**STATE OF VERMONT**
**AGENCY OF TRANSPORTATION**

# EARTHWORKS

NOT Metric

| | | TOTAL EXCAVATION EARTH AND ROCK | | ROCK EXCAVATION | | EMBANKMENT | | | |
|---|---|---|---|---|---|---|---|---|---|
| STATION | DIST | AREA | VOLUME | AREA | VOLUME | AREA | VOLUME | AREA | VOLUME |
| km + m | m | $m^2$ | $m^3$ | $m^2$ | $m^3$ | $m^2$ | $m^3$ | $m^2$ | $m^3$ |
| **WORK PERFORMED BY VTrans** | | | | | | | | | |
| 30+091 | | 28.94 | | 0.00 | | | | | |
| | 9 | | 260.5 | | 0.0 | | | | |
| 30+100 | | 28.94 | | 0.00 | | | | | |
| | 10 | | 295.9 | | 0.0 | | | | |
| 30+110 | | 30.23 | | 0.00 | | | | | |
| | 10 | | 310.2 | | 0.0 | | | | |
| 30+120 | | 31.81 | | 0.00 | | | | | |
| | 10 | | 325.6 | | 0.0 | | | | |
| 30+130 | | 33.31 | | 0.00 | | | | | |
| | 10 | | 348.3 | | 0.0 | | | | |
| 30+140 | | 36.35 | | 0.00 | | | | | |
| | 10 | | 374.2 | | 0.0 | | | | |
| 30+150 | | 38.49 | | 0.00 | | | | | |
| | 10 | | 395.8 | | 0.0 | | | | |
| 30+160 | | 40.67 | | 0.00 | | | | | |
| | 10 | | 427.5 | | 0.0 | | | | |
| 30+170 | | 44.83 | | 0.00 | | | | | |
| | 10 | | 495.9 | | 0.0 | | | | |
| 30+180 | | 54.35 | | 0.00 | | | | | |
| | 10 | | 588.0 | | 0.0 | | | | |
| 30+190 | | 63.25 | | 0.00 | | | | | |
| | 10 | | 649.5 | | 0.0 | | | | |
| 30+200 | | 66.65 | | 0.00 | | | | | |
| | 10 | | 741.2 | | 0.0 | | | | |
| 30+210 | | 81.58 | | 0.00 | | | | | |
| | 10 | | 1049.4 | | 0.0 | | | | |
| 30+220 | | 128.30 | | 0.00 | | | | | |
| | 10 | | 1379.7 | | 20.2 | | | CUT | 11803 |
| 30+230 | | 147.63 | | 4.03 | | | | ROCK | 1028 |
| | 10 | | 1390.2 | | 168.4 | | | R.FAC | 0.495 |
| 30+240 | | 130.41 | | 29.64 | | | | FILL | 11 |
| | 10 | | 1472.7 | | 293.6 | | | F.FAC | 1.15 |
| 30+250 | | 164.12 | | 29.07 | | | | EX. C | 12299 |
| | 10 | | 1034.0 | | 340.3 | | | | |
| 30+260 | | 42.68 | | 38.98 | | | | | |
| | 10 | | 229.4 | | 200.4 | | | | |
| 30+270 | | 3.19 | | 1.10 | | | | | |
| | 10 | | 19.9 | | 5.5 | | | | |
| 30+280 | | 0.79 | | 0.00 | | 0 | | | |
| | 10 | | 5.4 | | 0.0 | | 0 | | |
| 30+290 | | 0.29 | | 0.00 | | 0 | | | |
| | 10 | | 1.4 | | 0.0 | | 1 | | |
| 30+300 | | 0.00 | | 0.00 | | 1 | | | |
| | 10 | | 0.0 | | 0.0 | | 2 | | |
| 30+310 | | 0.00 | | 0.00 | | 1 | | | |
| | 10 | | 0.0 | | 0.0 | | 2 | | |
| 30+320 | | 0.00 | | 0.00 | | 1 | | | |
| | 10 | | 0.0 | | 0.0 | | 2 | | |
| 30+330 | | 0.00 | | 0.00 | | 1 | | | |
| | 10 | | 4.4 | | 0.0 | | 2 | | |
| 30+340 | | 0.88 | | 0.00 | | 1 | | | |
| | 2 | | 1.6 | | 0.0 | | 0 | | |
| 30+342 | | 0.88 | | 0.00 | | 1 | | | |
| Station Eq. | | | | | | | | | |
| 20+340 | | 0.48 | | 0.00 | | 1 | | | |
| | 10 | | 2.4 | | 0.0 | | 2 | | |
| 20+350 | | 0.00 | | 0.00 | | 1 | | | |
| COLUMN TOTAL | | | 11803.0 | | 1028.0 | | 11 | | |

| | | TOTAL EXCAVATION EARTH AND ROCK | | ROCK EXCAVATION | | EMBANKMENT | | | |
|---|---|---|---|---|---|---|---|---|---|
| STATION | DIST | AREA | VOLUME | AREA | VOLUME | AREA | VOLUME | AREA | VOLUME |
| km + m | m | $m^2$ | $m^3$ | $m^2$ | $m^3$ | $m^2$ | $m^3$ | $m^2$ | $m^3$ |
| **WORK PERFORMED BY VTrans** | | | | | | | | | |
| DRIVE | | | | | | | | | |
| 30094.9 LT | | | 17.0 | | | | | | |
| DRIVE @ 30+330 LT | | | | | | | | | |
| 5+009 | | 0.00 | | 0.00 | | | | | |
| | 0 | | 0.0 | | 0.0 | | | | |
| 5+009 | | 0.00 | | 0.00 | | | | | |
| | 2 | | 0.0 | | 0.0 | | | | |
| 5+010 | | 0.00 | | 0.00 | | | | | |
| | 10 | | 0.0 | | 0.0 | | | | |
| 5+020 | | 0.00 | | 0.00 | | | | | |
| | 10 | | 0.0 | | 0.0 | | | | |
| 5+030 | | 0.00 | | 0.00 | | | | | |
| DRIVE @ 30+330 RT | | | | | | | | | |
| 6+000 | | 0.00 | | 0.00 | | | | | |
| | 10 | | 0.0 | | 0.0 | | | | |
| 6+010 | | 0.00 | | 0.00 | | | | | |
| | 0 | | 0.0 | | 0.0 | | | | |
| 6+010 | | 45.78 | | 38.04 | | | | | |
| | 10 | | 270.2 | | 194.8 | | | | |
| 6+020 | | 8.26 | | 0.91 | | | | | |
| | 10 | | 113.0 | | 4.6 | | | | |
| 6+030 | | 14.34 | | 0.00 | | | | | |
| | 8 | | 57.4 | | 0.0 | | | | |
| 6+038 | | 0 | | 0 | | | | | |
| COLUMN TOTAL | | | 457.6 | | 199.4 | | | | |
| CARRIED FORWARD | | | 11803.0 | | 1028.0 | | 11 | | |
| TOTAL | | | 12260.6 | | 1227.4 | | 11 | | |

| | | TOTAL EXCAVATION EARTH AND ROCK | | ROCK EXCAVATION | | EMBANKMENT | | | |
|---|---|---|---|---|---|---|---|---|---|
| STATION | DIST | AREA | VOLUME | AREA | VOLUME | AREA | VOLUME | AREA | VOLUME |
| km + m | m | $m^2$ | $m^3$ | $m^2$ | $m^3$ | $m^2$ | $m^3$ | $m^2$ | $m^3$ |
| **WORK PERFORMED BY NHDOT** | | | | | | | | | |
| 30+091 | | 0.00 | | 0.00 | | | | | |
| | 9 | | 0.0 | | 0.0 | | | | |
| 30+100 | | 0.00 | | 0.00 | | | | | |
| | 10 | | 0.0 | | 0.0 | | | | |
| 30+110 | | 0.00 | | 0.00 | | | | | |
| | 10 | | 0.0 | | 0.0 | | | | |
| 30+120 | | 0.00 | | 0.00 | | | | | |
| | 10 | | 0.0 | | 0.0 | | | | |
| 30+130 | | 0.00 | | 0.00 | | | | | |
| | 10 | | 0.0 | | 0.0 | | | | |
| 30+140 | | 0.00 | | 0.00 | | | | | |
| | 10 | | 0.0 | | 0.0 | | | | |
| 30+150 | | 0.00 | | 0.00 | | | | | |
| | 10 | | 0.0 | | 0.0 | | | | |
| 30+160 | | 0.00 | | 0.00 | | | | | |
| | 10 | | 0.0 | | 0.0 | | | | |
| 30+170 | | 0.00 | | 0.00 | | | | | |
| | 10 | | 0.0 | | 0.0 | | | | |
| 30+180 | | 0.00 | | 0.00 | | | | | |
| | 10 | | 0.0 | | 0.0 | | | | |
| 30+190 | | 0.00 | | 0.00 | | | | | |
| | 10 | | 0.0 | | 0.0 | | | | |
| 30+200 | | 0.00 | | 0.00 | | | | | |
| | 10 | | 0.0 | | 0.0 | | | | |
| 30+210 | | 0.00 | | 0.00 | | | | | |
| | 10 | | 0.0 | | 0.0 | | | | |
| 30+220 | | 0.00 | | 0.00 | | | | | |
| | 10 | | 0.0 | | 0.0 | | | CUT | 22532 |
| 30+230 | | 0.00 | | 0.00 | | | | ROCK | 12748 |
| | 10 | | 0.0 | | 0.0 | | | R.FAC | 0.495 |
| 30+240 | | 0.00 | | 0.00 | | | | FILL | 0 |
| | 10 | | 0.0 | | 0.0 | | | F.FAC | 1.15 |
| 30+250 | | 0.00 | | 0.00 | | | | EX. C | 28842 |
| | 10 | | 752.5 | | 254.4 | | | | |
| 30+260 | | 150.50 | | 50.87 | | | | | |
| | 10 | | 1939.2 | | 968.1 | | | | |
| 30+270 | | 237.33 | | 142.74 | | | | | |
| | 10 | | 2628.1 | | 1800.0 | | | | |
| 30+280 | | 288.29 | | 217.26 | | 0 | | | |
| | 10 | | 2985.4 | | 2186.6 | | 0 | | |
| 30+290 | | 308.78 | | 220.05 | | 0 | | | |
| | 10 | | 3089.4 | | 2067.5 | | 0 | | |
| 30+300 | | 309.09 | | 193.45 | | 0 | | | |
| | 10 | | 3161.4 | | 1834.5 | | 0 | | |
| 30+310 | | 323.18 | | 173.45 | | 0 | | | |
| | 10 | | 3174.0 | | 1559.7 | | 0 | | |
| 30+320 | | 311.61 | | 138.48 | | 0 | | | |
| | 10 | | 2816.7 | | 1192.7 | | 0 | | |
| 30+330 | | 251.73 | | 100.05 | | 0 | | | |
| | 10 | | 1630.4 | | 689.9 | | 0 | | |
| 30+340 | | 74.34 | | 37.93 | | 0 | | | |
| | 2 | | 138.3 | | 70.5 | | 0 | | |
| 30+342 | | 74.34 | | 37.93 | | 0 | | | |
| Station Eq. | | | | | | | | | |
| 20+340 | | 40.45 | | 24.72 | | 0 | | | |
| | 10 | | 216.8 | | 123.6 | | 0 | | |
| 20+350 | | 2.90 | | 0.00 | | 0 | | | |
| DRIVE @ 30+330 LT | | | | | | | | | |
| 5+009 | | 0.00 | | 0.00 | | | | | |
| | 0 | | 0.0 | | 0.0 | | | CUT | 184 |
| 5+009 | | 0.00 | | 0.00 | | | | ROCK | 14 |
| | 2 | | 2.0 | | 2.0 | | | R.FAC | 0.495 |
| 5+010 | | 2.45 | | 2.45 | | | | FILL | 0 |
| | 10 | | 97.0 | | 12.0 | | | F.FAC | 1.15 |
| 5+020 | | 16.92 | | 0.00 | | | | EX. C | 191 |
| | 10 | | 85.0 | | 0.0 | | | | |
| 5+030 | | 0.00 | | 0.00 | | | | | |
| COLUMN TOTAL | | | 22716.0 | | 12762.0 | | 0 | | |

## SUMMARY AND BALANCES

| STATION TO STATION | | TOT EXC. EARTH & ROCK | ROCK EXCAV | EMBANK | EXCESSES | | ACUMULATIVE EXCESSES | |
|---|---|---|---|---|---|---|---|---|
| km + m | km + m | $m^3$ | $m^3$ | $m^3$ | CUT | FILL | CUT | FILL |
| **WORK PERFORMED BY VTrans** | | | | | | | | |
| 30+091 | 20+350 | 11803 | 1028 | 11 | 12299 | | 12299 | |
| DRIVES | | 458 | 200 | | 557 | | 12856 | |
| Subtotal | | 12261 | 1228 | 11 | | | 12856 | |
| **WORK PERFORMED BY NHDOT** | | | | | | | | |
| 30+091 | 20+350 | 22532 | 12748 | | 28842 | | 41698 | |
| DRIVES | | 184 | 14 | | 191 | | 41889 | |
| Subtotal | | 22716 | 12762 | | | | | |
| TOTAL | | 34977 | 13990 | 11 | | | 41889 | |

## REMARKS

SEE RAILROAD EARTHWORKS SHEET FOR COMBINED REMARKS
EARTHWORKS DOES NOT INCLUDE WORK PERFORMED BY NHDOT

EARTH AND ROCK EXCAVATION
SOLID ROCK EXCAVATION
EARTH EXCAVATION

PLANIMETERED FILL
LESS FACTORED SOLID ROCK
LESS DISPLACEMENT OF ANY LARGE STRUCTURES
NET PLANIMETERED FILL
FACTOR
PLANIMETERED FILL INCLUDING FACTOR

MATERIALS AVAILABLE FOR FILLS
EARTH EXCAVATION
CHANNEL EXCAVATION (60%)
CHANNEL EXCAVATION ROCK (100%)
UNDERDRAIN EXCAVATION (60%)
STRUCTURE EXCAVATION (60%)

TOTAL MATERIAL AVAILABLE FOR FILL

TOTAL FILL INCLUDING FACTOR
TOTAL MATERIAL FOR FILL
BORROW
EXCESS EXCAVATION

PROJECT NAME: **BRATTLEBORO**
PROJECT NUMBER: **NH 010-2(2)**

FILE NAME: **EARTHWORK.xls**
PROJECT LEADER: **W HUSBAND**
DESIGNED BY: **P SHEDD**
**EARTHWORK SHEET #1**

PLOT DATE: **1/21/2002**
DRAWN BY: **P SHEDD**
CHECKED BY: **J WARNER**
SHEET **21** OF **145**