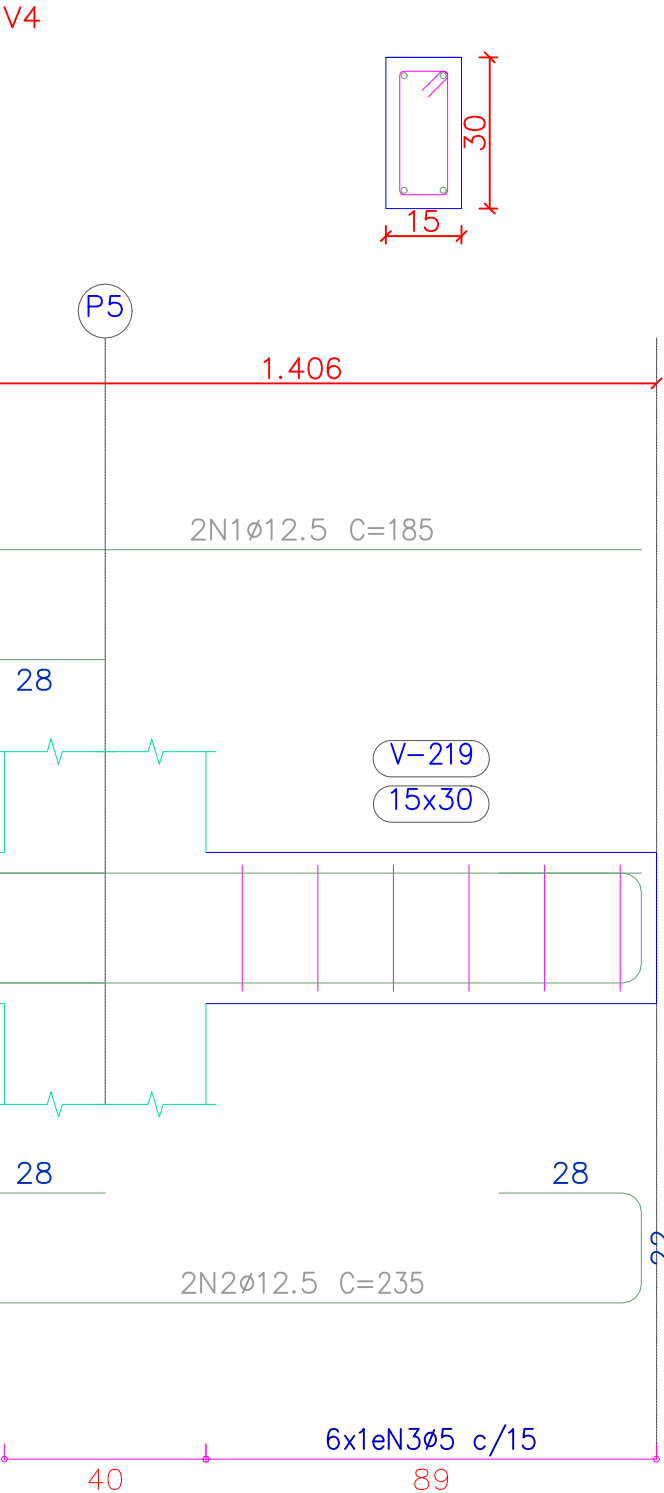
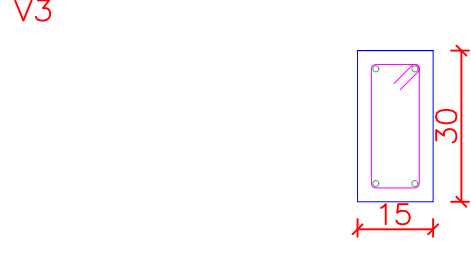
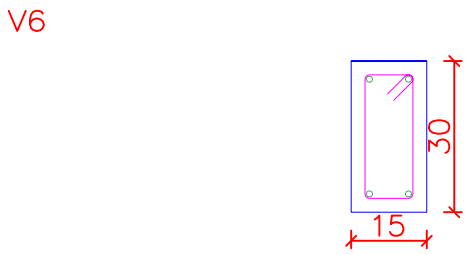
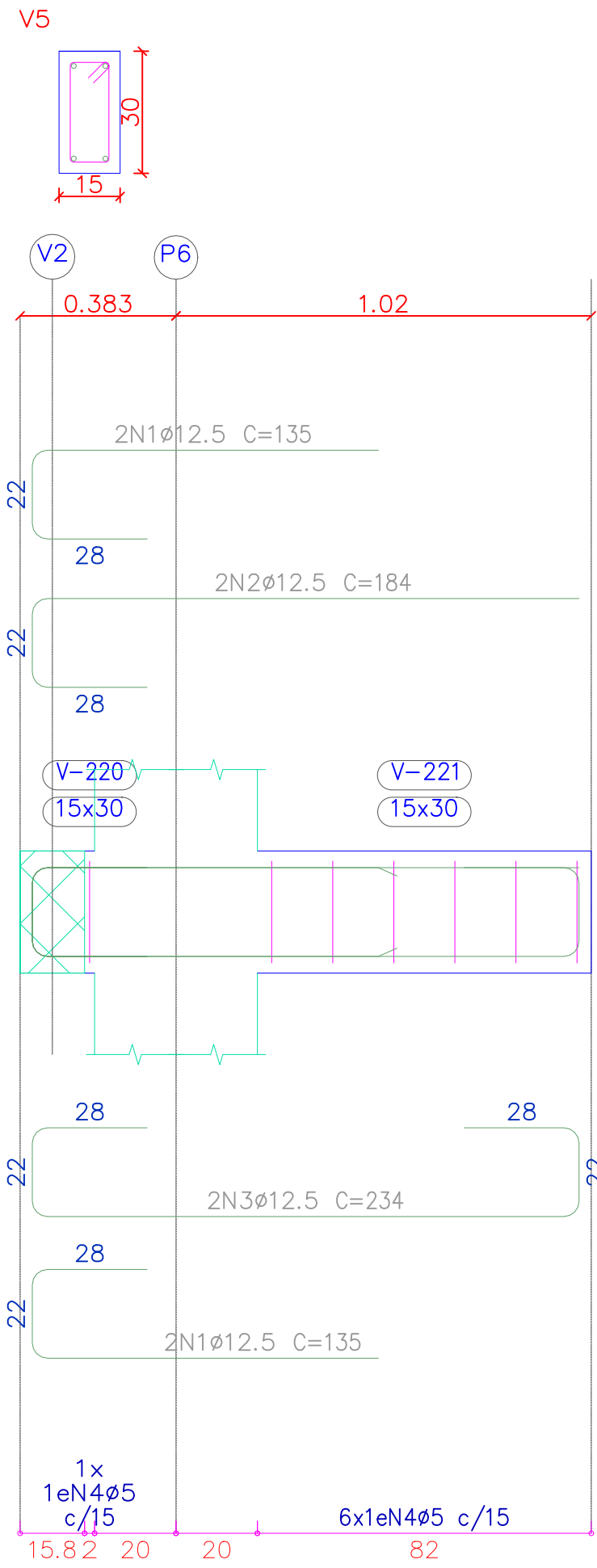


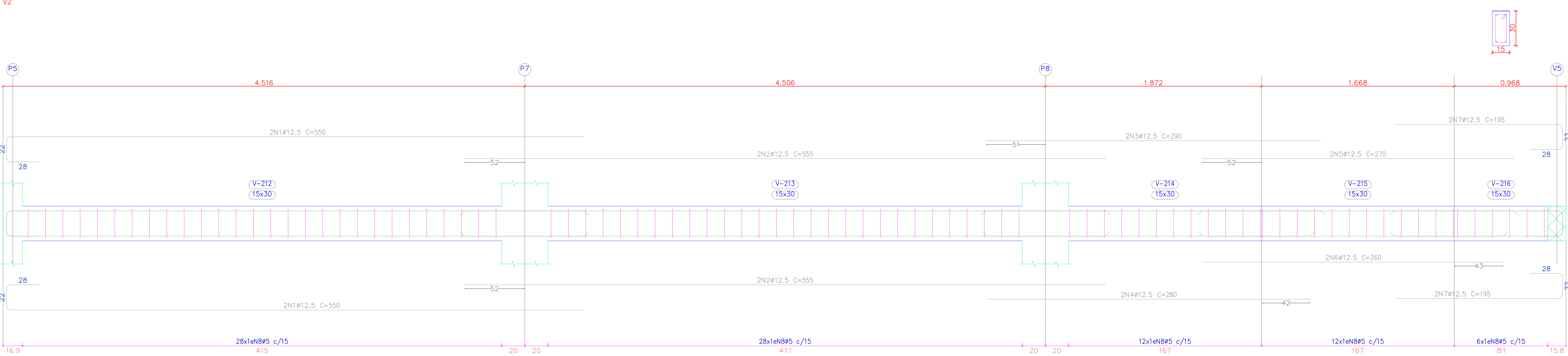
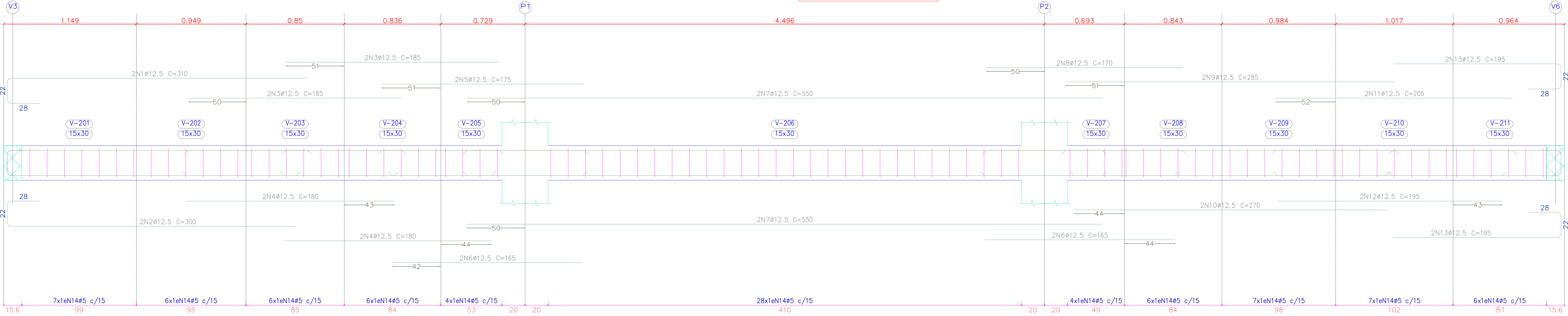
Total obra

Elemento	Fôrmas (m²)	Volume (m³)	Barras (kg)
Blocos de coroamento	11.52	1.730	141
Total	-	1.730	141

Elemento	Fôrmas (m²)	Superfície (m²)	Volume (m³)	Barras (kg)
Vigas	37.12	9.04	2.960	506
Pilares	30.34	-	1.720	216
Total	-	9.04	4.680	722
Índices (por m²)	-	-	0.444	68.50
Superfície total: 10.54 m²				



VIGAS SUPERIOR
Desenho de vigas
Concreto: C30, em geral
Aço das barras: CA-50
Aço dos estribos: CA-50 e CA-60
Escala vigas 1:20
Escala seções 1:20
Escala aberturas 1:20



Elemento	Pos.	Diam.	Q.	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V1	1	ø12.5	2	310	620	6.0	
	2	ø12.5	2	300	600	5.8	
	3	ø12.5	4	185	740	7.1	
	4	ø12.5	4	180	720	6.9	
	5	ø12.5	2	175	350	3.4	
	6	ø12.5	4	165	660	6.4	
	7	ø12.5	4	550	2200	21.2	
	8	ø12.5	2	170	340	3.3	
	9	ø12.5	2	285	570	5.5	
	10	ø12.5	2	270	540	5.2	
	11	ø12.5	2	205	410	3.9	
	12	ø12.5	2	195	390	3.8	
	13	ø12.5	4	195	780	7.5	
	14	ø5	87	78	6786		10.7
Total+10%					94.6	11.8	
V2	1	ø12.5	4	550	2200	21.2	
	2	ø12.5	4	555	2220	21.4	
	3	ø12.5	2	290	580	5.6	
	4	ø12.5	2	280	560	5.4	
	5	ø12.5	2	270	540	5.2	
	6	ø12.5	2	260	520	5.0	
	7	ø12.5	4	195	780	7.5	
	8	ø5	86	78	6708		10.5
Total+10%					78.4	11.6	
V3	1	ø12.5	2	249	498	4.8	
	2	ø12.5	2	299	598	5.8	
	3	ø5	13	78	1014		1.6
Total+10%					11.7	1.8	
V4	1	ø12.5	2	185	370	3.6	
	2	ø12.5	2	235	470	4.5	
	3	ø5	6	78	468		0.7
Total+10%					8.9	0.8	
					ø5:	0.0	26.0
					ø12.5:	193.6	0.0
					Total:	193.6	26.0

Elemento	Pos.	Diam.	Q.	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V5	1	ø12.5	4	135	540	5.2	
	2	ø12.5	2	184	368	3.5	
	3	ø12.5	2	234	468	4.5	
	4	ø5	7	78	546		0.9
Total+10%					14.5	1.0	
V6	1	ø12.5	2	249	498	4.8	
	2	ø12.5	2	299	598	5.8	
	3	ø5	13	78	1014		1.6
Total+10%					11.7	1.8	
					ø5:	0.0	2.8
					ø12.5:	26.2	0.0
					Total:	26.2	2.8

Resumo Aço	Comp. total (m)	Peso+10% (kg)	Total
CA-50	ø12.5	207.3	220
CA-60	ø5	165.4	29
Total			249