

## GRADING (LUMP SUM)

(THIS COMPUTATION SHEET APPLIES ONLY TO PROJECTS WHICH HAVE BEEN PREDETERMINED TO USE THIS PAY ITEM. SEE ROADWAY DESIGN MANUAL, PART I, 11-6)

| ITEM                                   | QUANTITIES        | UNIT            |
|--|-------------------|-----------------|
| CLEARING AND GRUBBING                  | <u>0.50</u>       | ACRES           |
| UNCLASSIFIED EXCAVATION                | <u>475</u>        | YD <sup>3</sup> |
| BORROW EXCAVATION                      | <u>420</u>        | YD <sup>3</sup> |
| SHOULDER BORROW                        | <u>          </u> | YD <sup>3</sup> |
| FINE GRADING                           | <u>2,030</u>      | YD <sup>2</sup> |
| REMOVAL OF EXISTING ASPHALT PAVEMENT   | <u>1,400</u>      | YD <sup>2</sup> |
| REMOVAL OF EXISTING CONCRETE PAVEMENT  | <u>          </u> | YD <sup>2</sup> |
| BREAKING OF EXISTING ASPHALT PAVEMENT  | <u>          </u> | YD <sup>2</sup> |
| BREAKING OF EXISTING CONCRETE PAVEMENT | <u>          </u> | YD <sup>2</sup> |

**The calculations and quantities they represent are ESTIMATES. Differences in the estimated quantities and actual quantities shall not be grounds for a claim or a change in unit price.**



```
Input File: R:\Roadway\GeoPak\Input\Earthwork_L.inp
Output File: Ear_L_updated.log
1 1 1
1 2 2
1 3 3 earthwork
1 4 4
1 5 5 /* >>> For English, set tolerance to 0.01 <<< */
1 6 6 Tolerance = 0.01
1 7 7
1 8 8 xs dgn = R:\roadway\Xsc\400096_rdy_xsc.dgn
1 9 9
1 10 10 proposed finish grade
1 11 11 soil type = a2
1 12 12 fill multiplication factor = 1.20
1 13 13 type = line
1 14 14 lvname = Prop XS Subgrade Earthwork, Prop XS Finish Grade Earthwork
1 15 15 lc = 0
1 16 16
1 17 17 existing ground line
1 18 18 soil type = a2
1 19 19 type = line,line_string
1 20 20 lvname = Exist XS Ground Line, Exist XS Void Line
1 21 21
1 22 22 write earthwork shapes
1 23 23 plot parameters
1 24 24 lvname = Prop XS Earthwork Shape
1 25 25 stratify shape color
1 26 26
1 27 27 process earthwork for baseline = L
1 28 28 job number = rdy
1 29 29 beginning station = 11+00.00
1 30 30 ending station = 18+50.00
1 31 31
1 32 32
1 33 33
0 0 34 END_OF_FILE
COMPUTING EARTHWORKS FOR BASELINE = L
COMPUTING EARTHWORKS FOR JOB = RDY
FORMING LIST OF XSCCELLS
BEGINNING EARTHWORKS COMPUTATION
```

| Station  | Material Name | End Areas<br>(sq. ft.) | Unadjusted<br>Volumes<br>(cu. yd.) | Adjusted<br>Volumes<br>(cu. yd.) | Mult<br>Factor | Mass<br>Ordinate |
|----------|---------------|------------------------|------------------------------------|----------------------------------|----------------|------------------|
| 11+00.00 | A2            |                        |                                    |                                  |                |                  |
|          | Common Exc    | 15.92                  | 0                                  | 0                                | 1.00           |                  |
|          | Subgrade Exc  | 0.00                   | 0                                  | 0                                | 1.00           |                  |
|          | Subsoil Exc   | 0.00                   | 0                                  | 0                                | 1.00           |                  |
|          | Fill          | 0.00                   | 0                                  | 0                                | 1.20           | 0                |
| 11+50.00 | A2            |                        |                                    |                                  |                |                  |
|          | Common Exc    | 37.93                  | 50                                 | 50                               | 1.00           |                  |
|          | Subgrade Exc  | 0.00                   | 0                                  | 0                                | 1.00           |                  |
|          | Subsoil Exc   | 0.00                   | 0                                  | 0                                | 1.00           |                  |
|          | Fill          | 6.92                   | 6                                  | 8                                | 1.20           | 42               |
| 12+00.00 | A2            |                        |                                    |                                  |                |                  |
|          | Common Exc    | 41.52                  | 74                                 | 74                               | 1.00           |                  |
|          | Subgrade Exc  | 0.00                   | 0                                  | 0                                | 1.00           |                  |
|          | Subsoil Exc   | 0.00                   | 0                                  | 0                                | 1.00           |                  |
|          | Fill          | 8.73                   | 14                                 | 17                               | 1.20           | 99               |
| 12+50.00 | A2            |                        |                                    |                                  |                |                  |
|          | Common Exc    | 34.07                  | 70                                 | 70                               | 1.00           |                  |
|          | Subgrade Exc  | 0.00                   | 0                                  | 0                                | 1.00           |                  |
|          | Subsoil Exc   | 0.00                   | 0                                  | 0                                | 1.00           |                  |
|          | Fill          | 6.33                   | 14                                 | 17                               | 1.20           | 152              |
| 13+00.00 | A2            |                        |                                    |                                  |                |                  |
|          | Common Exc    | 21.70                  | 52                                 | 52                               | 1.00           |                  |
|          | Subgrade Exc  | 0.00                   | 0                                  | 0                                | 1.00           |                  |
|          | Subsoil Exc   | 0.00                   | 0                                  | 0                                | 1.00           |                  |
|          | Fill          | 1.09                   | 7                                  | 8                                | 1.20           | 196              |
| 13+50.00 | A2            |                        |                                    |                                  |                |                  |
|          | Common Exc    | 20.64                  | 39                                 | 39                               | 1.00           |                  |
|          | Subgrade Exc  | 0.00                   | 0                                  | 0                                | 1.00           |                  |
|          | Subsoil Exc   | 0.00                   | 0                                  | 0                                | 1.00           |                  |
|          | Fill          | 2.14                   | 3                                  | 4                                | 1.20           | 231              |
| 14+00.00 | A2            |                        |                                    |                                  |                |                  |
|          | Common Exc    | 13.41                  | 32                                 | 32                               | 1.00           |                  |
|          | Subgrade Exc  | 0.00                   | 0                                  | 0                                | 1.00           |                  |
|          | Subsoil Exc   | 0.00                   | 0                                  | 0                                | 1.00           |                  |
|          | Fill          | 7.51                   | 9                                  | 11                               | 1.20           | 252              |
| 14+50.00 | A2            |                        |                                    |                                  |                |                  |
|          | Common Exc    | 6.61                   | 19                                 | 19                               | 1.00           |                  |
|          | Subgrade Exc  | 0.00                   | 0                                  | 0                                | 1.00           |                  |
|          | Subsoil Exc   | 0.00                   | 0                                  | 0                                | 1.00           |                  |
|          | Fill          | 18.86                  | 24                                 | 29                               | 1.20           | 242              |
| 15+00.00 | A2            |                        |                                    |                                  |                |                  |
|          | Common Exc    | 3.33                   | 9                                  | 9                                | 1.00           |                  |
|          | Subgrade Exc  | 0.00                   | 0                                  | 0                                | 1.00           |                  |
|          | Subsoil Exc   | 0.00                   | 0                                  | 0                                | 1.00           |                  |
|          | Fill          | 32.53                  | 48                                 | 57                               | 1.20           | 194              |
| 15+50.00 | A2            |                        |                                    |                                  |                |                  |
|          | Common Exc    | 14.03                  | 16                                 | 16                               | 1.00           |                  |
|          | Subgrade Exc  | 0.00                   | 0                                  | 0                                | 1.00           |                  |
|          | Subsoil Exc   | 0.00                   | 0                                  | 0                                | 1.00           |                  |
|          | Fill          | 17.09                  | 46                                 | 55                               | 1.20           | 155              |
| 16+00.00 | A2            |                        |                                    |                                  |                |                  |
|          | Common Exc    | 7.11                   | 20                                 | 20                               | 1.00           |                  |
|          | Subgrade Exc  | 0.00                   | 0                                  | 0                                | 1.00           |                  |
|          | Subsoil Exc   | 0.00                   | 0                                  | 0                                | 1.00           |                  |
|          | Fill          | 45.85                  | 58                                 | 70                               | 1.20           | 105              |
| 16+50.00 | A2            |                        |                                    |                                  |                |                  |

|          |              |       |     |     |      |      |
|----------|--------------|-------|-----|-----|------|------|
|          | Common Exc   | 0.00  | 7   | 7   | 1.00 |      |
|          | Subgrade Exc | 0.00  | 0   | 0   | 1.00 |      |
|          | Subsoil Exc  | 0.00  | 0   | 0   | 1.00 |      |
|          | Fill         | 84.58 | 121 | 145 | 1.20 | -33  |
| 17+00.00 | A2           |       |     |     |      |      |
|          | Common Exc   | 0.00  | 0   | 0   | 1.00 |      |
|          | Subgrade Exc | 0.00  | 0   | 0   | 1.00 |      |
|          | Subsoil Exc  | 0.00  | 0   | 0   | 1.00 |      |
|          | Fill         | 28.99 | 105 | 126 | 1.20 | -159 |
| 17+50.00 | A2           |       |     |     |      |      |
|          | Common Exc   | 0.00  | 0   | 0   | 1.00 |      |
|          | Subgrade Exc | 0.00  | 0   | 0   | 1.00 |      |
|          | Subsoil Exc  | 0.00  | 0   | 0   | 1.00 |      |
|          | Fill         | 55.77 | 78  | 94  | 1.20 | -253 |
| 18+00.00 | A2           |       |     |     |      |      |
|          | Common Exc   | 0.00  | 0   | 0   | 1.00 |      |
|          | Subgrade Exc | 0.00  | 0   | 0   | 1.00 |      |
|          | Subsoil Exc  | 0.00  | 0   | 0   | 1.00 |      |
|          | Fill         | 67.89 | 115 | 137 | 1.20 | -390 |
| 18+50.00 | A2           |       |     |     |      |      |
|          | Common Exc   | 40.93 | 38  | 38  | 1.00 |      |
|          | Subgrade Exc | 0.00  | 0   | 0   | 1.00 |      |
|          | Subsoil Exc  | 0.00  | 0   | 0   | 1.00 |      |
|          | Fill         | 0.00  | 63  | 75  | 1.20 | -427 |
| 18+65.17 | A2           |       |     |     |      |      |
|          | Common Exc   | 40.93 | 23  | 23  | 1.00 |      |
|          | Subgrade Exc | 0.00  | 0   | 0   | 1.00 |      |
|          | Subsoil Exc  | 0.00  | 0   | 0   | 1.00 |      |
|          | Fill         | 0.00  | 0   | 0   | 1.20 | -436 |

| Material Name | G R A N D S U M M A R Y            |                                  | T O T A L S    |  | SAY<br>(cu. ft.) |
|---------------|------------------------------------|----------------------------------|----------------|--|------------------|
|               | Unadjusted<br>Volumes<br>(cu. yd.) | Adjusted<br>Volumes<br>(cu. yd.) | Mult<br>Factor |  |                  |
| A2            |                                    |                                  |                |  |                  |
| Common Exc    | 449                                | 449                              | 1.00           |  | 475              |
| Subgrade Exc  | 0                                  | 0                                | 1.00           |  |                  |
| Subsoil Exc   | 0                                  | 0                                | 1.00           |  |                  |
| Fill          | 711                                | 853                              | 1.20           |  | 895              |
| Borow         |                                    |                                  |                |  | 420              |



