Relação do aço

S1	S10	3xS11
S15	3xS32	S115
27xS116	S124	S126

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	1346	67	90182
	2	5.0	195	67	16965
	3	5.0	130	107	13910
	4	5.0	130	29	3770
	5	5.0	13	77	1001
	6	5.0	13	24	312
	7	5.0	13	97	1261
CA50	8	8.0	192	94	18048
	9	8.0	542	124	67208
	10	8.0	918	114	104652
	11	8.0	453	104	47112
	12	8.0	126	129	16254
	13	8.0	127	144	18288
	14	10.0	525	VAR	VAR
	15	10.0	13	VAR	VAR
	16	10.0	3	100	300
	17	10.0	2	105	210
	18	12.5	8	VAR	VAR

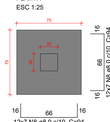
Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	8.0	2715.7	1178.7
	10.0	1149.4	779.5
	12.5	17.1	18.1
CA60	5.0	1274.1	216
PESO TOTAL (kg)			
CA50	1976.3		
CA60	216		

Volume de concreto (C-35) = 38.05 m³
Área de forma = 263.02 m²

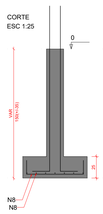
S1=S6=S7=S35=S36=S44=S51=S56=S117=S122 =S553=S594

PLANTA
ESC 1:25



Solo com capacidade de suporte > 1.50 kgf/cm²
Solo compactado sobre a sapata
peso específico > 1600.00 kgf/m³

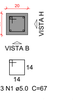
CORTE
ESC 1:25



P1=P6=P7=P35=P36= =P51=P56=P117=P122= =P553

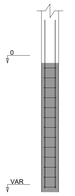
CALÇADA - L1

SEÇÃO
ESC 1:20



10x13 N1 ø5.0 C=67

VISTA H
ESC 1:25

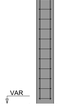


VISTA B
ESC 1:25

P44=P594

CALÇADA - L1

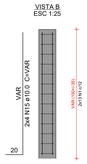
SEÇÃO
ESC 1:20



2x13 N1 ø5.0 C=67

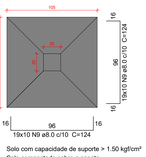
VISTA H
ESC 1:25

VISTA B
ESC 1:25



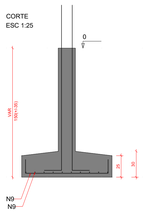
S2=S3=S4=S8=S15=S16=S22=S23=S28=S37=S38 =S52=S99=S293=S302=S438=S468=S469=S470

PLANTA
ESC 1:25



Solo com capacidade de suporte > 1.50 kgf/cm²
Solo compactado sobre a sapata
peso específico > 1600.00 kgf/m³

CORTE
ESC 1:25



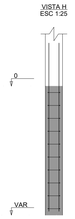
P16=P38

CALÇADA - L1

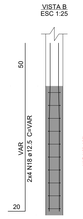
SEÇÃO
ESC 1:20

2x10 N1 ø5.0 C=67

VISTA H
ESC 1:25



VISTA B
ESC 1:25



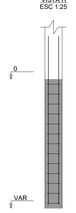
P2=P3=P4=P8=P15=P22= =P23=P28=P37=P52= =P99=P293=P302=P438= =P468=P469=P470

CALÇADA - L1

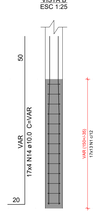
SEÇÃO
ESC 1:20

17x13 N1 ø5.0 C=67

VISTA H
ESC 1:25

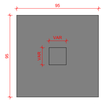


VISTA B
ESC 1:25



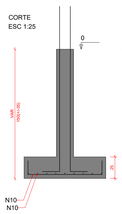
S5=S10=S17=S18=S19=S20=S24=S26=S27=S39 =S40=S41=S42=S48=S53=S55=S92=S100=S161 =S184=S199=S218=S261=S283=S286=S287=S300 =S306=S350=S386=S415=S443=S444=S461=S465 =S466=S467=S480=S496=S554=S557

PLANTA
ESC 1:25



Solo com capacidade de suporte > 1.50 kgf/cm²
Solo compactado sobre a sapata
peso específico > 1600.00 kgf/m³

CORTE
ESC 1:25



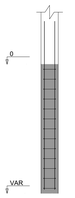
P5=P10=P17=P18=P19= =P20=P24=P26=P27= =P39=P40=P41=P42= =P48=P53=P55=P92= =P100=P161=P184= =P199=P218=P261= =P283=P286=P287= =P300=P306=P386= =P415=P443=P444= =P461=P465=P466= =P467=P480=P496= =P554=P557

CALÇADA - L1

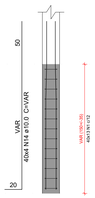
SEÇÃO
ESC 1:20

40x13 N1 ø5.0 C=67

VISTA H
ESC 1:25



VISTA B
ESC 1:25



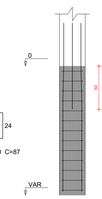
P350

CALÇADA - L1

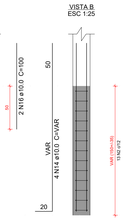
SEÇÃO
ESC 1:20

13 N2 ø5.0 C=87

VISTA H
ESC 1:25

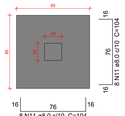


VISTA B
ESC 1:25



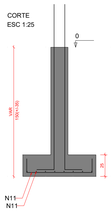
S9=S12=S13=S14=S21=S29=S31=S34=S43=S50 =S54=S63=S116=S203=S273=S305=S329=S337 =S428=S430=S432=S442=S457=S459=S519=S542 =S550

PLANTA
ESC 1:25



Solo com capacidade de suporte > 1.50 kgf/cm²
Solo compactado sobre a sapata
peso específico > 1600.00 kgf/m³

CORTE
ESC 1:25



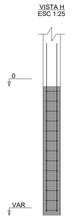
P9=P12=P13=P14=P21= =P29=P31=P34=P43= =P50=P54=P63=P116= =P203=P273=P305= =P329=P337=P428= =P430=P432=P442= =P457=P459=P519= =P542=P550

CALÇADA - L1

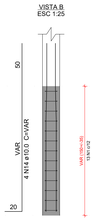
SEÇÃO
ESC 1:20

13 N1 ø5.0 C=67

VISTA H
ESC 1:25

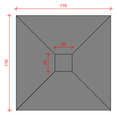


VISTA B
ESC 1:25



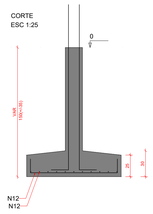
S11=S49=S284

PLANTA
ESC 1:25



Solo com capacidade de suporte > 1.50 kgf/cm²
Solo compactado sobre a sapata
peso específico > 1600.00 kgf/m³

CORTE
ESC 1:25



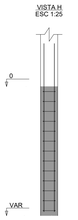
P11=P49=P284

CALÇADA - L1

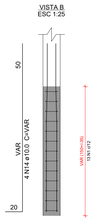
SEÇÃO
ESC 1:20

13 N1 ø5.0 C=67

VISTA H
ESC 1:25

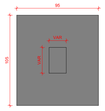


VISTA B
ESC 1:25



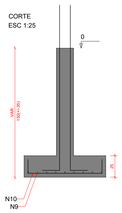
S25=S30=S46=S47=S82=S86=S120=S124=S155 =S349=S360=S434=S455=S512=S531=S564=S580 =S624

PLANTA
ESC 1:25



Solo com capacidade de suporte > 1.50 kgf/cm²
Solo compactado sobre a sapata
peso específico > 1600.00 kgf/m³

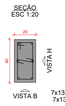
CORTE
ESC 1:25



P120=P434=P512=P531=P564=P580= =P624

CALÇADA - L1

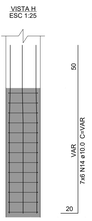
SEÇÃO
ESC 1:20



7x13 N3 ø5.0 C=107
7x13 N4 ø5.0 C=29

VISTA H
ESC 1:25

VISTA B
ESC 1:25



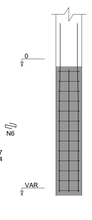
P30

CALÇADA - L1

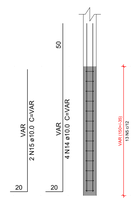
SEÇÃO
ESC 1:20

13 N5 ø5.0 C=77
13 N6 ø5.0 C=24

VISTA H
ESC 1:25



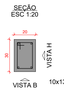
VISTA B
ESC 1:25



P25=P46=P47=P82=P86=P124= =P155=P349=P360=P455

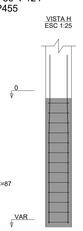
CALÇADA - L1

SEÇÃO
ESC 1:20

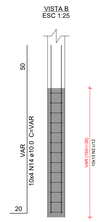


10x13 N2 ø5.0 C=87

VISTA H
ESC 1:25

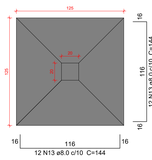


VISTA B
ESC 1:25



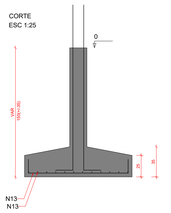
S32=S514=S682

PLANTA
ESC 1:25



Solo com capacidade de suporte > 1.50 kgf/cm²
Solo compactado sobre a sapata
peso específico > 1600.00 kgf/m³

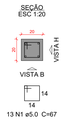
CORTE
ESC 1:25



P32=P514=P682

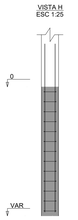
CALÇADA - L1

SEÇÃO
ESC 1:20

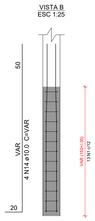


13 N1 ø5.0 C=67

VISTA H
ESC 1:25

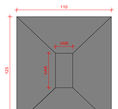


VISTA B
ESC 1:25



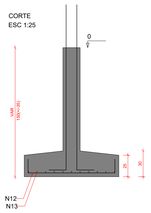
S33=S126=S168=S243=S584

PLANTA
ESC 1:25



Solo com capacidade de suporte > 1.50 kgf/cm²
Solo compactado sobre a sapata
peso específico > 1600.00 kgf/m³

CORTE
ESC 1:25



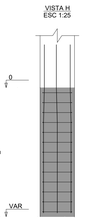
P126=P168=P243

CALÇADA - L1

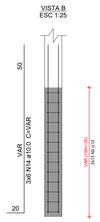
SEÇÃO
ESC 1:20

3x13 N3 ø5.0 C=107
3x13 N4 ø5.0 C=29

VISTA H
ESC 1:25



VISTA B
ESC 1:25



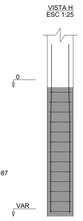
P33

CALÇADA - L1

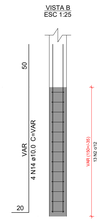
SEÇÃO
ESC 1:20

13 N2 ø5.0 C=87

VISTA H
ESC 1:25



VISTA B
ESC 1:25



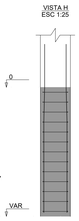
P584

CALÇADA - L1

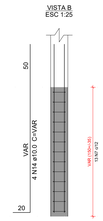
SEÇÃO
ESC 1:20

13 N7 ø5.0 C=97

VISTA H
ESC 1:25

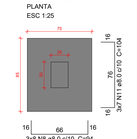


VISTA B
ESC 1:25



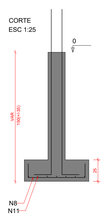
S45=S115=S118

PLANTA
ESC 1:25



Solo com capacidade de suporte > 1.50 kgf/cm²
Solo compactado sobre a sapata
peso específico > 1600.00 kgf/m³

CORTE
ESC 1:25



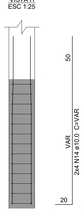
P115=P118

CALÇADA - L1

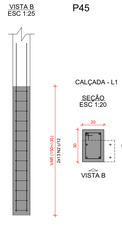
SEÇÃO
ESC 1:20

2x13 N2 ø5.0 C=87

VISTA H
ESC 1:25



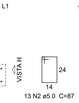
VISTA B
ESC 1:25



P45

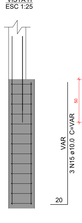
CALÇADA - L1

SEÇÃO
ESC 1:20

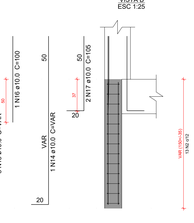


13 N2 ø5.0 C=87

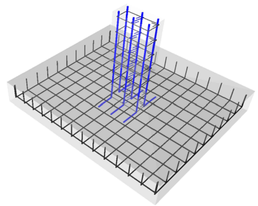
VISTA H
ESC 1:25



VISTA B
ESC 1:25



OBS: SOMENTE EXECUTAR A FUNDAÇÃO DESTE EMPREENDIMENTO APÓS O ESTUDO DO SOLO, COM NO MÍNIMO O ENSAIO DE SONDAGEM TIPO SPT E A CONCLUSÃO DE UM ENGENHEIRO CALCULISTA DE FUNDAÇÕES AUTORIZANDO SUA EXECUÇÃO. VALE RESSALTAR QUE CADA SOLO E/OU REGIÃO EXISTE UM PERFIL GEOTÉCNICO DIFERENTE, O QUE OBRIGA QUE A FUNDAÇÃO SEJA RECALCULADA PARA EVITAR FUTURAS PATOLOGIAS E PROBLEMAS CONSTRUTIVOS, ALÉM DE UMA POSSÍVEL DIFERENÇA DE CUSTO SIGNIFICATIVA.



DETALHE ESQUEMÁTICO DAS ARMADURAS DAS SAPATAS EM 3D

Caracteristicas do Projeto

1 – COBRIMENTO DAS ARMADURAS – PILARES E VIGAS: 3 cm
2 – COBRIMENTO DAS ARMADURAS – LAJES E ESCADAS: 3 cm
3 – COBRIMENTO DAS ARMADURAS – FUNDAÇÃO: 4.5 cm
4– PREVER LASTRO DE CONCRETO MAGRO (5 cm) SOB AS ESTRUTURAS EM CONCRETO.
5 – OS VENTOS INCIDENTES NAS FACES X (90°) E Y (0°) , RESPECTIVAMENTE, NÃO OCORREM SIMULTANEAMENTE.

NOTAS 1 : DURABILIDADE

1 – CLASSE DE AGRESSIVIDADE AMBIENTAL: II
2 – MÓDULO DE ELASTICIDADE > 35.42 GPa
3 – FATOR A/C < 0.4
4 – AÇO CA 50A e CA 60B
5 – CONCRETO CLASSE > 35 MPa
6 – CONSUMO DE CIMENTO > 380 Kg/m3

NOTAS 2 : NORMAS

– NBR 06118 – 2023 – Projeto de Estruturas de Concreto armado
– NBR 06120 – 2019 – Cargas para o Cálculo de Estruturas de edificações – Procedimento
– NBR 06123 – 2023 – Forças Devidas ao Vento em Edificações
– NBR 8681 – 2003 – Ações e Segurança nas Estruturas
– NBR 6122 – 2022 – Projeto e execução de Fundações

LEGENDA DA PLANTA DE LOCAÇÃO

(A) ORIENTAÇÃO DOS EIXOS DOS PILARES
(1) ORIENTAÇÃO DOS EIXOS DOS PILARES

NOTAS 3 : GERAIS

1 – Dimensões em Centimetros e Níveis em metros
2 – Conferir as disposição das armaduras antes da concretagem.
3 – A Responsabilidade pela fiscalização da obra é do Eng° resp Técnico.
4 – Aconselhamos moldagem de corpos de prova para cada caminhão betoneira.
5 – Respeitar os prazos mínimos para retirada de formas e escoramentos.
6 – Evitar romper concreto após endurecido, com marreta e talhadeira.
7 – Toda e qualquer alteração no respectivo projeto, o Calculista deverá ser consultado e o mesmo deverá emitir seu parecer por escrito.

PROJETO ESTRUTURAL

PROJETO ESTRUTURAL	CONTRATADO: Kayo Henrique Moreira Engº Civil	CLIENTE: SECRETARIA DE ATENÇÃO ESPECIALIZADA A SAÚDE	2
	Endereço: Rua: Brasília, nº 395 Bairro: Centro, Araxá - MG	OBRA: MATERNIDADE - MINISTÉRIO DA SAÚDE	
Contratado. CREA-MG : 199774/D	Telefone: Cel: (35) 8.9950-7126 Email: engcivil.kayomoreira@gmail.com	ENDEREÇO OBRA: MINISTÉRIO DA SAÚDE	Número Cliente: 01/2024

	VERIF	ENTREGA	REVISÃO	UNIDADE: (EXCETO INDICADO)	REFERÊNCIA: (1°DIEDRO)
DATA	26/06/2024	26/06/2024	01	cm	
NOME				TÍTULO: DETALHAMENTO DAS SAPATAS DE FUNDAÇÃO	
VISTO					

Classe Concreto-MPa: 35	ESCALA: INDICADAS EM PLANTA	DESENHO NÚMERO: 2	MOD: EST	REVISÃO: 01	FOLHA: 2 /85