

# CALCULATIONS

CALC. BY: R.L. 12-92  
CHK. BY: K.P. 12-92

|             |       |              |
|-------------|-------|--------------|
| FHWA REGION | STATE | PROJECT      |
| 5           | DHID  | NH - 69(123) |

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LAKE COUNTY  
LAK-20-15.58

## GENERAL SUMMARY

|  |  |
|--|--|
| <b>FULL DEPTH PAVEMENT &amp; SIDEWALK &amp; CURB</b> |  |
| STA. 822+40.20 TO STA. 823+90.20                     | = 150.00 LIN. FT.  |
| <b>FEATHERING &amp; SIDEWALK TRANSITION</b>          |  |
| STA. 822+25.20 TO STA. 822+40.20                     | = 15.00 LIN. FT.   |
| STA. 823+90.20 TO STA. 824+05.20                     | = 15.00 LIN. FT.   |
| <b>TOTAL</b>   | = 30.00 LIN. FT.   |
| <b>FENCE</b>   |  |
| STA. 822+82.25 TO STA. 823+47.25                     | = 65.00 LIN. FT.   |
| STA. 822+81.50 TO STA. 823+41.50                     | = 60.00 LIN. FT.   |
| <b>TOTAL</b>   | = 125.00 LIN. FT.  |
| <b>DRIVE WAY</b>                                     |  |
| ITEM 452 6" PLAIN CONCRETE PAVEMENT                  |  |
| DRIVE WAY @ STA. 822+64.00                           | $(7.5 \text{ ((12+20) ÷ 2)}) \div 9 = 13.33 \text{ SQ. YD.}$   |
| DRIVE WAY @ STA. 823+67.50                           | $(7.5 \text{ ((13+21) ÷ 2)}) \div 9 = 14.17 \text{ SQ. YD.}$   |
| DRIVE WAY @ STA. 822+62.5                            | $(7.5 \text{ ((22+30) ÷ 2)}) \div 9 = 21.67 \text{ SQ. YD.}$   |
|  | 50 SQ. YD.   |
| <b>ITEM 202 WALK REMOVED</b>                         |  |
| 4.00 x 180 x 2                                       | = 1440.00 SQ. FT.   1440 SQ. FT.                               |
| <b>ITEM 202 CURB REMOVED</b>                         |  |
| 150 x 2  | = 300.00 LIN. FT.   300 LIN. FT.                               |
| <b>ITEM 202 PAVEMENT REMOVED</b>                     |  |
| 36.00 x 150 ÷ 9                                      | = 600.00 SQ. YD.   600 SQ. YD.                                 |
| <b>ITEM 202 FENCE REMOVED</b>                        |  |
| 30.00 x 2 (OUT OF STRUCTURE)                         | = 60.00 LIN. FT.   60 LIN. FT.                                 |
| <b>ITEM 203 SUBGRADE COMPACTION</b>                  |  |
| 36.00 x 150 ÷ 9                                      | = 600.00 SQ. YD.   600 SQ. YD.                                 |
| <b>ITEM 254 PAVEMENT PLANNING, BITUMINOUS</b>        |  |
| 36.00 x 30 ÷ 9                                       | = 120.00 SQ. YD.   120 SQ. YD.                                 |
| <b>ITEM 301 BITUMINOUS AGGREGATE BASE, AC-20</b>     |  |
| PAVT. 0.50 x 36.00 x 150 ÷ 27                        | = 100.00 CU. YD.   |
| DRIVE STA. 822+64.00                                 | $12 \times 13 \times 4 \div 12 \div 27 = 1.93 \text{ CU. YD.}$ |
| DRIVE STA. 823+67.50                                 | $13 \times 13 \times 4 \div 12 \div 27 = 2.08 \text{ CU. YD.}$ |
| DRIVE STA. 823+62.50                                 | $22 \times 32 \times 4 \div 12 \div 27 = 8.69 \text{ CU. YD.}$ |
|  | 113 CU. YD.  |
| <b>ITEM 304 AGGREGATE BASE, AS PER PLAN</b>          |  |
| 0.50 x 36.00 x 150 ÷ 27                              | = 100.00 CU. YD.   100 CU. YD.                                 |
| <b>ITEM 402 ASPHALT CONCRETE, AC-20</b>              |  |
| 36.00 x (1 3/4 ÷ 12) x 150 ÷ 27                      | = 29.17 CU. YD.   29 CU. YD.                                   |
| <b>ITEM 404 ASPHALT CONCRETE, AC-20 PAVEMENT</b>     |  |
| 36.00 x (1 1/4 ÷ 12) x 150 ÷ 27                      | = 20.83 CU. YD.  |
| 36.00 x (1 1/4 ÷ 12) x 30 ÷ 27                       | = 4.17 CU. YD.   |
| DRIVE STA. 822+64.00                                 | $12 \times 13 \times 1 \div 12 \div 27 = 0.48$                 |
| DRIVE STA. 823+67.50                                 | $13 \times 13 \times 1 \div 12 \div 27 = 0.52$                 |
| DRIVE STA. 822+62.50                                 | $22 \times 32 \times 1 \div 12 \div 27 = 2.17$                 |
|  | 28 CU. YD.   |
| <b>ITEM 407 TACK COAT</b>                            |  |
| 36.00 x .30 x 0.10 ÷ 9                               | = 12.00 GAL.   12 GAL.   |
| <b>ITEM 408 BITUMINOUS PRIME COAT</b>                |  |
| 36.00 x 0.40 x 150 ÷ 9                               | = 240.00 GAL.   240 GAL.                                       |
| <b>ITEM 605 AGGREGATE DRAINS</b>                     |  |
| 7 x 18 (AVE.)  | = 126.00 LIN. FT.   126.00 LIN. FT.                            |
| <b>ITEM 607 FENCE, TYPE CL</b>                       |  |
| (65 + 62)  | = 127.00 LIN. FT.   127.00 LIN. FT.                            |
| <b>ITEM 608 4" CONCRETE WALK</b>                     |  |
| 5.00 x 150 x 2                                       | = 1500.00 SQ. FT.   1770 SQ. FT.                               |
| ((5 + 4) ÷ 2) x 15.00 x 4                            | = 270.00 SQ. FT.   |
| <b>ITEM 609 CURB, TYPE 6</b>                         |  |
| 2 x 150  | = 300.00 LIN. FT.   300 LIN. FT.                               |
| <b>ITEM 614 TEMPORARY CENTER LINE, CLASS II</b>      |  |
| 790.0 ÷ 5280   | = 0.15 MILES   0.15 MILES (TO GEN. NOTES)                      |
| <b>ITEM 642 PAVEMENT MARKINGS</b>                    |  |
| CENTER LINE SOLID DOUBLE                             |  |
| 790.0 ÷ 5280   | = 0.15 MILES   0.15 MILES                                      |
| <b>ITEM 659 WATER</b>                                |  |
| 1411 x 9 x 120 x 2 ÷ 1000 ÷ 1000                     | = 3 M. GAL.   3 M. GAL.  |
|  | (TO GEN. NOTE)   |
| <b>ITEM 659 COMMERCIAL FERTILIZER</b>                |  |
| 1411 x 9 x 20 ÷ 1000 ÷ 2000                          | = 0.13 TON   0.13 TON  |
| <b>ITEM 659 AGRICULTURAL LIMING</b>                  |  |
| 1411 x 9 x 100 ÷ 1000 ÷ 2000                         | = 0.64 TON   0.64 TON  |
| <b>ITEM 660 SODDING</b>                              |  |
| 8 x 150 x 2 ÷ 9                                      | = 266.67 SQ. YD.   323 SQ. YD.                                 |
| ((8 + 9) ÷ 2) x 15 x 4 ÷ 9                           | = 56.67 SQ. YD.  |

| SHEET NUMBER           |   |   |   |   |   |   |   |   |    |    |     |  | ITEM    | ITEM EXT. | GRAND TOTAL | UNIT     | DESCRIPTION   | FOR AS PER PLAN REF. SEE SHEET NO. |
|------------------------|---|---|---|---|---|---|---|---|----|----|-----|--|---------|-----------|-------------|----------|---|------------------------------------|
| 1                      | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 11A |  |         |           |             |          |   |                                    |
| ROADWAY                |   |   |   |   |   |   |   |   |    |    |     |  |         |           |             |          |   |                                    |
| LUMP                   |   |   |   |   |   |   |   |   |    |    |     |  | 201     | 11000     | LUMP        |          | CLEARING AND GRUBBING   |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 202     | 11200     | LUMP        |          | PORTION OF STRUCTURE REMOVED  |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 202     | 23000     | 600         | SQ. YD.  | PAVEMENT REMOVED  |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 202     | 30000     | 1440        | SQ. FT.  | WALK REMOVED  |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 202     | 32000     | 300         | LIN. FT. | CURB REMOVED  |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 202     | 35100     | 231         | LIN. FT. | PIPE REMOVED 24" AND UNDER  |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 202     | 75000     | 60          | LIN. FT. | FENCE REMOVED   |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 203     | 11001     | 64          | CU. YD.  | EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION, AS PER PLAN   | 3/15 & 10/15                       |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 203     | 12000     | 271         | CU. YD.  | EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION  |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 203     | 20000     | 3377        | CU. YD.  | EMBANKMENT  |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 203     | 50000     | 600         | SQ. YD.  | SUBGRADE COMPACTION   |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 607     | 20000     | 127         | LIN. FT. | FENCE, TYPE CL  |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 608     | 10000     | 1770        | SQ. FT.  | 4" CONCRETE WALK  |                                    |
| EROSION CONTROL        |   |   |   |   |   |   |   |   |    |    |     |  |         |           |             |          |   |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 207     | 30000     | 200         | LIN. FT. | FILTER FABRIC FENCE   |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 207     | 70000     | 100         | EACH     | STRAW OR HAY BALES  |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 601     | 32204     | 3           | CU. YD.  | ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER  |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 659     | 10000     | 1411        | SQ. YD.  | SEEDING & MULCHING  |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 659     | 20000     | 0.13        | TON      | COMMERCIAL FERTILIZER   |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 659     | 30000     | 0.64        | TON      | AGRICULTURAL LIMING   |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 659     | 35000     | 3           | M. GAL.  | WATER   |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 660     | 30000     | 323         | SQ. YD.  | SODDING   |                                    |
| PAVEMENT               |   |   |   |   |   |   |   |   |    |    |     |  |         |           |             |          |   |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 254     | 01000     | 120         | SQ. YD.  | PAVEMENT PLANING, BITUMINOUS  |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 301     | 10002     | 406         | CU. YD.  | BITUMINOUS AGGREGATE BASE, AC-20  |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 304     | 20000     | 100         | CU. YD.  | AGGREGATE BASE  | 3/15                               |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 402     | 20000     | 29          | CU. YD.  | ASPHALT CONCRETE, AC-20   |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 404     | 20000     | 150         | CU. YD.  | ASPHALT CONCRETE, AC-20   |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 407     | 10000     | 364         | GAL.     | TACK COAT   |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 408     | 10000     | 240         | GAL.     | BITUMINOUS PRIME COAT   |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 452     | 10000     | 50          | SQ. YD.  | 6" PLAIN CONCRETE PAVEMENT  |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 609     | 26000     | 300         | LIN. FT. | CURB, TYPE 6  |                                    |
| DRAINAGE               |   |   |   |   |   |   |   |   |    |    |     |  |         |           |             |          |   |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 602     | 20000     | 1.10        | CU. YD.  | CONCRETE MASONRY  |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 603     | 08900     | 231         | LIN. FT. | 21" CONDUIT, TYPE B 706.02, D LOAD=2000,  |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 603     | 13200     | 189         | LIN. FT. | 30" CONDUIT, TYPE A 706.02, D LOAD=1750,  |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 604     | 04900     | 2           | EACH     | CATCH BASIN, NO. 2-3  |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 605     | 31100     | 126         | LIN. FT. | AGGREGATE DRAINS  |                                    |
| WATER WORK             |   |   |   |   |   |   |   |   |    |    |     |  |         |           |             |          |   |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 638     | 10800     | 4           | EACH     | VALVE BOX ADJUSTED TO GRADE   |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 638     | 98600     | 130         | LIN. FT. | 6" WATER MAIN DUCTILE IRON PIPE, WITH PUSH-ON JOINTS AND RETAINED MECHANICAL JOINT FITTINGS, ANSI CLASS 52  |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 638     | 98600     | 95          | LIN. FT. | 10" WATER MAIN DUCTILE IRON PIPE, WITH PUSH-ON JOINTS AND RETAINED MECHANICAL JOINT FITTINGS, ANSI CLASS 52 | Y-060                              |
| TRAFFIC CONTROL        |   |   |   |   |   |   |   |   |    |    |     |  |         |           |             |          |   |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 642     | 00302     | 1.15        | MILE     | CENTER LINE, TYPE 2   |                                    |
| MAINTENANCE OF TRAFFIC |   |   |   |   |   |   |   |   |    |    |     |  |         |           |             |          |   |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 404     | 35000     | 20          | CU. YD.  | BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC   |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 614     | 21400     | 0.15        | MILE     | TEMPORARY CENTER LINE, CLASS II   |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | SPECIAL | 61925000  | LUMP        |          | COMPUTER EQUIPMENT FOR TYPE A OFFICE (SEE PROPOSAL NOTE)  |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 614     | 11000     | LUMP        |          | MAINTAINING TRAFFIC   |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 619     | 15000     | LUMP        |          | FIELD OFFICE, TYPE A  |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 623     | 10000     | LUMP        |          | CONSTRUCTION LAYOUT STAKES  |                                    |
|                        |   |   |   |   |   |   |   |   |    |    |     |  | 624     | 10000     | LUMP        |          | MOBILIZATION  |                                    |