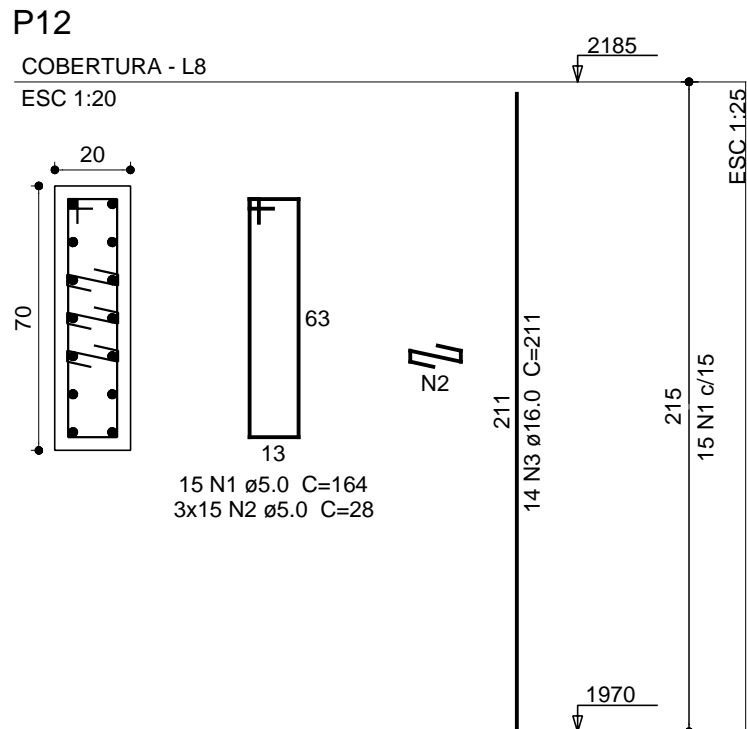
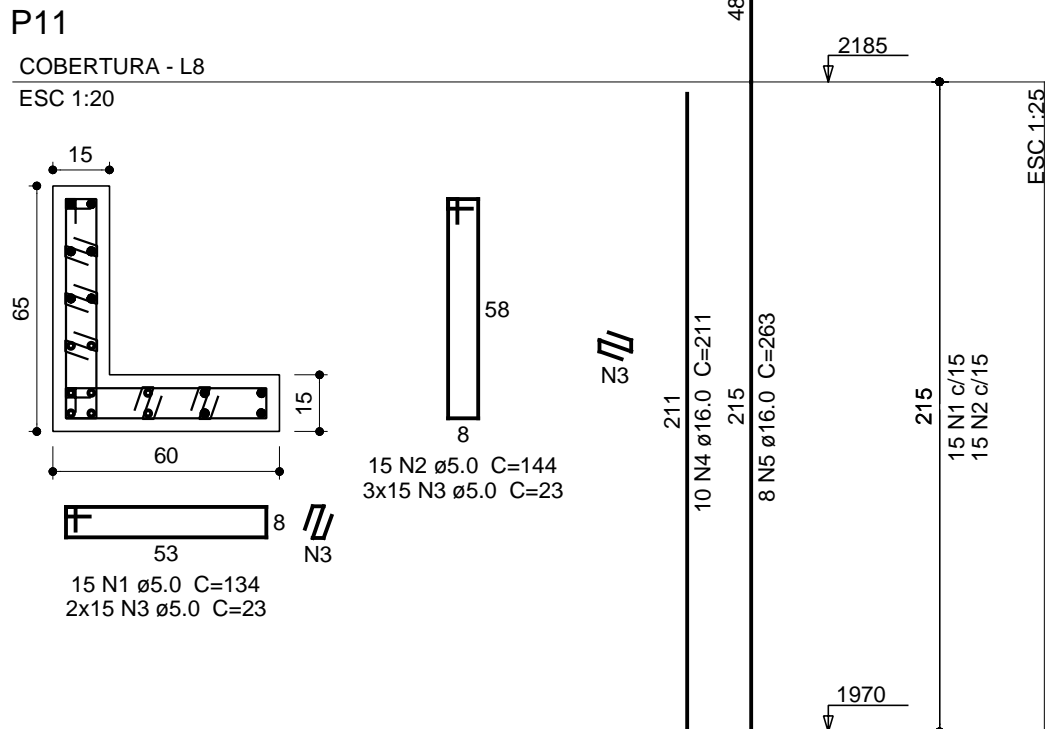
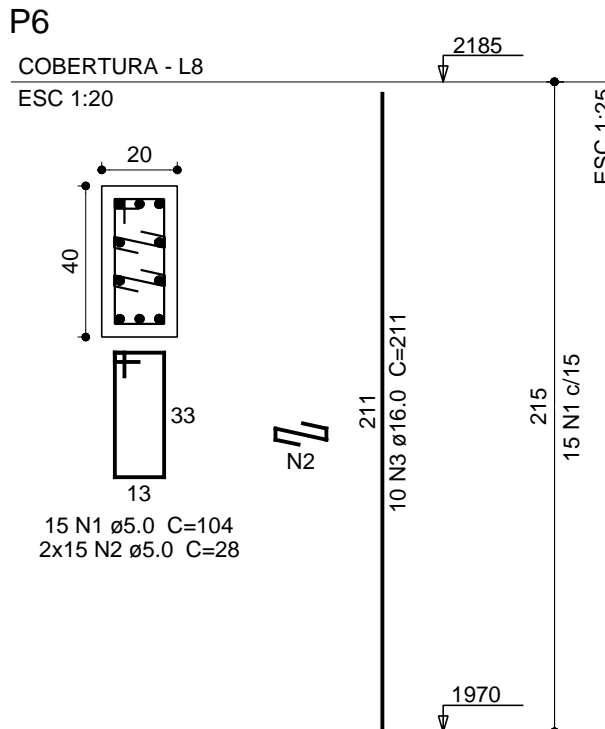
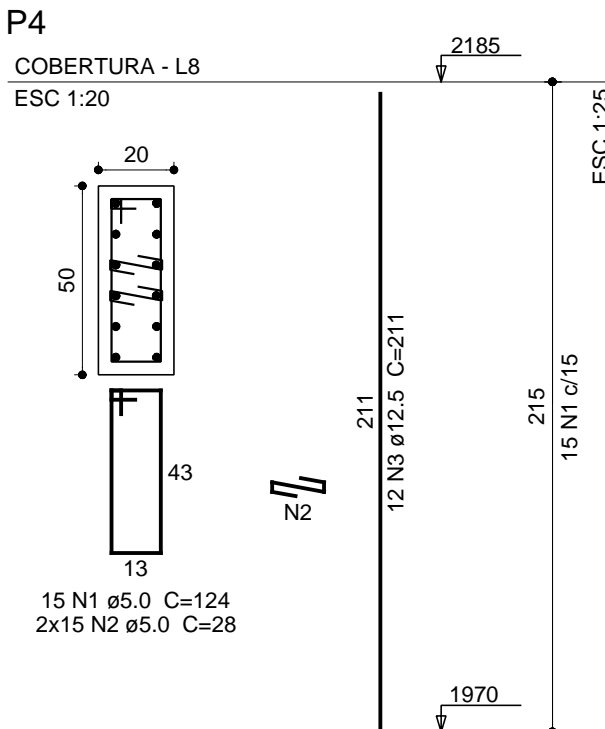


PENAS			
RED	0.1mm	BLACK	
YELLOW	0.2mm	BLACK	
GREEN	0.3mm	BLACK	
CYAN	0.4mm	BLACK	
BLUE	0.5mm	BLACK	
MAGENTA	0.6mm	BLACK	
10	0.1mm	10	
40	0.1mm	40	
80	0.1mm	80	
120	0.1mm	120	
160	0.2mm	160	
200	0.2mm	200	



Relação do aço

ELEMENTO	AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
P4	CA60	1	5.0	15	124	1860
	CA60	2	5.0	30	28	840
P6	CA50	3	12.5	12	211	2532
	CA60	1	5.0	15	104	1560
P11	CA60	2	5.0	30	28	840
	CA50	3	16.0	10	211	2110
P12	CA60	1	5.0	15	134	2010
	CA60	2	5.0	15	144	2160
P12	CA60	3	5.0	75	23	1725
	CA50	4	16.0	10	211	2110
P12	CA50	5	16.0	8	263	2104
	CA60	1	5.0	15	164	2460
P12	CA60	2	5.0	45	28	1260
	CA50	3	16.0	14	211	2954

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO (kg)
CA50	12.5	25.4	24.4
CA50	16.0	92.8	146.4
CA60	5.0	147.2	22.7
PESO TOTAL (kg)			
CA50	170.8		
CA60	22.7		

Volume de concreto (C35) = 1.04 m³
Área de forma = 14.84 m²

Relação do aço

ELEMENTO	AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
P4	CA60	1	5.0	17	124	2108
	CA60	2	5.0	34	28	952
P5	CA50	3	12.5	12	293	3516
	CA60	1	5.0	17	104	1768
P6	CA60	2	5.0	17	114	1938
	CA60	3	5.0	17	28	476
P10	CA50	4	16.0	14	303	4242
	CA60	1	5.0	17	104	1768
P11	CA60	2	5.0	34	28	952
	CA50	3	16.0	10	303	3030
P12	CA60	1	5.0	22	94	2068
	CA50	2	10.0	8	251	2008
P12	CA60	1	5.0	22	84	1848
	CA50	2	10.0	12	251	3012
P12	CA60	1	5.0	17	134	2278
	CA60	2	5.0	17	144	2448
P12	CA60	3	5.0	34	23	782
	CA50	4	16.0	12	96	1152
P12	CA50	5	16.0	12	303	3636
	CA60	1	5.0	17	164	2788
P12	CA60	2	5.0	51	28	1428
	CA50	3	16.0	14	303	4242

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO (kg)
CA50	10.0	50.2	31
CA50	12.5	35.2	33.3
CA50	16.0	163.1	257.3
CA60	5.0	236.1	36.4
PESO TOTAL (kg)			
CA50	322.1		
CA60	36.4		

Volume de concreto (C35) = 1.89 m³
Área de forma = 27.54 m²

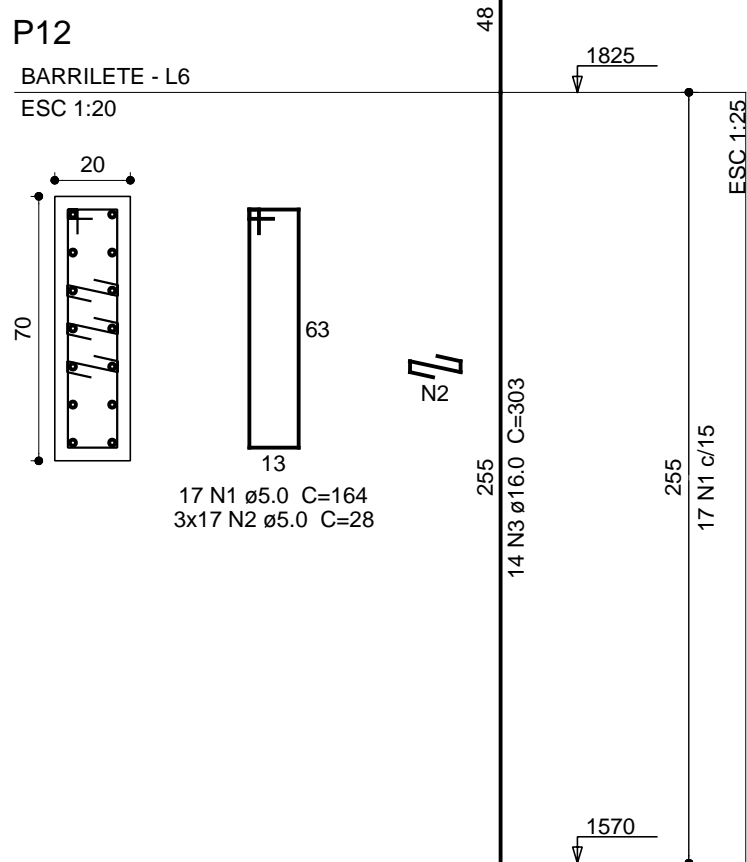
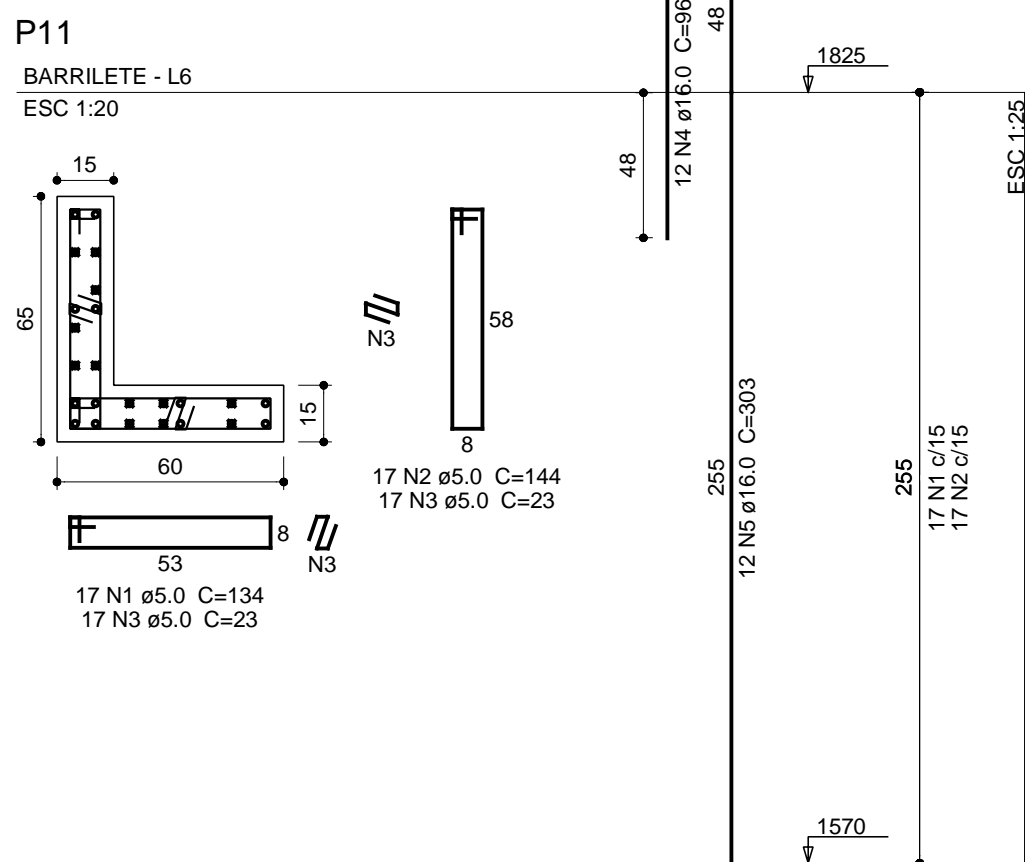
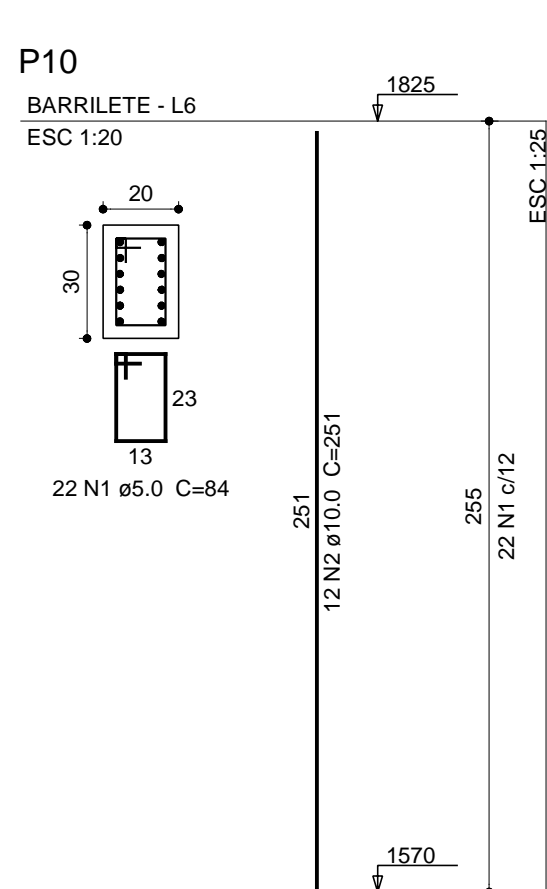
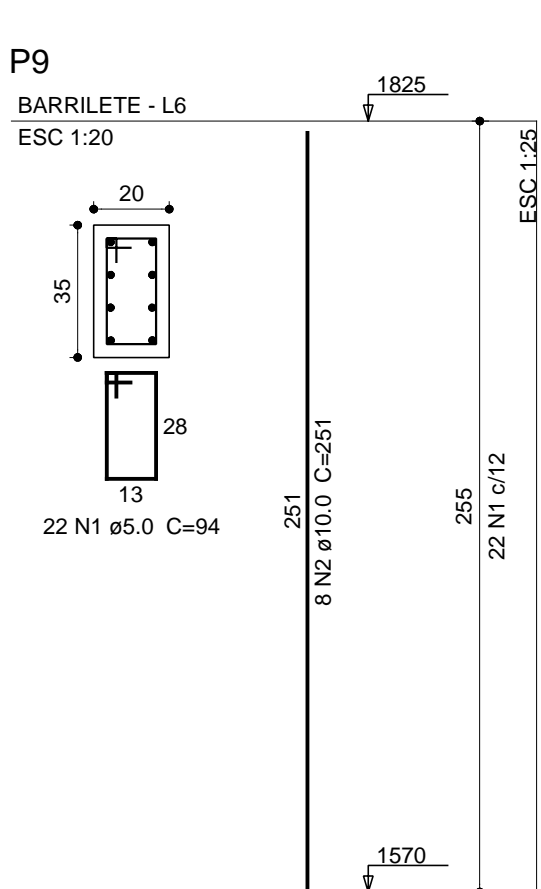
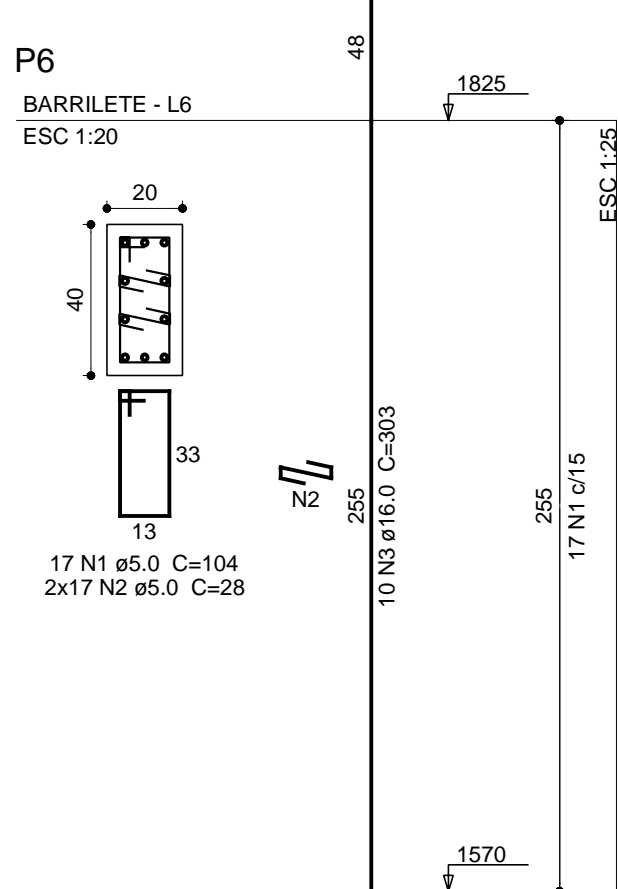
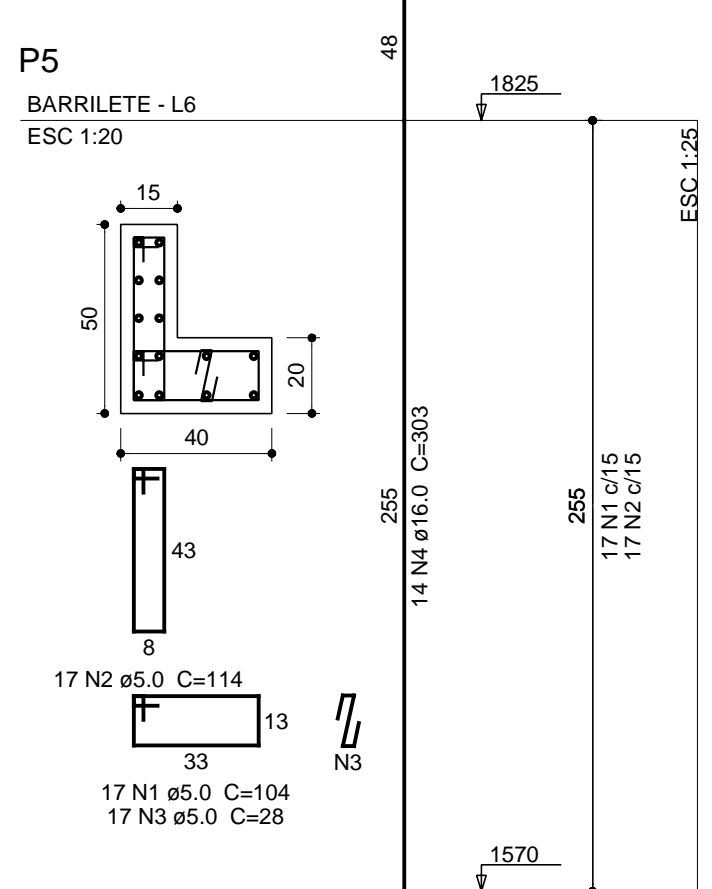
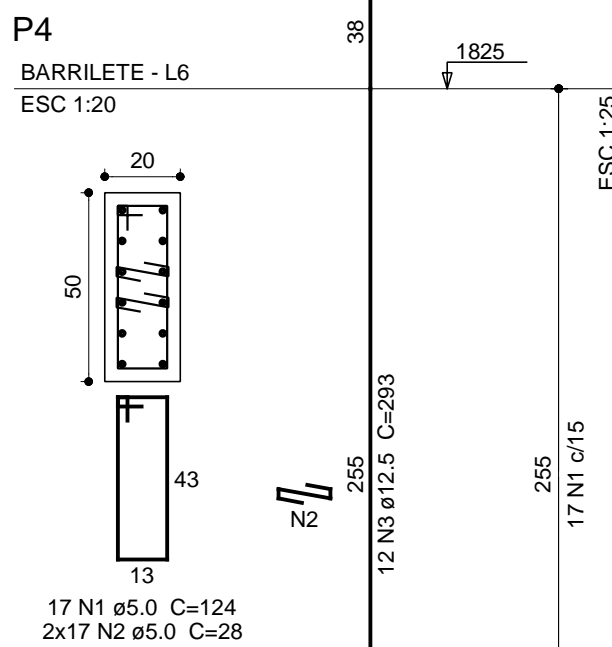
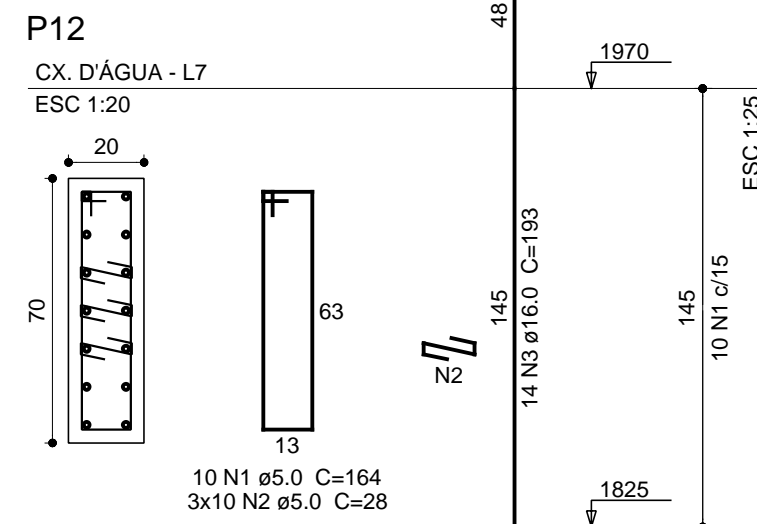
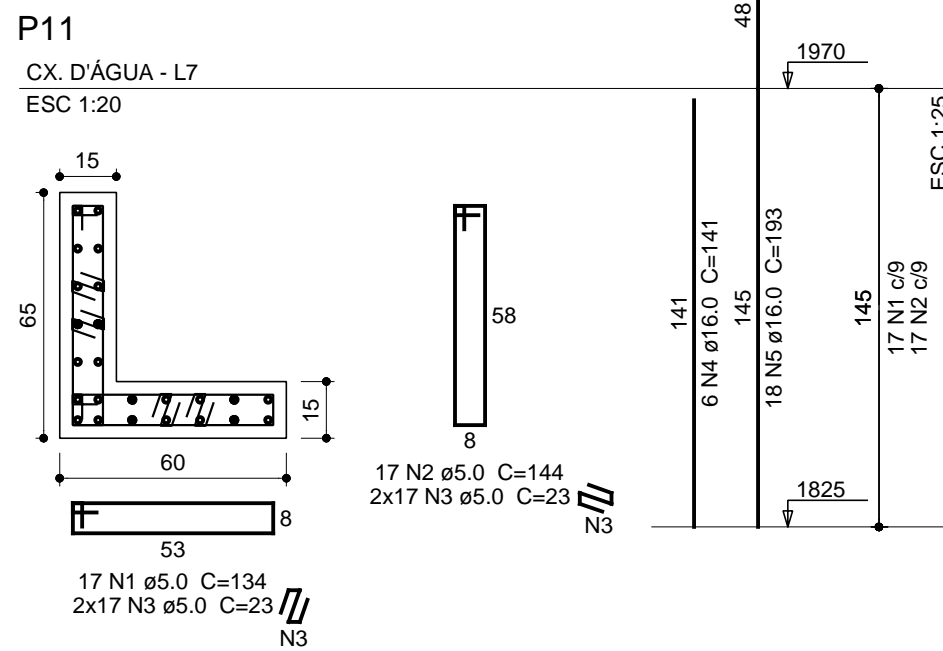
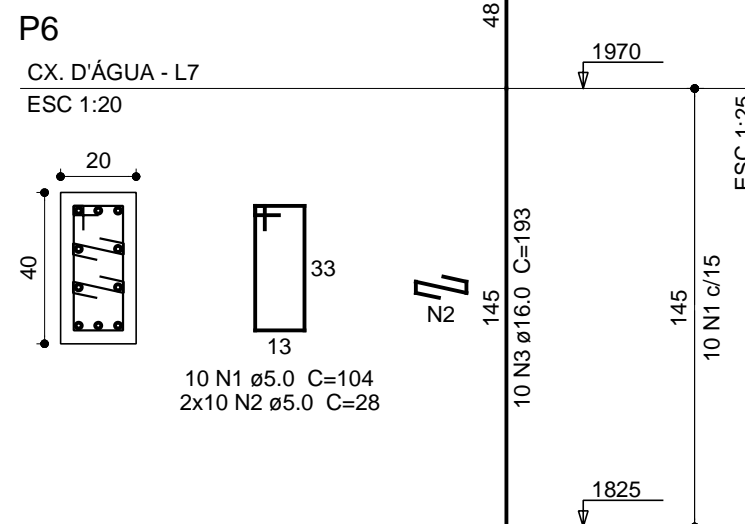
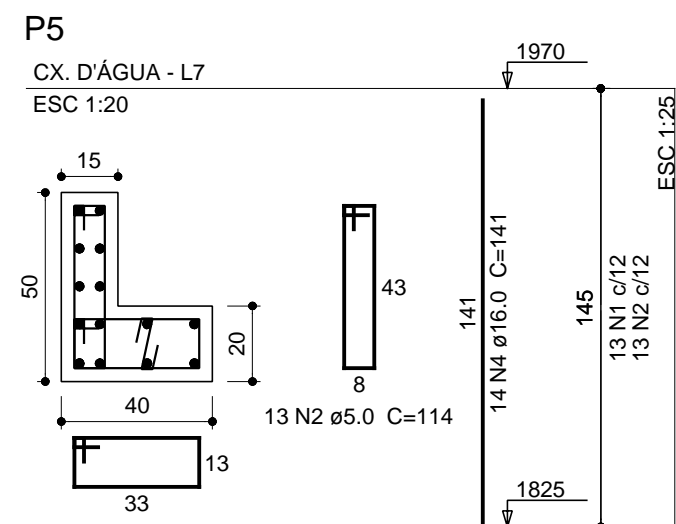
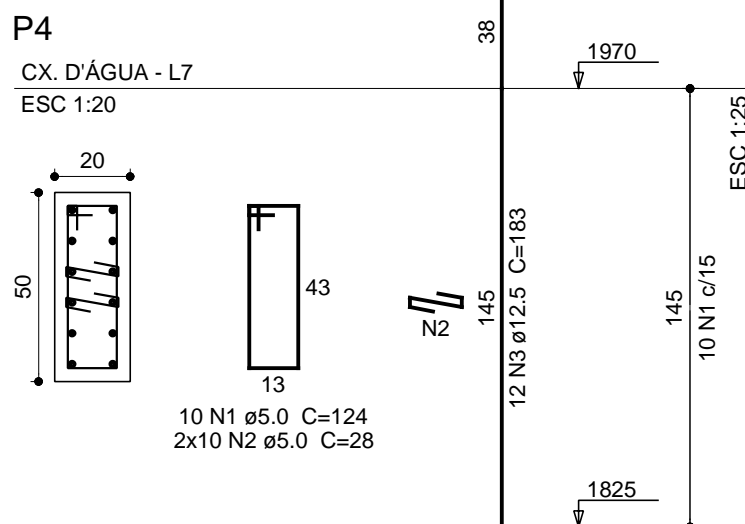
Relação do aço

ELEMENTO	AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
P4	CA60	1	5.0	10	124	1240
	CA60	2	5.0	20	28	560
P5	CA50	3	12.5	12	183	2196
	CA60	1	5.0	13	104	1352
P6	CA60	2	5.0	13	114	1482
	CA60	3	5.0	13	28	364
P11	CA50	4	16.0	14	141	1974
	CA60	1	5.0	10	104	1040
P12	CA60	2	5.0	20	28	560
	CA50	3	16.0	10	193	1930
P12	CA60	1	5.0	17	134	2278
	CA60	2	5.0	17	144	2448
P12	CA60	3	5.0	68	23	1564
	CA50	4	16.0	6	141	846
P12	CA50	5	16.0	18	193	3474
	CA60	1	5.0	10	164	1640
P12	CA60	2	5.0	30	28	840
	CA50	3	16.0	14	193	2702

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO (kg)
CA50	12.5	22	21.2
CA50	16.0	109.3	172.4
CA60	5.0	153.7	23.7
PESO TOTAL (kg)			
CA50	193.6		
CA60	23.7		

Volume de concreto (C35) = 0.88 m³
Área de forma = 12.62 m²



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estel@estelengenharia.com.br - www.estelengenharia.com.br

PROJETO N°
1280/16

PROJETO
ESTRUTURAL



CLIENTE
MUNICÍPIO DE PARANAGUÁ

PROJETO
PRÉDIO ADM. DA PREFEITURA DE PARANAGUÁ

CONTEÚDO
ARMAÇÃO DOS PILARES DO ÁTICO

PRANCHA N°

66/75

RESPONSÁVEL TÉCNICO

SÉRGIO LUIZ DO AMARAL LOZOVEY
CREA/SC 13708-0

PROPRIETÁRIO

PREFEITURA DE PARANAGUÁ
UNIDADE DE GERENCIAMENTO DE PROGRAMAS

AUTOR DO PROJETO

SÉRGIO LOZOVEY

CAD

ARLINE DEPINE

DATA

03/2016

REVISÃO

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CONTROLE DE PROJETOS

PROJETO DEFINITIVO (x)

ÁREA

1.850,00 m²

VERIFICAÇÃO

RENATO REIS

ESCALA

IND.

ARQUIVO

1280-EST-66-R0

PROJETO NÃO DEFINITIVO ()