

MEMORIAL DE QUANTITATIVOS REVITALIZAÇÃO RUA MONSENHOR SCALABRINI

OBRA: Execução de Pavimentação, Calçadas, Canteiros, Contenção, Sinalização e Rampas de Acessibilidade na Rua Monsenhor Scalabrini.

ÁREA: 7.798,62 m²

PROPRIETÁRIO: Município de Guaporé - RS

LOCAL: Rua Monsenhor Scalabrini, Trecho compreendido entre a Avenida Silvio Sanson e a Rua José Bonifácio

CONTRATO DE REPASSE Nº: 890645/2019 – Ministério do Desenvolvimento Regional

OBSERVAÇÕES: Todas as áreas e medidas foram obtidas diretamente no software AutoCAD, por meio de poli linhas traçadas no projeto.

O Trecho denominado como Trecho 01 é compreendido entre a Avenida Silvio Sanson e a Rua Manoel Francisco Guerreiro.

O Trecho denominado como Trecho 02 é compreendido entre a Rua Manoel Francisco Guerreiro e a Rua Dr. Júlio Campos.

O Trecho Denominado como Trecho 03 é compreendido entre a Rua Dr. Júlio Campos e a Rua José Bonifácio.

1. SERVIÇOS INICIAIS

PLACA DE OBRA: Dimensões da Placa 2,40m x 1,20m = **2,88m²**

ENGENHEIRO CIVIL PLENO: 2 horas semanais (4 meses=16 semanas) = **32 horas**

2. RETIRADAS E DEMOLIÇÕES

2.1. REMOÇÃO PAVIMENTO BASÁLTICO PARALELEPÍPEDO (INCLUINDO RETIRADAS PARA ABERTURA DAS VALAS DE DRENAGEM)

Trecho 01 (somente Esquina) = 29,23m²

Trecho 02: 594,02m²

Trecho 03: 631,73m²

Total Trecho 01 e 02: 29,23m² + 594,02m² = 623,25m²

Total Trecho 03: 631,73m²

Total Retirada de Paralelepípedo: 1.254,98m²

2.2. REMOÇÃO DE PASSEIO PÚBLICO

Canteiros Existentes Lado Oeste Trecho 02: $1,74\text{m}^2 + 1,96\text{m}^2 + 1,68\text{m}^2 + 1,65\text{m}^2 + 0,50\text{m}^2 + 0,43\text{m}^2 + 0,22\text{m}^2 + 2,43\text{m}^2 + 1,20\text{m}^2 = \mathbf{11,81\text{m}^2}$

Canteiros Existentes Lado Oeste Trecho 03: $0,72\text{m}^2 + 0,81\text{m}^2 + 0,76\text{m}^2 + 1,37\text{m}^2 + 1,40\text{m}^2 + 1,43\text{m}^2 + 1,84\text{m}^2 + 0,49\text{m}^2 + 0,36\text{m}^2 = \mathbf{9,18\text{m}^2}$

Canteiros Existentes Lado Leste Trecho 02: $0,95\text{m}^2 + 1,78\text{m}^2 + 2,73\text{m}^2 + 2,0\text{m}^2 + 2,0\text{m}^2 + 2,64\text{m}^2 + 1,15\text{m}^2 + 1,96\text{m}^2 + 1,96\text{m}^2 + 1,37\text{m}^2 + 0,23\text{m}^2 + 0,81\text{m}^2 + 2,70\text{m}^2 = \mathbf{22,28\text{m}^2}$

Canteiros Existentes Lado Leste Trecho 03: $0,25\text{m}^2 + 0,68\text{m}^2 + 0,57\text{m}^2 + 0,36\text{m}^2 + 0,30\text{m}^2 + 1,17\text{m}^2 + 2,42\text{m}^2 + 0,70\text{m}^2 + 0,95\text{m}^2 + 0,95\text{m}^2 + 1,0\text{m}^2 = \mathbf{9,35\text{m}^2}$

Total Canteiros Existentes Trecho 02: $\mathbf{34,09\text{m}^2}$

Total Canteiros Existentes Trecho 03: $\mathbf{18,53\text{m}^2}$

Canteiros Novos Lado Oeste Trecho 02 = $(5 \times (1,60\text{m} \times 2,10\text{m})) + (3 \times (1,46\text{m} \times 2,10\text{m})) + (2 \times (1,47\text{m} \times 2,10\text{m})) + (2 \times (1,48\text{m} \times 2,10\text{m})) = \mathbf{38,41\text{m}^2}$

Canteiros Novos Lado Oeste Trecho 03 = $1,21\text{m} \times 2,10\text{m} + 1,24\text{m} \times 2,10\text{m} + (2 \times (1,25\text{m} \times 2,10\text{m})) + (2 \times (1,27\text{m} \times 2,10\text{m})) + (2 \times (1,23\text{m} \times 2,10\text{m})) + 1,22\text{m} \times 2,10\text{m} = \mathbf{23,46\text{m}^2}$

Calçadas Trecho 01: $14,60\text{m}^2$ (praça) + $14,61\text{m}^2$ (esquina) = $\mathbf{29,21\text{m}^2}$

Calçadas Trecho 02: $28,61\text{m}^2 + 222,04\text{m}^2 = \mathbf{250,65\text{m}^2}$

Calçadas Trecho 03: $29,33\text{m}^2 + 222,02\text{m}^2 = \mathbf{251,32\text{m}^2}$

Piso Tátil Lado Oeste Trecho 02 = $\mathbf{43,57\text{m}^2}$

Piso Tátil Lado Oeste Trecho 03 = $\mathbf{44,07\text{m}^2}$

Piso Tátil Lado Leste Trecho 02 = $\mathbf{42,92\text{m}^2}$

Piso Tátil Lado Leste Trecho 03 = $\mathbf{44,62\text{m}^2}$

Total Trecho 01 e 02: $38,41\text{m}^2 + 29,21\text{m}^2 + 250,65\text{m}^2 + 43,57\text{m}^2 + 42,92\text{m}^2 - 34,09\text{m}^2 = \mathbf{370,67\text{m}^2}$

Total Trecho 03: $23,46\text{m}^2 + 251,32\text{m}^2 + 44,07\text{m}^2 + 44,62\text{m}^2 - 18,53\text{m}^2 = \mathbf{344,94\text{m}^2}$

Total Remoção de Passeio Público: $\mathbf{715,61\text{m}^2}$

2.3. REMOÇÃO E DEMOLIÇÃO CONCRETO OU PEDRAS CANTEIROS

Rua Lado Oeste Trecho 02: $5,30\text{m} + 5,60\text{m} + 5,20\text{m} + 5,20\text{m} + 6,30\text{m} = 27,60\text{m} \times 0,10\text{m} \times 0,15\text{m} = \mathbf{0,41\text{m}^3}$

Rua Lado Oeste Trecho 03: $\mathbf{0,00\text{m}^2}$ (Nenhum canteiro com proteção)

Rua Lado Leste Trecho 02: $4,30m + 5,60m + 5,60m + 4,70m + 6,80m = 27,00m \times 0,10m \times 0,15m = 0,40m^3$

Rua Lado Leste Trecho 03: $3,10m + 4,40m + 6,70m + 3,40m + 3,90m = 21,50m \times 0,10m \times 0,15m = 0,32m^3$

(Esquina Natu Pexie): $4,00m + 3,90m = 7,90m \times 0,10m \times 0,07m = 0,06m^3$

Canteiro Centrais Trecho 02: $21,14m + 12,75m + 16,54m + 12,54m = 62,97m \times 0,10m \times 0,15m = 0,94m^3$

Canteiro Centrais Trecho 03: $12,74m + 12,94m + 15,14m + 12,94m = 53,76m \times 0,10m \times 0,15m = 0,81m^3$

Total Remoção e Demolição de Concreto ou Pedras Canteiros Trecho 01 e 02:
 $0,41m^2 + 0,40m^2 + 0,94m^2 = 1,75m^3$

Total Remoção e Demolição de Concreto ou Pedras Canteiros Trecho 03:
 $0,32m^2 + 0,06m^2 + 0,81m^2 = 1,19m^3$

Total Remoção e Demolição de Concreto ou Pedras Canteiros: 2,94m³

2.4. REMOÇÃO E LIMPEZA DE VEGETAÇÃO

Canteiros Existentes Lado Oeste Trecho 02: $1,25m^2 + 1,44m^2 + 1,20m^2 + 1,17m^2 + 0,50m^2 + 0,43m^2 + 0,22m^2 + 1,84m^2 + 1,20m^2 = 9,25m^2$

Canteiros Existentes Lado Oeste Trecho 03: $0,72m^2 + 0,81m^2 + 0,76m^2 + 1,37m^2 + 1,40m^2 + 1,43m^2 + 1,84m^2 + 0,49m^2 + 0,36m^2 = 9,18m^2$

Canteiros Existentes Lado Leste Trecho 02: $0,95m^2 + 1,78m^2 + 2,73m^2 + 2,00m^2 + 2,00m^2 + 2,64m^2 + 0,76m^2 + 1,44m^2 + 1,44m^2 + 0,94m^2 + 0,23m^2 + 0,81m^2 + 2,05m^2 = 19,77m^2$

Canteiros Existentes Lado Leste Trecho 03: $0,25m^2 + 0,68m^2 + 0,30m^2 + 0,36m^2 + 0,30m^2 + 0,77m^2 + 1,79m^2 + 0,40m^2 + 0,60m^2 + 0,60m^2 + 0,64m^2 = 6,69m^2$

Grama Canteiros Centrais Trecho 01: $4,02m^2 + 4,82m^2 + 6,10m^2 + 6,10m^2 + 4,18m^2 = 25,22m^2$

Grama Canteiros Centrais Trecho 02: $7,38m^2 + 4,35m^2 + 5,86m^2 + 3,94m^2 = 21,53m^2$

Grama Canteiros Centrais Trecho 03: $4,02m^2 + 4,10m^2 + 4,98m^2 + 4,10m^2 = 17,20m^2$

Total Remoção e Limpeza de Vegetação Trecho 01 e 02: $9,25m^2 + 19,77m^2 + 25,22m^2 + 21,53m^2 = 75,77m^2$

Total Remoção e Limpeza de Vegetação Trecho 03: $9,18\text{m}^2 + 6,69\text{m}^2 + 17,20\text{m}^2 = 33,07\text{m}^2$

Total Remoção e Limpeza de Vegetação: $75,77\text{m}^2 + 33,07\text{m}^2 = 108,84\text{m}^2$

3. DRENAGEM

3.1. ESCAVAÇÃO MECANIZADA DE VALA

Trecho 02: $1,00\text{m} + 3,17\text{m} + 6,80\text{m} + 1,00\text{m} + 3,17\text{m} + 1,00\text{m} + 41,63\text{m} + 15,90\text{m} + 0,50\text{m} + 61,00\text{m} = 135,17\text{m} \times 1,00\text{m} \times 1,20\text{m} = 162,20\text{m}^3$

Trecho 02 (entre PV1 e PV2): $1,00\text{m} + 9,90\text{m} + 1,00\text{m} = 11,90\text{m} \times 1,20\text{m} \times 1,20\text{m} = 17,14\text{m}^3$

Trecho 03: $1,00\text{m} + 49,16\text{m} + 1,00\text{m} + 4,10\text{m} + 5,50\text{m} + 1,00\text{m} + 4,10\text{m} + 1,00\text{m} + 49,16\text{m} + 1,00\text{m} = 117,02\text{m} \times 1,00\text{m} \times 1,20\text{m} = 140,42\text{m}^3$

Trecho 03 (entre PV4 e PV5): $1,00\text{m} + 10,64\text{m} + 1,00\text{m} = 12,64\text{m} \times 1,20\text{m} \times 1,20\text{m} = 18,20\text{m}^3$

Total Escavação de Vala de Drenagem Trecho 01 e 02: $162,20\text{m}^3 + 17,14\text{m}^3 = 179,34\text{m}^3$

Total Escavação de Vala de Drenagem Trecho 03: $140,42\text{m}^3 + 18,20\text{m}^3 = 158,62\text{m}^3$

Total Escavação de Vala de Drenagem: $179,34\text{m}^3 + 158,62\text{m}^3 = 337,96\text{m}^3$

3.2. TUBULAÇÃO DIÂMETRO 400MM

Trecho 02: $3,17\text{m} + 9,90\text{m} + 6,80\text{m} + 3,17\text{m} + 41,63\text{m} + 15,90\text{m} + 10,46\text{m} + 47,55\text{m} = 138,58\text{m}$

Trecho 03: $49,16\text{m} + 4,10\text{m} + 10,64\text{m} + 550\text{m} + 4,10\text{m} + 49,16\text{m} = 122,66\text{m}$

Total Tubulação diâmetro 400mm: 261,24m

3.3. LASTRO DE VALA COM BRITA

Trecho 02: $135,17\text{m} \times 1,00\text{m} \times 0,10\text{m} = 13,52\text{m}^3$

Trecho 02 (entre PV1 e PV2): $11,90\text{m} \times 1,20\text{m} \times 0,10\text{m} = 1,43\text{m}^3$

Trecho 03: $117,02\text{m} \times 1,00\text{m} \times 0,10\text{m} = 11,70\text{m}^3$

Trecho 03 (entre PV4 e PV5): $12,64\text{m} \times 1,20\text{m} \times 0,10\text{m} = 1,52\text{m}^3$

Total Lastro de Vala com Brita Trecho 01 e 02: $13,52\text{m}^3 + 1,43\text{m}^3 = 14,95\text{m}^3$

Total Lastro de Vala com Brita Trecho 03: $11,70\text{m}^3 + 1,52\text{m}^3 = 13,22\text{m}^3$

Total Lastro de Vala com Brita: $14,95\text{m}^3 + 13,22\text{m}^3 = 28,17\text{m}^3$

3.4. REATERRO DE VALA

Trecho 01 e 02:

Volume Escavação: $179,34\text{m}^3$

Volume Tubulação: $(0,49\text{m} / 2)^2 \times 3,14 = 0,19\text{m}^2 \times 138,58\text{m} = 26,33\text{m}^3$

Volume Bocas de Lobo: $06 \text{unid} \times (0,80 \times 1,30\text{m} \times 1,10\text{m}) = 6,86\text{m}^3$

Volume Poços de Visita: $03 \text{unid} \times ((1,16\text{m} / 2)^2 \times 3,14 \times 1,08\text{m}) = 3,42\text{m}^3$

Volume Lastro de Brita: $14,95\text{m}^3$

Volume Reaterro Trecho 01 e 02: $179,34\text{m}^3 - 26,33\text{m}^3 - 6,86\text{m}^3 - 3,42\text{m}^3 - 14,95\text{m}^3 = 127,78\text{m}^3$

Trecho 03:

Volume Escavação: $158,62\text{m}^3$

Volume Tubulação: $(0,49\text{m} / 2)^2 \times 3,14 = 0,19\text{m}^2 \times 122,66\text{m} = 23,31\text{m}^3$

Volume Bocas de Lobo: $05 \text{unid} \times (0,80 \times 1,30\text{m} \times 1,10\text{m}) = 5,72\text{m}^3$

Volume Poços de Visita: $02 \text{unid} \times ((1,16\text{m} / 2)^2 \times 3,14 \times 1,08\text{m}) = 2,28\text{m}^3$

Volume Lastro de Brita: $13,22\text{m}^3$

Volume Reaterro Trecho 03: $158,62\text{m}^3 - 23,31\text{m}^3 - 5,72\text{m}^3 - 2,28\text{m}^3 - 13,22\text{m}^3 = 114,09\text{m}^3$

Total Volume Reaterro: $127,78\text{m}^2 + 114,09\text{m}^2 = 241,87\text{m}^2$

3.5. POÇO DE VISITA

Poço de Visita em concreto Pré-fabricado e tampo circular = **05 Unidades**

3.6. BOCAS DE LOBO

Bocas de Lobo em alvenaria maciça com tampo de concreto armado = **11 unidades.**

4. PAVIMENTAÇÃO PISTA DE ROLAMENTO

4.1. REASSENTAMENTO DE PARALELEPÍPEDO

Paralelepípedos Trecho 01 e 02: $14,60\text{m}^2 + 380,55\text{m}^2 = 395,15\text{m}^2$

Paralelepípedos Trecho 03: $389,45\text{m}^2$

Canteiros Novos Lado Leste Trechos 02: $5,33\text{m}^2 + 14,34\text{m}^2 + 4,60\text{m}^2 + 5,30\text{m}^2 + 4,16\text{m}^2 + 7,26\text{m}^2 + 8,02\text{m}^2 + 5,30\text{m}^2 + 9,36\text{m}^2 = \mathbf{63,67\text{m}^2}$

Canteiros Novos Lado Leste Trechos 03: $4,94\text{m}^2 + 5,29\text{m}^2 + 6,44\text{m}^2 + 12,05\text{m}^2 + 3,59\text{m}^2 + 5,29\text{m}^2 + 13,53\text{m}^2 + 11,72\text{m}^2 + 9,09\text{m}^2 + 4,94\text{m}^2 = \mathbf{76,88\text{m}^2}$

Tampas Poços de Visita Trecho 01 e 02: $(1,16\text{m}/2)^2 \times 3,14 = 1,06\text{m}^2 \times 3 = \mathbf{3,18\text{m}^2}$

Tampas Poços de Visita Trecho 03: $(1,16\text{m}/2)^2 \times 3,14 = 1,06\text{m}^2 \times 2 = \mathbf{2,12\text{m}^2}$

Total Reassentamento Paralelepípedos Trecho 01 e 02: $395,15\text{m}^2 - 63,67\text{m}^2 - 3,18\text{m}^2 = \mathbf{328,30\text{m}^2}$

Total Reassentamento Paralelepípedos Trecho 03: $389,45\text{m}^2 - 76,88\text{m}^2 - 2,12\text{m}^2 = \mathbf{310,45\text{m}^2}$

Total Reassentamento Paralelepípedos: $328,30\text{m}^2 + 310,45\text{m}^2 = \mathbf{638,75\text{m}^2}$

4.2. COMPACTAÇÃO

Trecho 01 e 02: $\mathbf{328,30\text{m}^2}$

Trecho 03: $\mathbf{310,45\text{m}^2}$

Total Compactação: $328,30\text{m}^2 + 310,45\text{m}^2 = \mathbf{638,75\text{m}^2}$

4.3. LASTRO DE BRITA ESPESSURA 10CM

Trecho 01 e 02: $328,30\text{m}^2 \times 0,10\text{m} = \mathbf{32,83\text{m}^3}$

Trecho 03: $310,45\text{m}^2 \times 0,10\text{m} = \mathbf{31,04\text{m}^3}$

Total Lastro de Brita: $32,83\text{m}^3 + 31,04\text{m}^3 = \mathbf{63,87\text{m}^3}$

4.4. CAMADA DE PÓ DE BRITA ESPESSURA 10CM

Trecho 01 e 02: $328,30\text{m}^2 \times 0,10\text{m} = \mathbf{32,83\text{m}^3}$

Trecho 03: $310,45\text{m}^2 \times 0,10\text{m} = \mathbf{31,04\text{m}^3}$

Total Pó de Brita: $32,83\text{m}^3 + 31,04\text{m}^3 = \mathbf{63,87\text{m}^3}$

5. PAVIMENTAÇÃO PASSEIO PÚBLICO

5.1. PASSEIO PÚBLICO PEDRA BASÁLTICA 40X40CM

Trecho 01: $\mathbf{19,52\text{m}^2}$

Trecho 02 Lado Oeste: $14,32\text{m}^2 + 53,70\text{m}^2 + 113,19\text{m}^2 + 14,32\text{m}^2 = \mathbf{195,53\text{m}^2}$

Trecho 02 Lado Leste: $15,89\text{m}^2 + 6,76\text{m}^2 + 4,68\text{m}^2 + 6,95\text{m}^2 + 13,68\text{m}^2 = \mathbf{47,96\text{m}^2}$

Trecho 03 Lado Oeste: $14,32\text{m}^2 + 199,12\text{m}^2 + 14,32\text{m}^2 = \mathbf{227,76\text{m}^2}$

Trecho 03 Lado Leste: $13,68\text{m}^2 + 4,69\text{m}^2 + 4,69\text{m}^2 + 4,80\text{m}^2 + 2,72\text{m}^2 + 2,60\text{m}^2 + 2,24\text{m}^2 + 13,68\text{m}^2 = 49,10\text{m}^2$

Total Passeio Público Pedra Basáltica 40x40cm Trecho 01 e 02: $19,52\text{m}^2 + 195,53\text{m}^2 + 47,96\text{m}^2 = 263,01\text{m}^2$

Total Passeio Público Pedra Basáltica 40x40cm Trecho 03: $227,76\text{m}^2 + 49,10\text{m}^2 = 276,86\text{m}^2$

Total Passeio Público Pedra Basáltica 40x40cm: $263,01\text{m}^2 + 276,86\text{m}^2 = 539,87\text{m}^2$

5.2. PAVIMENTAÇÃO DETALHES COM PEDRA SÃO TOMÉ 15X30CM

Trecho 01: $1,20\text{m}^2$

Trecho 02 Lado Oeste: $0,59\text{m}^2 + 1,07\text{m}^2 + (11 \times 1,02\text{m}^2) + 0,29\text{m}^2 + 0,59\text{m}^2 + 31,72\text{m}^2 + 3,10\text{m}^2 + 5,69\text{m}^2 + 3,16\text{m}^2 = 57,43\text{m}^2$

Trecho 02 Lado Leste: $0,55\text{m}^2 + 0,47\text{m}^2 + 0,26\text{m}^2 + 0,59\text{m}^2 = 1,87\text{m}^2$

Trecho 03 Lado Oeste: $0,59\text{m}^2 + 0,29\text{m}^2 + 35,12\text{m}^2 + 0,28\text{m}^2 + 0,59\text{m}^2 + 5,76\text{m}^2 + 1,60\text{m}^2 + 2,85\text{m}^2 + 3,70\text{m}^2 = 50,78\text{m}^2$

Trecho 03 Lado Leste: $0,59\text{m}^2 + 0,26\text{m}^2 + 0,26\text{m}^2 + 0,59\text{m}^2 = 1,70\text{m}^2$

Total Pedra São Tomé Trecho 01 e 02: $1,20\text{m}^2 + 57,43\text{m}^2 + 1,87\text{m}^2 = 60,50\text{m}^2$

Total Pedra São Tomé Trecho 03: $50,78\text{m}^2 + 1,70\text{m}^2 = 52,48\text{m}^2$

Total Pedra São Tomé: $60,50\text{m}^2 + 52,48\text{m}^2 = 112,98\text{m}^2$

5.3. PISO PODOTÁTIL

Trecho 01: $5,28\text{m}^2$

Trecho 02 Lado Oeste: $53,45\text{m}^2$

Trecho 02 Lado Leste: $52,98\text{m}^2$

Trecho 03 Lado Oeste: $53,79\text{m}^2$

Trecho 03 Lado Leste: $54,22\text{m}^2$

Total Piso Podotátil Trecho 01 e 02: $5,28\text{m}^2 + 53,45\text{m}^2 + 52,98\text{m}^2 = 111,71\text{m}^2$

Total Piso Podotátil Trecho 03: $53,79\text{m}^2 + 54,22\text{m}^2 = 108,01\text{m}^2$

Total Piso Podotátil: $111,71\text{m}^2 + 108,01\text{m}^2 = 219,72\text{m}^2$

5.4. COMPACTAÇÃO

Trecho 01 e 02: $263,01\text{m}^2 + 60,50\text{m}^2 + 111,71\text{m}^2 = 435,22\text{m}^2$

Trecho 03: $276,86\text{m}^2 + 52,48\text{m}^2 + 108,01\text{m}^2 = 437,35\text{m}^2$

Total Compactação: $435,22\text{m}^2 + 437,35\text{m}^2 = 872,57\text{m}^2$

5.5. LASTRO DE BRITA ESPESSURA 10CM

Trecho 01 e 02: $435,22\text{m}^2 \times 0,10\text{m} = 43,52\text{m}^3$

Trecho 03: $437,35\text{m}^2 \times 0,10\text{m} = 43,74\text{m}^3$

Total Lastro de Brita: $43,52\text{m}^2 + 43,74\text{m}^2 = 87,26\text{m}^2$

5.6. CAMADA PÓ DE BRITA ESPESSURA 5CM

Trecho 01 e 02: $435,22\text{m}^2 \times 0,05\text{m} = 21,76\text{m}^3$

Trecho 03: $437,35\text{m}^2 \times 0,05\text{m} = 21,87\text{m}^3$

Total Lastro de Brita: $21,76\text{m}^2 + 21,87\text{m}^2 = 43,63\text{m}^2$

5.7. MEIO-FIO TRECHO RETO

Trecho 01: 16,33m

Trecho 02: $137,27\text{m} + 21,14\text{m} + 9,61\text{m} + 13,40\text{m} + 12,54\text{m} + 224,96\text{m} = 418,92\text{m}$

Trecho 03: $125,87\text{m} + 12,74\text{m} + 12,94\text{m} + 15,14\text{m} + 12,94\text{m} + 213,23\text{m} = 392,86\text{m}$

Total Meio-fio trecho reto Trecho 01 e 02: $16,33\text{m} + 418,92\text{m} = 435,25\text{m}^2$

Total Meio-fio trecho reto Trecho 03: $392,86\text{m}^2$

Total Meio-fio Trecho Reto: $435,25\text{m} + 392,86\text{m} = 828,11\text{m}$

5.8. MEIO-FIO TRECHO CURVO:

Trecho 01: 5,50m

Trecho 02: $11,00\text{m} + 3,14\text{m} + 3,14\text{m} + 18,86\text{m} = 36,14\text{m}$

Trecho 03: $11,00\text{m} + 32,77\text{m} = 43,77\text{m}$

Total Meio-fio trecho curvo Trecho 01 e 02: $5,50\text{m} + 36,14\text{m} = 41,64\text{m}^2$

Total Meio-fio trecho curvo Trecho 03: $43,77\text{m}^2$

Total Meio-fio Trecho Curvo: $41,64\text{m} + 43,77\text{m} = 85,41\text{m}$

6. PAISAGISMO

6.1. PLANTIO DE GRAMA EM PLACAS

Canteiros Centrais e Esquina Trecho 01: $4,02\text{m}^2 + 4,82\text{m}^2 + 6,10\text{m}^2 + 6,10\text{m}^2 + 4,18\text{m}^2 + 14,61\text{m}^2 = \mathbf{39,83\text{m}^2}$

Trecho 02 Lado Oeste: $9,80\text{m}^2 + (12 \times 2,34\text{m}^2) + 10,35\text{m}^2 + 2,39\text{m}^2 + 2,39\text{m}^2 + 19,05\text{m}^2 + 10,54\text{m}^2 + 9,80\text{m}^2 = \mathbf{92,40\text{m}^2}$

Trecho 02 Lado Leste: $12,92\text{m}^2 + 5,39\text{m}^2 + 4,02\text{m}^2 + 12,49\text{m}^2 + 3,33\text{m}^2 + 3,99\text{m}^2 + 2,93\text{m}^2 + 5,88\text{m}^2 + 6,94\text{m}^2 + 3,99\text{m}^2 + 7,81\text{m}^2 + 5,57\text{m}^2 + 8,48\text{m}^2 = \mathbf{83,74\text{m}^2}$

Trecho 02 Canteiros Centrais: $7,38\text{m}^2 + 4,35\text{m}^2 + 5,86\text{m}^2 + 3,94\text{m}^2 = \mathbf{21,53\text{m}^2}$

Trecho 03 Lado Oeste: $9,80\text{m}^2 + (9 \times 2,34\text{m}^2) + 19,19\text{m}^2 + 5,32\text{m}^2 + 9,50\text{m}^2 + 12,32\text{m}^2 + 9,80\text{m}^2 = \mathbf{86,99\text{m}^2}$

Trecho 03 Lado Leste: $8,48\text{m}^2 + 9,47\text{m}^2 + 3,66\text{m}^2 + 3,99\text{m}^2 + 5,46\text{m}^2 + 10,39\text{m}^2 + 2,84\text{m}^2 + 3,99\text{m}^2 + 11,77\text{m}^2 + 10,49\text{m}^2 + 7,94\text{m}^2 + 3,66\text{m}^2 + 8,74\text{m}^2 + 8,48\text{m}^2 = \mathbf{99,36\text{m}^2}$

Trecho 03 Canteiros Centrais: $4,02\text{m}^2 + 4,10\text{m}^2 + 4,98\text{m}^2 + 4,10\text{m}^2 = \mathbf{17,20\text{m}^2}$

Total Plantio de Grama Trecho 01 e 02: $39,83\text{m}^2 + 92,40\text{m}^2 + 83,74\text{m}^2 + 21,53\text{m}^2 = \mathbf{237,50\text{m}^2}$

Total Plantio de Grama Trecho 03: $86,99\text{m}^2 + 99,36\text{m}^2 + 17,20\text{m}^2 = \mathbf{203,55\text{m}^2}$

Total Plantio de Grama: $237,50\text{m}^2 + 203,55\text{m}^2 = \mathbf{441,05\text{m}^2}$

6.2. PLANTIO DE ARBUSTOS

Trecho 01 e 02: 06 unid + 64 unid = **69 unidades**

Trecho 03: **65 Unidades**

Total de Arbustos: **134 unidades**

6.3. PLANTIO DE ÁRVORES

Trecho 01 e 02: **03 unidades**

Trecho 03: **02 unidades**

Total de Árvores: **05 unidades**

7. SINALIZAÇÃO HORIZONTAL (PINTURA)

7.1. PINTURA PARALELEPÍPEDO COM TINTA ACRÍLICA COR BRANCA

FAIXAS DE PEDESTRE:

Trecho 01: $(1,20\text{m}^2 \times 15\text{unid}) + 0,89\text{m}^2 + 2,68\text{m}^2 + 2,96\text{m}^2 + (1,20\text{m}^2 \times 35\text{unid}) + 2,27\text{m}^2 + 1,17\text{m}^2 + 0,52\text{m}^2 + 2,38\text{m}^2 + 1,96\text{m}^2 + 1,96\text{m}^2 + 2,32\text{m}^2 + 1,54\text{m}^2 = \mathbf{80,65\text{m}^2}$

Trecho 02: $(1,20\text{m}^2 \times 12\text{unid}) + 1,19\text{m}^2 + 2,32\text{m}^2 + 1,84\text{m}^2 + (1,20\text{m}^2 \times 36\text{unid}) + 2,68\text{m}^2 + 2,32\text{m}^2 + 1,96\text{m}^2 + 1,96\text{m}^2 + 1,96\text{m}^2 + 1,96\text{m}^2 = \mathbf{75,79\text{m}^2}$

Trecho 03: $(1,20\text{m}^2 \times 14\text{unid}) + 2,68\text{m}^2 + 2,32\text{m}^2 + (1,20\text{m}^2 \times 44\text{unid}) + 2,68\text{m}^2 + 2,32\text{m}^2 + 2,68\text{m}^2 + 2,68\text{m}^2 + 2,68\text{m}^2 = \mathbf{90,32\text{m}^2}$

Total Trecho 01 e 02: $80,65\text{m}^2 + 75,79\text{m}^2 = \mathbf{156,44\text{m}^2}$

Total Trecho 03: $\mathbf{90,32\text{m}^2}$

Total Pintura Faixa de Pedestres: $156,44\text{m}^2 + 90,32\text{m}^2 = \mathbf{246,76\text{m}^2}$

VAGAS DE ESTACIONAMENTO:

Trecho 01: $5,57\text{m}^2 + 5,31\text{m}^2 + (26 \times 0,50\text{m}^2) = \mathbf{23,88\text{m}^2}$

Trecho 02: $1,95\text{m}^2 + 2,29\text{m}^2 + (7 \times 0,48\text{m}^2) + 2,62\text{m}^2 = \mathbf{10,22\text{m}^2}$

Trecho 03: $2,33\text{m}^2 + 2,33\text{m}^2 + (4 \times 0,48\text{m}^2) = \mathbf{6,58\text{m}^2}$

Total Trecho 01 e 02: $23,88\text{m}^2 + 10,22\text{m}^2 = \mathbf{34,10\text{m}^2}$

Total Trecho 03: $\mathbf{6,58\text{m}^2}$

Total Pintura Branca Vagas de Estacionamento: $34,10\text{m}^2 + 6,58\text{m}^2 = \mathbf{40,68\text{m}^2}$

Total Pintura Branca Paralelepípedo Trecho 01 e 02: $156,44\text{m}^2 + 34,10\text{m}^2 = \mathbf{190,54\text{m}^2}$

Total Pintura Branca Paralelepípedo Trecho 03: $90,32\text{m}^2 + 6,58\text{m}^2 = \mathbf{96,90\text{m}^2}$

Total Pintura Branca Paralelepípedo: $190,54\text{m}^2 + 96,90\text{m}^2 = \mathbf{287,44\text{m}^2}$

7.2. PINTURA PARALELEPÍPEDO COM TINTA ACRÍLICA COR AMARELA

Trecho 01: $3,23\text{m}^2 + 2,24\text{m}^2 = \mathbf{5,47\text{m}^2}$

7.3. PINTURA PARALELEPÍPEDO COM TINTA ACRÍLICA COR AZUL

Trecho 02: $(1,50\text{m} \times 1,50\text{m}) \times 2 = \mathbf{4,50\text{m}^2}$

Trecho 03: $(1,50\text{m} \times 1,50\text{m}) \times 2 = \mathbf{4,50\text{m}^2}$

Total Pintura Paralelepípedo com Tinta Azul: $4,50\text{m}^2 + 4,50\text{m}^2 = \mathbf{9,00\text{m}^2}$

7.4. PINTURA MEIO-FIO COR BRANCA

Trecho 01: 38,95m + 37,71m + 2,60m + 12,74m + 14,74m + 17,94m + 17,94m + 13,14m + 99,86m + 3,18m = 258,78m x 0,15m = 38,82m² x 2 lados = **77,66m²**

Trecho 02: 2,60m + 2,60m + 21,14m + 12,75m + 16,54m + 12,54m + 2,92m + 9,03m + 12,61m + 8,71m + 8,99m + 8,53m + 9,45m + 47,93m + 7,46m + 8,99m + 10,61m + 37,44m + 2,60m = 243,44m x 0,15m = 36,52m² x lados = **73,04m²**

Trecho 03: 2,60m + 2,60m + 12,74m + 12,94m + 15,14m + 12,94m + 2,65m + 12,87m + 5,09m + 6,49m + 11,36m + 12,50m + 5,27m + 8,98m + 11,95m + 20,10m + 8,94m + 9,50m + 7,88m + 8,84m + 24,42m + 2,60m = 218,40m x 0,15m = 32,76m² x 2 lados = **65,52m²**

Total Pintura Meio-fio Cor Branca Trecho 01 e 02: 77,66m² + 73,04m² = **150,70m²**

Total Pintura Meio-fio Cor Branca Trecho 03: **65,52m²**

Total Pintura Meio-fio Cor Branca: 150,70m² + 65,52m² = **216,22m²**

7.5. PINTURA MEIO-FIO COR AMARELA

Trecho 01: 2,11m + 4,47m + 24,88m + 7,40m + 2,64m + 9,92m + 7,28m + 11,30m = 70,00m x 0,15m = 10,50m² x 2 lados = **21,00m²**

Trecho 02: 6,10m + 21,00m + 27,29m + 38,10m + 21,38m + 6,10m + 7,04m + 3,91m + 5,70m = 136,62m x 0,15m = 20,49m² x 2 lados = **40,98m²**

Trecho 03: 6,10m + 38,69m + 10,94m + 19,30m + 24,94m + 6,10m + 5,70m + 3,25m + 5,25m + 5,70m = 119,87m x 0,15m = 17,98m² x 2 lados = **35,96m²**

Total Pintura Meio-fio cor Amarela Trecho 01 e 02: 21,00m² + 40,98m² = **61,98m²**

Total Pintura Meio-fio cor Amarela Trecho 03: **35,96m²**

Total Pintura Meio-fio cor Amarela: 61,98m² + 35,96m² = **97,94m²**

7.6. PINTURA MEIO-FIO COR AZUL

Trecho 02: 8,04m + 3,46m = 11,50m x 0,15m = 1,73m² x 2 lados = **3,46m²**

Trecho 03: 3,69m + 3,54m + 5,14m + 9,19m = 21,56m x 0,15m = 3,23m² x 2 lados = **6,46m²**

Total Pintura Meio-fio cor Azul: 3,46m² + 6,46m² = **9,92m²**

8. SINALIZAÇÃO VERTICAL

8.1. PLACA DE SINALIZAÇÃO DE REGULAMENTAÇÃO CIRCULAR

Trecho 01 e 02: 09 Unidades

Trecho 03: 06 Unidades

Total: 15 Unidades

8.2. PLACA DE SINALIZAÇÃO DE ADVERTÊNCIA

Trecho 01 e 02: 06 Unidades

Trecho 03: 04 Unidades

Total: 10 Unidades

8.3. PLACA DE SINALIZAÇÃO COM NOME DE RUAS

Trecho 01 e 02: 03 Unidades

Trecho 03: 03 Unidades

Total: 06 Unidades

8.4. RETIRADA E RECOLOCAÇÃO DE PLACAS EXISTENTES

Trecho 01 e 02: 09 unidades

Trecho 03: 05 unidades

Total: 14 Unidades

Guaporé-RS, 29 de Julho de 2020.

ELVIS BREGOLIN

Engenheiro Civil e de Segurança do Trabalho

CREA-RS 075100-D