

MATHEMATICAL ANALYSIS

| Section | Load          | $f_c M$ | $f_c N$ | $f_c$ (upper) | $f_c$ (lower) |
|---------|---------------|---------|---------|---------------|---------------|
| 15.33   | Dead          | + 8     | 211     |               |               |
|         | Live (Middle) | +184    | 82      | +289          | +357          |
|         | Live (L.end)  | -226    | 30      |               |               |
|         | Sum           | -34     | 323     |               |               |
| 30.67   | D             | +22     | 214     |               |               |
|         | L             | +45     | 85      | +135          | +523          |
|         | L             | -261    | 30      |               |               |
|         | S             | -194    | 329     |               |               |
| 46.00   | D             | +39     | 219     |               |               |
|         | L             | -25     | 88      | +100          | +572          |
|         | L             | -250    | 29      |               |               |
|         | S             | -236    | 336     |               |               |
| 61.33   | D             | +53     | 226     |               |               |
|         | L             | -134    | 88      | +69           | +615          |
|         | L             | -192    | 28      |               |               |
|         | S             | -273    | 342     |               |               |
| 76.67   | D             | +64     | 236     |               |               |
|         | L             | -119    | 88      | +209          | +493          |
|         | L             | -87     | 27      |               |               |
|         | S             | -142    | 351     |               | 0             |
| 92.00   | D             | +51     | 247     |               |               |
|         | L             | +18     | 88      | +494          | +228          |
|         | L             | +64     | 26      |               |               |
|         | S             | +133    | 361     |               |               |
| 107.33  | D             | +21     | 257     |               |               |
|         | L             | +279    | 87      | +931          | -193          |
|         | L             | +262    | 25      |               |               |
|         | S             | +562    | 369     |               |               |

Scale: 1" = 100,000"

Scale: 1" = 5'

Loading:  
Dead Load plus Live Load  
over left and middle thirds.

DATA TAKEN FROM THRUST LINE

| Section | Thrust |         | Eccen. | Mom. | #/sq.in | $F_c$      |            |
|---------|--------|---------|--------|------|---------|------------|------------|
|         | Total  | #/sq.in |        |      |         | Upper Edge | Lower Edge |
| 0       | 957    | 322     | + .28  | 268  | 88      | 410        | 234        |
| 7.67    | 957    | 322     | + .40  | 383  | 125     | 447        | 197        |
| 23.00   | 964    | 324     | - .15  | 175  | 47      | 277        | 371        |
| 38.33   | 984    | 331     | - .70  | 688  | 225     | 106        | 556        |
| 53.67   | 1007   | 339     | -1.00  | 1007 | 329     | 10         | 668        |
| 69.00   | 1030   | 346     | - .90  | 928  | 304     | 42         | 650        |
| 84.33   | 1054   | 354     | - .20  | 211  | 69      | 285        | 423        |
| 99.67   | 1122   | 377     | + .80  | 898  | 294     | 671        | 83         |
| 115.00  | 1122   | 377     | +2.00  | 2240 | 730     | 1107       | -353       |