

MUNICÍPIO: **SÃO FELIX DE MINAS – MG**

OBRA: **PAVIMENTAÇÃO EM TST NO TRECHO 2 DA ESTRADA DE SÃO FELIX DE MINAS A SÃO JOSÉ DO DIVINO**

LOCAL: **ESTRADA SÃO FELIX DE MINAS/SÃO JOSÉ DO DIVINO - ZONA RURAL - SÃO FELIX DE MINAS/MG**

MEMÓRIA DE CÁLCULO COMPLEMENTAR

PAVIMENTAÇÃO EM TST EM TRECHO 2 DA ESTRADA DE SÃO FELIX DE MINAS A SÃO JOSÉ DO DIVINO

Item 2.1 - Regularização do subleito - 100% Proctor intermediário

Lado direito

36,51+41,61+55,12+39,56+26,70+14,35+7,56+6,53+24,82+35,25+6,56+7,74+36,91+37,32+66,46+42,59+38,38+9,52+39,97+64,39+34,63+40,14+70,92+22,59+13,11+71,77+48,11+43,77+79,28+13,06+58,45+47,51+28,26+72,11+8,30+89,23+136,10+40,71+9,59+9,50+10,46+15,73+7,04+58,56+7,47+8,49+37,59+5,72+23,19+7,11+63,61+9,21+19,91+45,33+57,12+51,04+8,66+79,59+5,80+8,03+6,31+29,62+5,87+56,88+8,19+40,29+111,45+85,19+25,42+41,84+6,79+55,09+38,05+18,49+11,25+2,33+70,29+136,62+79,35+61,61+48,67= 3.044,25m

Lado esquerdo

36,95+42,03+54,96+39,68+27,29+14,77+8,53+9,05+25,37+35,26+13,54+35,03+22,59+13,14+66,56+43,95+39,69+10,48+39,70+64,67+36,78+40,30+70,30+24,34+14,82+71,73+46,56+41,70+78,64+13,06+55,38+45,78+30,33+74,60+6,82+88,83+136,34+41,18+9,59+22,26+14,38+7,41+59,41+10,51+5,21+37,87+5,72+23,97+7,11+63,61+9,21+20,36+46,72+58,84+51,90+8,70+80,74+5,86+7,60+6,31+29,22+5,86+57,96+8,94+37,68+110,78+84,15+24,26+41,84+5,65+56,87+39,46+19,36+11,25+2,96+70,89+135,47+78,43+60,04+47,02= 3.052,11m

Total = $((3.044,25+3.052,11)/2)*8,46 \Rightarrow 25.787,60 \text{ m}^2$

Alteração de largura

$((5,33+6,68)/2)*((8,46+6,10)/2) + ((4,54+3,97)/2)*((6,05+8,46)/2) = 74,59 \text{ m}^2$

Total $\Rightarrow 25.787,60 + 74,59 = 25.862,19 \text{ m}^2$

Item 3.3 - Imprimação com emulsão asfáltica

Lado direito

36,51+41,61+55,12+39,56+26,70+14,35+7,56+6,53+24,82+35,25+6,56+7,74+36,91+37,32+66,46+42,59+38,38+9,52+39,97+64,39+34,63+40,14+70,92+22,59+13,11+71,77+48,11+43,77+79,28+13,06+58,45+47,51+28,26+72,11+8,30+89,23+136,10+40,71+9,59+9,50+10,46+15,73+7,04+58,56+7,47+8,49+37,59+5,72+23,19+7,11+63,61+9,21+19,91+45,33+57,12+51,04+8,66+79,59+5,80+8,03+6,31+29,62+5,87+56,88+8,19+40,29+111,45+85,19+25,42+41,84+6,79+55,09+38,05+18,49+11,25+2,33+70,29+136,62+79,35+61,61+48,67= 3.044,25m

Lado esquerdo

36,95+42,03+54,96+39,68+27,29+14,77+8,53+9,05+25,37+35,26+13,54+35,03+22,59+13,14+66,56+43,95+39,69+10,48+39,70+64,67+36,78+40,30+70,30+24,34+14,82+71,73+46,56+41,70+78,64+13,06+55,38+45,78+30,33+74,60+6,82+88,83+136,34+41,18+9,59+22,26+14,38+7,41+59,41+10,51+5,21+37,87+5,72+23,97+7,11+63,61+9,21+20,36+

46,72+58,84+51,90+8,70+80,74+5,86+7,60+6,31+29,22+5,86+57,96+8,94+37,68+110,7
8+84,15+24,26+41,84+5,65+56,87+39,46+19,36+11,25+2,96+70,89+135,47+78,43+60,
04+47,02= 3.052,11m

Total = $((3.044,25+3.052,11)/2)*7,00 \Rightarrow 21.337,26 \text{ m}^2$

Alteração de largura

$((5,33+6,68)/2)*((7,00+4,64)/2) + (((4,54+3,97)/2)*((4,59+7,00)/2)) = 59,61 \text{ m}^2$

Total $\Rightarrow 21.337,26 + 59,61 = 21.396,87 \text{ m}^2$

Item 3.7 - Tratamento superficial triplo com emulsão - brita comercial

Lado direito

36,51+41,61+55,12+39,56+26,70+14,35+7,56+6,53+24,82+35,25+6,56+7,74+36,91+37,
32+66,46+42,59+38,38+9,52+39,97+64,39+34,63+40,14+70,92+22,59+13,11+71,77+48
,11+43,77+79,28+13,06+58,45+47,51+28,26+72,11+8,30+89,23+136,10+40,71+9,59+9,
50+10,46+15,73+7,04+58,56+7,47+8,49+37,59+5,72+23,19+7,11+63,61+9,21+19,91+4
5,33+57,12+51,04+8,66+79,59+5,80+8,03+6,31+29,62+5,87+56,88+8,19+40,29+111,45
+85,19+25,42+41,84+6,79+55,09+38,05+18,49+11,25+2,33+70,29+136,62+79,35+61,6
1+48,67= 3.044,25m

Lado esquerdo

36,95+42,03+54,96+39,68+27,29+14,77+8,53+9,05+25,37+35,26+13,54+35,03+22,59+
13,14+66,56+43,95+39,69+10,48+39,70+64,67+36,78+40,30+70,30+24,34+14,82+71,7
3+46,56+41,70+78,64+13,06+55,38+45,78+30,33+74,60+6,82+88,83+136,34+41,18+9,
59+22,26+14,38+7,41+59,41+10,51+5,21+37,87+5,72+23,97+7,11+63,61+9,21+20,36+
46,72+58,84+51,90+8,70+80,74+5,86+7,60+6,31+29,22+5,86+57,96+8,94+37,68+110,7
8+84,15+24,26+41,84+5,65+56,87+39,46+19,36+11,25+2,96+70,89+135,47+78,43+60,
04+47,02= 3.052,11m

Total = $((3.044,25+3.052,11)/2)*7,00 \Rightarrow 21.337,26 \text{ m}^2$

Alteração de largura

$((5,33+6,68)/2)*((7,00+4,64)/2) + (((4,54+3,97)/2)*((4,59+7,00)/2)) = 59,61 \text{ m}^2$

Total $\Rightarrow 21.337,26 + 59,61 = 21.396,87 \text{ m}^2$

Item 4.1 - Sarjeta triangular de concreto - STC 73-15 - escavação mecânica - areia e brita comerciais

Lado direito

36,51+41,61+55,12+39,56+26,70+14,35+7,56+6,53+24,82+5,33+4,54+35,25+6,56+7,74
+36,91+37,32+66,46+42,59+38,38+9,52+39,97+64,39+34,63+40,14+70,92+22,59+13,1
1+71,77+48,11+43,77+79,28+13,06+58,45+47,51+28,26+72,11+8,30+89,23+136,10+40
,71+9,59+9,50+10,46+15,73+7,04+58,56+7,47+8,49+37,59+5,72+23,19+7,11+63,61+9,
21+19,91+45,33+57,12+51,04+8,66+79,59+5,80+8,03+6,31+29,62+5,87+56,88+8,19+4
0,29+111,45+85,19+25,42+41,84+6,79+55,09+38,05+18,49+11,25+2,33+70,29+136,62
+79,35+61,61+48,67 = 3.054,12m

Lado esquerdo

36,95+42,03+54,96+39,68+27,29+14,77+8,53+9,05+25,37+6,68+3,97+35,26+13,54+35,
03+22,59+13,14+66,56+43,95+24,34+14,82+71,73+46,56+41,70+78,64+30,33+74,60+1
36,34+41,18+23,97+7,11+63,61+9,21+20,36+46,72+58,84+51,90+8,70+80,74+5,86+7,6
0+6,31+29,22+5,86+57,96+8,94+37,68+110,78+84,15+24,26+41,84+5,65+56,87+39,46
+19,36+11,25+2,96+70,89+135,47+78,43+60,04+47,02= 2.378,61m

Total = (3.054,12+2.378,61) => 5.432,73 m

Item 5.1 - Pintura de faixa com tinta acrílica - espessura de 0,6 mm

Lado direito = 3.044,25m

Lado esquerdo = 3.052,11m

Média = 3.044,25 + 3.052,11= 6.096,36m

$((5,33+6,68)/2) + ((4,54+3,97)/2) = 10,27m$

Total=> 6.096,36+10,27 = 6.106,63/2 => 3.053,32 * 4 *0,10= 1.221,33 m

São Felix de Minas/MG, 26 de junho de 2026.

LUIZ PAULO DE CARVALHO
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Luiz Paulo de Carvalho Lopes
Eng. Civil
CREA-MG: 133.888/D

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Marcos Alexandre Gonçalves Sordine
Prefeito Municipal