

Bk. 3 Dr. 16

WALK

OFFICE OF COUNTY ENGINEER  
RAMSEY CO. MINN.

Plan Survey

EAST SHORE DRIVE

From City Limits To City Limits

Road Acc't. No. 82

Date Filed 10-26-37

File

# Cross Section

~~Lake Phalen Blvd.~~

East Shore Dr.

Walk

13 Pages

ROP  
HW  
AM  
LG } Party

3/24/39

| Pt   | +     | -      | Elev.        |
|------|-------|--------|--------------|
| B.M. | 5.08  | 867.99 | 862.91       |
| T.P. | 5.19  | 868.25 | 4.93 863.06  |
| T.P. | 5.49  | 868.84 | 4.90 863.35  |
| T.P. | 8.30  | 876.36 | 0.78 868.06  |
| T.P. |       |        | 1.00         |
| B.M. |       |        | 4.92 871.44  |
| T.P. | 4.48  | 868.27 | 12.57 863.79 |
| T.P. | 5.44  | 868.03 | 5.68 862.59  |
| B.M. |       |        | 1.42 866.61  |
| B.M. | 5.66  | 877.10 | 871.44       |
| T.P. | 3.62  | 869.01 | 11.71 865.39 |
| T.P. | 4.92  | 868.36 | 5.57 863.44  |
| B.M. | 4.60  | 869.96 | 3.00 865.36  |
| T.P. | 6.70  | 872.46 | 4.20 865.76  |
| T.P. | 9.20  | 876.30 | 5.36 867.10  |
| T.P. | 12.37 | 888.06 | 0.61 875.69  |
| B.M. |       |        | 4.40 883.66  |

Top Brass Plate Keller Dam.

R.R. Spike in P.P. S. End Bridge

Spike in P.P. 30' Rt. Sta. 0+00

R.R. Spike in P.P. S. End Bridge

Spike in Arc. Light Pole Lt.

Spike in G.P.

| Sta  | +                 | R      | -    | Elev   |
|------|-------------------|--------|------|--------|
| B.M. | 1.39              | 868.00 |      | 866.61 |
| 0+00 |                   |        | 2.30 | 65.7   |
| +50  |                   |        | 4.20 | 63.8   |
| 1    |                   |        | 5.05 | 63.0   |
| +50  |                   |        | 5.26 | 62.7   |
| +81  | Sec. Thru 18" Cul | 5.36   |      | 62.6   |
| 2    |                   |        | 5.40 | 62.6   |
| +50  |                   |        | 5.23 | 62.8   |
| 3    |                   |        | 5.20 | 62.8   |
| +50  |                   |        | 5.21 | 62.8   |
| 4    |                   |        | 5.07 | 62.9   |
| +50  |                   |        | 4.98 | 63.0   |
| 5    |                   |        | 4.78 | 63.2   |
| T.P. | 6.05              | 869.28 | 4.77 | 863.23 |

Spike in P.P. 30' Rk Sta 0+00

|      |             |             |            |            |            |             |
|------|-------------|-------------|------------|------------|------------|-------------|
|      | <u>3.30</u> | <u>2.79</u> | <u>3.1</u> | <u>5.0</u> | <u>9.7</u> | <u>11.4</u> |
| 2.30 | 29.5        | 29.5        | 41         | 50         | 63         | 74          |

|      |             |             |            |            |            |             |
|------|-------------|-------------|------------|------------|------------|-------------|
|      | <u>4.84</u> | <u>4.44</u> | <u>4.7</u> | <u>5.7</u> | <u>9.5</u> | <u>11.0</u> |
| 4.20 | 21.5        | 21.5        | 31         | 36         | 43         | 50          |

|      |            |             |             |            |            |             |             |
|------|------------|-------------|-------------|------------|------------|-------------|-------------|
|      | <u>5.3</u> | <u>5.48</u> | <u>5.25</u> | <u>5.2</u> | <u>9.3</u> | <u>10.7</u> | <u>12.7</u> |
| 5.05 | 13.5       | 15          | 15.6        | 21         | 30         | 37          | 50          |

|     |             |             |             |            |            |             |
|-----|-------------|-------------|-------------|------------|------------|-------------|
|     | <u>5.68</u> | <u>5.85</u> | <u>5.60</u> | <u>5.4</u> | <u>9.8</u> | <u>12.1</u> |
| 5.2 | 14.4        | 15.4        | 16.6        | 22         | 32         | 50          |

|      |             |             |             |            |               |             |             |             |
|------|-------------|-------------|-------------|------------|---------------|-------------|-------------|-------------|
|      |             |             |             |            | <u>5.6/23</u> | F.L.        | Ditch       |             |
|      | <u>5.70</u> | <u>5.88</u> | <u>5.67</u> | <u>9.8</u> | <u>(10.4)</u> | <u>11.8</u> | <u>11.4</u> | <u>12.1</u> |
| 5.36 | 14          | 15          | 16          | 32         | 31            | 31          | 36          | 50          |

|      |          |             |             |             |            |            |             |             |
|------|----------|-------------|-------------|-------------|------------|------------|-------------|-------------|
|      | <u>3</u> | <u>5.73</u> | <u>5.92</u> | <u>5.64</u> | <u>5.4</u> | <u>9.9</u> | <u>11.7</u> | <u>12.7</u> |
| 5.40 | 15       | 16          | 17          | 22          | 34         | 50         | 60          |             |

|      |             |             |             |            |            |             |
|------|-------------|-------------|-------------|------------|------------|-------------|
|      | <u>5.59</u> | <u>5.79</u> | <u>5.75</u> | <u>5.5</u> | <u>9.9</u> | <u>12.5</u> |
| 5.23 | 14.5        | 15.5        | 16.3        | 19         | 29         | 50          |

|      |             |             |             |            |            |             |             |
|------|-------------|-------------|-------------|------------|------------|-------------|-------------|
|      | <u>5.46</u> | <u>5.66</u> | <u>5.45</u> | <u>5.5</u> | <u>8.3</u> | <u>10.6</u> | <u>12.1</u> |
| 5.20 | 15          | 17          | 17          | 20         | 25         | 32          | 50          |

|      |             |             |             |            |            |             |             |
|------|-------------|-------------|-------------|------------|------------|-------------|-------------|
|      | <u>5.52</u> | <u>5.62</u> | <u>5.43</u> | <u>5.6</u> | <u>9.3</u> | <u>11.0</u> | <u>12.5</u> |
| 5.21 | 15          | 16          | 17          | 25         | 30         | 40          | 50          |

|      |             |             |             |            |             |             |             |
|------|-------------|-------------|-------------|------------|-------------|-------------|-------------|
|      | <u>5.30</u> | <u>5.46</u> | <u>5.24</u> | <u>5.1</u> | <u>10.0</u> | <u>10.9</u> | <u>12.3</u> |
| 5.07 | 15          | 16          | 17          | 25         | 34          | 40          | 50          |

|      |             |             |             |            |             |             |
|------|-------------|-------------|-------------|------------|-------------|-------------|
|      | <u>5.28</u> | <u>5.44</u> | <u>5.20</u> | <u>5.5</u> | <u>10.3</u> | <u>12.4</u> |
| 4.98 | 16          | 17          | 18          | 28         | 39          | 50          |

|      |             |             |             |            |            |            |             |             |
|------|-------------|-------------|-------------|------------|------------|------------|-------------|-------------|
|      | <u>5.20</u> | <u>5.40</u> | <u>5.15</u> | <u>5.0</u> | <u>6.4</u> | <u>9.4</u> | <u>10.8</u> | <u>13.1</u> |
| 4.78 | 14          | 15          | 16          | 20         | 25         | 32         | 40          | 50          |

| Sta. | +                  | $\pi$  | -    | Elev.  |
|------|--------------------|--------|------|--------|
|      |                    | 869.28 |      |        |
| 5+50 |                    |        | 6.10 | 63.2   |
| +58  | Sec. thru spillway |        |      | 63.2   |
| 6    |                    |        | 6.00 | 63.3   |
| +50  |                    |        | 5.85 | 63.4   |
| 7    |                    |        | 5.50 | 63.8   |
| T.P. | 7.27               | 869.53 | 7.02 | 862.26 |
| +50  |                    |        | 5.30 | 64.2   |
| 8    |                    |        | 4.68 | 64.9   |
| +50  |                    |        | 3.90 | 65.6   |
| 9    |                    |        | 2.42 | 67.1   |
| +50  |                    |        | 0.08 | 69.5   |
| +93  |                    |        |      | 71.9   |
| 10   |                    |        |      | 72.4   |
| T.P. | 7.94               | 877.15 | 0.32 | 869.21 |

6.45 6.60 6.40 6.8 11.7 14.6  
6.10 14 15 16 23 33 50

6.1

6.42 7.0 9.5 10.9 11.4  
14 20 28 28 30

6.32 6.50 6.30 6.3 9.5 11.2 14.6  
6.00 14 15 16 20 24 30 50

6.10 6.22 6.00 6.1 9.5 11.6 13.8  
5.85 14 15 16 24 26 33 50

5.70 5.87 5.60 6.4 9.8 11.8 13.2  
5.50 14 15 16 28 32 40 50

Top Rock

5.40 5.60 5.30 6.3 10.5 12.0 12.6  
5.30 14 15 16 32 39 44 50

4.80 5.00 4.70 6.0 10.9 11.7 16.1  
4.68 14 15 16 38 45 50 70

4.04 4.18 3.90 4.5 5.7 10.9 12.4  
3.90 14 15 16 30 44 50 63

2.70 2.80 2.50 3.2 5.2 5.7 10.8 12.8  
2.42 14 15 16 32 40 50 58 73

0.42 0.62 0.35 0.5 2.6 10.4 12.7  
0.08 14 15 16 23 42 55 70

+2A

0.0 1.2 3.7 8.4 8.7 11.5  
2.8 40 50 56 59 60

+2.9

0.0 3.7 11.4  
2.9 45 59

| Sta  | +    | $\pi$  | -     | Elev.  |
|------|------|--------|-------|--------|
|      |      | 877.15 |       |        |
| 9+93 |      |        | 5.30  | 71.9   |
|      |      |        | 5.67  | 771.48 |
|      |      |        |       | 771.44 |
| 10   |      |        | 4.80  | 72.4   |
| +90  |      |        | 4.80  | 72.4   |
| 11   |      |        | 5.45  | 71.7   |
| +50  |      |        | 8.94  | 68.2   |
| T.P. | 3.75 | 869.17 | 11.73 | 865.42 |
| 12   |      |        | 3.70  | 65.5   |
| +50  |      |        | 4.70  | 64.5   |
| 13   |      |        | 4.77  | 64.4   |
| +50  |      |        | 4.90  | 64.3   |
| 14   |      |        | 4.95  | 64.2   |
| +50  |      |        | 5.14  | 64.0   |
| 15   |      |        | 5.26  | 63.9   |

5.40 5.60 5.35 5.2  
5.30 14 15 16 24

Spike in P.P. S. End Bridge

4.90 5.0 4.70 4.5  
4.80 14 15 16 23

4.90 5.15 4.90 4.8 9.0 17.6 19.9  
4.80 14 15 16 23 30 43 50

5.66 5.90 5.66 5.5 10.3 11.8 18.8  
5.45 14 15 16 23 36 42 50

16.1 18.9  
47 50  
9.20 9.36 9.14 9.1 10.9 12.2 16.5  
8.94 14 15 16 21 26 36 43  
12.3  
57

3.82 3.96 3.75 3.6 4.8 6.0 10.2 11.4  
3.70 14 15 16 22 27 40 47 50

4.89 5.03 4.80 4.7 6.2 7.3 10.8 12.0  
4.70 14 15 16 22 30 40 45 53

5.19 5.32 5.12 5.2 6.6 8.7 10.5 11.8  
4.77 14 15 16 21 32 37 40 50

5.30 5.43 5.23 5.4 7.3 10.6 11.8  
4.90 14 15 16 23 37 42 50

5.43 5.60 5.37 5.4 7.3 9.4 10.4 10.7 12.1  
4.95 14 15 16.3 23 35 44 47 50 60

5.53 5.68 5.46 5.5 8.7 9.5 12.5  
5.14 14 15 16 21 40 50 73

5.64 5.75 5.50 5.5 7.1 9.2 9.5 11.5 12.6  
5.26 14 15 16 24 36 44 50 71 79

Sta

+

 $\pi$ 

869.17

15+50

5.35

63.8

16

5.40

63.8

+50

5.70

63.5

T.P. 5.04

868.20

6.01

863.16

17

4.85

63.4

+50

5.03

63.2

+85

Sec. Thru 18" Culvert

5.00

63.2

18

4.90

63.3

+50

4.80

63.4

19

4.70

63.5

+50

4.60

63.6

20

4.60

63.6

+50

4.52

63.7

$$5.35 \quad \frac{5.73}{14} \quad \frac{5.95}{15} \quad \frac{5.72}{16} \quad \frac{5.8}{23} \quad \frac{9.2}{50} \quad \frac{9.6}{56} \quad \frac{12.1}{80}$$

$$5.40 \quad \frac{5.76}{14} \quad \frac{6.02}{15} \quad \frac{5.82}{16} \quad \frac{6.0}{23} \quad \frac{9.3}{50} \quad \frac{10.4}{54} \quad \frac{12.5}{75}$$

$$5.70 \quad \frac{6.05}{14} \quad \frac{6.20}{15} \quad \frac{6.00}{16} \quad \frac{6.3}{22} \quad \frac{8.7}{39} \quad \frac{10.5}{44} \quad \frac{12.3}{63}$$

$$4.85 \quad \frac{5.10}{14} \quad \frac{5.30}{15} \quad \frac{5.05}{16} \quad \frac{5.30}{21} \quad \frac{6.0}{26} \quad \frac{7.7}{35} \quad \frac{9.4}{39} \quad \frac{10.4}{50} \quad \frac{11.5}{60}$$

$$5.03 \quad \frac{5.17}{14} \quad \frac{5.35}{15} \quad \frac{5.10}{16} \quad \frac{5.1}{21} \quad \frac{6.7}{29} \quad \frac{9.6}{37} \quad \frac{10.2}{46} \quad \frac{11.5}{56}$$

FL

$$5.00 \quad \frac{5.15}{14} \quad \frac{5.30}{15} \quad \frac{5.00}{16} \quad \frac{5.6}{24} \quad \frac{8.9}{30} \quad \frac{9.6}{30} \quad \frac{9.9}{44} \quad \frac{11.8}{57}$$

$$4.90 \quad \frac{5.15}{14} \quad \frac{5.30}{15} \quad \frac{5.03}{16} \quad \frac{5.2}{22} \quad \frac{7.9}{34} \quad \frac{9.7}{40} \quad \frac{11.1}{50} \quad \frac{11.4}{53}$$

$$4.80 \quad \frac{5.15}{14} \quad \frac{5.30}{15} \quad \frac{5.06}{16} \quad \frac{5.3}{23} \quad \frac{7.7}{32} \quad \frac{9.7}{34} \quad \frac{11.5}{51}$$

$$4.70 \quad \frac{5.05}{14} \quad \frac{5.24}{15} \quad \frac{4.96}{16} \quad \frac{5.6}{25} \quad \frac{7.5}{31} \quad \frac{11.1}{46}$$

$$4.60 \quad \frac{5.00}{14} \quad \frac{5.12}{15} \quad \frac{4.85}{16} \quad \frac{5.0}{23} \quad \frac{6.2}{28} \quad \frac{9.8}{31} \quad \frac{12.4}{50}$$

$$4.60 \quad \frac{4.85}{14} \quad \frac{5.01}{15} \quad \frac{4.77}{16} \quad \frac{5.2}{25} \quad \frac{6.2}{28} \quad \frac{10.0}{35} \quad \frac{12.3}{50}$$

$$4.52 \quad \frac{4.70}{14} \quad \frac{4.86}{15} \quad \frac{4.60}{16} \quad \frac{5.0}{25} \quad \frac{10.0}{35} \quad \frac{12.3}{50}$$

| Sta  | +    | $\pi$              | -    | Elev.  |
|------|------|--------------------|------|--------|
|      |      | 868.20             |      |        |
| 21   |      |                    | 4.25 | 64.0   |
|      | +50  |                    | 4.24 | 64.0   |
| B.M. | 4.62 | 869.98             | 2.78 | 865.42 |
|      | +77  | Sec. thru 12" vit. | 5.95 | 64.0   |
| 22   |      |                    | 5.80 | 64.2   |
|      | +50  |                    | 5.65 | 64.3   |
| 23   |      |                    | 5.52 | 64.5   |
|      | +50  |                    | 5.54 | 64.4   |
| 24   |      |                    | 5.10 | 64.9   |
|      | +44  | Sec. Thru 18" C.M. | 5.00 | 65.0   |
| 25   |      |                    | 4.95 | 65.0   |
|      | +50  |                    | 4.85 | 65.1   |
| 26   |      |                    | 4.63 | 65.4   |

865.36

4.50 4.70 4.45 4.4 9.7 11.5  
4.25 14 15 16 26 31 45

4.40 4.40 4.20 4.4 5.0 9.6 11.5  
4.24 14 15 16 22 24 31 46

Spike in Arc Light Pole

F.L.  
6.12 6.30 6.02 6.1 7.3 11.3 10.6 13.2  
5.95 14 15 16 21 27 34 34 50

6.03 6.18 5.95 6.8 11.5 13.2  
5.80 14 15 16 26 34 50

5.90 6.08 5.80 5.8 6.5 8.0 11.2 12.9  
5.65 14 15 16 21 26 32 38 50

5.70 5.90 5.62 5.5 6.1 7.5 11.4 13.2  
5.52 14 15 16 23 28 35 41 52

5.70 5.90 5.68 7.3 11.2 13.4  
5.54 14 15 16 25 34 40 50

5.40 5.50 5.30 5.5 6.5 11.4 12.1 13.2  
5.10 14 15 16 27 33 37 42 53

13.8  
F.L. 54  
5.30 5.40 5.20 5.4 7.5 10.8 9.3 12.0  
5.00 14 15 16 24 33 35 35 41

5.20 5.33 5.10 5.1 6.2 11.3 14.0  
4.95 14 15 16 25 29 35 50

5.00 5.15 4.90 5.1 6.0 11.7 14.5  
4.85 14 15 16 22 25 33 50

4.90 5.00 4.74 4.9 8.3 9.0 11.7 13.6 15.4  
4.63 14 15 16 19 24 27 31 41 50

| Sta   | +                  | ⌒      | -    | Elev.  |
|-------|--------------------|--------|------|--------|
|       |                    | 869.98 |      |        |
| 26+50 |                    |        | 4.42 | 65.6   |
| 27    |                    |        | 4.10 | 65.9   |
| +38   | Sec. thru 18" C.M. |        | 3.88 | 66.1   |
| +50   |                    |        | 3.72 | 66.3   |
| 28    |                    |        | 3.18 | 66.8   |
| T. P. | 5.58               | 872.39 | 3.17 | 866.81 |
| +50   |                    |        | 5.00 | 67.4   |
| 29    |                    |        | 4.56 | 67.8   |
| +50   |                    |        | 4.48 | 67.9   |
| 30    |                    |        | 4.65 | 67.7   |
| +50   |                    |        | 5.03 | 67.4   |
| 31    |                    |        | 5.26 | 67.1   |
| +30   | Sec. thru 18" C.M. |        | 5.33 | 67.1   |

8

|      |             |             |             |            |            |             |             |
|------|-------------|-------------|-------------|------------|------------|-------------|-------------|
|      | <u>4.60</u> | <u>4.78</u> | <u>4.53</u> | <u>4.7</u> | <u>5.3</u> | <u>11.6</u> | <u>13.0</u> |
| 4.42 | 14          | 15          | 16          | 19         | 29         | 33          | 41          |

4.30 4.46 4.23 4.9 8.6 11.5 12.5 13.4  
4/10 14 15 16 26 33 36 42 48

|      |      |      | F.L |     |      |
|------|------|------|-----|-----|------|
| 3.95 | 4.15 | 3.95 | 4.6 | 9.8 | 8.6  |
| 14   | 15   | 12   | 28  | 38  | 38   |
| 3.88 |      |      |     |     |      |
|      |      |      |     |     | 11.7 |
|      |      |      |     |     | 41   |
|      |      |      |     |     | 50   |

|      |                   |                   |                   |                  |                  |                   |                   |
|------|-------------------|-------------------|-------------------|------------------|------------------|-------------------|-------------------|
| 3.72 | $\frac{3.85}{14}$ | $\frac{4.00}{15}$ | $\frac{3.80}{16}$ | $\frac{3.9}{23}$ | $\frac{5.0}{31}$ | $\frac{11.6}{41}$ | $\frac{13.3}{50}$ |
|------|-------------------|-------------------|-------------------|------------------|------------------|-------------------|-------------------|

|      |             |             |             |            |            |            |             |             |
|------|-------------|-------------|-------------|------------|------------|------------|-------------|-------------|
|      | <u>3.40</u> | <u>3.60</u> | <u>3.80</u> | <u>3.5</u> | <u>4.3</u> | <u>6.0</u> | <u>11.9</u> | <u>13.0</u> |
| 3.18 | 14          | 15          | 16          | 23         | 29         | 35         | 42          | 50          |

|             |             |             |             |            |            |             |                   |
|-------------|-------------|-------------|-------------|------------|------------|-------------|-------------------|
|             |             |             |             |            |            |             | $\frac{15.0}{50}$ |
|             | <u>5.25</u> | <u>5.40</u> | <u>5.20</u> | <u>5.5</u> | <u>6.1</u> | <u>10.3</u> | <u>11.2</u>       |
| <u>5.00</u> | 14          | 15          | 16          | 23         | 27         | 37          | 44                |
|             |             |             |             |            |            | 46          |                   |

|     |      |      |      |     |      |      |      |      |
|-----|------|------|------|-----|------|------|------|------|
|     | 4.85 | 5.00 | 4.77 | 5.3 | 10.6 | 11.5 | 14.3 | 15.0 |
| 456 | 14   | 15   | 16   | 26  | 37   | 43   | 46   | 50   |

|      |             |             |             |            |             |             |             |
|------|-------------|-------------|-------------|------------|-------------|-------------|-------------|
|      | <u>4.78</u> | <u>4.92</u> | <u>4.68</u> | <u>4.8</u> | <u>11.1</u> | <u>12.1</u> | <u>15.0</u> |
| 4.48 | 14          | 15          | 16          | 20         | 33          | 43          | 50          |

|      |      |      |     |      |      |
|------|------|------|-----|------|------|
| 4.95 | 5.12 | 4.88 | 4.8 | 14.0 | 15.3 |
| 4.65 | 14   | 15   | 16  | 21   | 45   |
|      |      |      |     |      | 63   |

5.03    5.33    5.49    5.30    5.3    13.3    15.0  
 503    14    15    16    22    41    64

5.26  $\frac{5.57}{14} \frac{5.72}{15} \frac{5.50}{16} \frac{5.5}{23} \frac{10.8}{32} \frac{13.0}{39} \frac{14.8}{50}$

$$\begin{array}{r} 5.33 \quad 14 \quad 15 \quad 16 \quad 20 \quad 25 \\ \hline 5.635 \quad 82 \quad 5.50 \quad 5.6 \quad 6.9 \end{array} \quad \begin{array}{r} \text{F.L.} \\ \hline 10.3 \\ 30 \end{array} \quad \begin{array}{r} 11.6 \quad 14.2 \quad 15.2 \\ \hline 30 \quad 40 \quad 50 \end{array}$$

| Sta    | +     | $\pi$  | -    | Elev.   |
|--------|-------|--------|------|---------|
|        |       | 872.39 |      |         |
| 31 +50 |       |        | 5.35 | 67.0.   |
| 32     |       |        | 5.20 | 67.2.   |
| +50    |       |        | 4.90 | 67.5.   |
| 33     |       |        | 4.90 | 67.5.   |
| +50    |       |        | 4.60 | 67.8.   |
| 34     |       |        | 4.00 | 68.4.   |
| T.P.   | 10.08 | 878.82 | 3.65 | 868.74. |
| +50    |       |        | 9.57 | 69.3.   |
| 35     |       |        | 8.24 | 70.6.   |
| +50    |       |        | 6.44 | 72.4.   |
| 36     |       |        | 4.28 | 74.5.   |
| +50    |       |        | 1.80 | 77.0.   |
| T.P.   | 9.31  | 888.01 | 0.12 | 878.70. |
| 37     |       |        | 8.70 | 79.3.   |

$$\begin{array}{r} 5.60 \ 5.72 \ 5.47 \ 5.6 \ 12.5 \ 15.0 \\ 5.35 \ 14 \ 15 \ 16 \ 22 \ 35 \ 50 \end{array}$$

$$\begin{array}{r} 5.39 \ 5.51 \ 5.32 \ 5.3 \ 7.4 \ 9.6 \ 14.0 \\ 5.20 \ 14 \ 15 \ 16 \ 20 \ 35 \ 37 \ 48 \end{array}$$

$$\begin{array}{r} 5.25 \ 5.40 \ 5.10 \ 5.1 \ 7.2 \ 7.8 \ 12.3 \ 13.8 \ 15.0 \\ 4.90 \ 14 \ 15 \ 16 \ 19 \ 24 \ 30 \ 35 \ 41 \ 50 \end{array}$$

$$\begin{array}{r} 5.05 \ 5.18 \ 4.90 \ 4.7 \ 7.5 \ 8.2 \ 12.9 \ 14.8 \\ 4.90 \ 14 \ 15 \ 16 \ 21 \ 26 \ 28 \ 35 \ 45 \end{array}$$

$$\begin{array}{r} 4.78 \ 4.89 \ 4.60 \ 4.5 \ 11.0 \ 13.6 \ 15.0 \\ 4.60 \ 14 \ 15 \ 16 \ 19 \ 30 \ 38 \ 50 \end{array}$$

$$\begin{array}{r} 4.27 \ 4.45 \ 4.20 \ 4.2 \ 12.3 \ 14.8 \ 15.2 \\ 4.00 \ 14 \ 15 \ 16 \ 20 \ 31 \ 42 \ 50 \end{array}$$

$$\begin{array}{r} 9.80 \ 10.0 \ 9.68 \ 9.7 \ 13.8 \\ 9.57 \ 14 \ 15 \ 16 \ 19 \ 28 \ 55 \end{array}$$

$$\begin{array}{r} 8.50 \ 8.68 \ 8.43 \ 8.6 \ 13.7 \\ 8.24 \ 14 \ 15 \ 16 \ 19 \ 26 \ 55 \end{array}$$

$$\begin{array}{r} 6.90 \ 7.10 \ 6.92 \ 7.2 \ 12.0 \\ 6.44 \ 14 \ 15 \ 16 \ 20 \ 27 \ 55 \end{array}$$

$$\begin{array}{r} 4.53 \ 4.70 \ 4.40 \ 4.4 \ 12.2 \\ 4.28 \ 14 \ 15 \ 16 \ 19 \ 33 \ 55 \end{array}$$

$$\begin{array}{r} 2.12 \ 2.27 \ 2.10 \ 2.0 \ 7.7 \ 12.4 \\ 1.80 \ 14 \ 15 \ 16 \ 20 \ 34 \ 44 \ 55 \end{array}$$

$$\begin{array}{r} 8.96 \ 9.13 \ 8.90 \ 9.4 \ 13.4 \ 20.2 \\ 8.70 \ 14 \ 15 \ 16 \ 29 \ 39 \ 50 \ 55 \end{array}$$

| Sto   | + | $\pi$  | -    | Elev   |
|-------|---|--------|------|--------|
|       |   | 882.01 |      |        |
| 37+50 |   |        | 6.80 | 81.2   |
| 38    |   |        | 5.45 | 82.6   |
| +50   |   |        | 4.90 | 83.1   |
| 39    |   |        | 4.78 | 83.2   |
| +50   |   |        | 4.80 | 83.2   |
| 40    |   |        | 4.72 | 83.3   |
| +50   |   |        | 4.68 | 83.3   |
| 41    |   |        | 4.65 | 83.4   |
| +10   |   |        | 4.80 | 83.2   |
| B.M.  |   |        | 4.31 | 883.70 |
|       |   |        |      | 883.66 |

7.8 7.80 7.10 6.6 12.6 18.2  
6.80 14 15 16 28 39 50 55

5.78 6.00 5.70 5.8 16.7  
5.45 14 15 16 27 47 55

5.20 5.40 5.10 5.5 11.7 14.7 17.5  
4.90 14 15 16 23 33 42 49 55

5.14 5.35 5.10 5.2 10.7 16.7  
4.78 14 15 16 24 35 38 55

5.00 5.20 5.00 5.0 5.9 18.9  
4.80 14 15 16 23 26 50 55

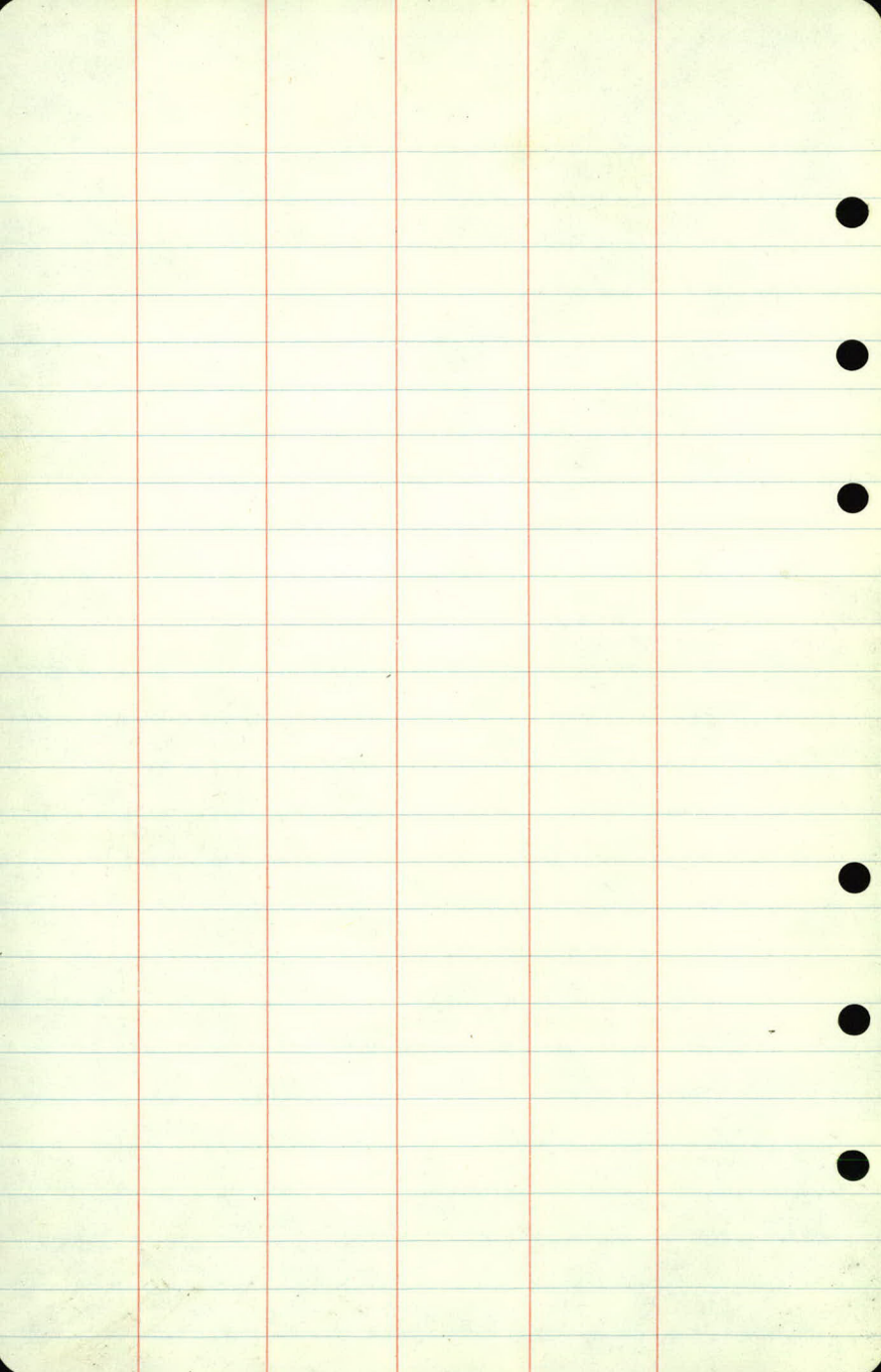
4.90 5.14 4.90 5.30 17.00  
4.72 14 15 16 29 50 55

5.10 5.30 5.10 5.2 7.4 13.8  
4.68 30 31 32 36 45 43 55

5.28 5.40 5.15 5.3 6.8 12.8  
4.65 43 44 45 53 59 71 55

5.48 5.55 5.30 6.0 19.5  
4.80 47 48 49 60 75

Spike in G. P. Rt Sta 41+22



Borrow Pit

Lake Phalen Blvd.

| Sta.  | +    | $\pi$   | -    | Elev.  |
|-------|------|---------|------|--------|
| B. M. | 2.19 | 873 .63 |      | 871.44 |
| T. P. | 3.41 | 868 .06 | 8.98 | 864.65 |
| 5+50  |      |         | 4.90 | 63.2   |

|   |  |  |      |      |
|---|--|--|------|------|
| 6 |  |  | 4.80 | 63.3 |
|---|--|--|------|------|

|     |  |  |      |      |
|-----|--|--|------|------|
| +50 |  |  | 4.65 | 63.4 |
|-----|--|--|------|------|

|     |  |  |      |      |
|-----|--|--|------|------|
| +79 |  |  | 4.50 | 63.6 |
|-----|--|--|------|------|

|   |  |  |      |      |
|---|--|--|------|------|
| 7 |  |  | 4.30 | 63.8 |
|---|--|--|------|------|

|     |  |  |      |      |
|-----|--|--|------|------|
| +16 |  |  | 4.20 | 63.9 |
|-----|--|--|------|------|

|     |  |  |      |      |
|-----|--|--|------|------|
| +50 |  |  | 3.85 | 64.2 |
|-----|--|--|------|------|

|   |  |  |      |      |
|---|--|--|------|------|
| 8 |  |  | 3.20 | 64.9 |
|---|--|--|------|------|

|       |      |         |      |        |
|-------|------|---------|------|--------|
| T. P. | 9.56 | 877 .22 | 0.40 | 867.66 |
|-------|------|---------|------|--------|

|   |  |  |  |      |
|---|--|--|--|------|
| 6 |  |  |  | 63.3 |
|---|--|--|--|------|

|     |  |  |  |      |
|-----|--|--|--|------|
| +50 |  |  |  | 63.4 |
|-----|--|--|--|------|

|       |      |        |      |         |
|-------|------|--------|------|---------|
| T. P. | 6.23 | 882.51 | 0.94 | 876 .28 |
|-------|------|--------|------|---------|

|       |  |  |  |      |
|-------|--|--|--|------|
| 6 +79 |  |  |  | 63.6 |
|-------|--|--|--|------|

|   |  |  |  |      |
|---|--|--|--|------|
| 7 |  |  |  | 63.8 |
|---|--|--|--|------|

L

## P.R. Spike in P.P. So. Bridge

$\begin{array}{r} +1.3 \\ \hline 134 \end{array}$ 
 $\begin{array}{r} +0.7 \\ \hline 118 \end{array}$ 
 $\begin{array}{r} 1.4 \\ \hline 100 \end{array}$ 
 $\begin{array}{r} 7.7 \\ \hline 62 \end{array}$ 
 $\begin{array}{r} 8.5 \\ \hline 46 \end{array}$ 
 $\begin{array}{r} 7.5 \\ \hline 42 \end{array}$ 
 $\begin{array}{r} 5.8 \\ \hline 30 \end{array}$ 
 $\begin{array}{r} 5.2 \\ \hline 21 \end{array}$ 
 $\begin{array}{r} 5.10 \\ \hline 15 \end{array}$ 
 $\begin{array}{r} 5.30 \\ \hline 14 \end{array}$ 
 $\begin{array}{r} 5.20 \\ \hline 13 \end{array}$ 
 $\begin{array}{r} 4.90 \end{array}$

$\begin{array}{r} 0.5 \\ \hline 100 \end{array}$ 
 $\begin{array}{r} 2.3 \\ \hline 81 \end{array}$ 
 $\begin{array}{r} 3.5 \\ \hline 29 \end{array}$ 
 $\begin{array}{r} 4.8 \\ \hline 24 \end{array}$ 
 $\begin{array}{r} 5.00 \\ \hline 15 \end{array}$ 
 $\begin{array}{r} 5.20 \\ \hline 14 \end{array}$ 
 $\begin{array}{r} 5.10 \\ \hline 13 \end{array}$ 
 $\begin{array}{r} 4.80 \end{array}$

$\begin{array}{r} 3.4 \\ \hline 23 \end{array}$ 
 $\begin{array}{r} 2.2 \\ \hline 27 \end{array}$ 
 $\begin{array}{r} 3.8 \\ \hline 22 \end{array}$ 
 $\begin{array}{r} 4.85 \\ \hline 15 \end{array}$ 
 $\begin{array}{r} 5.10 \\ \hline 14 \end{array}$ 
 $\begin{array}{r} 5.00 \\ \hline 13 \end{array}$ 
 $\begin{array}{r} 4.65 \end{array}$ 
 $\begin{array}{r} 4.7 \end{array}$

$\begin{array}{r} 4.40 \\ \hline 15 \end{array}$ 
 $\begin{array}{r} 4.82 \\ \hline 14 \end{array}$ 
 $\begin{array}{r} 4.70 \\ \hline 13 \end{array}$ 
 $\begin{array}{r} 4.50 \end{array}$

$\begin{array}{r} 3.7 \\ \hline 24 \end{array}$ 
 $\begin{array}{r} 4.46 \\ \hline 15 \end{array}$ 
 $\begin{array}{r} 4.70 \\ \hline 14 \end{array}$ 
 $\begin{array}{r} 4.50 \\ \hline 13 \end{array}$ 
 $\begin{array}{r} 4.30 \end{array}$

$\begin{array}{r} 4.3 \\ \hline 25 \end{array}$ 
 $\begin{array}{r} 4.34 \\ \hline 16 \end{array}$ 
 $\begin{array}{r} 4.57 \\ \hline 15 \end{array}$ 
 $\begin{array}{r} 4.40 \\ \hline 14 \end{array}$ 
 $\begin{array}{r} 4.20 \end{array}$

$\begin{array}{r} 4.5 \\ \hline 39 \end{array}$ 
 $\begin{array}{r} 5.1 \\ \hline 35 \end{array}$ 
 $\begin{array}{r} 4.5 \\ \hline 29 \end{array}$ 
 $\begin{array}{r} 4.10 \\ \hline 16 \end{array}$ 
 $\begin{array}{r} 4.20 \\ \hline 15 \end{array}$ 
 $\begin{array}{r} 4.15 \\ \hline 14 \end{array}$ 
 $\begin{array}{r} 3.85 \end{array}$ 
 $\begin{array}{r} 3.9 \end{array}$

$\begin{array}{r} 7.2 \\ \hline 46 \end{array}$ 
 $\begin{array}{r} 7.7 \\ \hline 42 \end{array}$ 
 $\begin{array}{r} 7.4 \\ \hline 36 \end{array}$ 
 $\begin{array}{r} 7.0 \\ \hline 31 \end{array}$ 
 $\begin{array}{r} 3.9 \\ \hline 21 \end{array}$ 
 $\begin{array}{r} 3.50 \\ \hline 12 \end{array}$ 
 $\begin{array}{r} 3.72 \\ \hline 15 \end{array}$ 
 $\begin{array}{r} 3.50 \\ \hline 14 \end{array}$ 
 $\begin{array}{r} 3.20 \end{array}$

$\begin{array}{r} 15.7 \\ \hline 200 \end{array}$ 
 $\begin{array}{r} 14.5 \\ \hline 186 \end{array}$ 
 $\begin{array}{r} 11.0 \\ \hline 165 \end{array}$ 
 $\begin{array}{r} 8.3 \\ \hline 147 \end{array}$ 
 $\begin{array}{r} 7.4 \\ \hline 128 \end{array}$ 
 $\begin{array}{r} 8.0 \\ \hline 117 \end{array}$ 
 $\begin{array}{r} 13.9 \end{array}$

$\begin{array}{r} 15.9 \\ \hline 205 \end{array}$ 
 $\begin{array}{r} 9.0 \\ \hline 167 \end{array}$ 
 $\begin{array}{r} 4.3 \\ \hline 138 \end{array}$ 
 $\begin{array}{r} 1.8 \\ \hline 116 \end{array}$ 
 $\begin{array}{r} 0.6 \\ \hline 89 \end{array}$ 
 $\begin{array}{r} 0.8 \\ \hline 76 \end{array}$ 
 $\begin{array}{r} 2.3 \\ \hline 49 \end{array}$ 
 $\begin{array}{r} 4.5 \\ \hline 36 \end{array}$ 
 $\begin{array}{r} 13.8 \end{array}$

$\begin{array}{r} 21.0 \\ \hline 205 \end{array}$ 
 $\begin{array}{r} 17.0 \\ \hline 188 \end{array}$ 
 $\begin{array}{r} 12.7 \\ \hline 169 \end{array}$ 
 $\begin{array}{r} 7.1 \\ \hline 136 \end{array}$ 
 $\begin{array}{r} 2.9 \\ \hline 100 \end{array}$ 
 $\begin{array}{r} 2.4 \\ \hline 70 \end{array}$ 
 $\begin{array}{r} 8.4 \\ \hline 37 \end{array}$ 
 $\begin{array}{r} 18.9 \end{array}$

$\begin{array}{r} 20.7 \\ \hline 203 \end{array}$ 
 $\begin{array}{r} 11.9 \\ \hline 168 \end{array}$ 
 $\begin{array}{r} 9.4 \\ \hline 156 \end{array}$ 
 $\begin{array}{r} 4.0 \\ \hline 120 \end{array}$ 
 $\begin{array}{r} 2.5 \\ \hline 100 \end{array}$ 
 $\begin{array}{r} 2.5 \\ \hline 74 \end{array}$ 
 $\begin{array}{r} 5.6 \\ \hline 54 \end{array}$ 
 $\begin{array}{r} 13.2 \\ \hline 32 \end{array}$ 
 $\begin{array}{r} 18.7 \end{array}$

Sta.

+

$\pi$

-

Elev.

882.51

17+16

(63.9)

+50

(64.2)

B.M.

0.52

871.96

11.05

871.46

(871.44)

8

(64.9)

0.52

871.44

E

|      |      |      |      |     |     |     |     |
|------|------|------|------|-----|-----|-----|-----|
| 21.7 | 19.2 | 15.2 | 11.2 | 3.7 | 2.6 | 3.1 | 5.4 |
| 203  | 196  | 181  | 164  | 118 | 700 | 76  | 62  |

18.6

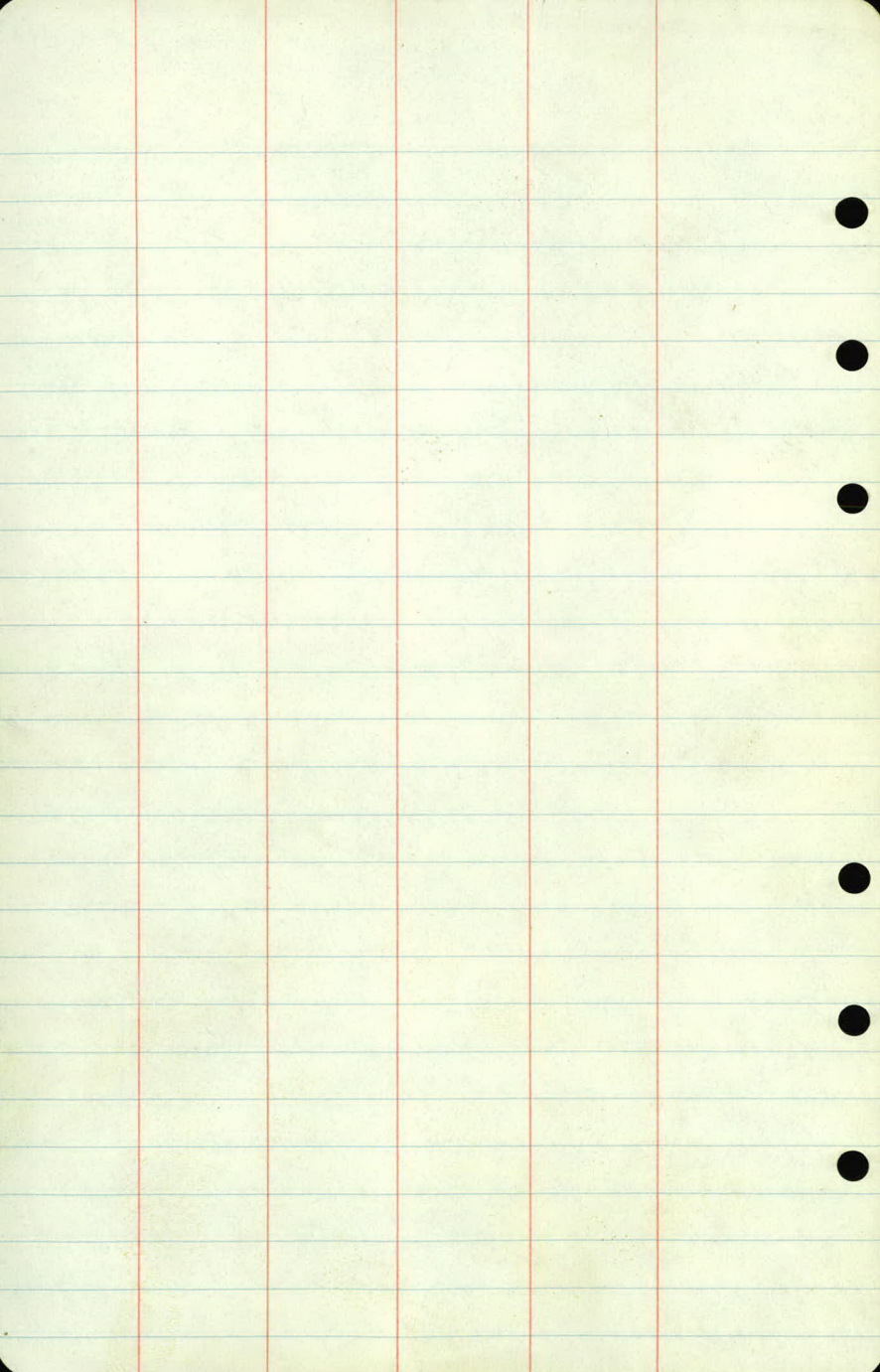
|      |      |     |     |     |      |
|------|------|-----|-----|-----|------|
| 21.5 | 12.4 | 7.5 | 4.5 | 4.7 | 13.1 |
| 186  | 158  | 140 | 113 | 100 | 59   |

18.3

R.R. Spike P.P. S. Bridge

|      |      |      |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|
| 11.7 | 11.5 | 11.2 | 10.0 | 10.4 | 10.0 | 10.0 | 10.9 | 11.3 | 11.2 | 11.3 |
| 200  | 187  | 166  | 162  | 150  | 122  | 100  | 88   | 85   | 64   | 50   |

7.1



Topography

Phalen Blvd.

East Shore Drive

Mar 31, 1939

ROP  
HW  
AM  
LG } Party

6

5

4

3

2

1

0

+38 PP-23'



+57 Spillway  
16-20-22

+02 PP 20.5'

+78-PP-19  
Core Light

+44 RR 18'

+79 CB-15  
+79 18" CM-30'

+16 PP-19

13

12

11

10

9

8

7

+83 8" Elm - 37'

+61 -16" Elm - 23'

+58 Triple W. H. #1

+17-8" Elm - 25'

+07 Will - 39'

+80 P.P. 26'

+73 -16" Elm - 28'

+25-14" Elm - 29'

+76-14" Elm - 30'

+37-14" Elm - 25'

+24 P.P. 23'

+17 10" Willow - 47'

Triple 10" Willow - 47'

Wheelguard - 14'

+83 P.P. 27'

(Archlight)

+74 P.P. - 34'

+65 P.P. 26½'

20

19

18

17

16

15

14

+89-10" Elm-23

+44 16" Elm-21

+02 12" Elm-21

+58-12" Elm-20'

+19-12" Elm-20'

+80 12" Elm-22'

+39 12" Elm-22

+97-12" Elm-22'

+85 CB-15'

+85 18" C.M.-29 1/2'

+61-14" Elm-22'

+19 14" Elm-20'

+75-14" Elm-19'

+36 10" Elm 19

+18 Triple Will 36'

+01 8" Willow 36

+98 8" Willow 32

+92 14" Elm 22

+91 Twin 6" 37

Group 9  
7" Willows

+50 End Group-40-5

+46 14" Elm-23'

+20 Beg Group-38-42

+04 16" Elm-22

+75 9" Willows 42'

+56 16" Elm 22'

+48 14" Willow 37'

+36 12" Elm 36'

+31 6" Elm-34'

+19 10" Elm 34'

+06-12" Elm 24'

27

26

25

24

23

22

21

+94-12"E/m-21

+55-12"E/m-21

+37-18"CM-39'

+12-16"E/m-21

+69-12"E/m-20'

+27-12"E/m-19'

+83-12"E/m-19'

+40-12"E/m-19'

+00-12"E/m-21

+55-12"E/m-23

+44-CB-15'

+44-18"CM-37.5'

+19-12"E/m-23

+82-12"E/m-22'

+39-12"E/m-21

+99-12"E/m-19'

+56-12"E/m-18'

+14-10"E/m-19'

+77-12"Vt-33'

+72-12"E/m-20'

+30-15"E/m-22'

34

33

32

31

30

29

28

+94 8" Elm 30'

+72 Twin 18" Elm - 34'

+55 18" Elm - 33'

+31 14" Elm - 36'

+25 4" Ash - 28'

+21 18" CM - 29'

+18 8" Oak - 22-31'

+93 4" Ash - 29'

+85 4" Oak - 26'

+83 6" Ash - 35'

+74 6" Pop - 39'

+72 4" Oak - 26'

+23 6" Willow - 30'

+08 10" Oak - 29'

+54 18" Oak - 34'

+29 Gray Pole - 33'

+95 Triple 6" Will - 42'

+82 8" Ash - 39'

+62 6" Ash - 35'

+50 8" Ash - 33'

+35 16" Willow - 30'

+30 C.B. - 15'

+10 18" CM - 30'

+25 12" Willow 30'

+78 24" Willow - 36'

+71 24" Willow 36'

+82 6" Oak - 19'

+76 Twin 4" Oak - 19'

+63 6" Oak - 19'

+59 Twin 14" Elm - 27'

+29 6" Oak - 22'

+14 14" Elm - 32'

+92 8" Oak - 22'

+66 8" Ash - 35'

+48 18" Maple - 23-34'

+36 6" Elm - 22'

+16 Twin 6" Maple -

26'

41

40

39

38

37

36

35

+22 G.R. - 52'

G.R. - 49'

+50 G.R. - 35'

+14 G.R. - 22'

+00 A.G.R. - 20

+86 6" Oak - 35'

+82 14" Oak - 35'

+52 4" Oak - 31'

+84 10" Oak - 37'

+20 Bcg. G.R. - 20

+08 10" Oak - 28'

+00 E.A. - 25'

Scattered Oaks at Lake Shore

44

43

42

Borrow Pit  
East shore Drive

sta      +       $\pi$       -      grade

6      +25

+50

+70

7

+25

Gr. Rod.

Lt.

Edge Pav.

$$35.0 / \begin{array}{r} 6.2 \\ +7.0 \end{array}$$

$$\underline{13.2}$$

$$70.0 / \begin{array}{r} 10.2 \\ +14.0 \end{array}$$

$$\underline{13.1}$$

$$80.0 / \begin{array}{r} 13.0 \\ +16.0 \end{array}$$

$$\underline{13.0}$$

$$83.5 / \begin{array}{r} 10.7 \\ +16.7 \end{array}$$

$$\underline{16.0}$$

$$78.0 / \begin{array}{r} 9.1 \\ +15.6 \end{array}$$

$$30.5 / \begin{array}{r} 9.6 \\ +6.1 \end{array}$$

$$\underline{15.7}$$

$$65.0 / \begin{array}{r} 26 \\ +20 \end{array}$$

$$50.0 / \begin{array}{r} 56 \\ +10.0 \end{array}$$

$$\underline{15.6}$$

1.5

