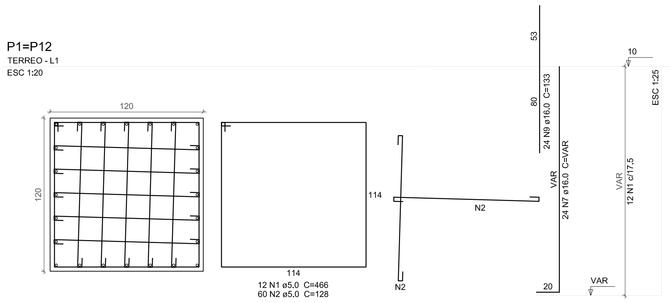
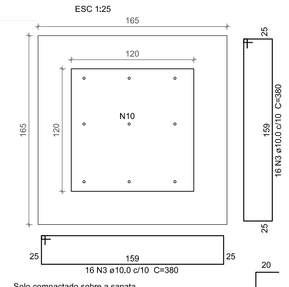
P1=P12
TERREO - L1
ESC 1:20



12 N1 ø5,0 C=466
60 N2 ø5,0 C=128

60 N2 ø5,0 C=128

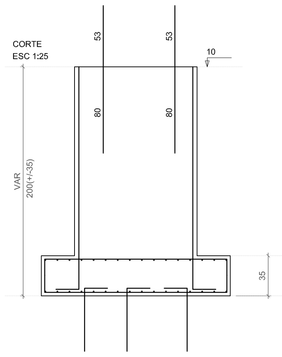
S1=S12
PLANTA
ESC 1:25



Solo compactado sobre a sapata
peso específico > 1800,00 kgf/m³

18 N10 ø16,0 C=100

CORTE
ESC 1:25



Relação do aço

2xP1
2xP4
2xS12

AÇO	N	DIAM (mm)	QUANT (Barras)	UNIT (cm)	C.TOTAL (cm)
CA60	1	5,0	78	466	36348
	2	5,0	780	128	99840
CA50	3	10,0	80	380	30400
	4	10,0	15	350	5250
	5	10,0	15	360	5400
	6	10,0	16	370	5920
	7	16,0	120	VAR	VAR
	8	16,0	24	VAR	VAR
	9	16,0	144	133	19152
	10	16,0	36	100	3600

Resumo do aço

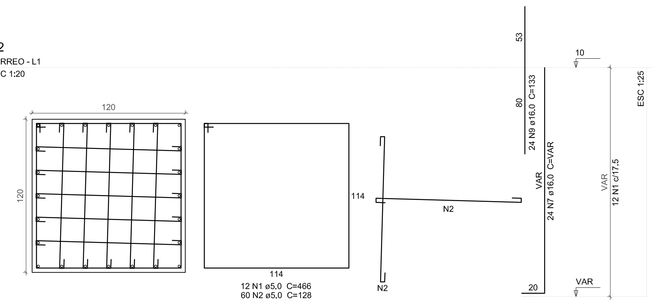
AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	10,0	469,7	325,5
	16,0	634,6	1116,9
CA60	5,0	1361,9	239,7

PESO TOTAL (kg)

CA50	1442,4
CA60	207,1

Volume de concreto (C-30) = 18,09 m³
Área de forma = 61,11 m²

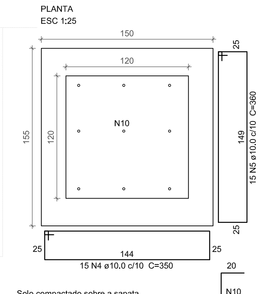
P2
TERREO - L1
ESC 1:20



12 N1 ø5,0 C=466
60 N2 ø5,0 C=128

60 N2 ø5,0 C=128

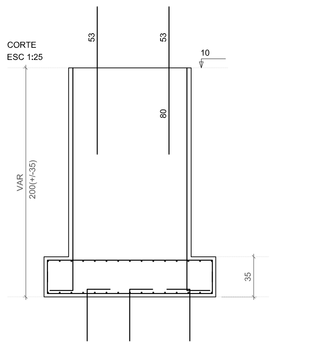
S2
PLANTA
ESC 1:25



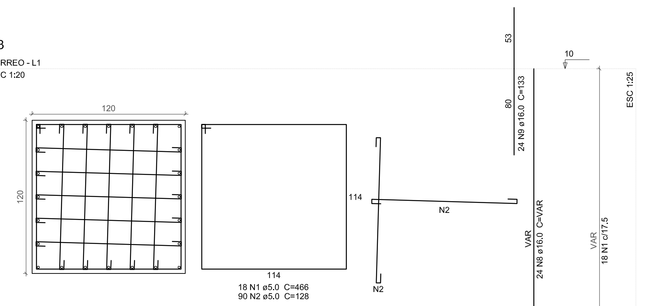
Solo compactado sobre a sapata
peso específico > 1800,00 kgf/m³

18 N10 ø16,0 C=100

CORTE
ESC 1:25



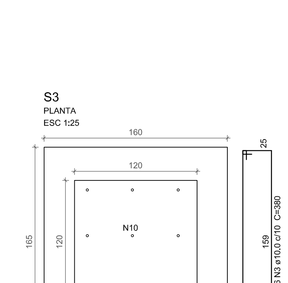
P3
TERREO - L1
ESC 1:20



18 N1 ø5,0 C=466
90 N2 ø5,0 C=128

90 N2 ø5,0 C=128

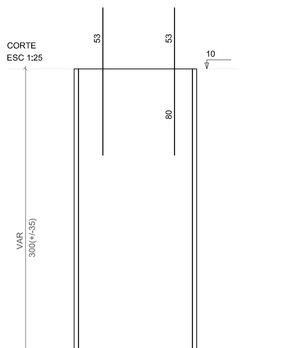
S3
PLANTA
ESC 1:25



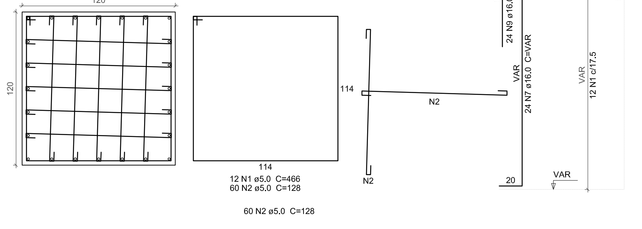
Solo compactado sobre a sapata
peso específico > 1800,00 kgf/m³

18 N10 ø16,0 C=100

CORTE
ESC 1:25



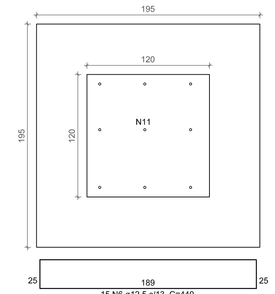
P4=P7
TERREO - L1
ESC 1:20



12 N1 ø5,0 C=466
60 N2 ø5,0 C=128

60 N2 ø5,0 C=128

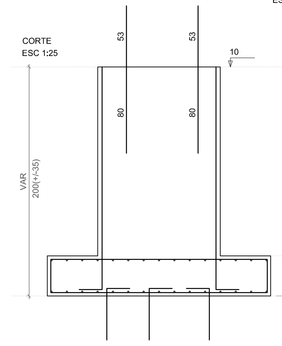
S4=S7
PLANTA
ESC 1:25



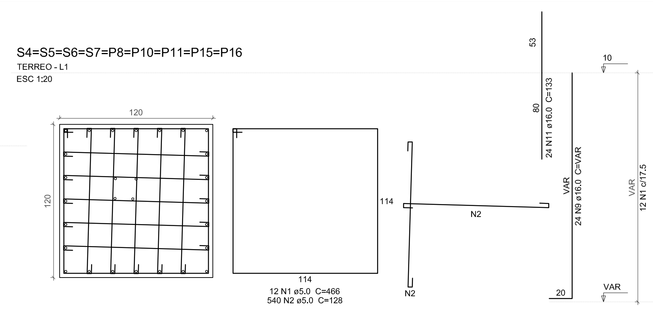
Solo compactado sobre a sapata
peso específico > 1800,00 kgf/m³

18 N12 ø16,0 C=100

CORTE
ESC 1:25



S4=S5=S6=S7=P8=P10=P11=P15=P16
TERREO - L1
ESC 1:20



12 N1 ø5,0 C=466
540 N2 ø5,0 C=128

540N2 ø5,0 C=128

Relação do aço

7xP5
2xS7
2xS14
2xP9
S9
2xP13
7xS10

AÇO	N	DIAM (mm)	QUANT (Barras)	UNIT (cm)	C.TOTAL (cm)
CA60	1	5,0	144	466	67104
	2	5,0	1440	128	184320
CA50	3	10,0	16	390	6240
	4	10,0	17	370	6290
	5	10,0	76	400	30400
	6	12,5	60	440	26400
	7	12,5	91	430	39130
	8	12,5	98	420	41160
	9	16,0	240	VAR	VAR
	10	16,0	108	100	10800
	11	16,0	288	133	38304

Resumo do aço

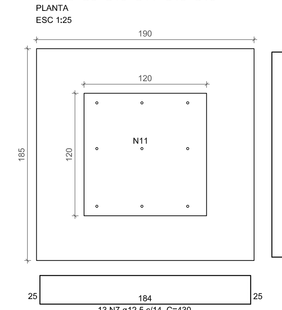
AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	10,0	429,3	297,5
	12,5	1067,0	1173,7
	16,0	1129,4	1967,7
CA60	5,0	2514,3	442,5

PESO TOTAL (kg)

CA50	3.458,9
CA60	442,5

Volume de concreto (C-30) = 35,0 m³
Área de forma = 103,34 m²

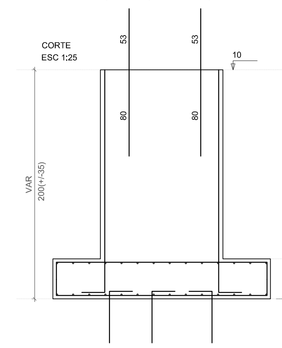
S5=S6=S8=S10=S11=S15=S16
PLANTA
ESC 1:25



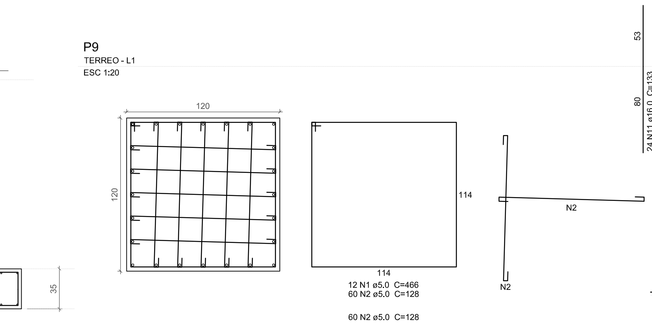
Solo compactado sobre a sapata
peso específico > 1800,00 kgf/m³

18 N12 ø16,0 C=100

CORTE
ESC 1:25



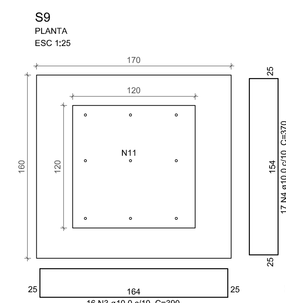
P9
TERREO - L1
ESC 1:20



12 N1 ø5,0 C=466
60 N2 ø5,0 C=128

60 N2 ø5,0 C=128

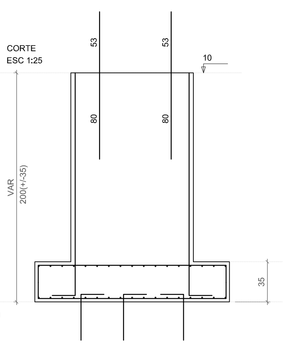
S9
PLANTA
ESC 1:25



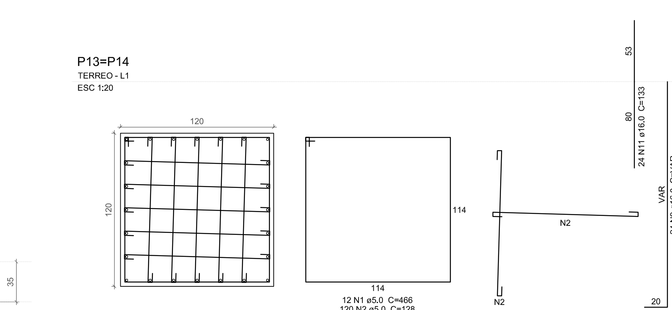
Solo compactado sobre a sapata
peso específico > 1800,00 kgf/m³

18 N12 ø16,0 C=100

CORTE
ESC 1:25



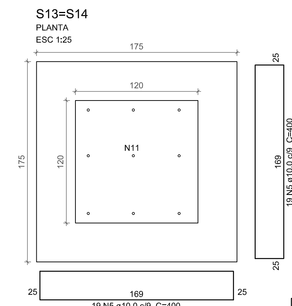
P13=P14
TERREO - L1
ESC 1:20



12 N1 ø5,0 C=466
120 N2 ø5,0 C=128

120 N2 ø5,0 C=128

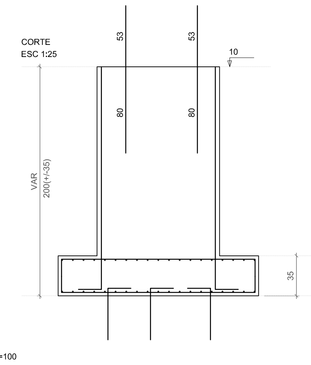
S13=S14
PLANTA
ESC 1:25



Solo compactado sobre a sapata
peso específico > 1800,00 kgf/m³

18 N12 ø16,0 C=100

CORTE
ESC 1:25



Notas:

1) EXECUTAR AS ESCAVAÇÕES CONFORME A LOCAÇÃO DAS SAPATAS, SEMPRE PREVENDO UMA FOLGA NAS DIMENSÕES DO BURACO, FACILITANDO A MONTAGEM DAS ARMADURAS E FORMAS DAS SAPATAS;

2) QUANDO EXISTIR ÁGUA NOS BURACOS, UTILIZAR BOMBA DE RECALQUE PARA PERMITIR O ACESSO E EXECUÇÃO ADEQUADA;

3) CUIDADOS ESPECIAIS DEVEM SER TOMADOS PARA GARANTIR OS COBRIMENTOS DAS ARMADURAS ADEQUADOS, CONFORME PREVISTO NOS DETALHAMENTOS. COBRIMENTOS DAS ARMADURAS PARA AS SAPATAS = 5,00CM;

4) TOMAR OS CUIDADOS NECESSÁRIOS PARA O ADEQUADO LANÇAMENTO DO CONCRETO DAS FORMAS DAS SAPATAS. SE A ALTURA EXCEDER 2,00M O LANÇAMENTO DEVE CONTAR COM TROMBA (OU CALHA) PARA EVITAR O SEGREGAMENTO;

5) OBSERVAR TODAS AS PRESCRIÇÕES PREVISTAS NA NBR6122, PRINCIPALMENTE QUANTO A EXECUÇÃO;

6) OBSERVAR AS PRESCRIÇÕES DA NBR6122 QUANTO AS REQUISITOS DO CONCRETO PARA AS SAPATAS;

7) SEMPRE QUE POSSÍVEL, UTILIZAR ESPAÇADORES DE ARMADURAS DE PLÁSTICO, GARANTINDO O CUMPRIMENTO DOS COBRIMENTOS NECESSÁRIOS;

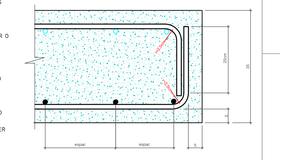
8) CONCRETO COM FCK = 30 MPA E FATOR A/C = 0,65. COBRIMENTOS DE 5,0cm. AÇOS CA-60 E CA-50. TAXA DE RESISTÊNCIA DO SOLO COM CAPACIDADE DE SUPORTE DE 3,00 KGF/CM², ÂNGULOS E COESIVO COM ÂNGULO DE ATRITO DE 40 GRAUS. TOPOGRAFIA A CONFIRMAÇÃO IN SITU;

9) SOLO COMPACTADO SOBRE A SAPATA CONSIDERADO COM PESO ESPECÍFICO DE 1800 KG/M³.

10) SEGUIR ORIENTAÇÕES DO MEMORIAL DESCRITIVO.

11) O CALCULISTA SE EXIME DE QUALQUER RESPONSABILIDADE TÉCNICA CASO AS CONDIÇÕES ESTABELECIDAS EM PROJETO NÃO SEJAM RESPEITADAS E SEGUIDAS PELO CONSTRUTOR;

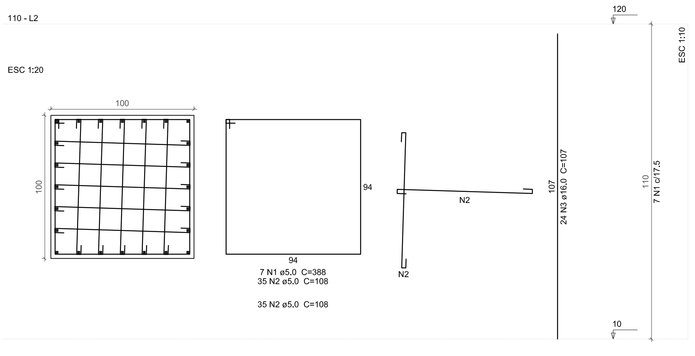
DETALHE EXECUTIVO DAS ARMADURAS



P1=P2=P3=P4=P7=P8=P9=P10=P11=P12 =P13=P14=P15=P16

110 - L2

ESC 1:20



7 N1 ø5,0 C=388
35 N2 ø5,0 C=108

35 N2 ø5,0 C=108

Relação do aço

16xP1

AÇO	N	DIAM (mm)	QUANT (Barras)	UNIT (cm)	C.TOTAL (cm)
CA60	1	5,0		388	
	2	5,0	980	108	105840
	3	5,0	14	388	5432
	4	5,0	140	108	15120
CA50	3	16,0	384	107	41088

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	16,0	410,9	713,4
CA60	5,0	1644,2	278,8

PESO TOTAL (kg)

CA50	713,4
CA60	278,8

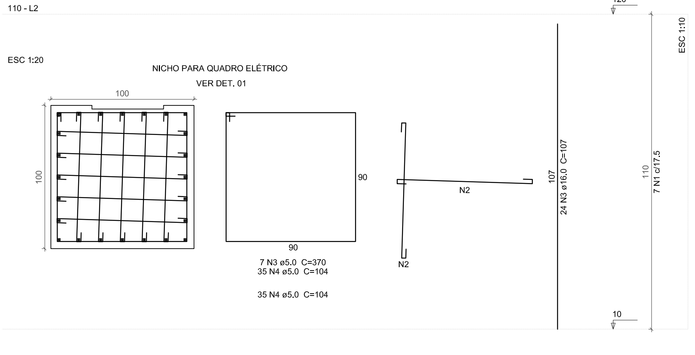
Volume de concreto (C-30) = 17,6 m³
Área de forma = 70,4 m²

P5=P6

110 - L2

ESC 1:20

NICHO PARA QUADRO ELÉTRICO
VER DET. 01

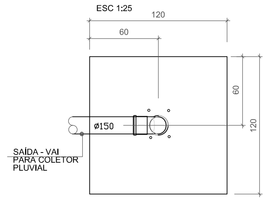


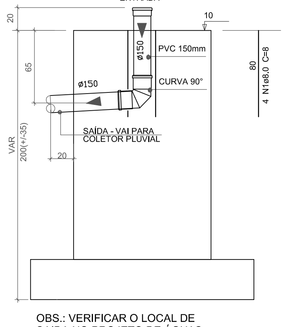
7 N3 ø5,0 C=370
35 N4 ø5,0 C=104

35 N4 ø5,0 C=104

DETALHE DA TUBULAÇAO PLUVIAL NO PILAR

P1=P2=P3=P4=P5
P6=P7=P8=P12=P13
PLANTA
ESC 1:25





OBS.: VERIFICAR O LOCAL DE SAIDA NO PROJETO DE ÁGUAS PLUVIAIS
PRANCHA H02/04

Relação do aço

10xP1

AÇO	N	DIAM (mm)	QUANT (Barras)	UNIT (cm)	C.TOTAL (cm)
CA50	1	5,0	40	80	3200

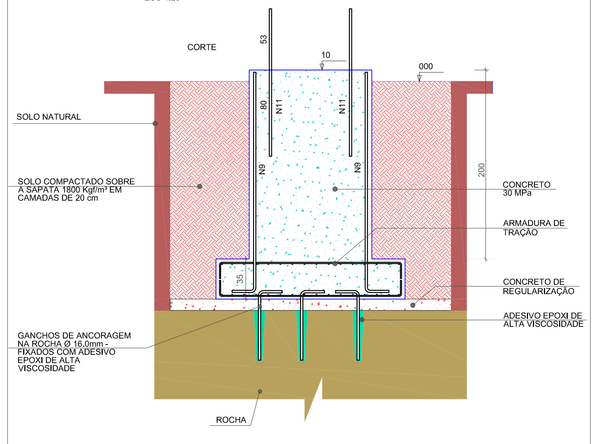
Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	8,0	320	140,8

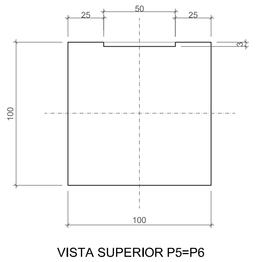
PESO TOTAL (kg)

CA50	140,8

DETALHE DA SAPATA ANCORADA EM ROCHA
ESC 1:25

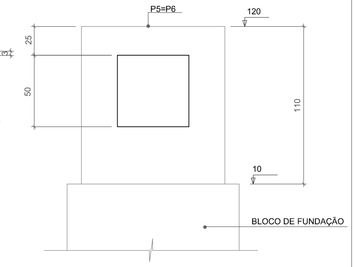


DETALHE 01
NICHO P1 a P16 PARA QUADRO ELÉTRICO



VISTA SUPERIOR P5=P6
ESC 1:20

VER NO PROJETO ELÉTRICO
A LATERAL DO PILAR EM QUE SERÁ INSERIDO O NICHO PARA O QUADRO ELÉTRICO



VISTA 01
ESC 1:20

QUADRO DE REVISÕES

REVISÃO	DESCRIÇÃO	DATA	RESPONS.

APROVAÇÕES

PROPRIETÁRIO:
PREFEITURA MUNICIPAL DE PIRATUBA
82.815.451/0001-66

RESPONSÁVEL TÉCNICO:
JAIME FERNANDO SCHMIDT COSTA:34903380068
Assinado de forma digital por JAIME FERNANDO SCHMIDT COSTA:34903380068
Dados: 2023.03.07 16:46:12 -03'00'
JAIME F. SCHMIDT COSTA
CREA/SC 031169-5

EQUIPE TÉCNICA DA EMPRESA

FERRARI ENGENHARIA

EMESON FERRARI
Engenheiro Mecânico
CREA/SC: 160014-3

MAURICIO CERUTTI
Arquiteto e Urbanista
CAU: A109041-0

JAIME F. SCHMIDT COSTA
Engenheiro Civil
CREA/SC: 031169-5

RENATO BERGAMO
Engenheiro Eletricista
CREA/SC: 068830-4

PROPRIETÁRIO: PREFEITURA MUNICIPAL DE PIRATUBA
EDIFICAÇÃO: RUA COBERTA DE PIRATUBA
ENDEREÇO: Avenida Dezoito de Fevereiro, Centro; Piratuba - SC

PROJETO	ARQUIVO	DATA
ESTRUTURA DE CONCRETO ARMADO	RUA COBERTA	23.02.2023
CONTEÚDO: BLOCOS - SAPATAS - FÔRMA E ARMADURA	ETAPA: PROJETO EXECUTIVO	FOLHA: E13-15
	ESCALA: INDICADA	

FERRARI ENGENHARIA | CREA nº 160014-3 | CNPJ 35.945.113/0001-62
Rua Getúlio Vargas, 234 - SALA 01 - Centro - Concórdia | Fone: (49) 99957-3541 | e-mail: projetos@engenhariaferrari.com.br

Formato A0 (1189 x 841mm)