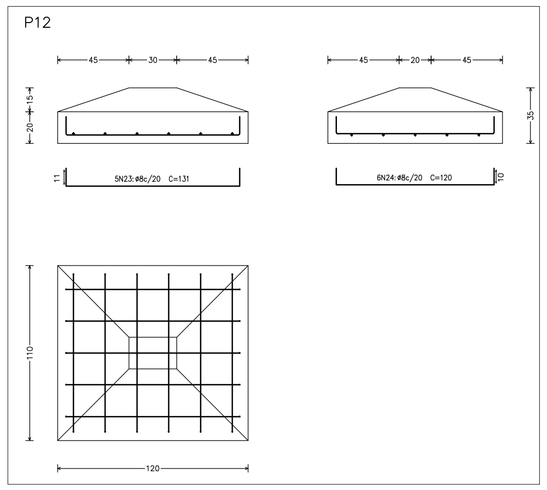
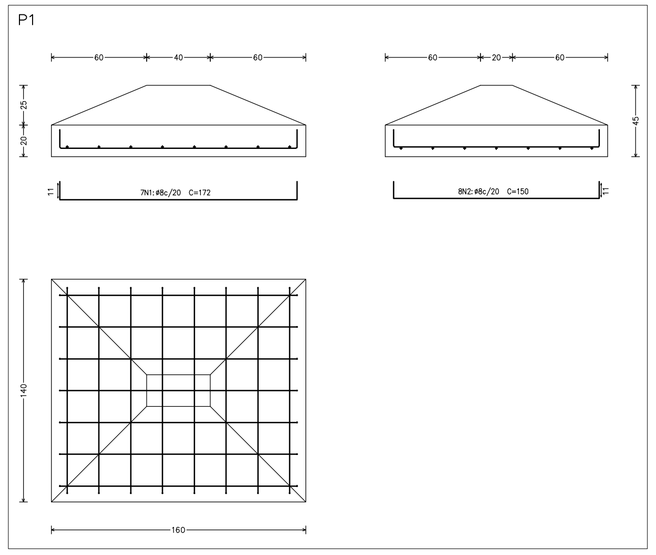
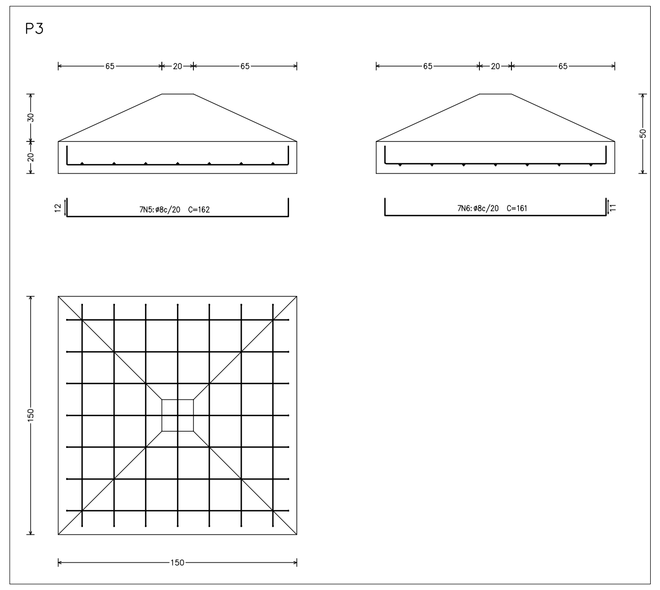
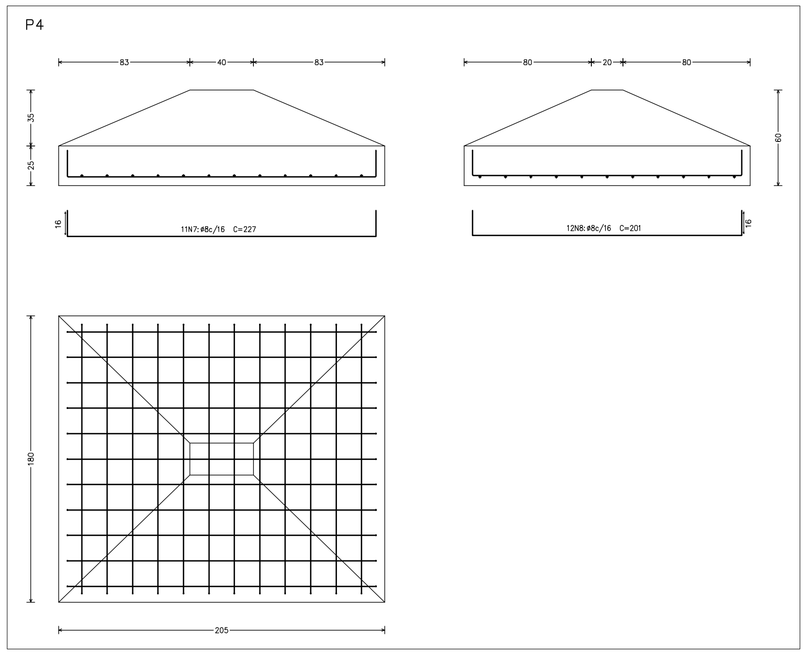




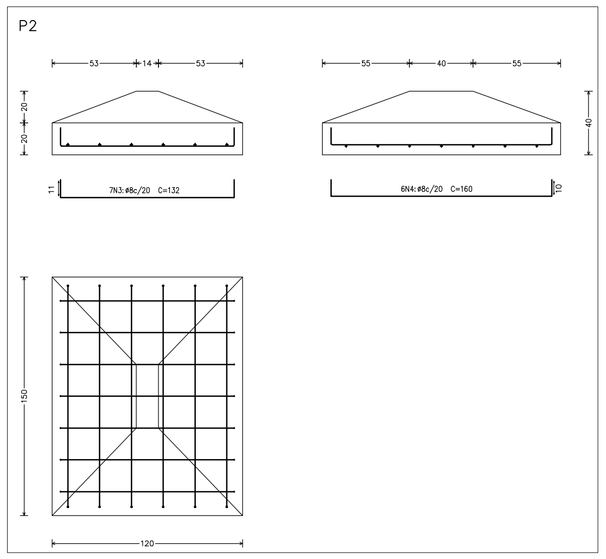


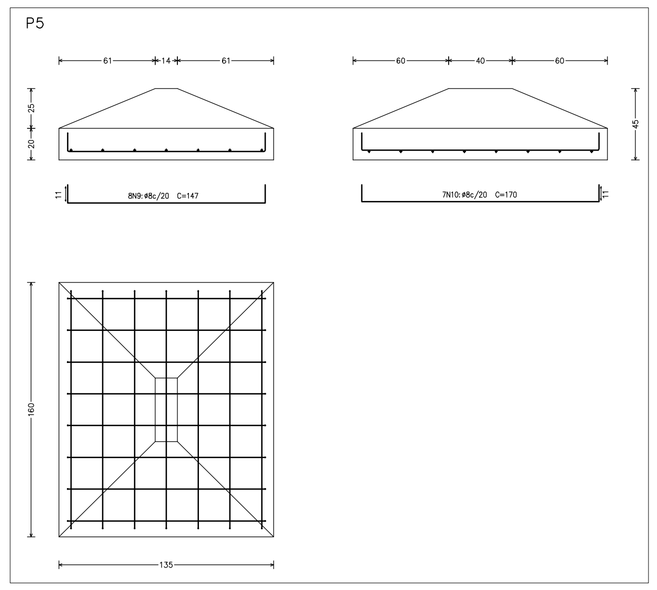


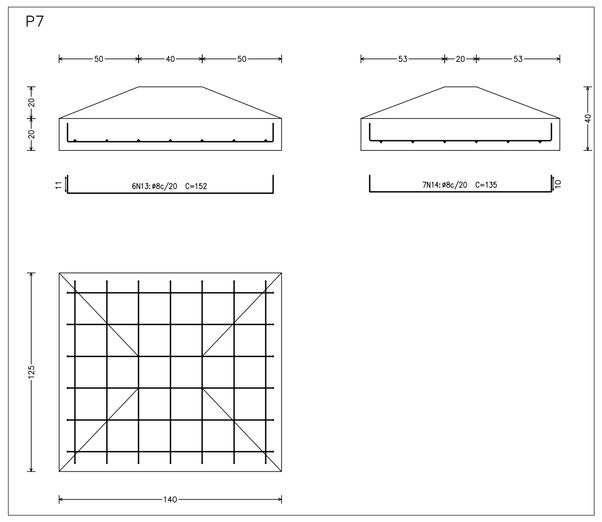
Elemento	Pos.	Diam.	Q.	Dob. (cm)	Reta (cm)	Dob. (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
P1	1	ø8	7	11	150	11	173	1204	4.8	
	2	ø8	8	11	128	11	150	1200	4.7	
								Total+10%	10.5	
P2	3	ø8	7	11	110	11	132	924	3.6	
	4	ø8	6	10	140	10	160	960	3.9	
								Total+10%	10.5	
P3	5	ø8	7	12	138	12	162	1134	4.5	
	6	ø8	7	11	139	11	161	1127	4.5	
								Total+10%	9.9	
P4	7	ø8	11	16	195	16	227	2497	9.9	
	8	ø8	12	16	169	16	201	2412	9.5	
								Total+10%	21.3	
P5	9	ø8	8	11	125	11	147	1176	4.6	
	10	ø8	7	11	148	11	170	1190	4.7	
								Total+10%	10.2	
P6	11	ø8	8	11	155	11	177	1416	5.6	
	12	ø8	8	11	144	11	166	1328	5.2	
								Total+10%	11.9	
P7	13	ø8	6	11	130	11	152	912	3.6	
	14	ø8	7	10	115	10	135	945	3.7	
								Total+10%	8.0	
P8	15	ø8	6	11	113	11	137	822	3.2	
	16	ø8	6	11	108	11	130	780	3.1	
								Total+10%	6.9	
P9	17	ø8	7	11	105	11	127	889	3.5	
	18	ø8	6	10	135	10	155	930	3.7	
								Total+10%	7.9	
P10	19	ø8	5	11	105	11	127	635	2.5	
	20	ø8	6	10	95	10	115	690	2.7	
								Total+10%	5.7	
P11	21	ø8	7	11	140	11	162	1134	4.5	
	22	ø8	7	11	124	11	146	1022	4.0	
								Total+10%	9.4	
P12	23	ø8	5	11	109	11	131	655	2.6	
	24	ø8	6	10	100	10	120	720	2.8	
								Total+10%	5.9	
								ø8:	118.1	0.0

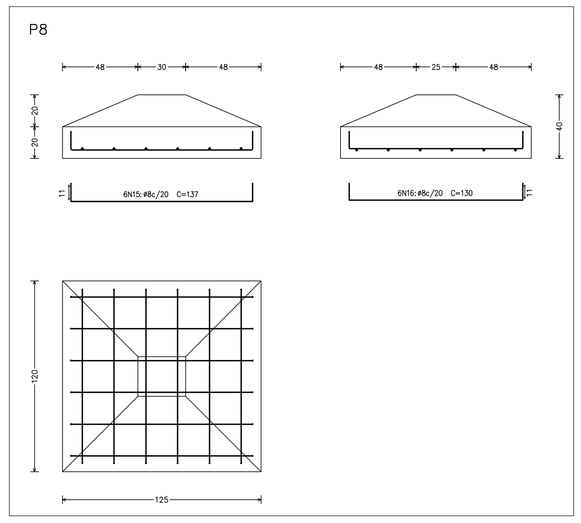
QUADRO DE ELEMENTOS DE FUNDAÇÃO				
Referências	Dimensões (cm)	Altura (cm)	Armadura inf. X	Armadura inf. Y
P1	160x140	45 / 20	7ø8c/20	8ø8c/20
P2	120x150	40 / 20	7ø8c/20	6ø8c/20
P3	150x150	50 / 20	7ø8c/20	7ø8c/20
P4	205x180	60 / 25	11ø8c/16	13ø8c/16
P5	135x160	45 / 20	8ø8c/20	7ø8c/20
P6	165x155	50 / 20	8ø8c/19	9ø8c/19
P7	140x125	40 / 20	6ø8c/20	7ø8c/20
P8	125x120	40 / 20	6ø8c/20	6ø8c/20
P9	115x145	40 / 20	7ø8c/20	6ø8c/20
P10	115x105	35 / 20	5ø8c/20	6ø8c/20
P11	150x135	45 / 20	7ø8c/20	7ø8c/20
P12	120x110	35 / 20	5ø8c/20	6ø8c/20

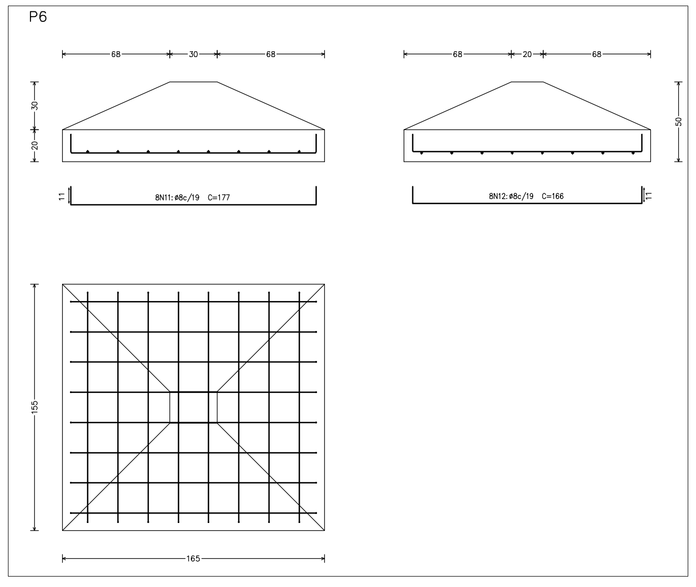
Resumo Aço Fundação			
Detalhamento fundação	Comp. total (m)	Peso+10% (kg)	Total
CA-50 ø8	267.0	119	119

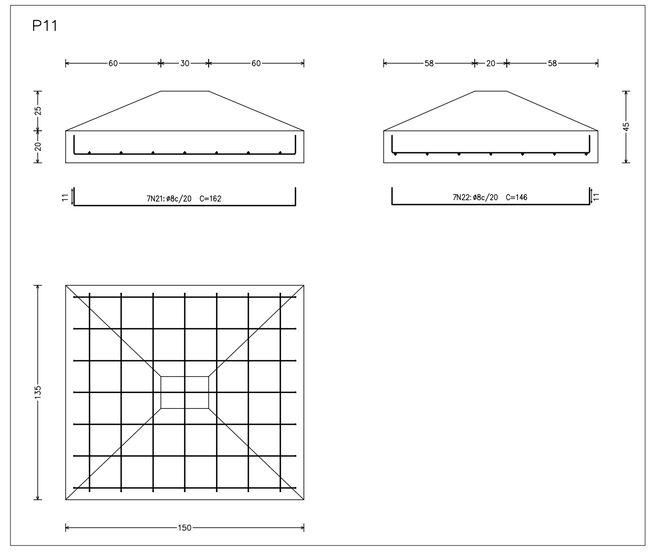


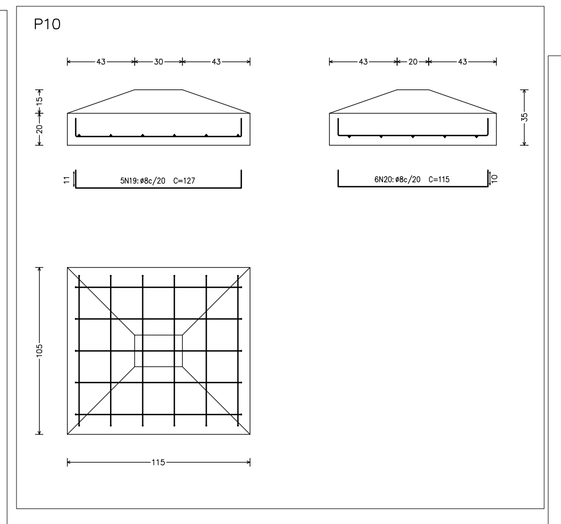


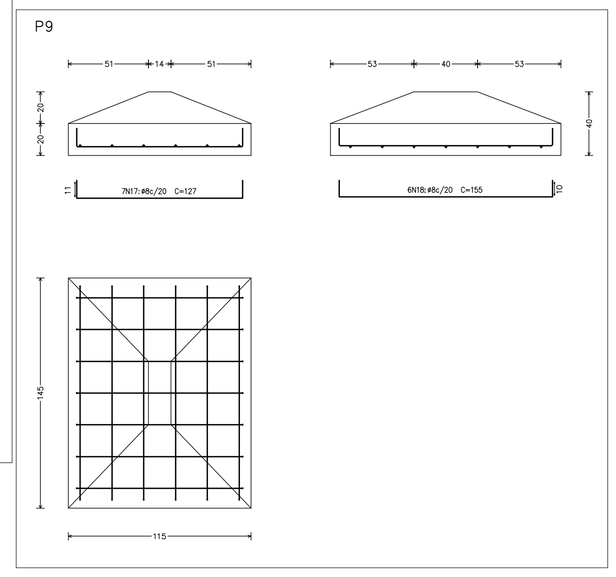












Concreto 30MPa

REVISÕES				
NÚMERO	DATA	DESCRIÇÃO	DESENHO	VERIF.

PROJETO ESTRUTURAL

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CAU/SC 34701-9
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CREA/SC 147.347-0
Eng.º Eletricista Eduardo Marcelo da Silva
CREA/SC 107.293-8
Eng.º Mecânico Fábio Domingos Guimarães
CREA/SC 075.436-1
Arquiteto e Urbanista David Tartari
CAU/SC A118224-2

RESPONSÁVEL PELO PROJETO
Eng.º Civil Celso Zanoni Filho

PROPRIETÁRIO LOCAL DA OBRA

Pref. Mun. Governador Celso Ramos
CNPJ: 82.892.373/0001-89

ESCOLA MUNICIPAL PROF. ALAÍDE DA SILVA MAFRA

Rua Joaquim Coelho
Bairro Areias do Meio - Governador Celso Ramos /SC

APROVAÇÃO

CONTEÚDO: - Sapatas

CAD	ÁREA	DATA	OBRA	PRANCHA	ESCALA
C.Z.F	168.17m²	Set/2019	439	SA 01 / 01	INDIC.

BL - BLOCOS / CA - CARGAS / ES - ESCADAS / FO - FORMAS / LA - LAJES / LO - LOCAÇÃO / PI - PILARES/ SA -SAPATAS/VI-VIGAS
HI - HIDROSSANITÁRIO / DR - DRENAGEM / PR - PREVENTIVO CONTRA INCÊNDIO
EL - ELÉTRICO / TE - TELEFÔNICO