



Volumen movimiento de tierras
 Acceso Centro Norte Quito (parte Boussingault)

| Estación | Área (m ²) | | Volumen (m ³) | | Volumen acumulado (m ³) | | Balance (m ³) |
|------------|------------------------|---------|---------------------------|-----------|-------------------------------------|------------|---------------------------|
| | Corte | Relevo | Corte | Relevo | Corte | Relevo | |
| 0+000.000 | 3.850 | 2.300 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 0+020.000 | 3.860 | 1.750 | 19.275 | 12.150 | 19.275 | 12.150 | 7.125 |
| 0+040.000 | 4.030 | 0.750 | 18.725 | 7.500 | 38.000 | 19.650 | 18.350 |
| 0+060.000 | 4.410 | 0.580 | 21.100 | 3.990 | 60.100 | 23.640 | 36.460 |
| 0+080.000 | 4.790 | 0.480 | 23.000 | 3.180 | 83.100 | 26.820 | 56.280 |
| 0+100.000 | 4.910 | 0.210 | 24.000 | 2.070 | 107.100 | 28.890 | 78.210 |
| 0+120.000 | 4.970 | 0.120 | 23.400 | 0.990 | 130.500 | 29.880 | 100.620 |
| 0+140.000 | 4.320 | 0.500 | 11.806 | 0.988 | 142.356 | 30.868 | 111.488 |
| 0+160.000 | 4.480 | 0.210 | 10.314 | 0.999 | 152.670 | 31.867 | 120.803 |
| 0+180.000 | 5.840 | 0.470 | 25.800 | 2.040 | 178.470 | 33.907 | 144.563 |
| 0+200.000 | 7.400 | 2.470 | 33.300 | 8.820 | 211.770 | 42.727 | 169.043 |
| 0+220.000 | 7.440 | 2.940 | 2.768 | 1.211 | 214.537 | 43.937 | 170.600 |
| 0+240.000 | 7.830 | 7.180 | 35.327 | 28.055 | 249.864 | 72.032 | 177.832 |
| 0+260.000 | 8.780 | 14.050 | 41.525 | 62.690 | 291.389 | 135.722 | 155.667 |
| 0+280.000 | 8.320 | 20.280 | 26.420 | 63.611 | 317.809 | 199.333 | 118.476 |
| 0+300.000 | 8.570 | 17.140 | 16.180 | 42.860 | 333.989 | 242.194 | 91.795 |
| 0+320.000 | 8.550 | 8.710 | 45.800 | 77.550 | 379.089 | 319.744 | 59.345 |
| 0+340.000 | 12.380 | 1.440 | 54.825 | 30.450 | 433.914 | 350.194 | 83.720 |
| 0+360.000 | 16.780 | 0.000 | 70.350 | 4.320 | 504.264 | 354.514 | 149.750 |
| 0+380.000 | 18.910 | 0.000 | 86.675 | 0.000 | 590.889 | 354.514 | 236.375 |
| 0+400.000 | 11.540 | 0.000 | 76.125 | 3.240 | 667.014 | 357.754 | 309.260 |
| 0+420.000 | 0.000 | 28.250 | 28.850 | 81.990 | 695.864 | 439.744 | 256.120 |
| 0+440.000 | 0.000 | 37.480 | 0.000 | 47.576 | 695.864 | 487.320 | 208.544 |
| 0+460.000 | 0.000 | 83.110 | 0.000 | 271.794 | 695.864 | 759.114 | -63.250 |
| 0+480.000 | 0.000 | 169.090 | 0.000 | 736.600 | 695.864 | 1.495.714 | -801.850 |
| 0+500.000 | 0.000 | 248.310 | 0.000 | 1.234.200 | 695.864 | 2.730.000 | -2.034.136 |
| 0+520.000 | 0.000 | 248.370 | 0.000 | 1.484.040 | 695.864 | 4.214.040 | -3.520.180 |
| 0+540.000 | 0.000 | 228.740 | 0.000 | 1.425.330 | 695.864 | 5.641.270 | -4.945.410 |
| 0+560.000 | 0.000 | 208.380 | 0.000 | 1.811.360 | 695.864 | 6.952.630 | -6.256.770 |
| 0+580.000 | 0.000 | 190.890 | 0.000 | 1.053.515 | 695.864 | 8.006.145 | -7.310.284 |
| 0+600.000 | 0.000 | 187.220 | 0.000 | 136.562 | 695.864 | 8.142.710 | -7.446.847 |
| 0+620.000 | 0.000 | 168.810 | 0.000 | 1.070.490 | 695.864 | 9.213.200 | -8.517.337 |
| 0+640.000 | 0.000 | 148.310 | 0.000 | 956.760 | 695.864 | 10.169.960 | -9.474.097 |
| 0+660.000 | 0.000 | 128.400 | 0.000 | 888.130 | 695.864 | 11.058.090 | -10.367.227 |
| 0+680.000 | 0.000 | 111.030 | 0.000 | 718.290 | 695.864 | 11.776.380 | -11.075.517 |
| 0+700.000 | 0.000 | 91.390 | 0.000 | 607.260 | 695.864 | 12.383.640 | -11.682.777 |
| 0+720.000 | 0.000 | 73.340 | 0.000 | 489.890 | 695.864 | 12.873.530 | -12.183.667 |
| 0+740.000 | 0.000 | 59.470 | 0.000 | 398.130 | 695.864 | 13.271.660 | -12.574.797 |
| 0+760.000 | 0.000 | 45.430 | 0.000 | 314.700 | 695.864 | 13.586.360 | -12.889.497 |
| 0+780.000 | 0.000 | 31.190 | 0.000 | 229.740 | 695.864 | 13.816.100 | -13.089.237 |
| 0+800.000 | 0.000 | 19.890 | 0.000 | 159.120 | 695.864 | 13.975.220 | -13.272.357 |
| 0+820.000 | 0.000 | 9.920 | 0.000 | 86.730 | 695.864 | 14.061.950 | -13.366.087 |
| 0+840.000 | 2.280 | 1.820 | 5.050 | 32.520 | 701.514 | 14.094.470 | -13.395.957 |
| 0+860.000 | 7.790 | 0.000 | 25.125 | 5.460 | 726.639 | 14.042.930 | -13.316.292 |
| 0+880.000 | 13.700 | 0.000 | 53.725 | 0.000 | 780.364 | 14.042.930 | -13.262.567 |
| 0+900.000 | 20.190 | 0.000 | 84.725 | 0.000 | 865.089 | 14.042.930 | -13.177.842 |
| 0+920.000 | 24.300 | 0.000 | 111.225 | 0.000 | 976.314 | 14.042.930 | -13.066.617 |
| 0+940.000 | 27.480 | 0.000 | 129.450 | 0.000 | 1.105.764 | 14.042.930 | -12.937.167 |
| 0+960.000 | 29.040 | 0.000 | 141.300 | 0.000 | 1.247.064 | 14.042.930 | -12.795.867 |
| 0+980.000 | 29.420 | 0.000 | 81.766 | 0.000 | 1.280.890 | 14.042.930 | -12.742.100 |
| 0+1000.000 | 29.820 | 0.000 | 114.190 | 0.000 | 1.394.991 | 14.042.930 | -12.648.009 |
| 0+1020.000 | 29.420 | 0.000 | 148.350 | 0.000 | 1.543.341 | 14.042.930 | -12.499.659 |
| 0+1040.000 | 28.850 | 0.000 | 145.075 | 0.000 | 1.688.416 | 14.042.930 | -12.353.975 |
| 0+1060.000 | 27.340 | 0.000 | 140.475 | 0.000 | 1.829.431 | 14.042.930 | -12.213.500 |
| 0+1080.000 | 24.290 | 0.000 | 129.075 | 0.000 | 1.958.506 | 14.042.930 | -12.084.425 |
| 0+1100.000 | 20.170 | 0.000 | 111.150 | 0.000 | 2.069.656 | 14.042.930 | -11.973.275 |
| 0+1120.000 | 16.820 | 0.000 | 91.975 | 0.000 | 2.161.631 | 14.042.930 | -11.881.300 |
| 0+1140.000 | 15.900 | 0.000 | 13.138 | 0.000 | 2.174.769 | 14.042.930 | -11.868.162 |
| 0+1160.000 | 13.390 | 0.000 | 61.329 | 0.000 | 2.236.098 | 14.042.930 | -11.806.833 |
| 0+1180.000 | 8.780 | 0.000 | 57.056 | 0.000 | 2.293.154 | 14.042.930 | -11.746.183 |
| 0+1200.000 | 7.850 | 0.000 | 43.875 | 0.270 | 2.337.029 | 14.043.200 | -11.705.178 |
| 0+1220.000 | 14.600 | 0.000 | 56.125 | 0.270 | 2.393.154 | 14.043.470 | -11.649.723 |
| 0+1240.000 | 24.630 | 0.000 | 98.075 | 0.000 | 2.491.229 | 14.043.470 | -11.551.648 |
| 0+1260.000 | 38.850 | 0.000 | 158.700 | 0.000 | 2.650.029 | 14.043.470 | -11.392.948 |
| 0+1280.000 | 31.490 | 0.000 | 175.850 | 0.000 | 2.826.879 | 14.043.470 | -11.217.098 |
| 0+1300.000 | 30.550 | 0.000 | 14.331 | 0.000 | 2.841.210 | 14.043.470 | -11.202.766 |

Diferencia volumen movimiento de tierras por relleno adicional
 Acceso Centro Norte Quito (parte Boussingault)

| Estación | Diferencia volumen relleno (m ³) | |
|------------|--|-----------|
| | Parcial | Acumulado |
| 0+000.000 | - | - |
| 0+020.000 | 9.90 | 9.90 |
| 0+040.000 | 25.97 | 35.87 |
| 0+060.000 | 53.82 | 89.69 |
| 0+080.000 | 81.38 | 171.07 |
| 0+100.000 | 105.44 | 276.51 |
| 0+120.000 | 131.29 | 407.80 |
| 0+140.000 | 151.65 | 559.45 |
| 0+160.000 | 167.47 | 726.92 |
| 0+180.000 | 176.25 | 903.17 |
| 0+200.000 | 197.18 | 1.100.35 |
| 0+220.000 | 15.64 | 1.116.00 |
| 0+240.000 | 201.31 | 1.317.31 |
| 0+260.000 | 239.09 | 1.556.40 |
| 0+280.000 | 165.82 | 1.722.22 |
| 0+300.000 | 108.59 | 1.830.81 |
| 0+320.000 | 277.23 | 2.108.04 |
| 0+340.000 | 247.67 | 2.355.71 |
| 0+360.000 | 173.78 | 2.529.47 |
| 0+380.000 | 80.39 | 2.609.86 |
| 0+400.000 | 51.02 | 2.660.88 |
| 0+420.000 | 101.46 | 2.762.34 |
| 0+440.000 | 48.65 | 2.810.99 |
| 0+460.000 | 118.13 | 2.929.12 |
| 0+480.000 | 216.97 | 3.146.09 |
| 0+500.000 | 249.65 | 3.395.74 |
| 0+520.000 | 266.21 | 3.661.95 |
| 0+540.000 | 288.62 | 3.950.57 |
| 0+560.000 | 308.48 | 4.259.05 |
| 0+580.000 | 318.98 | 4.578.03 |
| 0+600.000 | 8.56 | 4.586.59 |
| 0+620.000 | 300.92 | 4.887.51 |
| 0+640.000 | 301.06 | 5.188.57 |
| 0+660.000 | 319.64 | 5.508.21 |
| 0+680.000 | 337.89 | 5.846.10 |
| 0+700.000 | 345.11 | 6.191.21 |
| 0+720.000 | 347.23 | 6.538.44 |
| 0+740.000 | 336.67 | 6.875.11 |
| 0+760.000 | 305.75 | 7.180.86 |
| 0+780.000 | 262.18 | 7.443.04 |
| 0+800.000 | 208.00 | 7.651.04 |
| 0+820.000 | 114.51 | 7.765.55 |
| 0+840.000 | 43.59 | 7.809.14 |
| 0+860.000 | 19.21 | 7.828.35 |
| 0+880.000 | 2.54 | 7.830.89 |
| 0+900.000 | 0.40 | 7.831.29 |
| 0+920.000 | - | 7.831.29 |
| 0+940.000 | - | 7.831.29 |
| 0+960.000 | - | 7.831.29 |
| 0+980.000 | - | 7.831.29 |
| 0+1000.000 | - | 7.831.29 |
| 0+1020.000 | - | 7.831.29 |
| 0+1040.000 | - | 7.831.29 |
| 0+1060.000 | - | 7.831.29 |
| 0+1080.000 | - | 7.831.29 |
| 0+1100.000 | - | 7.831.29 |
| 0+1120.000 | 0.23 | 7.831.52 |
| 0+1140.000 | 0.88 | 7.832.40 |
| 0+1160.000 | 1.02 | 7.833.42 |
| 0+1180.000 | - | 7.833.42 |
| 0+1200.000 | 0.30 | 7.833.72 |
| 0+1220.000 | 0.66 | 7.834.38 |
| 0+1240.000 | 1.85 | 7.836.23 |
| 0+1260.000 | 1.98 | 7.838.21 |
| 0+1280.000 | 1.75 | 7.839.96 |
| 0+1300.000 | 1.20 | 7.841.16 |



ELABORADO POR: ING. RODRIGO DEL SALTO
 REVISADO POR: ING. MIGUEL CEVALLOS
 APROBADO POR: LI JINGYU
 INGENIERO GENERAL

PROYECTO: ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCIÓN DEL PUENTE GUAYASAMÍN

UBICACIÓN: Av. Interoceánica y Calle Juan Boussingault
 CONTENIDO: SECCIONES INTERCONEXIÓN CALLE BOUSSINGAULT KM 0+214.155 – KM 0+280.365

ESCALAS: INDICADAS
 ARCHIVO DIGITAL: ACAD-ACNQ_02 Planos CB (3C).dwg
 FECHAS: MARZO-2016
 DIBUJO: ING. FERNANDO ANDRADE