$$

6.1

$$\frac{08.10}{100.88} \frac{19}{77} \frac{46}{50} \frac{6.2}{25} \frac{6.0}{21} \frac{6.25}{15.6} \frac{6.5}{14.6} \frac{6.32}{15.6} \frac{6.06}{15.6}$$

$$\frac{0.2}{100} \frac{0.5}{81} \frac{3.8}{50} \frac{4.8}{33} \frac{4.8}{16} \frac{4.92}{157} \frac{5.13}{147} \frac{4.98}{137} \frac{4.6}{14} \frac{5.05}{15} \frac{5.25}{16} \frac{5.05}{23} \frac{5.0}{40} \frac{1.69}{44} \frac{1.82}{46} \frac{1.91}{46}$$

2.4

$$\frac{7.0}{100} \frac{1.44}{72} \frac{4.10}{50} \frac{0.8}{39} \frac{2.2}{28} \frac{2.57}{15.6} \frac{2.78}{14.6} \frac{2.65}{13.6} \frac{2.43}{14} \frac{2.69}{15} \frac{2.85}{16} \frac{2.57}{22} \frac{2.5}{36} \frac{2.5}{42} \frac{1.19}{45} \frac{1.45}{51} \frac{1.70}{45} \frac{1.91}{51}$$

10.9

$$\frac{47}{50} \frac{76}{31} \frac{98}{28} \frac{110}{25} \frac{117}{152} \frac{114}{142} \frac{1125}{132} \frac{10.88}{144} \frac{11.2}{154} \frac{11.35}{16.4} \frac{11.44}{23} \frac{10.9}{32} \frac{16.5}{35} \frac{17.0}{41} \frac{20.3}{41}$$

$$\frac{31}{58} \frac{25}{68} \frac{0.8}{78} \frac{4.23}{100}$$

$$\frac{30.0}{60} \frac{291}{56} \frac{24.2}{50} \frac{24.2}{48}$$

8.6

$$\frac{11.0}{100} \frac{11.6}{90} \frac{40}{39} \frac{7.8}{32} \frac{8.4}{29} \frac{8.85}{15.4} \frac{9.08}{14.4} \frac{8.9}{13.4} \frac{8.58}{14} \frac{8.8}{15} \frac{9.07}{16.1} \frac{8.83}{21} \frac{8.6}{29} \frac{9.4}{37} \frac{13.0}{37} \frac{22.4}{34}$$

$$\frac{2.99}{70} \frac{2.90}{68} \frac{2.83}{65} \frac{2.84}{58} \frac{2.24}{56}$$

Sta	+	T	-	Elev
		887.89.		
37	+05			79.44
	+50			81.22
38				82.53
	+40			83.07
	+50			83.11
39				83.28

H

K

Bf

8.5

$$\begin{array}{r} 08 \ 26 \ 31 \ 76 \ 82 \ 827 \ 89 \ 872 \ 845 \\ 45 \ 40 \ 38 \ 32 \ 29 \ 155 \ 145 \ 135 \end{array}$$

$$\begin{array}{r} +1.5 \ +1.0 \\ 81 \ 100 \end{array}$$

6.7

$$\begin{array}{r} +20 \ +16 \ 00 \ 26 \ 65 \ 704 \ 725 \ 704 \ 667 \ 696 \ 716 \ 697 \ 64 \ 130 \ 17.7 \ 20.2 \\ 100 \ 68 \ 46 \ 38 \ 32 \ 156 \ 146 \ 136 \ 142 \ 152 \ 152 \ 28 \ 41 \ 50 \ 55 \end{array}$$

$$\begin{array}{r} 299 \ 28.3 \ 204 \\ 15 \ 70 \ 58 \end{array}$$

5.4

$$\begin{array}{r} 55. \ 00 \ 10 \ 30 \ 33 \ 55 \ 558 \ 58 \ 564 \ 536 \ 565 \ 586 \ 56 \ 53 \ 120 \ 138 \ 178 \\ 71 \ 47 \ 44 \ 39 \ 35 \ 154 \ 144 \ 134 \ 143 \ 153 \ 143 \ 26 \ 38 \ 43 \ 50 \end{array}$$

$$\begin{array}{r} 228 \ 279 \ 190 \ 190 \\ 74 \ 69 \ 55 \ 53 \end{array}$$

4.8

$$\begin{array}{r} 55. \ 00 \ 05 \ 32 \ 37 \ 51 \ 50 \ 52 \ 50 \ 402 \\ 78 \ 54 \ 48 \ 43 \ 39 \ 155 \ 145 \ 135 \end{array}$$

$$\begin{array}{r} 08 \ 10 \ 20 \ 36 \ 50 \ 50 \ 522 \ 50 \ 478 \ 503 \ 523 \ 4.96 \ 48 \ 130 \ 192 \ 233 \\ 100 \ 89 \ 64 \ 50 \ 41 \ 152 \ 142 \ 132 \ 144 \ 154 \ 164 \ 25 \ 39 \ 52 \ 58 \end{array}$$

$$\begin{array}{r} 229 \ 287 \ 235 \\ 82 \ 77 \ 61 \end{array}$$

4.6

$$\begin{array}{r} 31 \ 34 \ 40 \ 50 \ 49 \ 513 \ 426 \ 461 \ 498 \ 518 \ 49 \ 47 \ 88 \ 21.5 \ 21.5 \\ 100 \ 74 \ 50 \ 42 \ 153 \ 143 \ 133 \ 146 \ 156 \ 166 \ 25 \ 32 \ 58 \ 60 \end{array}$$

$$\begin{array}{r} 30 \ 28.5 \\ 75 \ 69 \end{array}$$

Sta. + π - Elev.

887.89

39 +50

83.24

40

83.27

+23

83.28

+49

83.34

41

83.37

+22.48

83.29

B.M.

416

883.73

(883.66)

pt

L

pt

4.7

$\frac{36}{100} \frac{35}{73} \frac{32}{54} \frac{50}{50} \frac{48}{26} \frac{4.81}{15.2} \frac{52}{14.2} \frac{491}{132} \frac{465}{143} \frac{483}{153} \frac{508}{163} \frac{486}{25} \frac{46}{39} \frac{13.3}{46} \frac{17.2}{46}$

$\frac{29.8}{77} \frac{241}{64} \frac{240}{59}$

4.6

$\frac{38}{100} \frac{40}{59} \frac{49}{56} \frac{478}{15.2} \frac{503}{142} \frac{483}{132} \frac{462}{15} \frac{478}{16} \frac{50}{17} \frac{478}{25} \frac{49}{30} \frac{51}{37} \frac{87}{46} \frac{145}{46}$

$\frac{301}{87} \frac{265}{71} \frac{230}{68} \frac{229}{24} \frac{185}{55}$

4.6

$\frac{42}{100} \frac{43}{84} \frac{36}{61} \frac{47}{59} \frac{47}{50} \frac{470}{153} \frac{50}{143} \frac{483}{133} \frac{461}{20.6} \frac{4.92}{21.6} \frac{512}{22.6} \frac{4.90}{32} \frac{47}{53} \frac{157}{53} \frac{22.0}{70}$

$\frac{300}{94} \frac{22.0}{74}$

4.6

$\frac{28}{100} \frac{35}{79} \frac{44}{63} \frac{46}{50} \frac{465}{24} \frac{491}{23} \frac{478}{22} \frac{455}{38.4} \frac{50}{39.4} \frac{5.2}{40.4} \frac{489}{49} \frac{46}{53} \frac{63}{58} \frac{69}{58} \frac{12.2}{74}$

$\frac{300}{112} \frac{237}{97} \frac{232}{74} \frac{20.5}{90}$

4.5

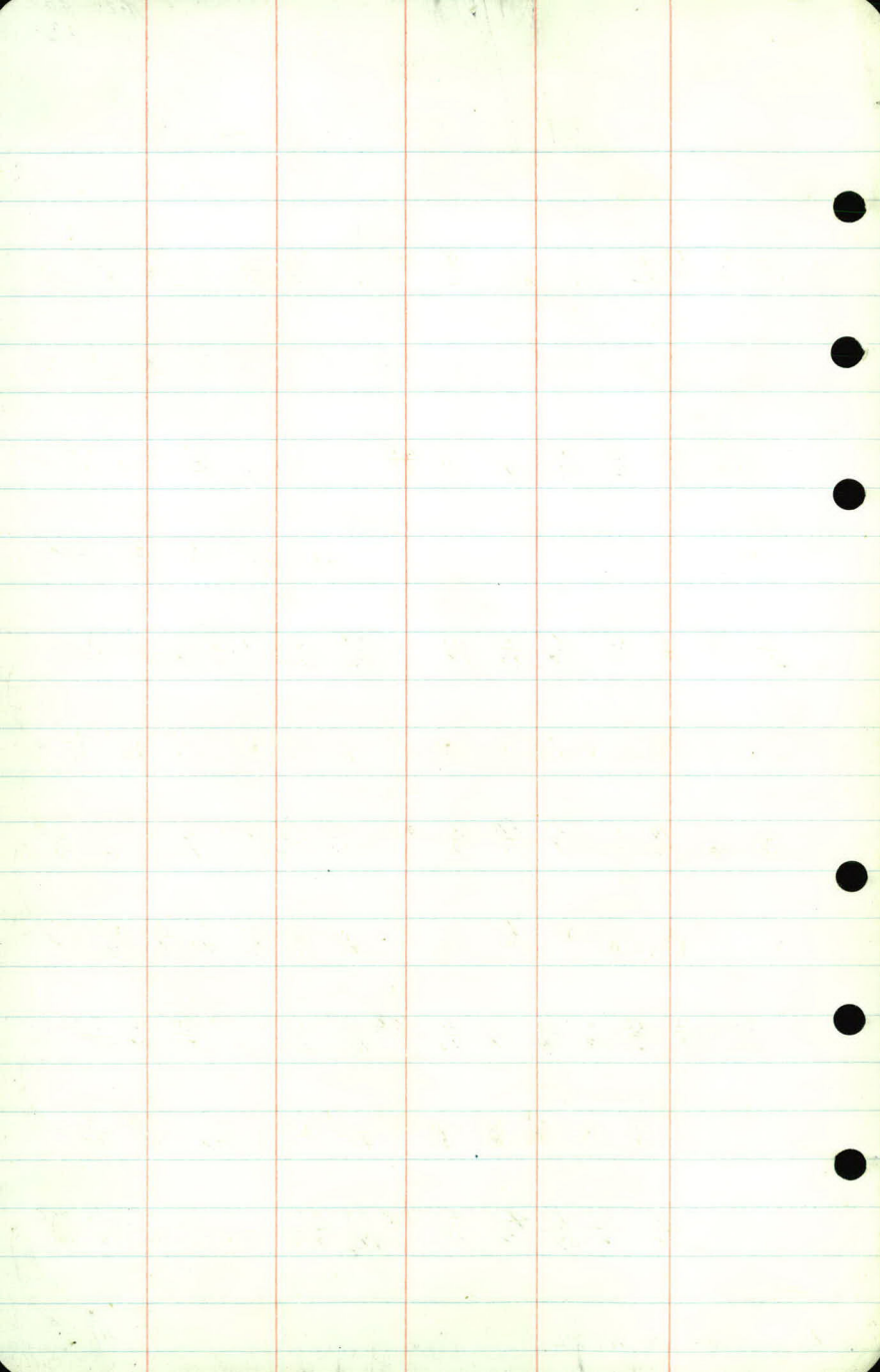
$\frac{2.8}{100} \frac{35}{79} \frac{42}{66} \frac{43}{42} \frac{465}{588} \frac{488}{375} \frac{473}{365} \frac{452}{462} \frac{517}{472} \frac{5.2}{48.2} \frac{5.09}{57} \frac{50}{80} \frac{16.6}{93} \frac{21.9}{93}$

$\frac{298}{126} \frac{272}{115} \frac{240}{105}$

$\frac{31}{100} \frac{38}{66} \frac{43}{59} \frac{43}{50} \frac{476}{48} \frac{460}{47.6} \frac{53}{48.6} \frac{535}{49.6} \frac{514}{58} \frac{4.9}{70} \frac{118}{96} \frac{21.6}{96} \frac{25.2}{110}$

$\frac{300}{131} \frac{227}{119}$

SPL. in G.P.R.T. to 41+22



edge curb $\neq$

0+00				
+35	27	14	27	44
+50	28	17 13 5	9	34
+75	31	15	11	22 40
1	32.5	23	14	82 45
+25	32.4	26	23	40 41 44
+50	32	25	18	46 53, 54, 77
+70	29.5	23 12	40	49 76
+84	27.3	17	22	40 50
2	24	5	34	50

48.79
 48.79
 50
 5.79

36.65

¹172-46-24

18-4700

1913324

Grade Stakes
East Shore Drive

Sta	Slope	+	π	-	Grade
		4.67	869.06		864.39
13					64.39
+25					64.37
+50					64.21
+75					
B.M.		12.22	877.58		865.36
18 +25					
18 +50	50:1				
19	50:1				
+50					63.4
+75					63.5
20 +11	50:1				63.6
B.T.		3.51	868.87		865.36
+25	50:1				63.6

Grade

Gr. Rod.

61.5

61.5

7.56

$$91.8 \begin{array}{r} 18.2 \\ -0.2 \end{array}$$

$$66.0 \begin{array}{r} 7.56 \\ BT. \end{array}$$

61.5

7.56

$$92.9 \begin{array}{r} 8.9 \\ -7.3 \end{array}$$

$$58.0 \begin{array}{r} 7.56 \\ BT. \end{array}$$

$$\begin{array}{r} -0.3 \\ 90.0 \end{array} \begin{array}{r} 7.56 \\ BT. \end{array}$$

$$66.0 \begin{array}{r} 7.56 \\ BT. \end{array}$$

Spt. in Arc Light Pole 11 Sta 21+80

L.O. From Pav.

$$\begin{array}{r} 70' \\ 16' \end{array} \begin{array}{r} 64.4 \\ 63.2 \end{array} \begin{array}{r} 13.2 \\ 14.3 \end{array}$$

$$66.8 \begin{array}{r} 13.2 \\ BT. \end{array}$$

$$\begin{array}{r} 16' \end{array} \begin{array}{r} 64.2 \\ 63.2 \end{array} \begin{array}{r} 13.4 \\ 14.4 \end{array}$$

$$65.8 \begin{array}{r} 13.4 \\ BT. \end{array}$$

$$\begin{array}{r} 45' \end{array} \begin{array}{r} 73.6 \\ 64.0 \end{array} \begin{array}{r} 4.0 \\ 13.6 \end{array}$$

$$\begin{array}{r} 111.8 \\ 45.0 \end{array} \begin{array}{r} 4.0 \\ 13.6 \end{array}$$

$$\begin{array}{r} 35' \end{array} \begin{array}{r} 70.1 \\ 63.9 \end{array} \begin{array}{r} 7.5 \\ 13.7 \end{array}$$

$$\begin{array}{r} 103.4 \\ 35.0 \end{array} \begin{array}{r} 7.5 \\ 13.7 \end{array}$$

14.0

$$84.4 \begin{array}{r} 12.3 \\ +0.0 \end{array}$$

15.3

$$60.0 \begin{array}{r} 4.4 \\ +0.0 \end{array}$$

Sta.	+	π	-	Grade
B.M.	3.51	868.87		(865.36)

20	+65			63.7
----	-----	--	--	------

21				63.9
----	--	--	--	------

	+50			63.9
--	-----	--	--	------

22				64.1
----	--	--	--	------

	+50			
--	-----	--	--	--

B.M.	12.12	877.48		(865.36)
------	-------	--------	--	----------

23				64.4 131
----	--	--	--	----------

	+30			64.5
--	-----	--	--	------

	+51			64.6
--	-----	--	--	------

I.P.			4.29	873.19
------	--	--	------	--------

Grade 60 Rod

Spk. in Arc Light Pole.

5.2

$$36.5 / 48$$

$$+ 0.0$$

76'	63.9	5.0
54'	64.6	4.3

$$-1.9$$

$$96.0 / 50$$

$$BT.$$

$$35.0 / 43$$

$$BT.$$

93' = 62.4 6.5

$$-1.5$$

$$93.0 / 61.5$$

$$BT.$$

90' = 62.6 6.3

$$-0.7$$

$$90.0 / 62$$

$$BT.$$

4.8

$$0.0$$

$$150 / 48$$

$$BT.$$

Spk. in Arc Light Pole.

82' = 68.6 8.9

$$82.0 / 89$$

$$+ 0.0$$

~~80~~

$$95.0 / 43$$

$$+ 0.0$$

95' = 71.6 5.9

$$95.0 / 59$$

$$+ 0.0$$

100' L.O. / 100.

Sta	+	IT	-	Grade
B.M.	5.87	279.06		873.19

24 +29

+42

+70

25

+30

+69

26

+50

+75

34 +54

35

Grade Gr. Rod

Top Lot Iron

50'		
33'	67.5	11.6

$$500' \frac{2.9}{100}$$

$$0' \frac{11.1}{16.05}$$

50'		
33'	67.6	

50'		
35'	67.0	12.1

$$500' \frac{3.3}{100} \quad +0.2$$

$$50' \frac{12.1}{8.1}$$

55'		
28'	66.0	13.1

$$550' \frac{5.0}{100} \quad 23.0 \frac{13.1}{8.1}$$

63'		
25'	65.3	13.8

$$630' \frac{5.6}{100} \quad 35.0 \frac{10.7}{16.31}$$

69'		
26'	65.3	13.8

$$690' \frac{4.6}{100} \quad 60' \frac{12.1}{16.17}$$

75'		
35'	65.6	13.5

$$750' \frac{3.1}{100} \quad 35' \frac{12.9}{16.06}$$

75'		
45'	66.0	13.1

$$750' \frac{5.3}{100} \quad 45' \frac{12.6}{16.05}$$

75'		
41'	66.0	13.1

$$750' \frac{4.9}{100} \quad 0' \frac{13.1}{8.1}$$

$$\frac{-45}{390}$$

$$\frac{-26}{35.2}$$

