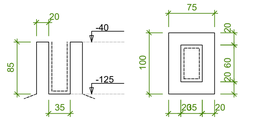
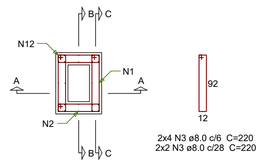
Cálice (PM8=PM9=PM12=PM13)

ESC 1:50

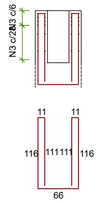




2x4 N3 ø8.0 c/6 C=220
2x2 N3 ø8.0 c/28 C=220

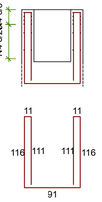
2x4 N4 ø8.0 c/6 C=170
2x2 N4 ø8.0 c/28 C=170

CORTE A-A



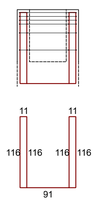
1 N1 ø8.0 c/30 C=531

CORTE B-B



1 N2 ø8.0 c/17 C=556

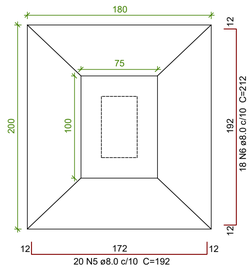
CORTE C-C



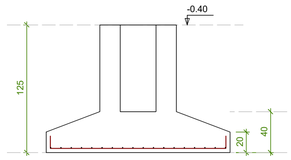
2x2 N12 ø12.5 C=560

SM6=SM7

PLANTA
ESC 1:30



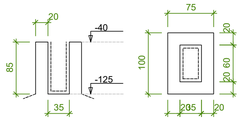
CORTE
ESC 1:30

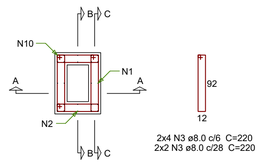


Solo com capacidade de suporte > 1.40 kgf/cm²
Solo compactado sobre a sapata
peso específico > 1800.00 kgf/m³

Cálice (PM6=PM7)

ESC 1:50

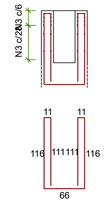




2x4 N3 ø8.0 c/6 C=220
2x2 N3 ø8.0 c/28 C=220

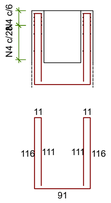
2x4 N4 ø8.0 c/6 C=170
2x2 N4 ø8.0 c/28 C=170

CORTE A-A



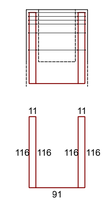
1 N1 ø8.0 c/30 C=531

CORTE B-B



1 N2 ø8.0 c/17 C=556

CORTE C-C



2x2 N10 ø10.0 C=563

Relação do aço

2xCálice PM6
Cálice PM17
2xSM6
SM18
4xCálice PM10
Cálice PM18
4xSM10
SM19
4xCálice PM12
Cálice PM19
SM17

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA50	1	8.0	10	531	5310
	2	8.0	10	556	5560
	3	8.0	120	220	26400
	4	8.0	156	170	26520
	5	8.0	180	192	34560
	6	8.0	162	212	34344
	7	8.0	3	467	1401
	8	8.0	3	482	1446
	9	8.0	36	200	7200
	10	10.0	24	563	13512
	11	10.0	8	489	3912
	12	12.5	16	560	8960
	13	12.5	4	486	1944

Resumo do aço

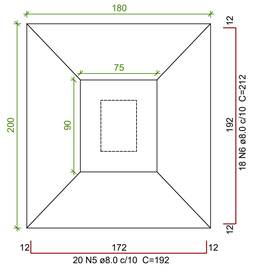
AÇO	DIAM (mm)	C.TOTAL (m)	QUANT + 10 % (Barras)	PESO + 10 % (kg)
CA50	8.0	1427.5	131	619.6
	10.0	174.3	16	118.2
	12.5	109.1	10	115.5

PESO TOTAL (kg)	
CA50	853.3

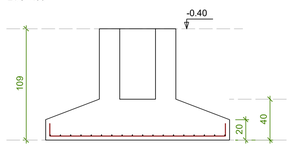
Volume de concreto (C-25) = 13.83 m³
Área de forma = 57.31 m²

SM19

PLANTA
ESC 1:30



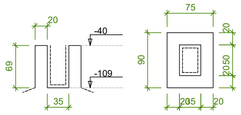
CORTE
ESC 1:30

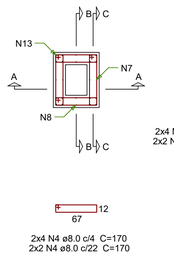


Solo com capacidade de suporte > 1.40 kgf/cm²
Solo compactado sobre a sapata
peso específico > 1800.00 kgf/m³

Cálice PM19

ESC 1:50

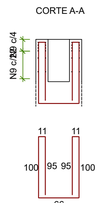




2x4 N9 ø8.0 c/4 C=200
2x2 N9 ø8.0 c/22 C=200

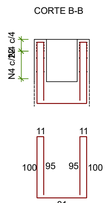
2x4 N4 ø8.0 c/4 C=170
2x2 N4 ø8.0 c/22 C=170

CORTE A-A



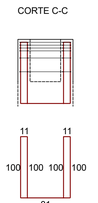
1 N7 ø8.0 c/25 C=467

CORTE B-B



1 N8 ø8.0 c/17 C=482

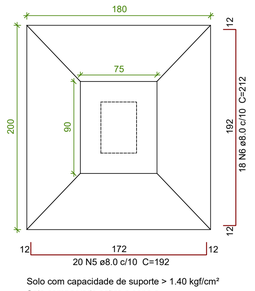
CORTE C-C



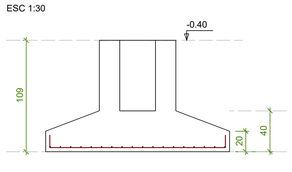
2x2 N13 ø12.5 C=486

SM18

PLANTA
ESC 1:30



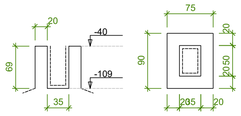
CORTE
ESC 1:30

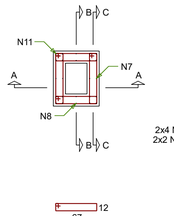


Solo com capacidade de suporte > 1.40 kgf/cm²
Solo compactado sobre a sapata
peso específico > 1800.00 kgf/m³

Cálice PM18

ESC 1:50

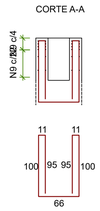




2x4 N9 ø8.0 c/4 C=200
2x2 N9 ø8.0 c/22 C=200

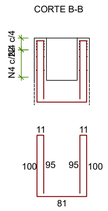
2x4 N4 ø8.0 c/4 C=170
2x2 N4 ø8.0 c/22 C=170

CORTE A-A



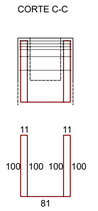
1 N7 ø8.0 c/25 C=467

CORTE B-B



1 N8 ø8.0 c/17 C=482

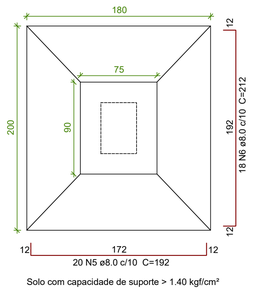
CORTE C-C



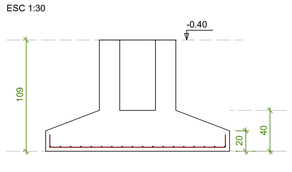
2x2 N11 ø10.0 C=489

SM17

PLANTA
ESC 1:30



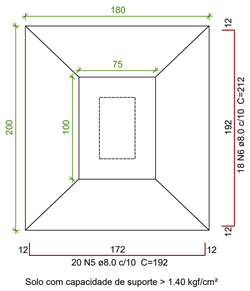
CORTE
ESC 1:30



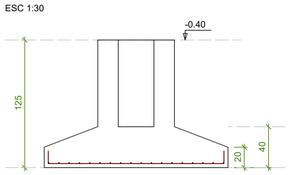
Solo com capacidade de suporte > 1.40 kgf/cm²
Solo compactado sobre a sapata
peso específico > 1800.00 kgf/m³

SM10=SM11=SM14=SM15

PLANTA
ESC 1:30



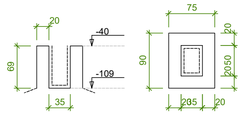
CORTE
ESC 1:30

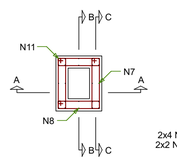


Solo com capacidade de suporte > 1.40 kgf/cm²
Solo compactado sobre a sapata
peso específico > 1800.00 kgf/m³

Cálice PM17

ESC 1:50

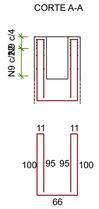




2x4 N9 ø8.0 c/4 C=200
2x2 N9 ø8.0 c/22 C=200

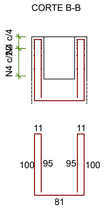
2x4 N4 ø8.0 c/4 C=170
2x2 N4 ø8.0 c/22 C=170

CORTE A-A



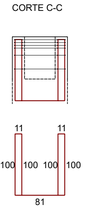
1 N7 ø8.0 c/25 C=467

CORTE B-B



1 N8 ø8.0 c/17 C=482

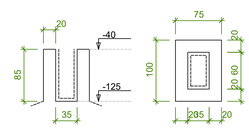
CORTE C-C

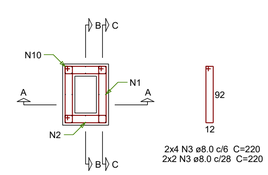


2x2 N11 ø12.5 C=489

Cálice (PM10=PM11=PM14=PM15)

ESC 1:50

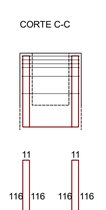




2x4 N3 ø8.0 c/6 C=220
2x2 N3 ø8.0 c/28 C=220

2x4 N4 ø8.0 c/6 C=170
2x2 N4 ø8.0 c/28 C=170

CORTE A-A



1 N1 ø8.0 c/30 C=531

CORTE B-B



1 N2 ø8.0 c/17 C=556

CORTE C-C



2x2 N10 ø10.0 C=563

CARIMBOS E ANOTAÇÕES:

Engenharia DO PROJETO
ENGENHARIA E CONSTRUÇÕES
ECP ENGENHARIA LTDA - ME | CNPJ: 22.076.288/0001-10 | CREA PR 58554
RUA CAMPO LARGO, 177 - BAIRRO INDUSTRIAL - FRANCISCO BELTRÃO / PR - 46 3057 4411
E-MAIL: EVANDRO@ENGENHARIADOPROJETO.COM SITE: WWW.ENGENHARIADOPROJETO.COM
REGISTRO EMPRESA - CREA-PR 58554 | CREA-SC 152934-7

Evandro Cordeiro Pinto
Engenheiro Civil
CREA PR-144725/D
CREA SC-148171-8

AUTOR DO PROJETO:
EVANDRO CORDEIRO PINTO
ENGENHEIRO CIVIL - CREA PR-144725/D

RESPONSÁVEL TÉCNICO - OBRA:

PROPRIETÁRIO:
MUNICÍPIO DE IPUAÇU
95.993.028/0001-83

TIPO:
PROJETO ESTRUTRAL

OBRA:
GINÁSIO MUNICIPAL

ÁREA:
766,68 M²

PROPRIETÁRIO:
MUNICÍPIO DE IPUAÇU

LOCALIZAÇÃO:
RUA ARISTIDES XAVIER DOS SANTOS / RUA NEORI DOMINGOS RABAIOLI - IPUAÇU SC

REFERENCIA:
ARMAÇÃO DAS FUNDAÇÃO - SAPATAS E CÁLICES

ESCALA:	ART Nº:	DESENHO / CAD:	DATA:
INDICADA	6426100-6	E.C.P.	DEZEMBRO / 2017

PROJETO: 0334
TIPO: ES
FOLHA: 7 / 11