

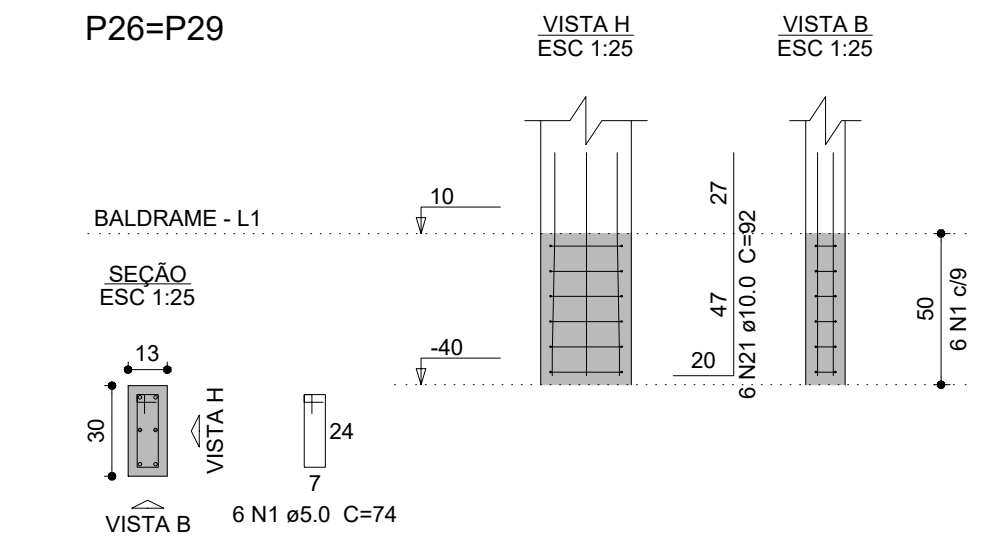
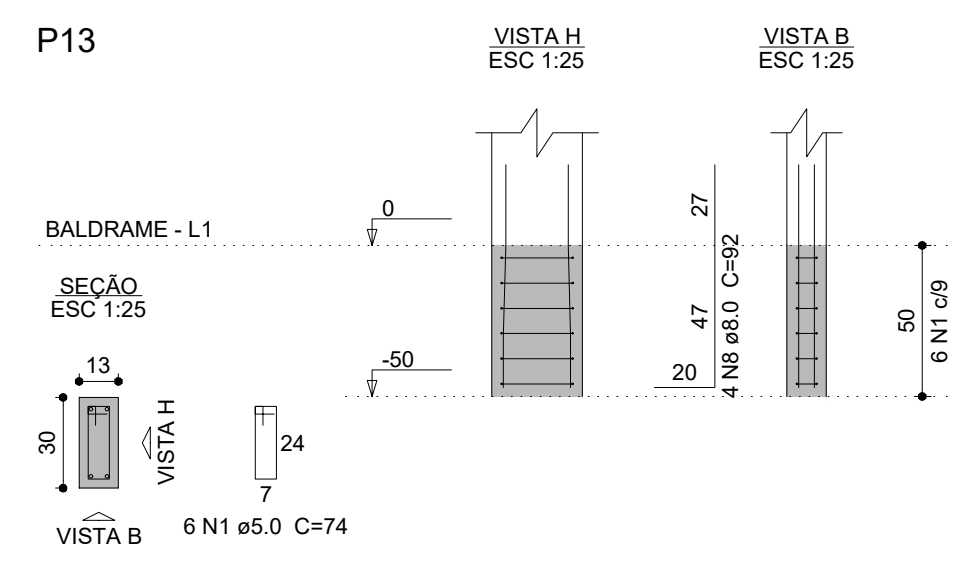
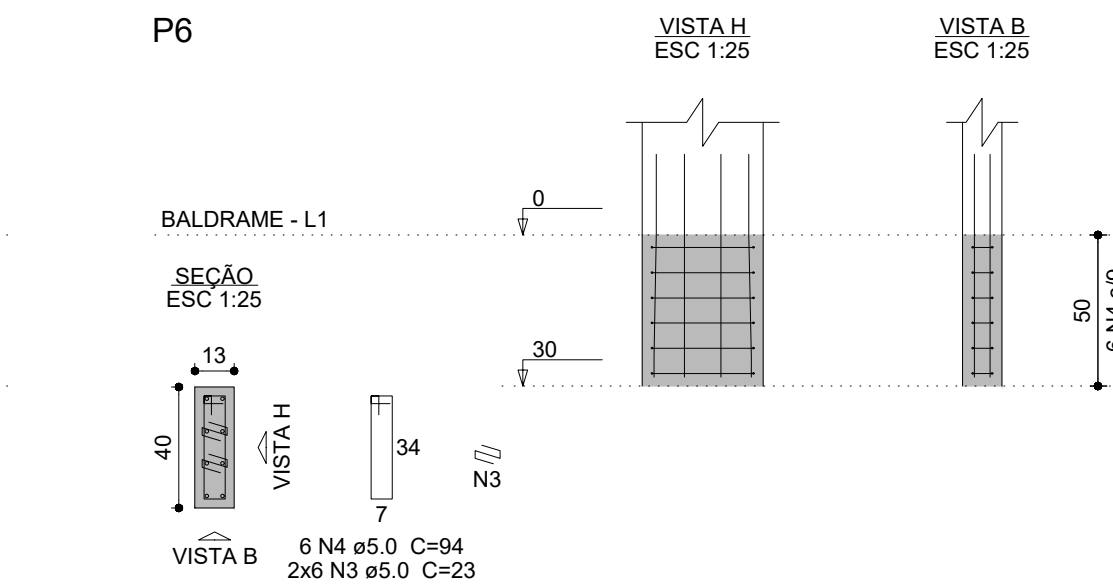
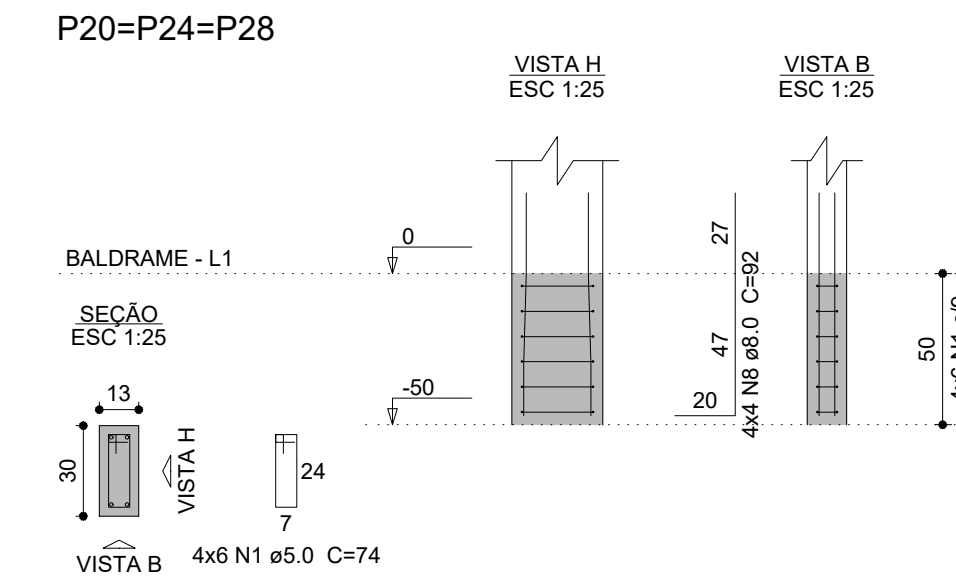
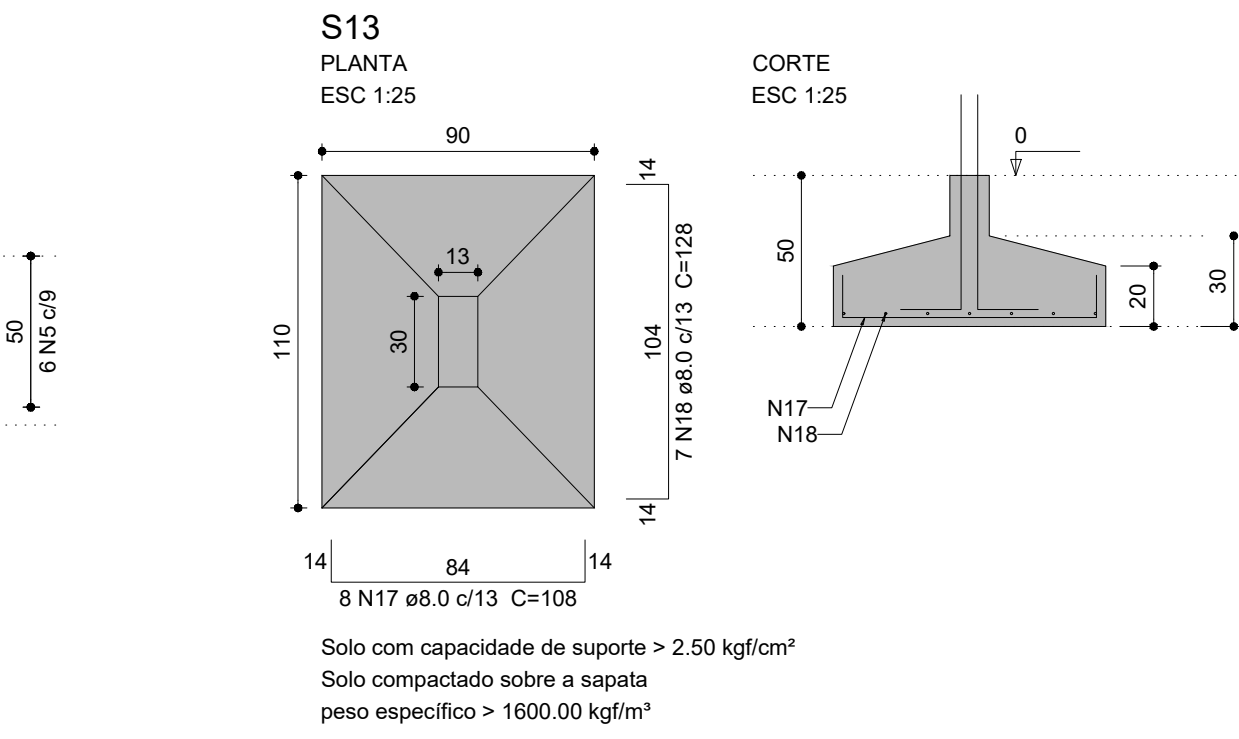
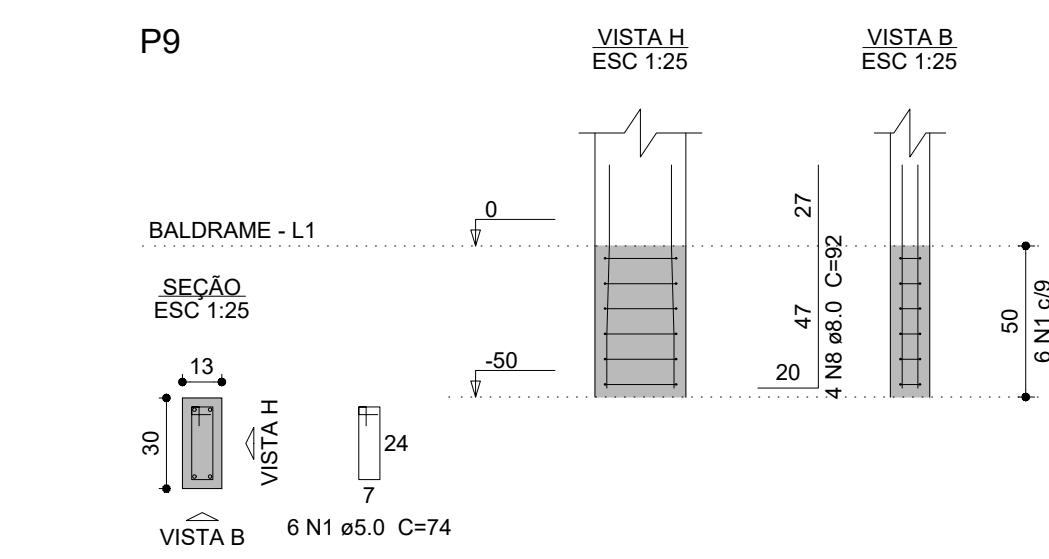
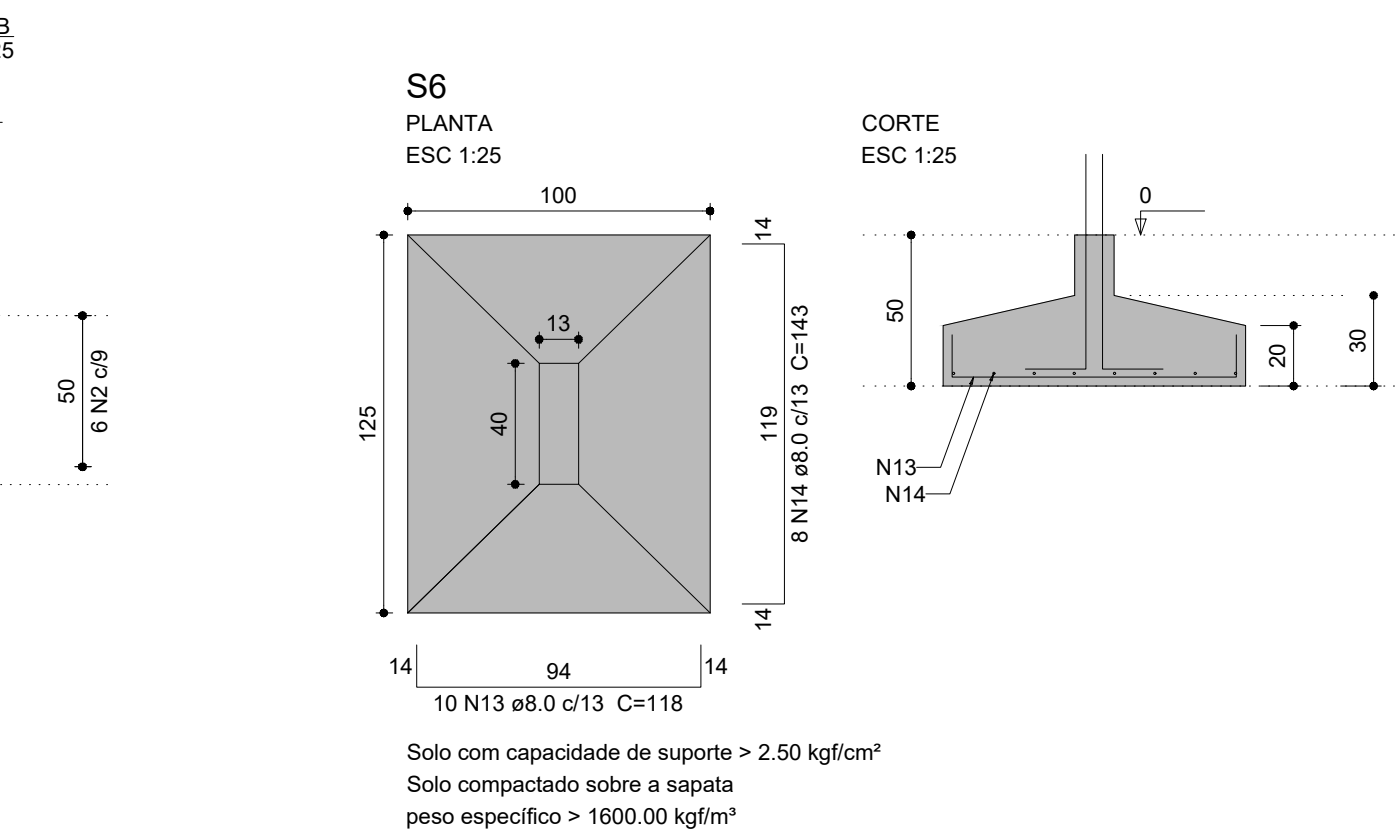
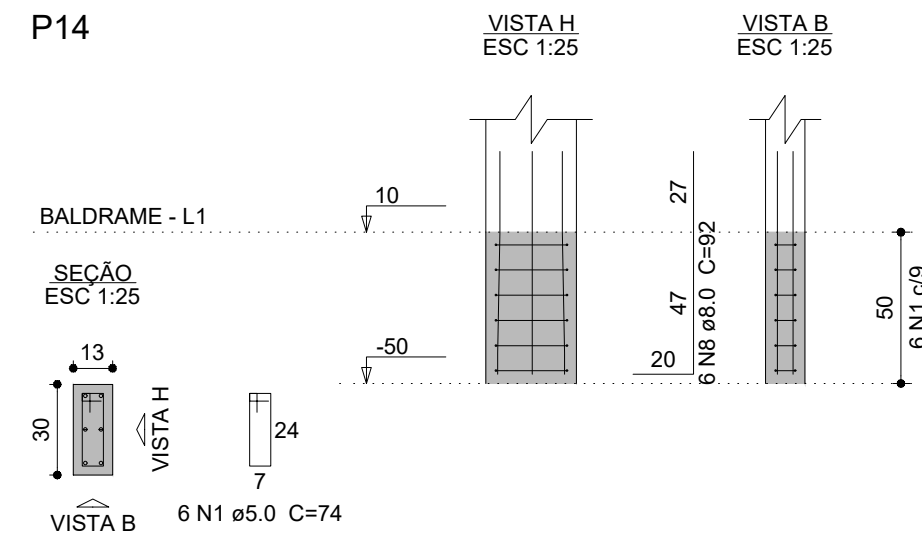
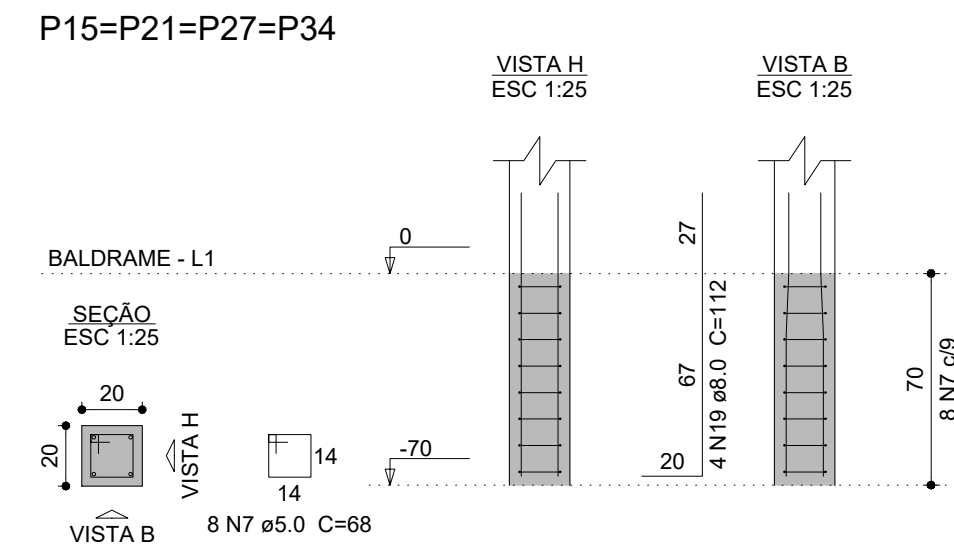
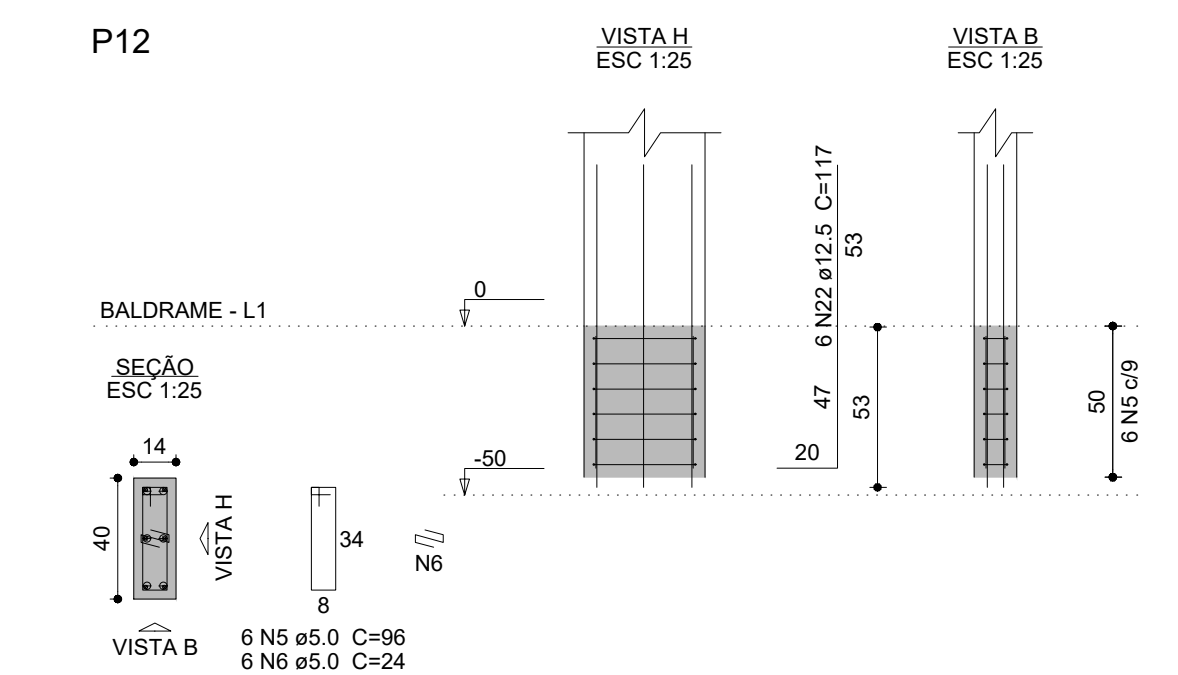
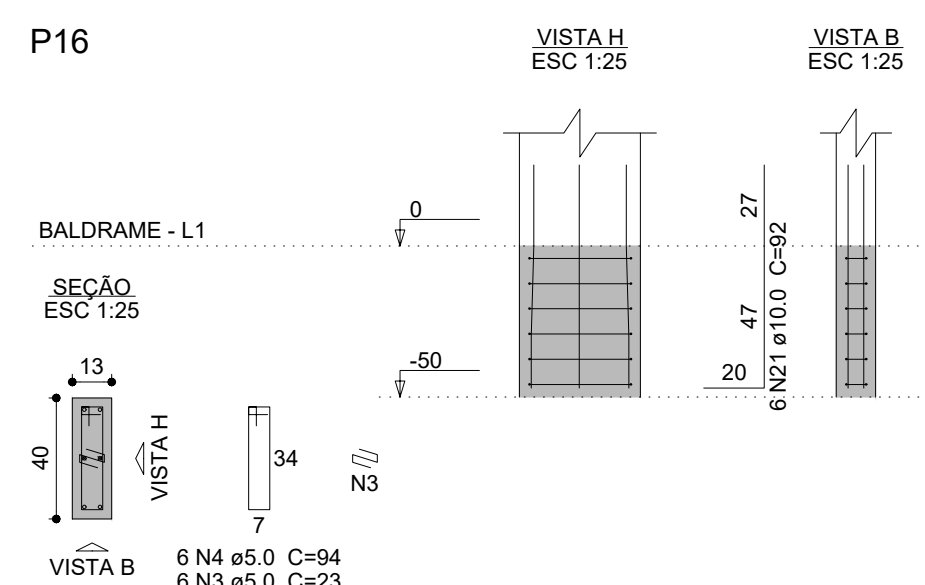
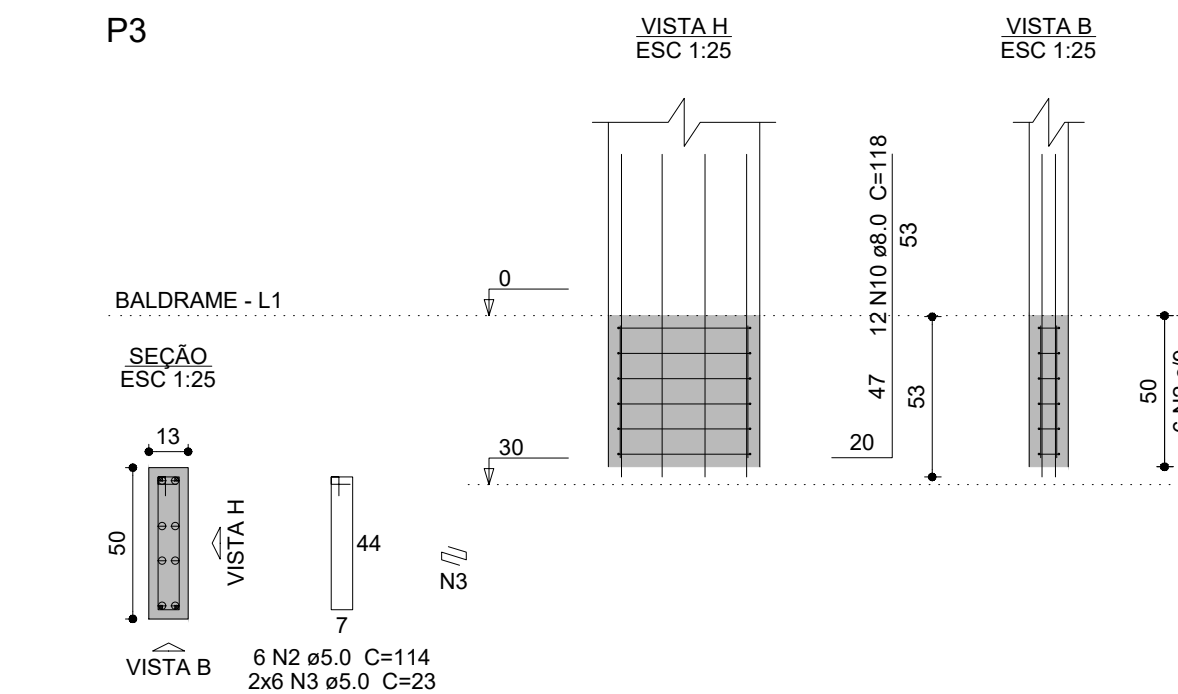
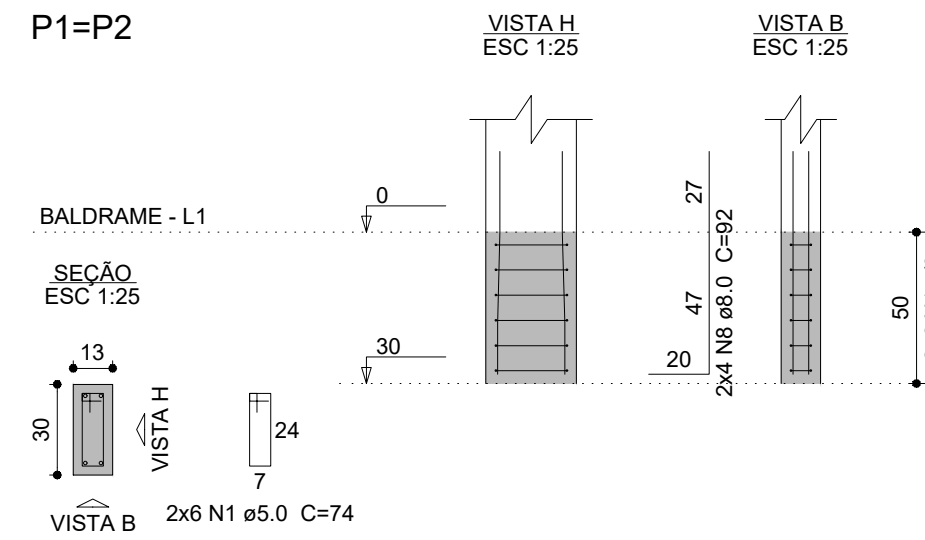
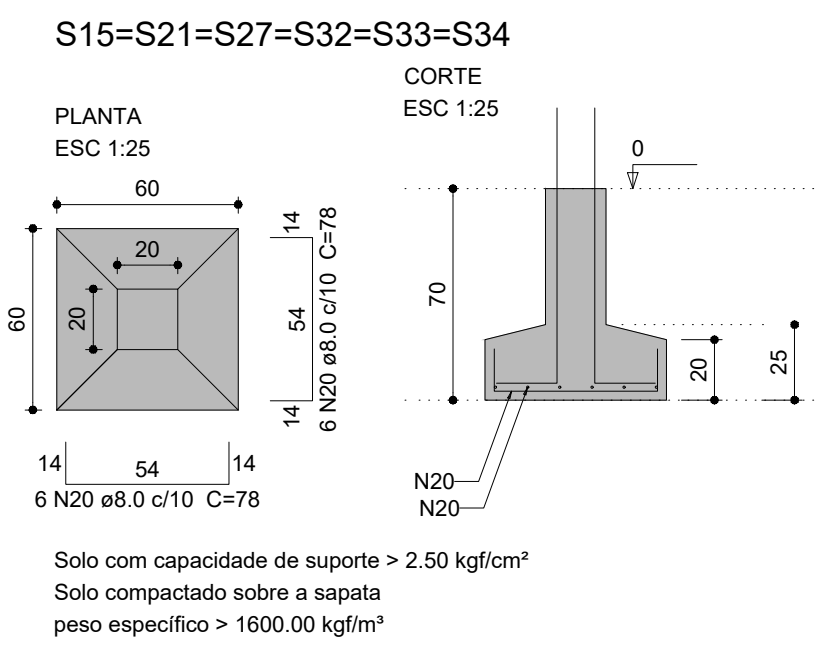
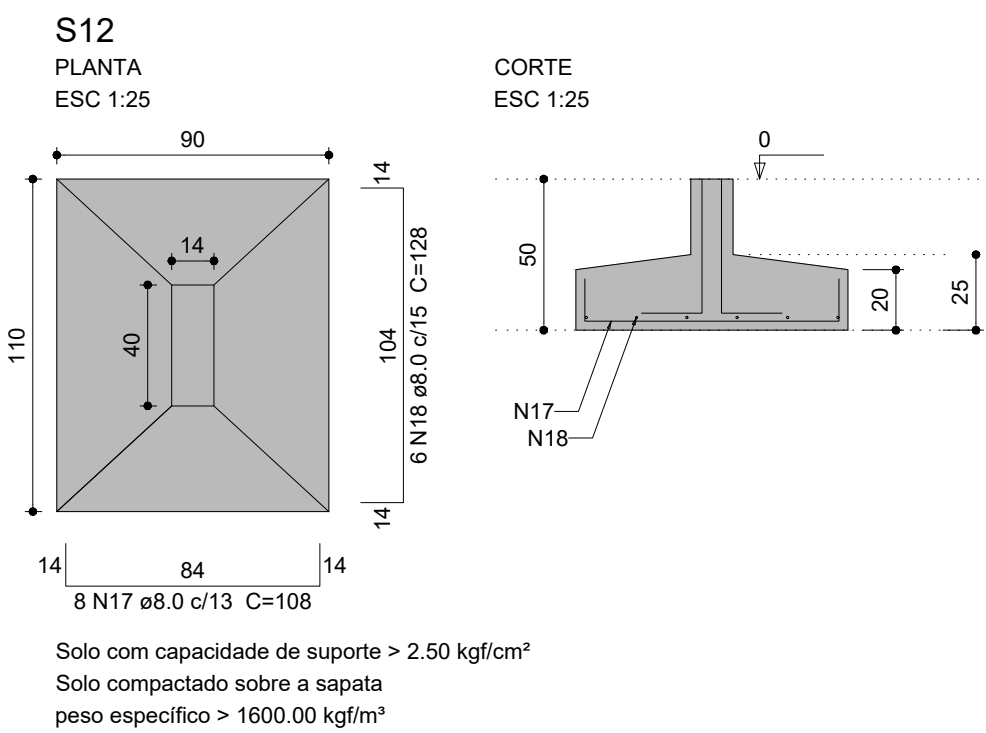
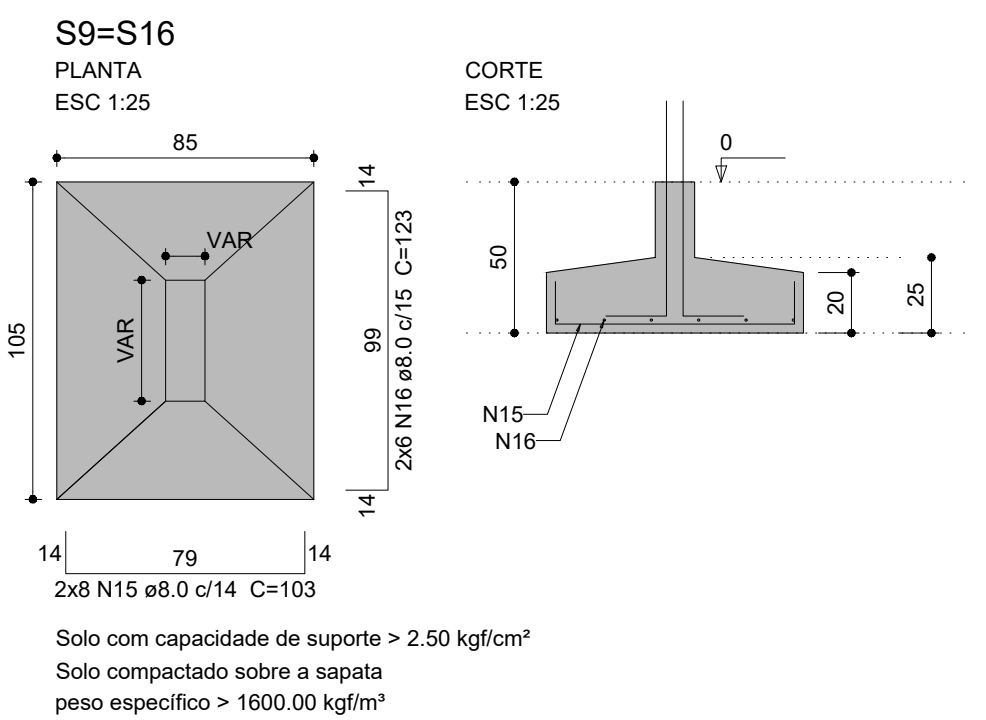
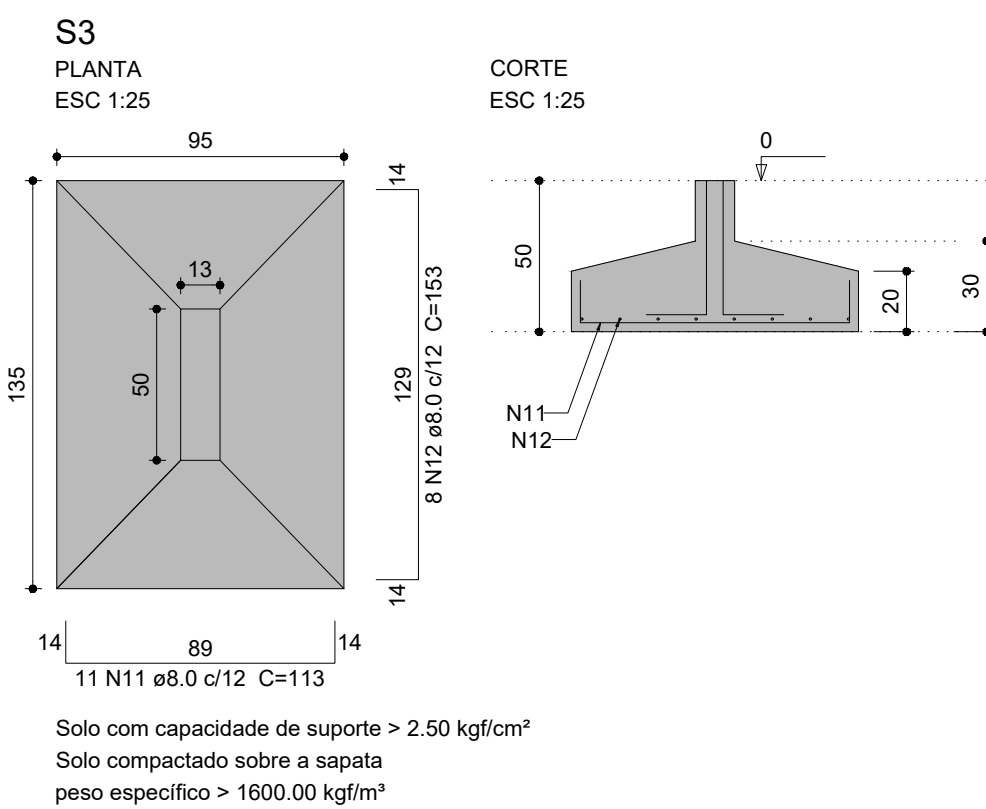
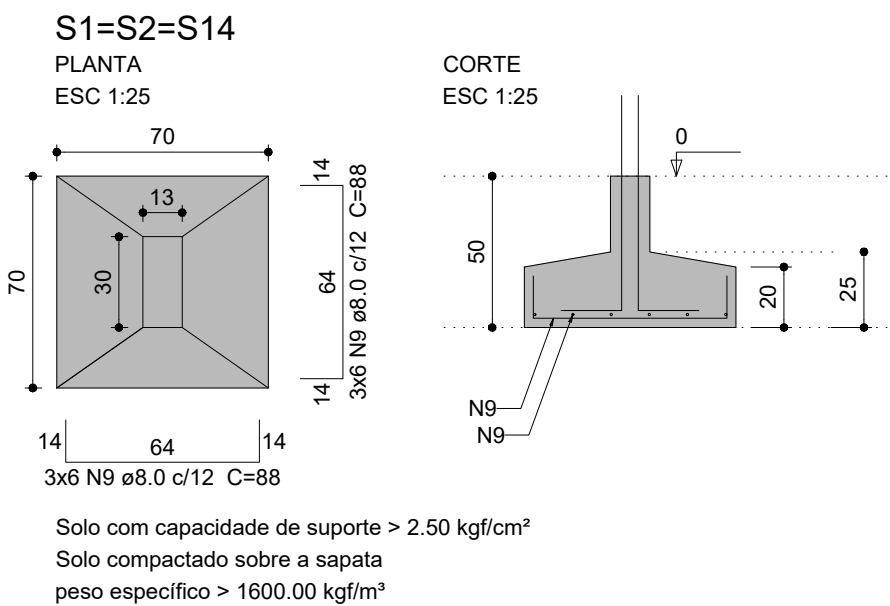
Este desenho é fornecido com objetivo estritamente confidencial e não deve ser divulgado, reproduzido ou usado por terceiros sem EXPRESSA e ESCRITA permissão.



Corte B-B
escala 1:50

escala 1:50

CA-02



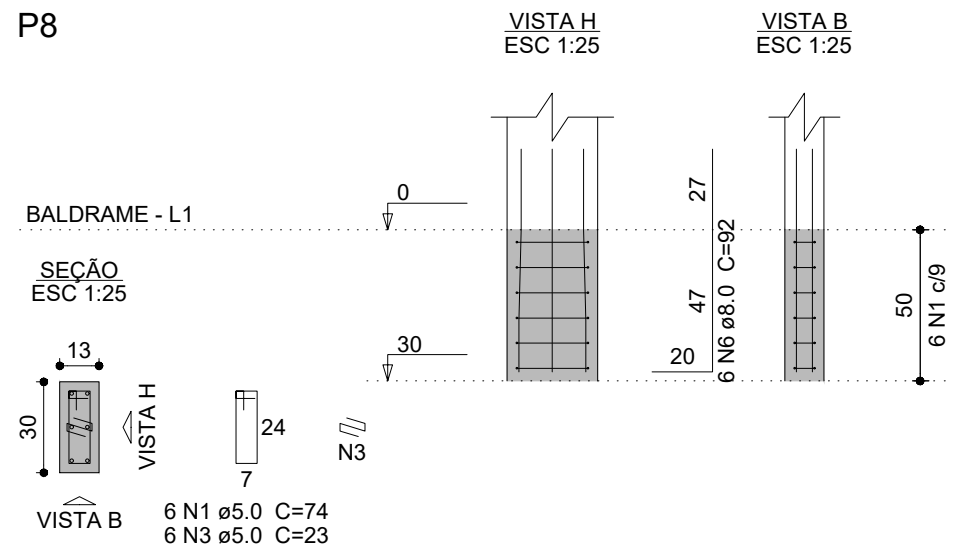
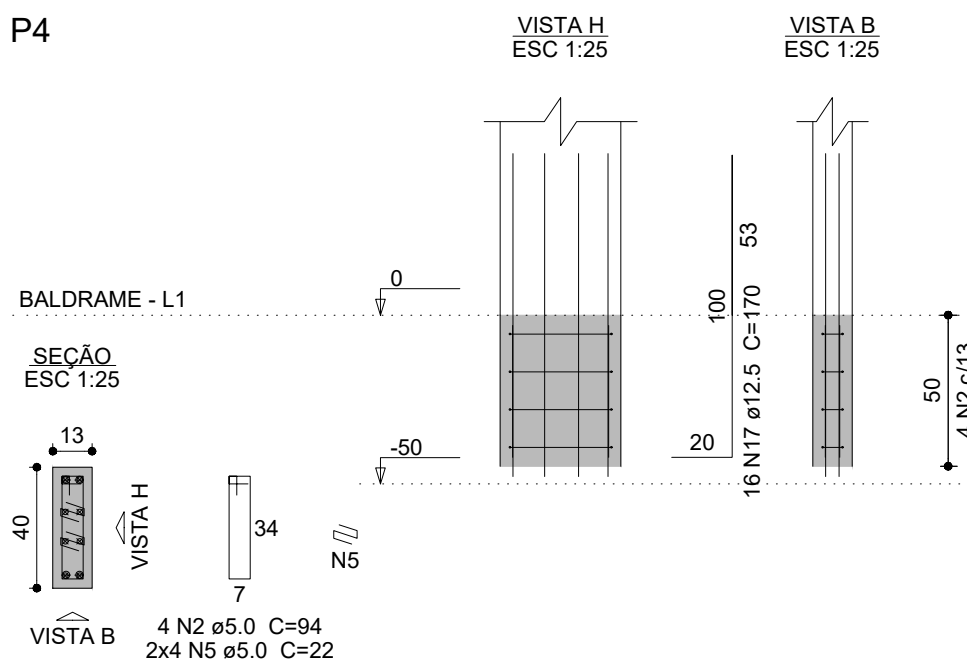
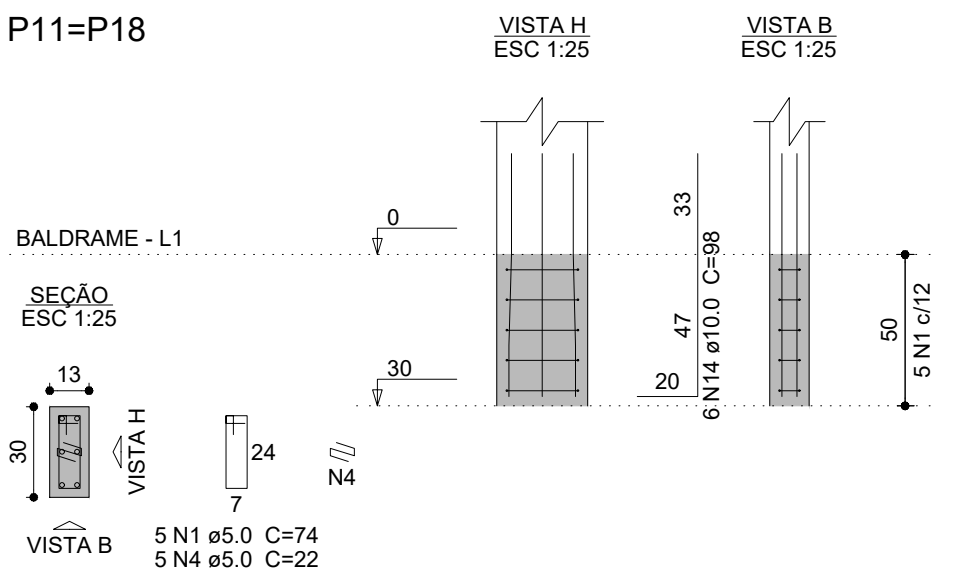
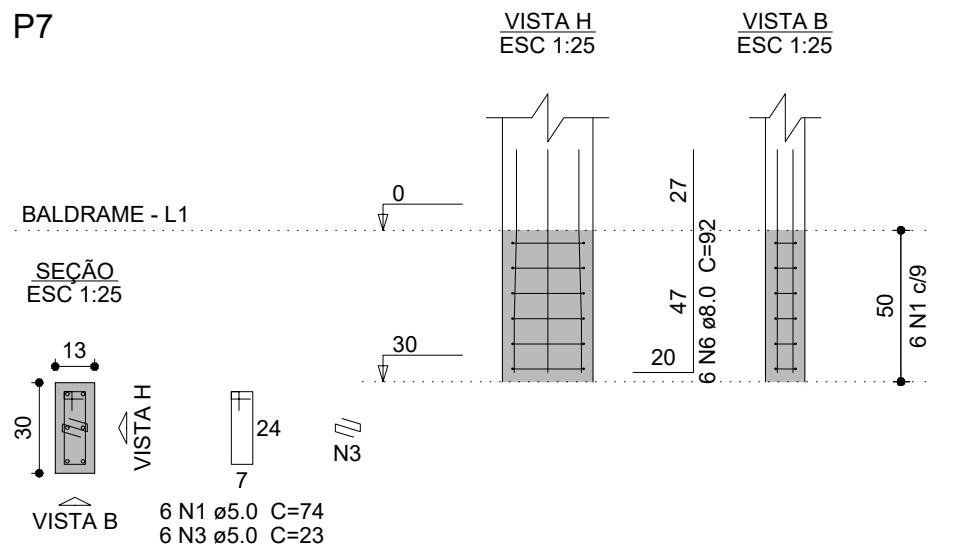
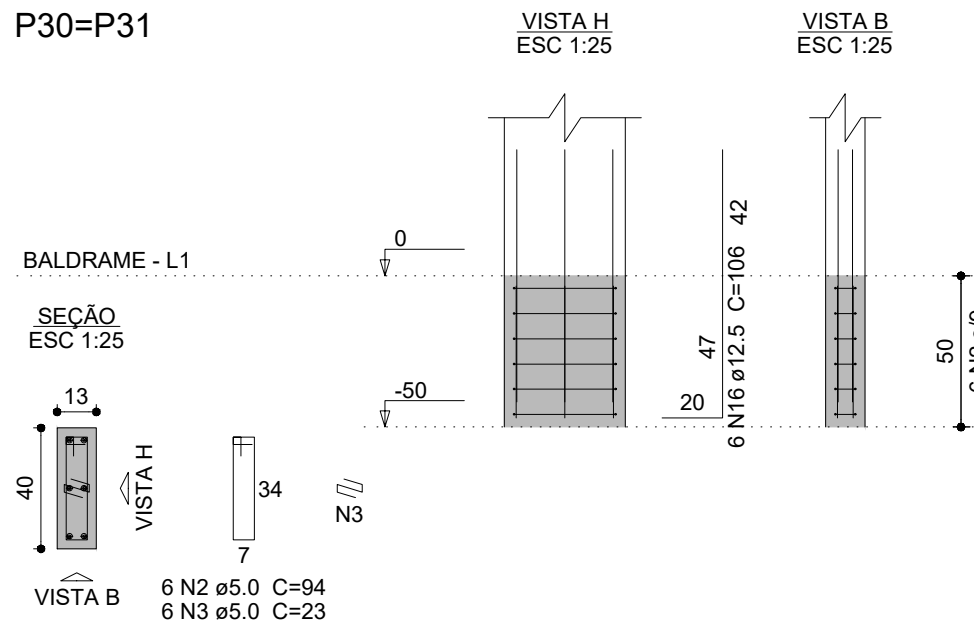
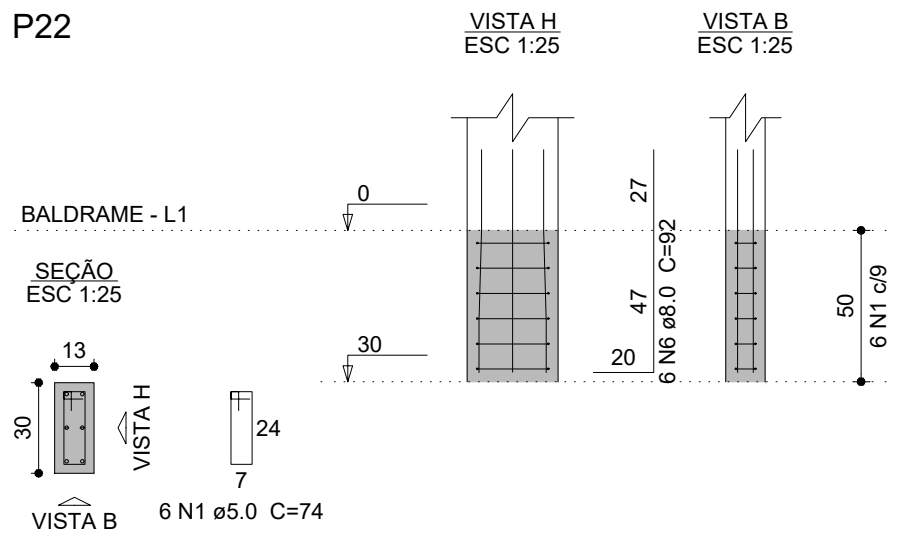
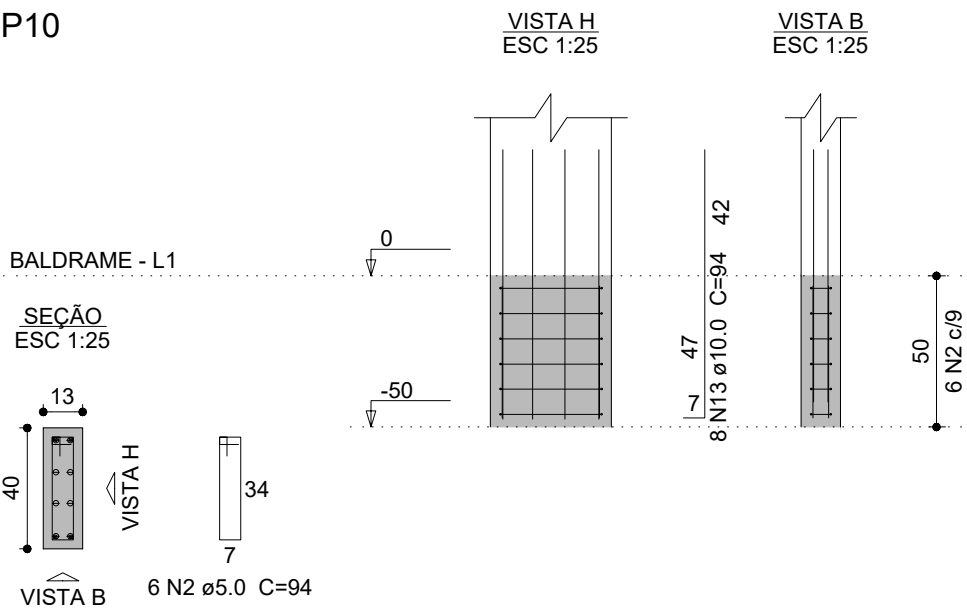
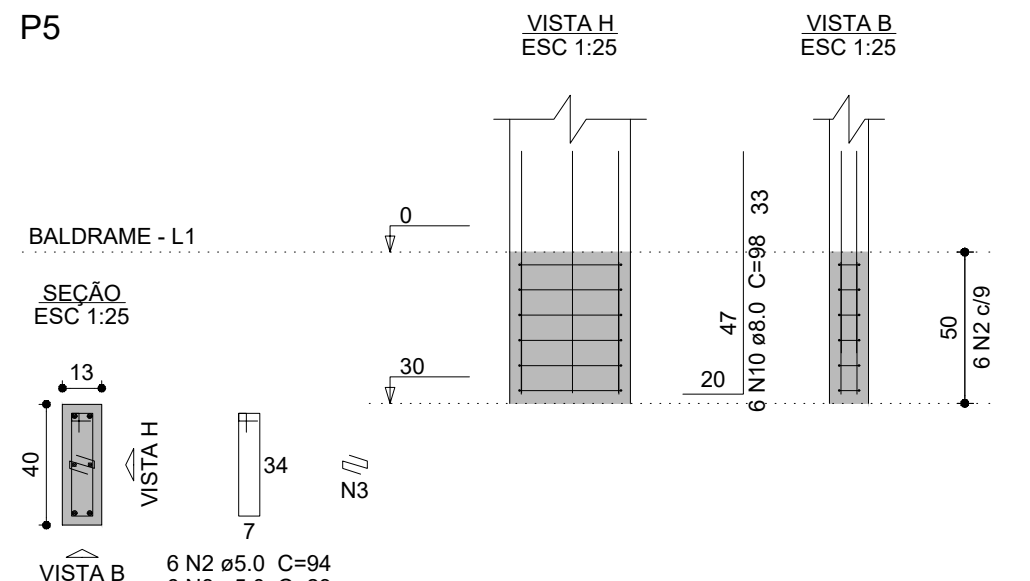
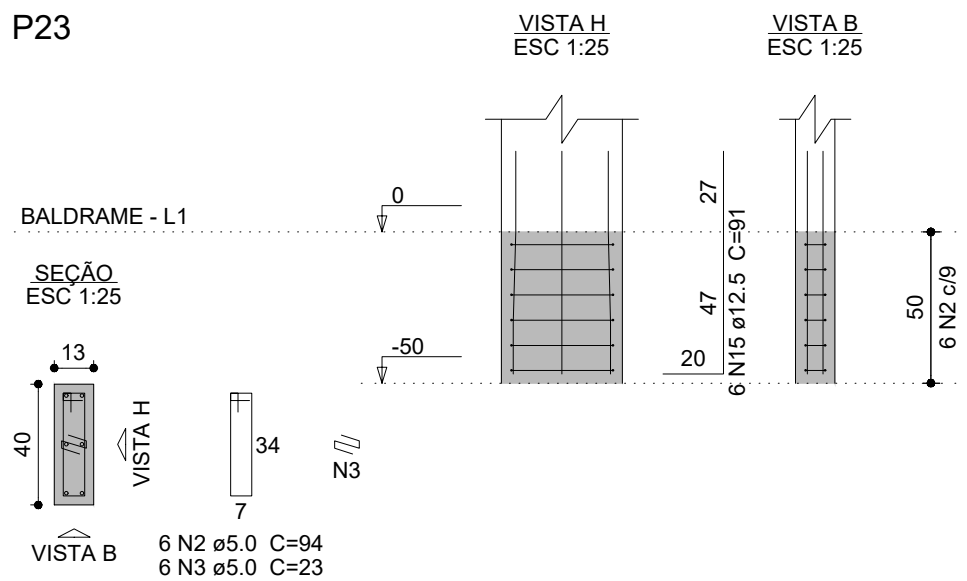
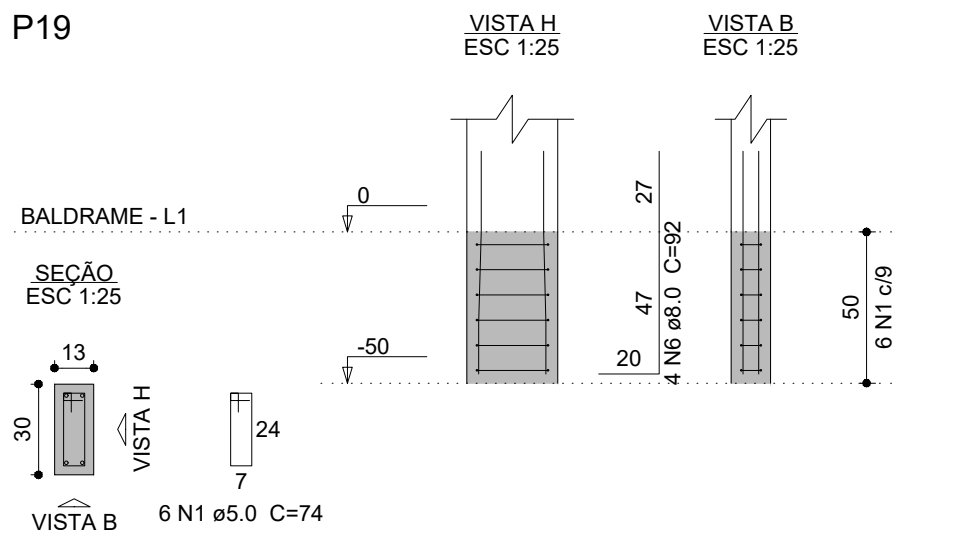
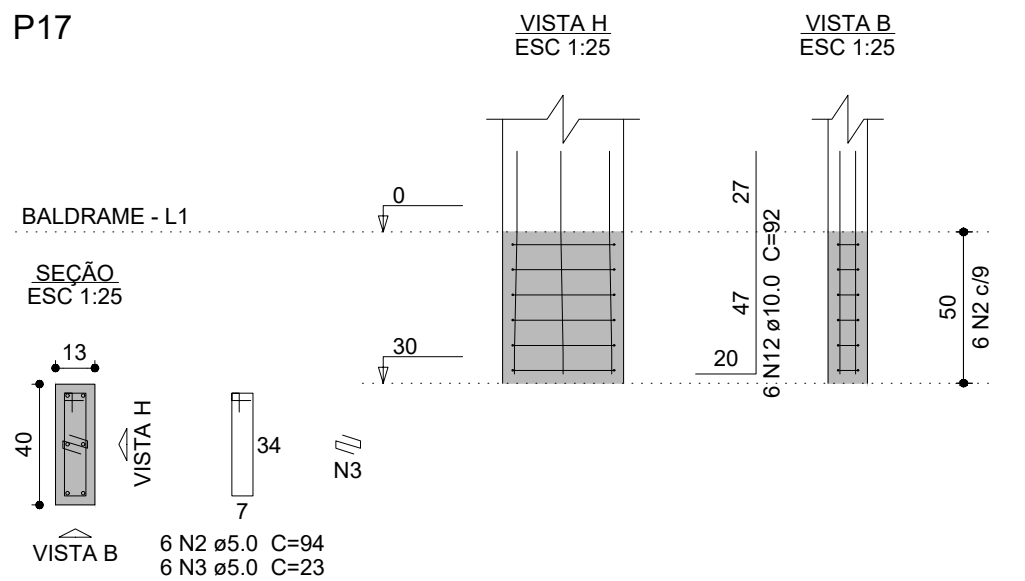
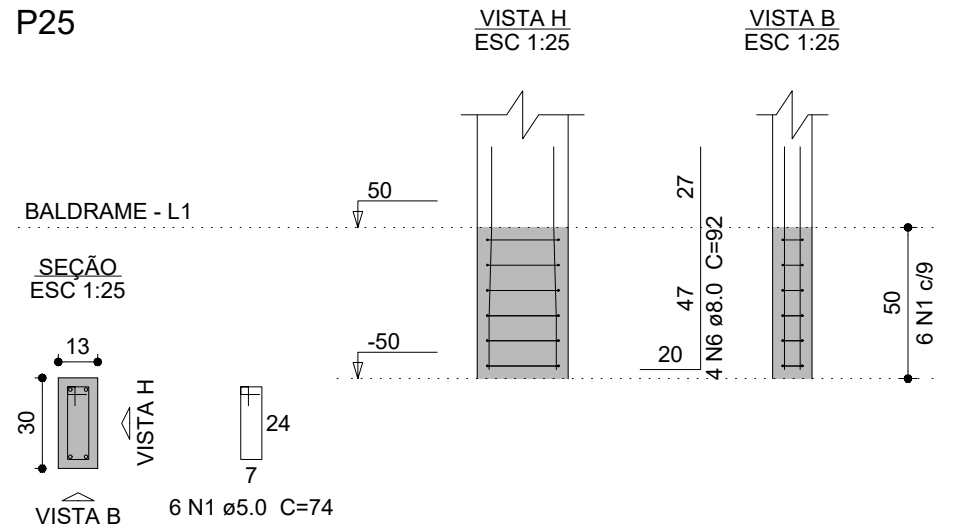
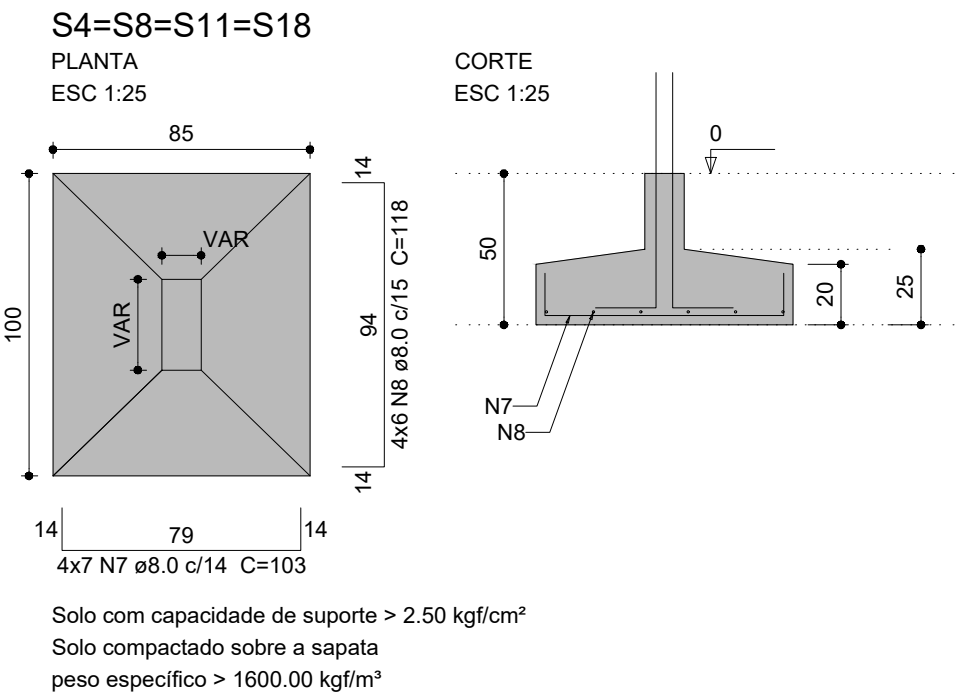
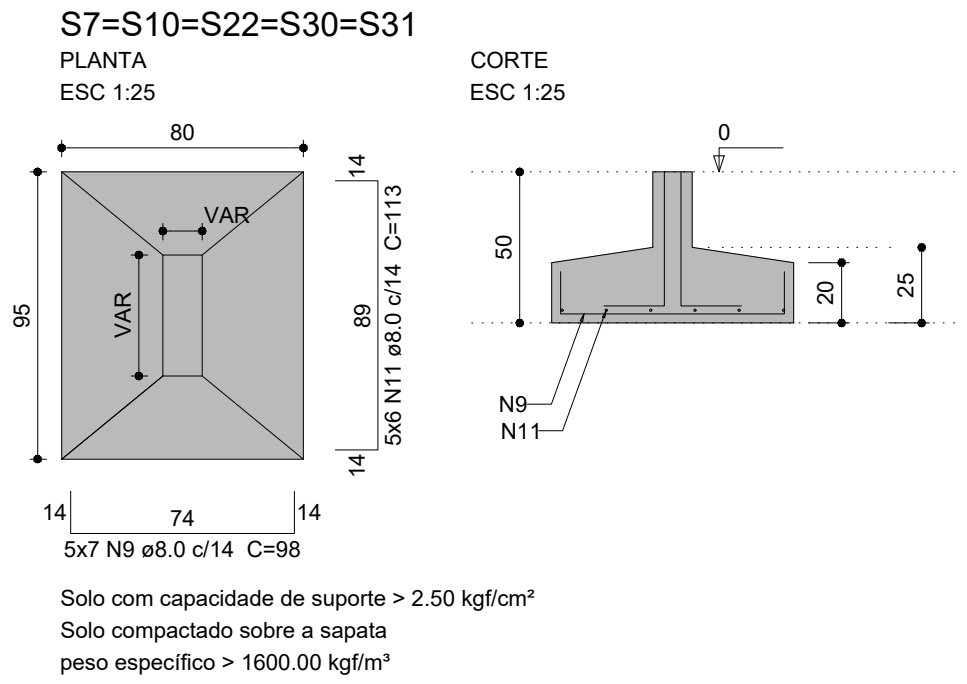
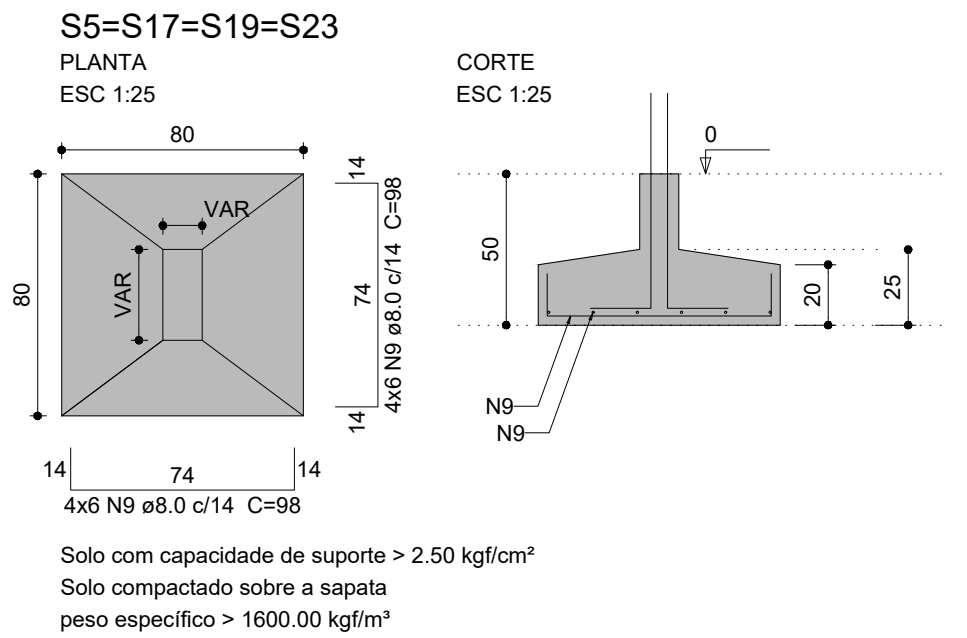
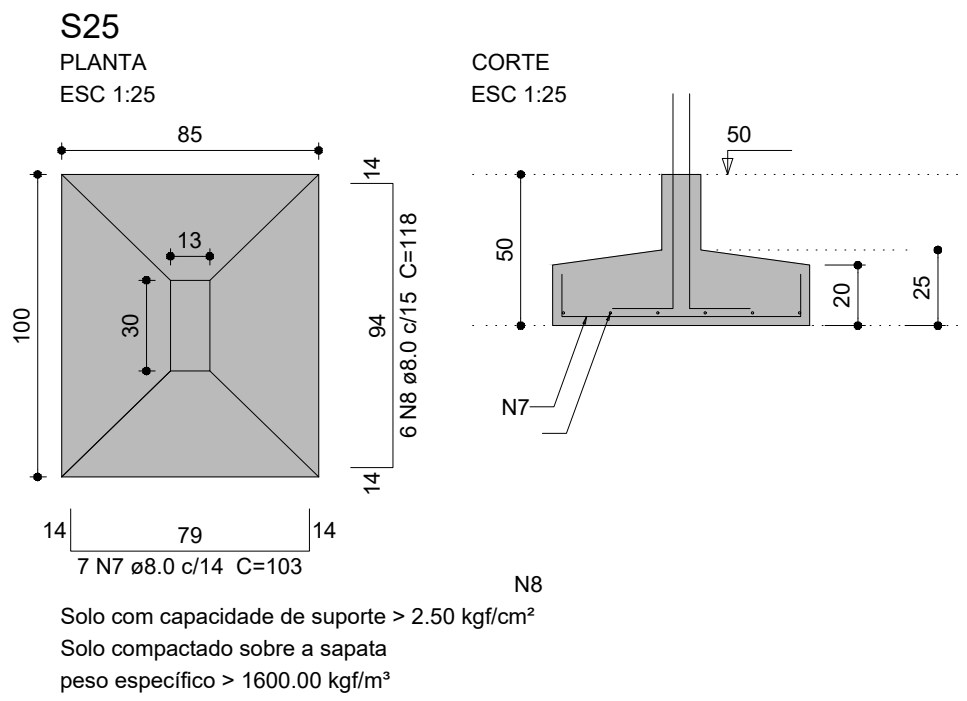
Relação do aço

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
S1	1	5.0	60	74	4440
S12	2	5.0	6	114	684
S16	3	5.0	30	23	690
	4	5.0	12	94	1128
	5	5.0	6	96	576
	6	5.0	6	24	144
	7	5.0	48	68	3264
CA50	8	8.0	38	92	3496
	9	8.0	66	88	5808
	10	8.0	12	118	1416
	11	8.0	11	113	1243
	12	8.0	8	153	1224
	13	8.0	10	118	1180
	14	8.0	8	143	1144
	15	8.0	16	103	1648
	16	8.0	12	123	1476
	17	8.0	16	108	1728
	18	8.0	13	128	1664
	19	8.0	24	112	2688
	20	8.0	102	78	7956
	21	10.0	12	92	1104
	22	12.5	6	117	702

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	8.0	326.8	141.8
	10.0	11.1	7.5
	12.5	7.1	7.4
CA60	5.0	109.3	18.5
PESO TOTAL (kg)			
CA50		156.7	
CA60		18.5	

Volume de concreto (C-30) = 3.22 m³
Área de forma = 21.99 m²



Relação do aço

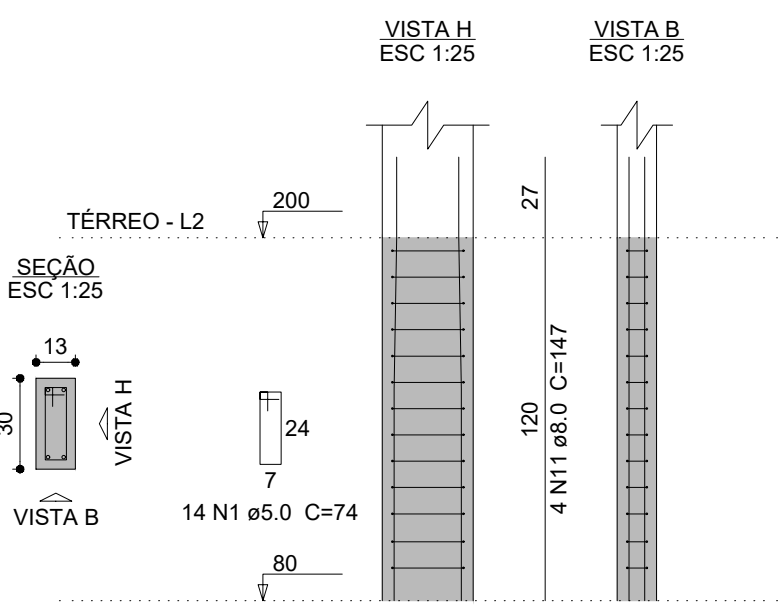
AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	35	74	2590
	2	5.0	34	94	3196
	3	5.0	36	23	828
	4	5.0	5	22	110
	5	5.0	8	22	176
CA50	6	8.0	26	92	2392
	7	8.0	35	103	3605
	8	8.0	30	118	3540
	9	8.0	83	98	8134
	10	8.0	6	98	588
	11	8.0	30	113	3390
	12	10.0	6	92	552
	13	10.0	8	94	752
	14	10.0	6	98	588
	15	12.5	6	91	546
	16	12.5	6	106	636
	17	12.5	16	170	2720

Resumo do aço

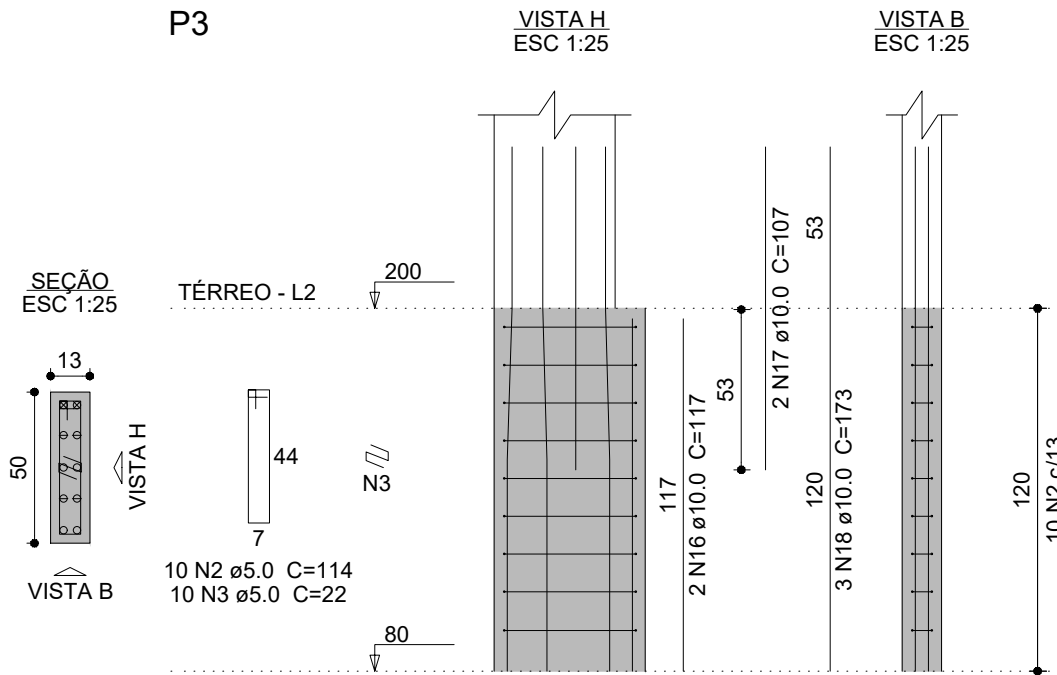
AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	8.0	216.5	94
	10.0	19	12.8
	12.5	39.1	41.3
CA60	5.0	69	11.7
PESO TOTAL (kg)			
CA50	148.1		
CA60	11.7		

Volume de concreto (C-30) = 2.69 m³
Área de forma = 16.91 m²

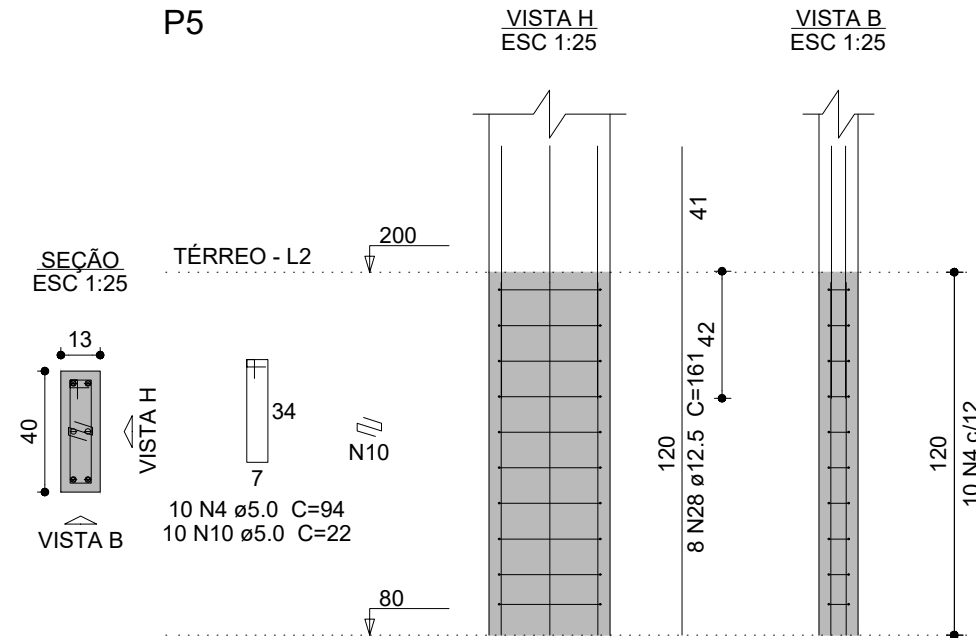
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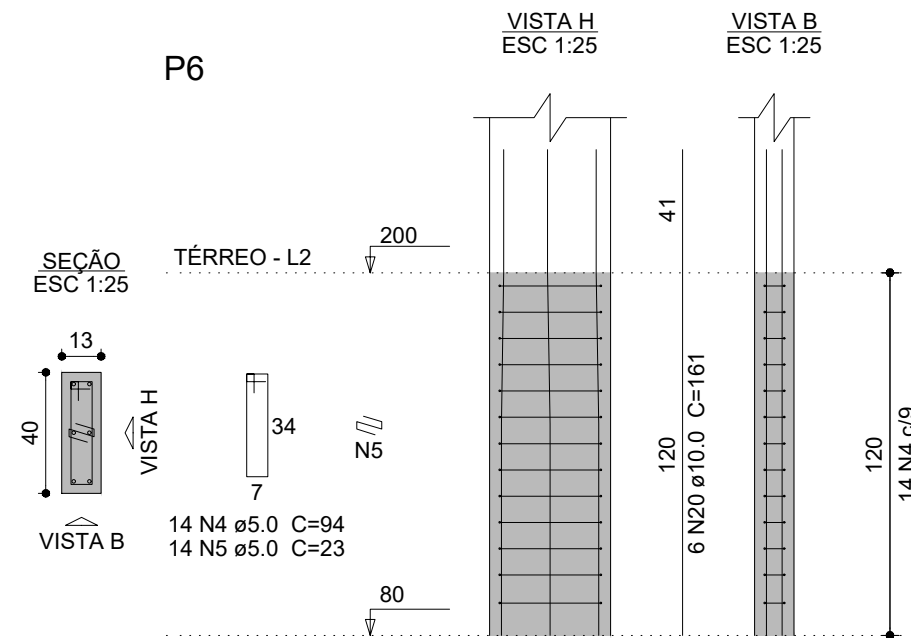
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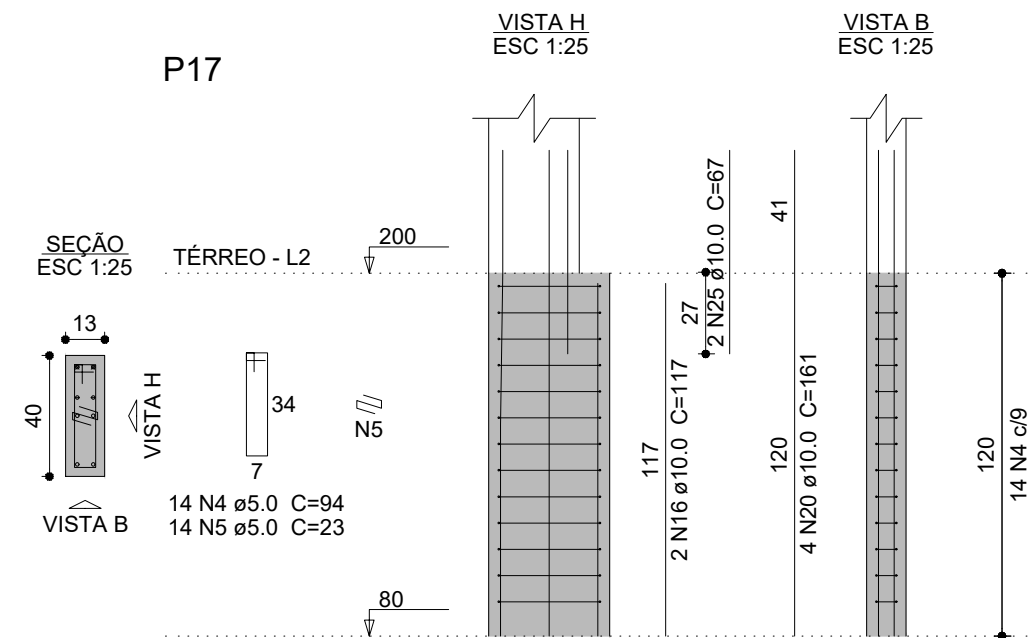
P5



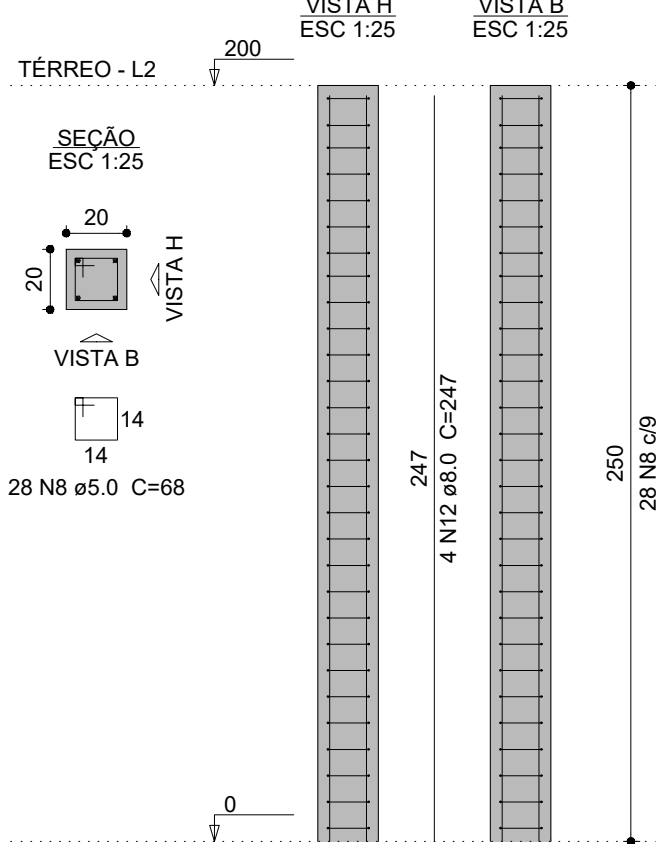
P6



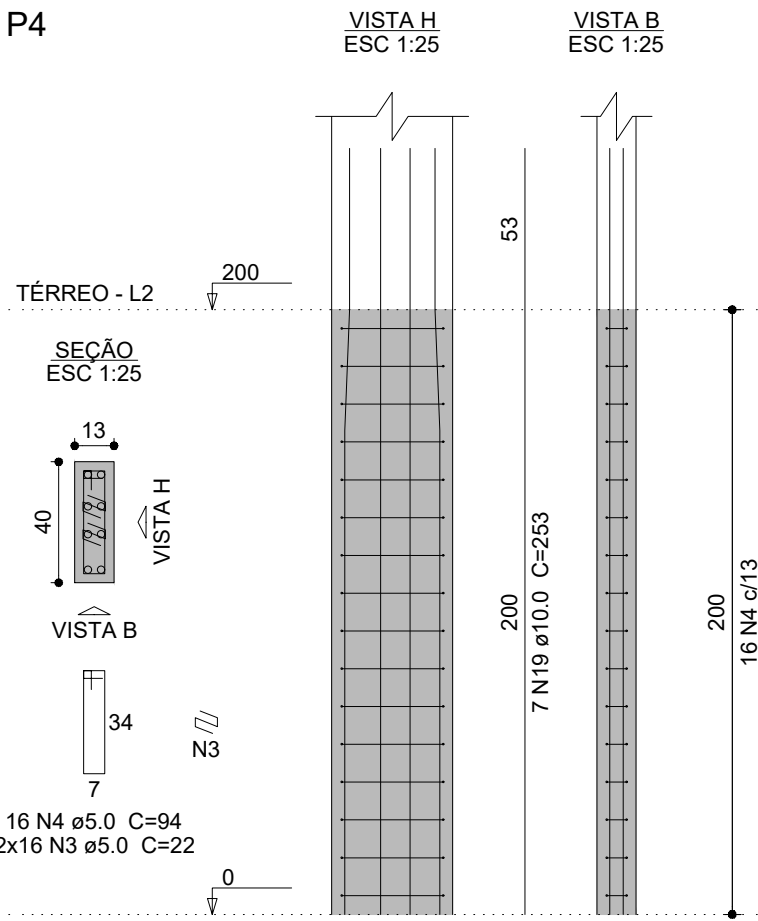
P17



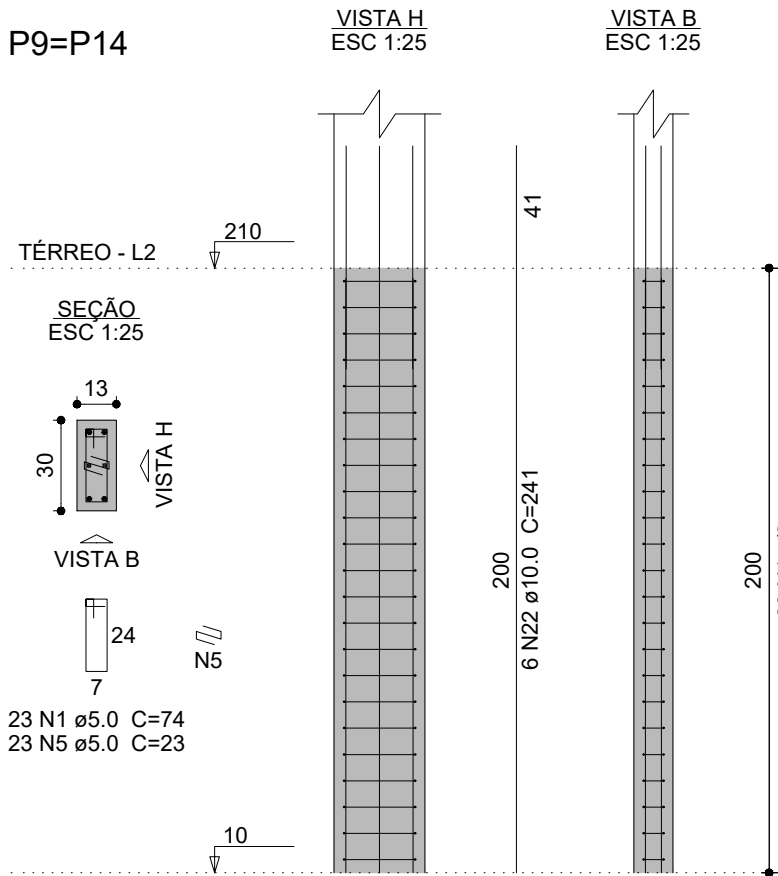
P15=P21=P27=P32=
=P33=P34



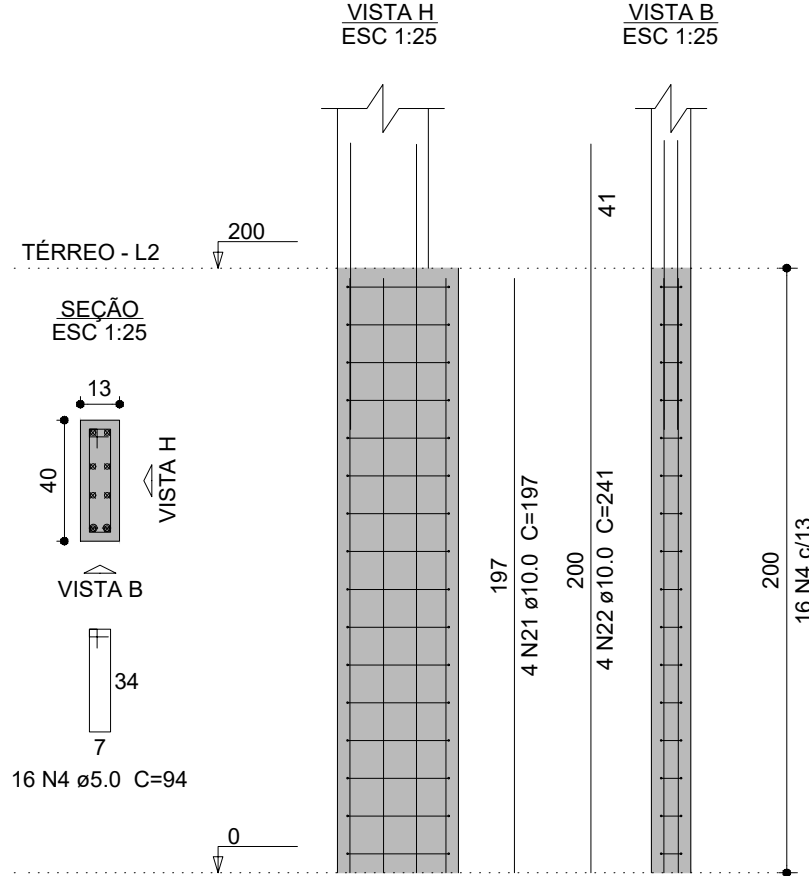
P4



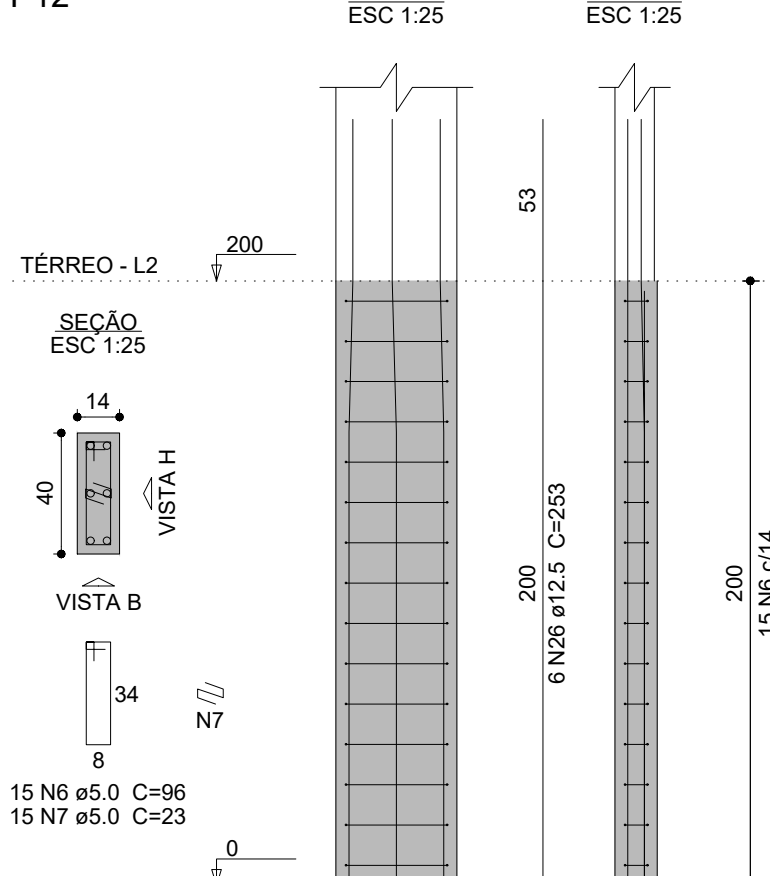
P9=P14



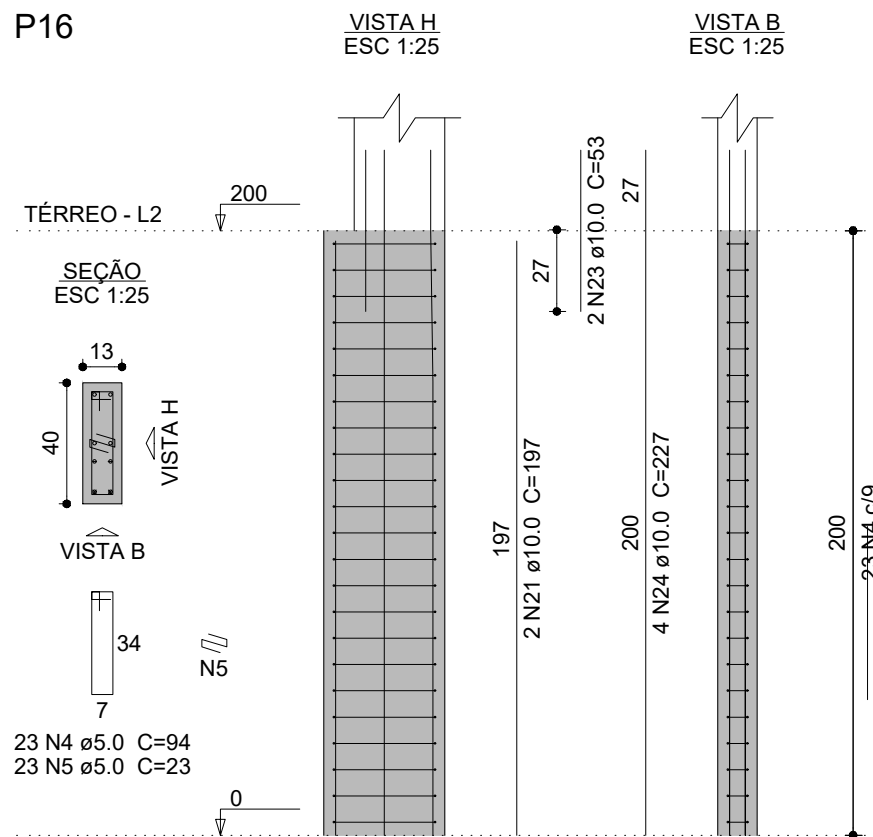
P10



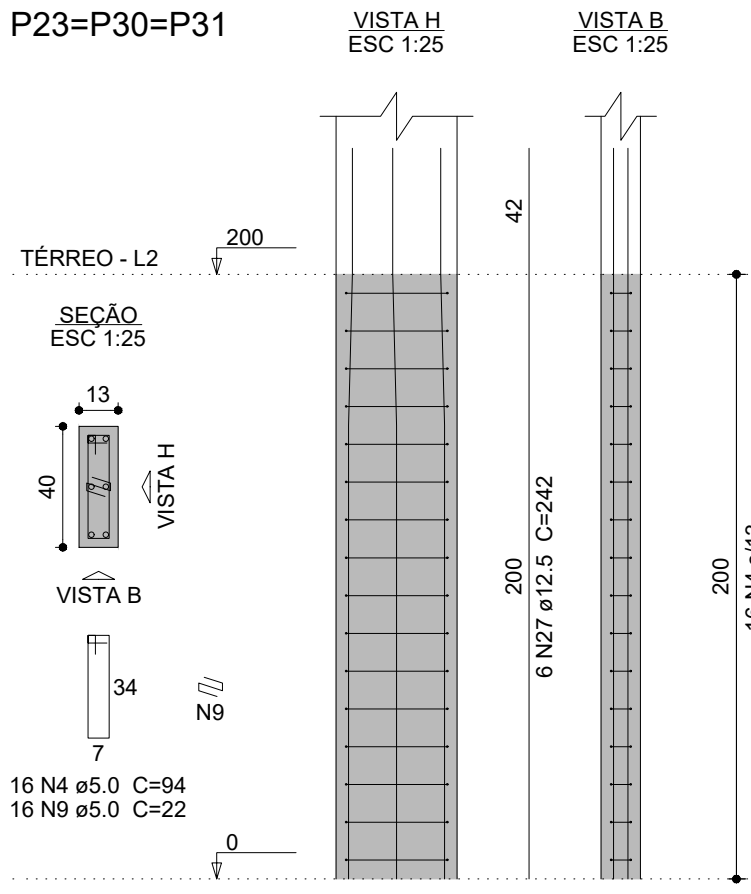
P12



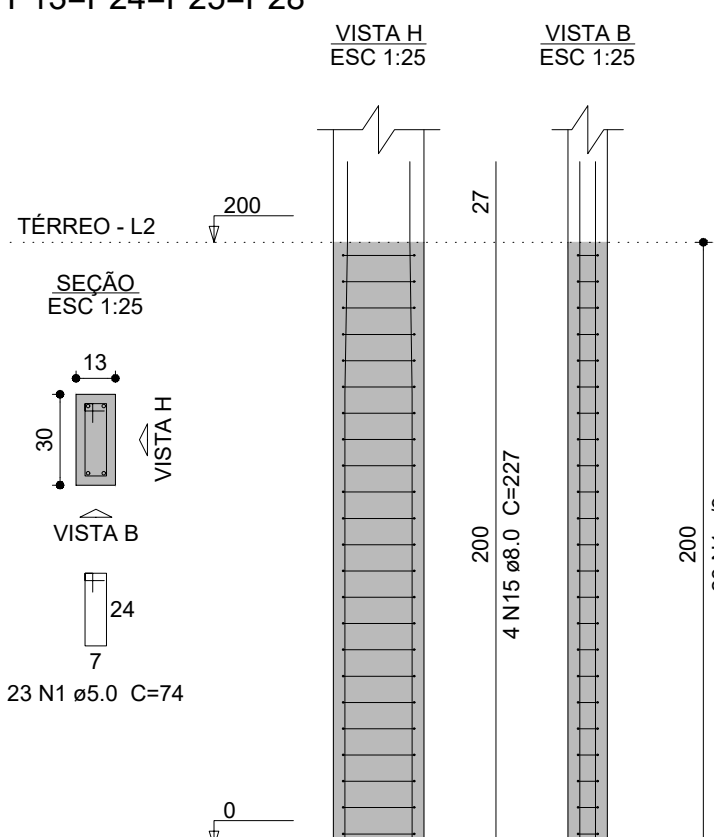
P16



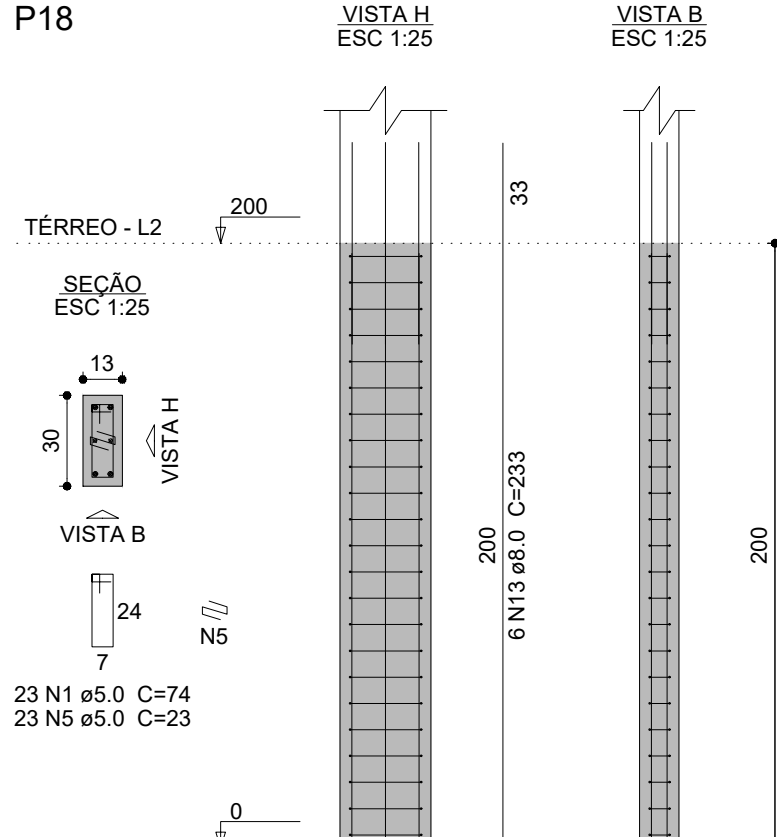
P23=P30=P31



P13=P24=P25=P28



P18



Relação do aço

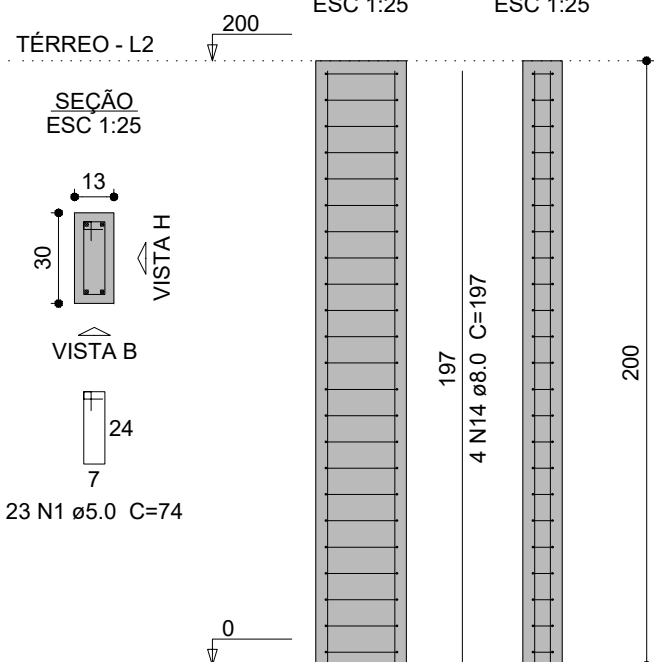
ÁÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	379	74	28046
	2	5.0	10	114	1140
	3	5.0	42	22	924
	4	5.0	151	94	14194
	5	5.0	120	23	2760
	6	5.0	15	96	1440
	7	5.0	15	23	345
	8	5.0	168	68	11424
	9	5.0	48	22	1056
	10	5.0	20	22	440
CA50	11	8.0	36	147	5292
	12	8.0	24	247	5928
	13	8.0	6	233	1398
	14	8.0	8	197	1576
	15	8.0	16	227	3632
	16	10.0	4	117	468
	17	10.0	2	107	214
	18	10.0	3	173	519
	19	10.0	7	253	1771
	20	10.0	10	161	1610
	21	10.0	6	197	1182
	22	10.0	28	241	6748
	23	10.0	2	53	106
	24	10.0	4	227	908
	25	10.0	2	67	134
	26	12.5	6	253	1518
	27	12.5	18	242	4356
	28	12.5	16	161	2576

Resumo do aço

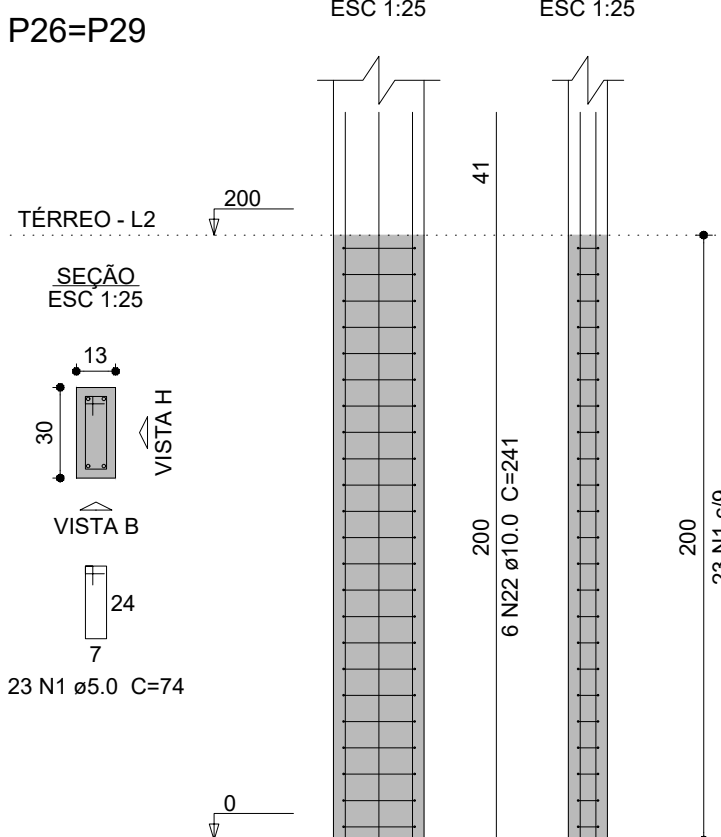
ÁÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	8.0	178.3	77.4
	10.0	136.6	92.6
	12.5	84.5	89.5
CA60	5.0	617.7	104.7
PESO TOTAL (kg)			
CA50		259.6	
CA60		104.7	

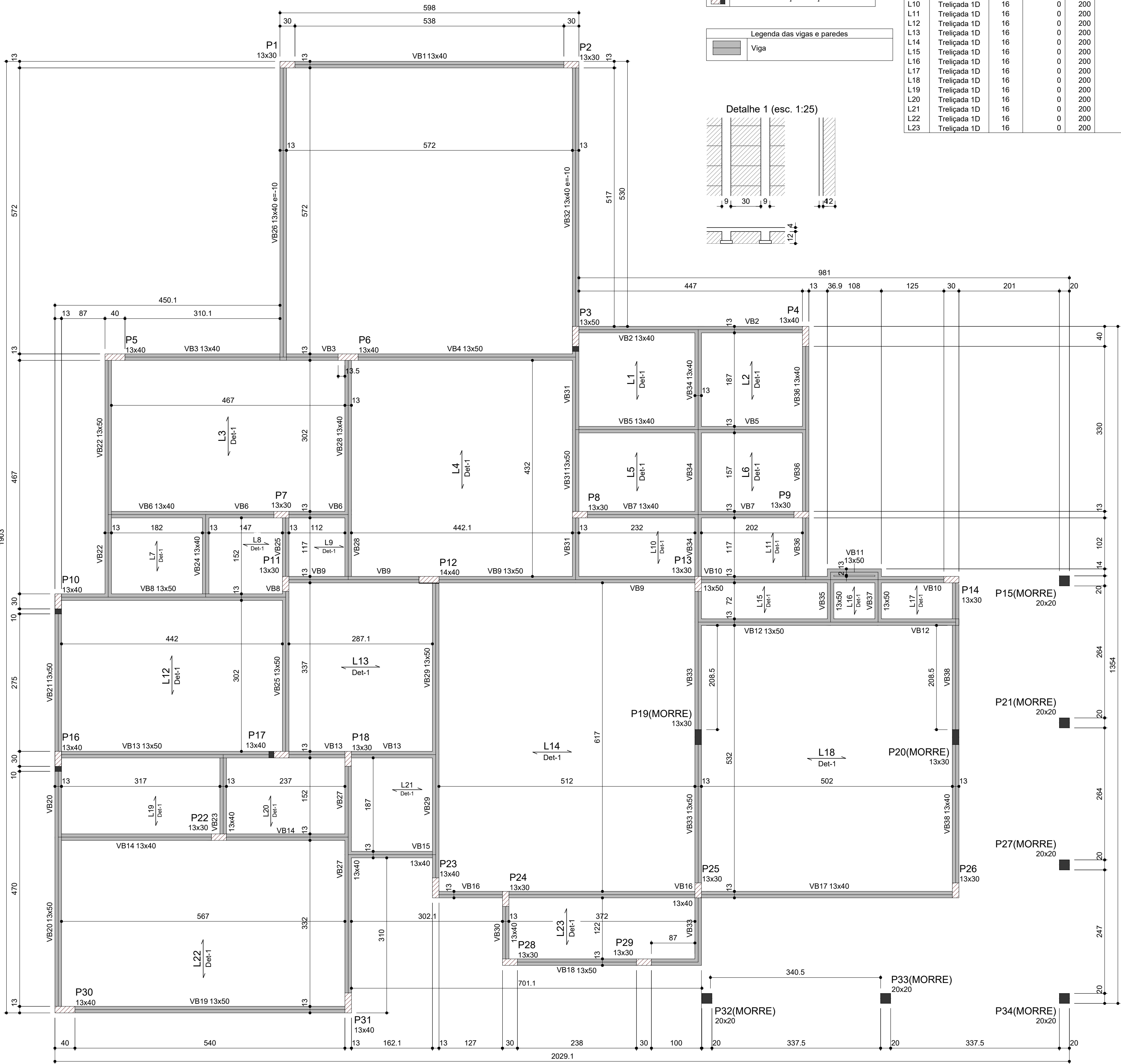
Volume de concreto (C-30) = 3.32 m³
Área de forma = 69.88 m²

P19=P20



P26=P29





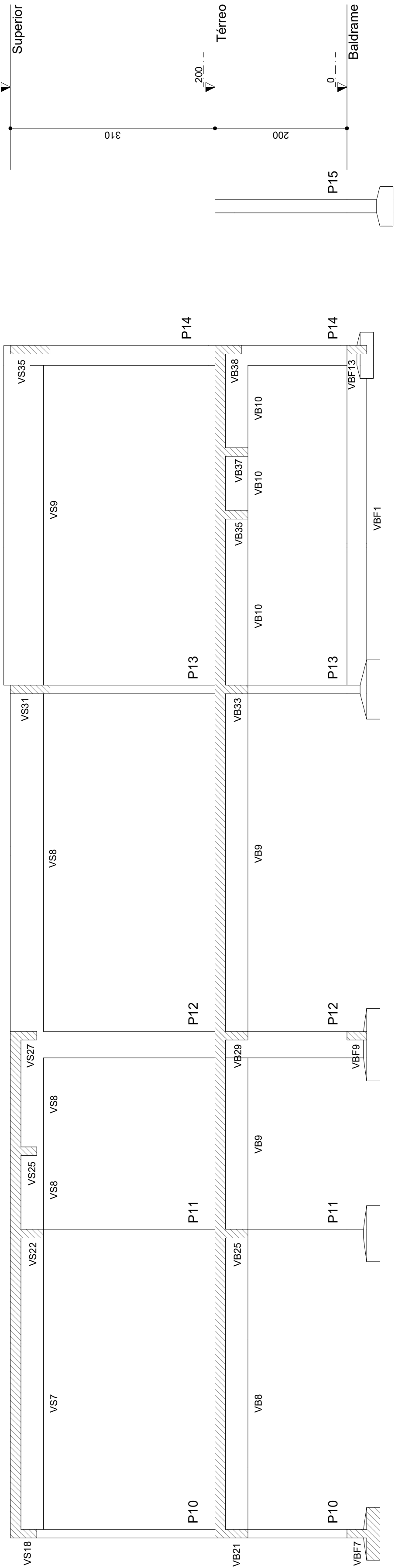
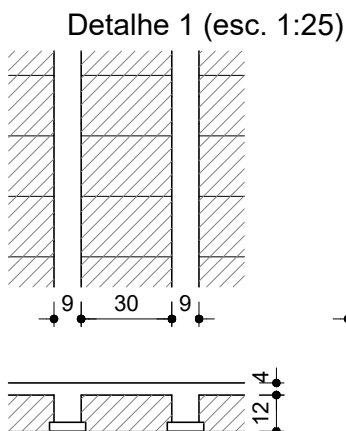
Blocos de enchimento					
Detalhe	Tipo	Nome	Dimensões(cm)		
			hb	bx	by
1	Lajota cerâmica	B12/30/20	12	30	20
			1955		

Características dos materiais		
fck (kgf/cm²)	Ecs (kgf/cm²)	Abatimento (cm)
300	268384	10.00

Legenda dos pilares	
	Pilar que morre
	Pilar que passa
	Pilar com mudança de seção

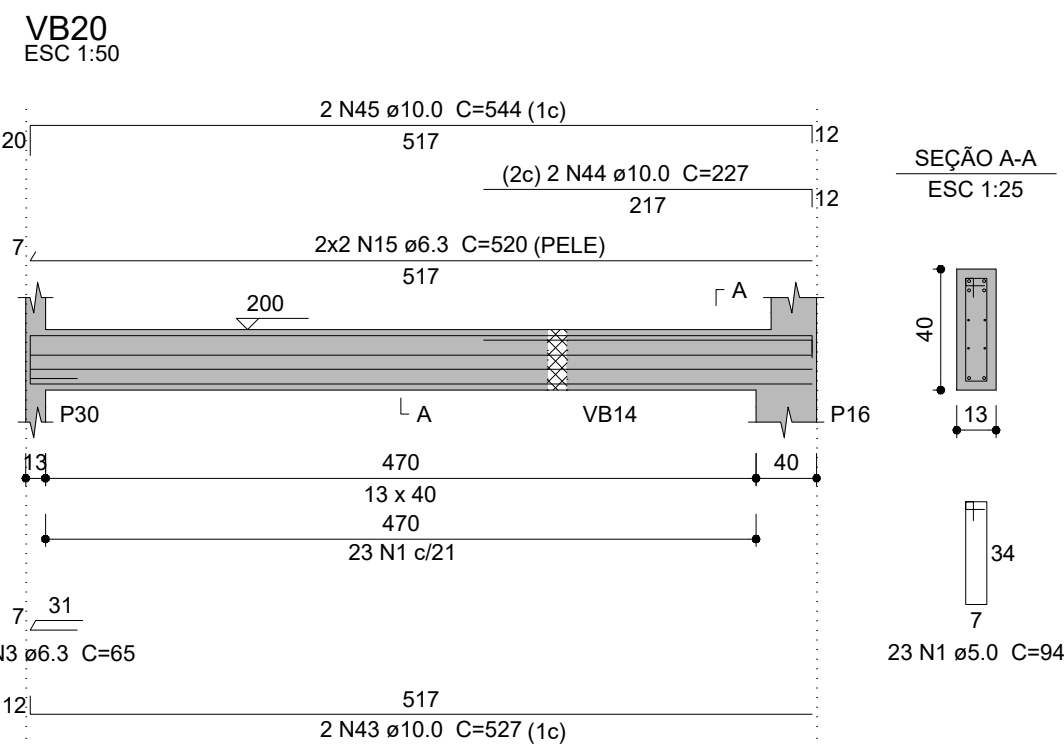
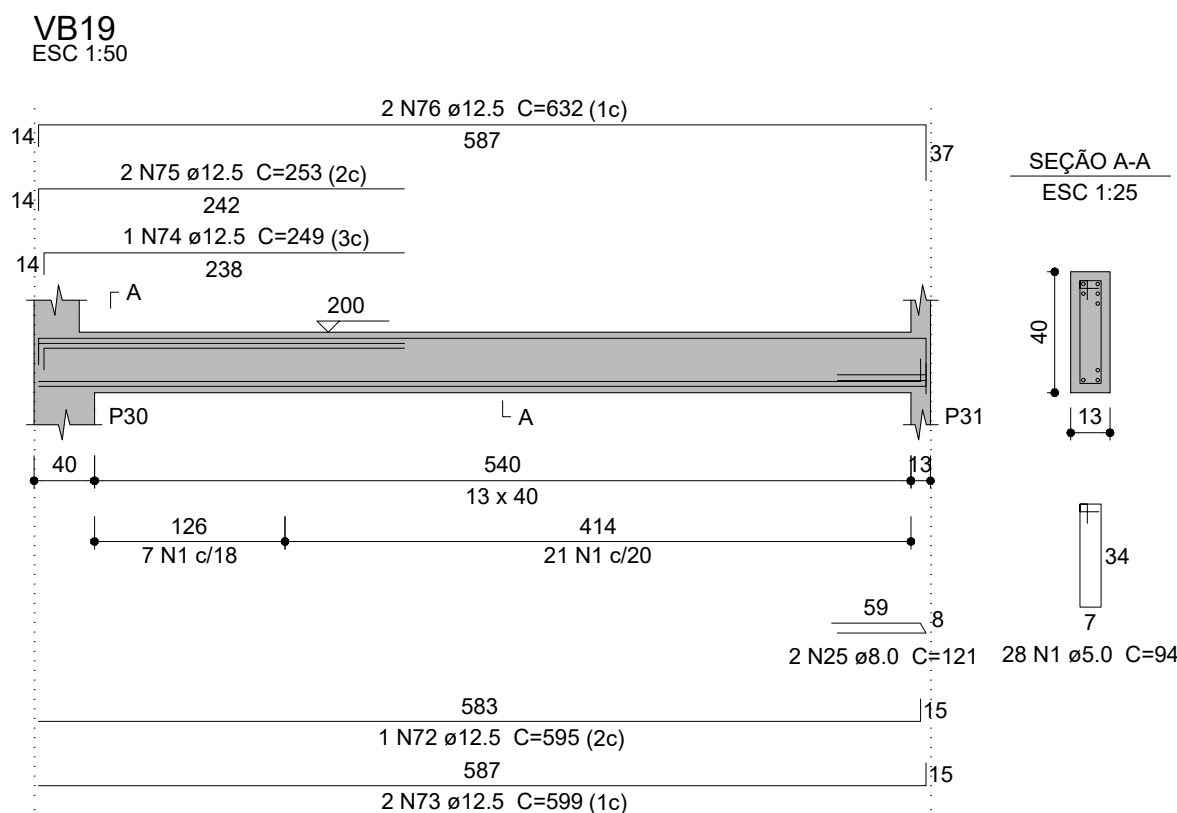
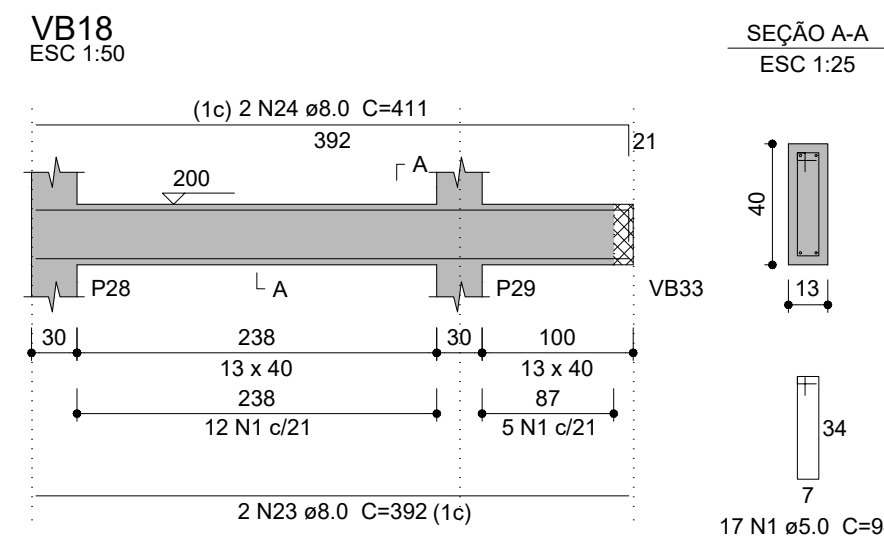
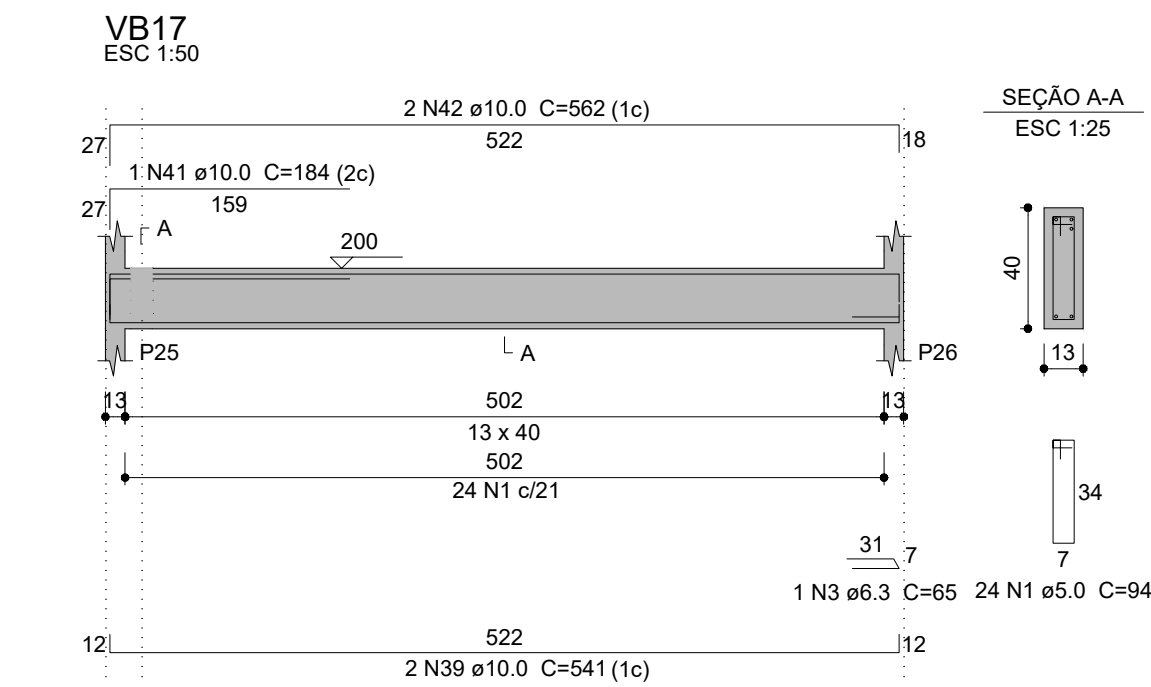
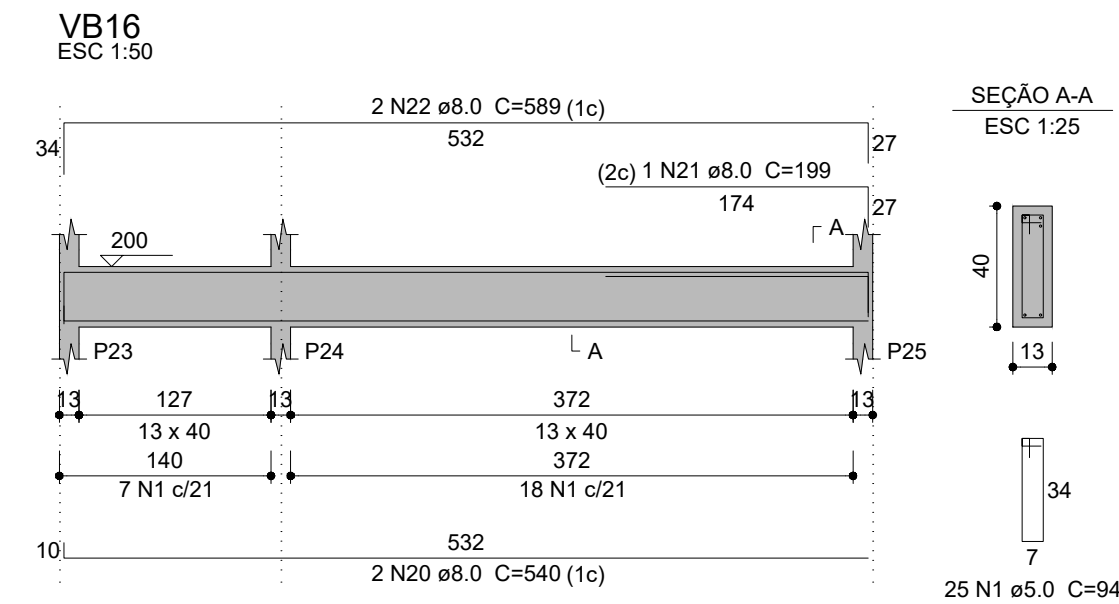
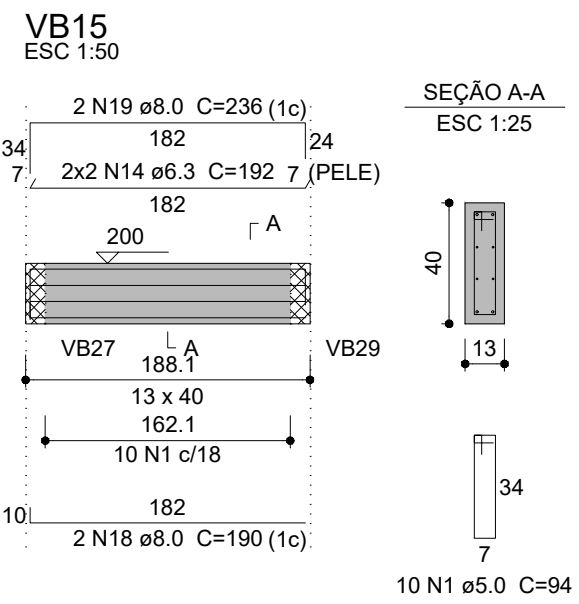
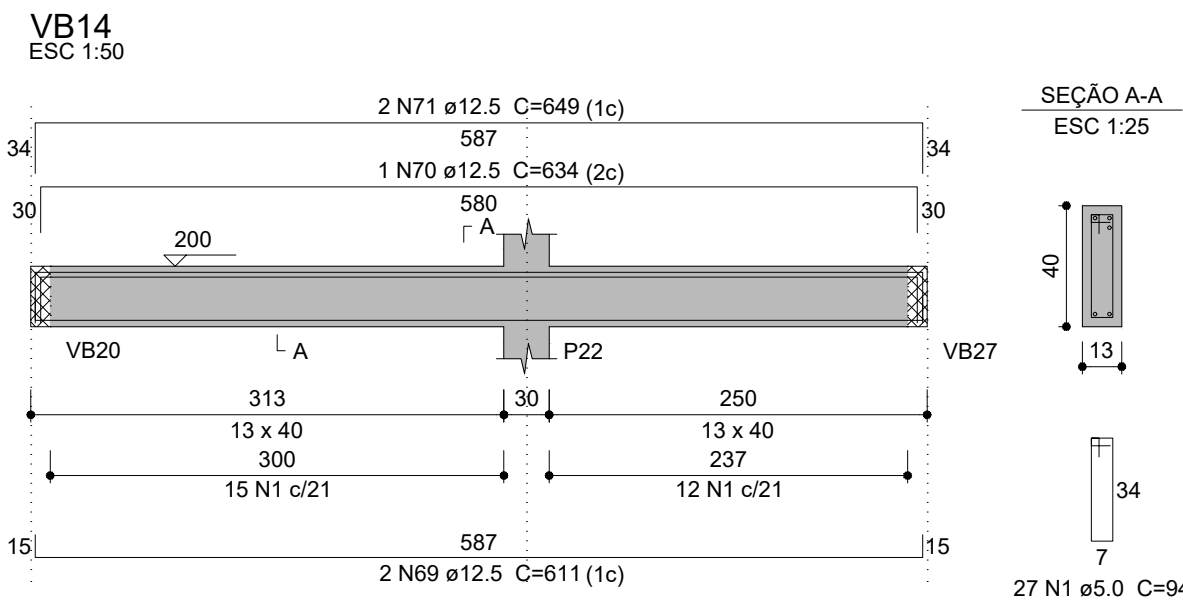
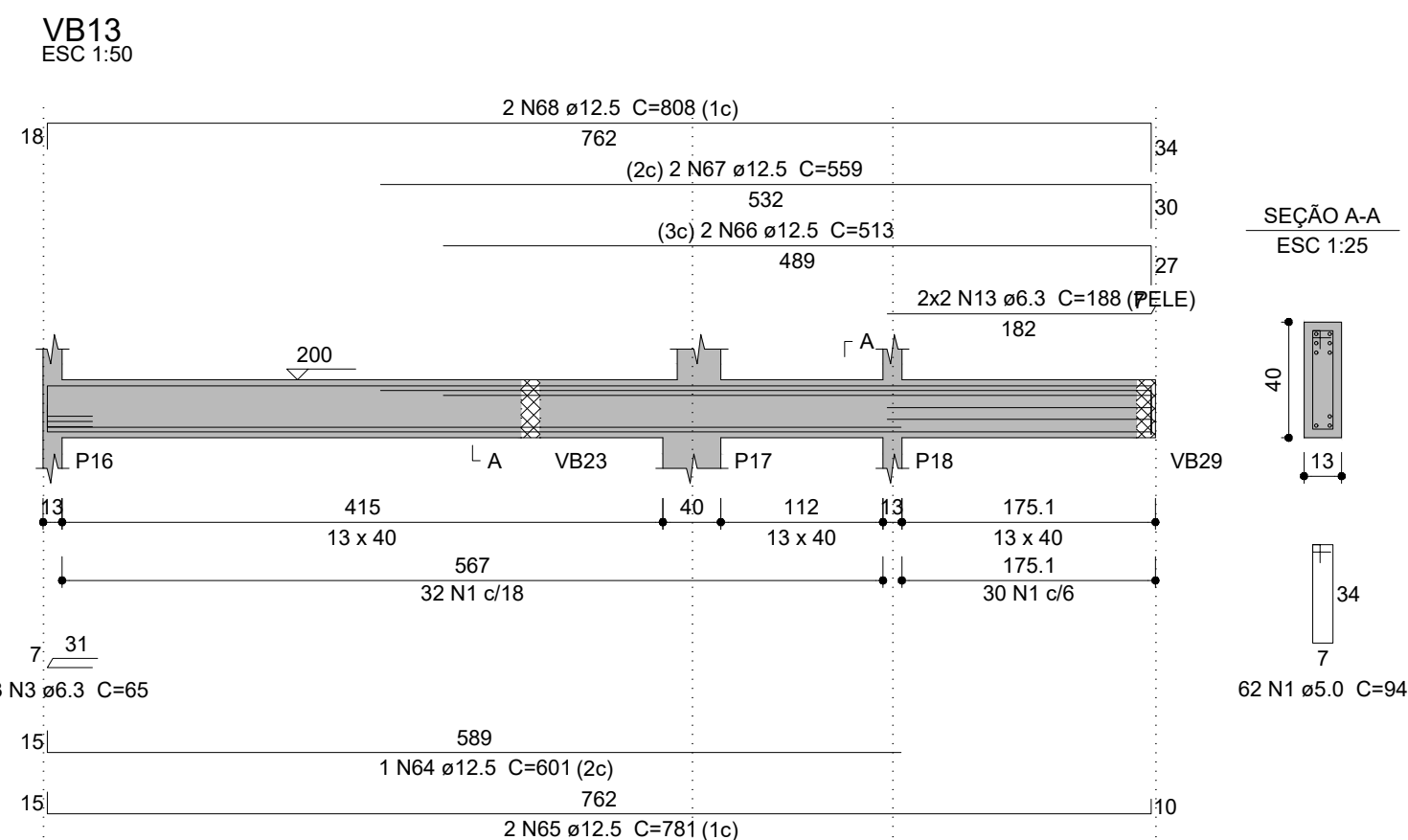
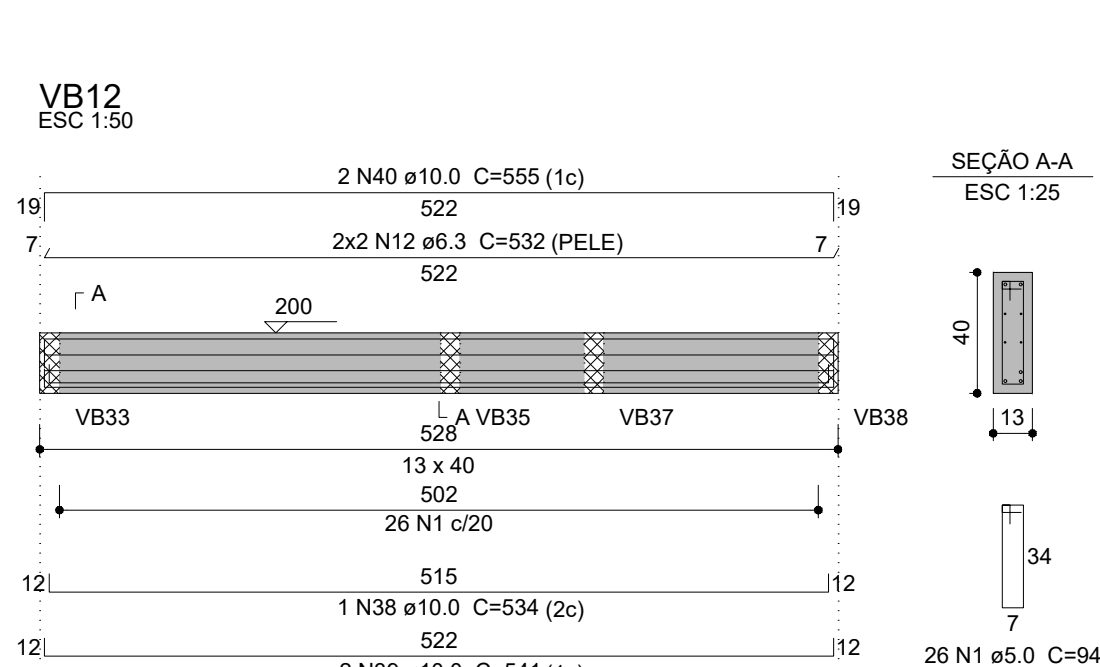
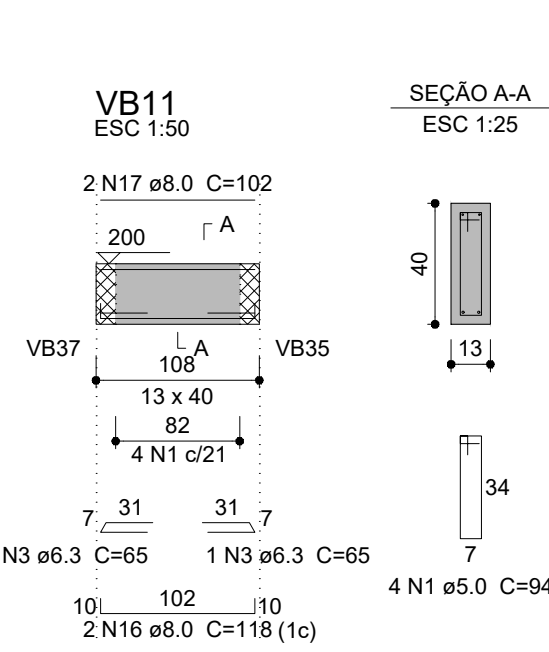
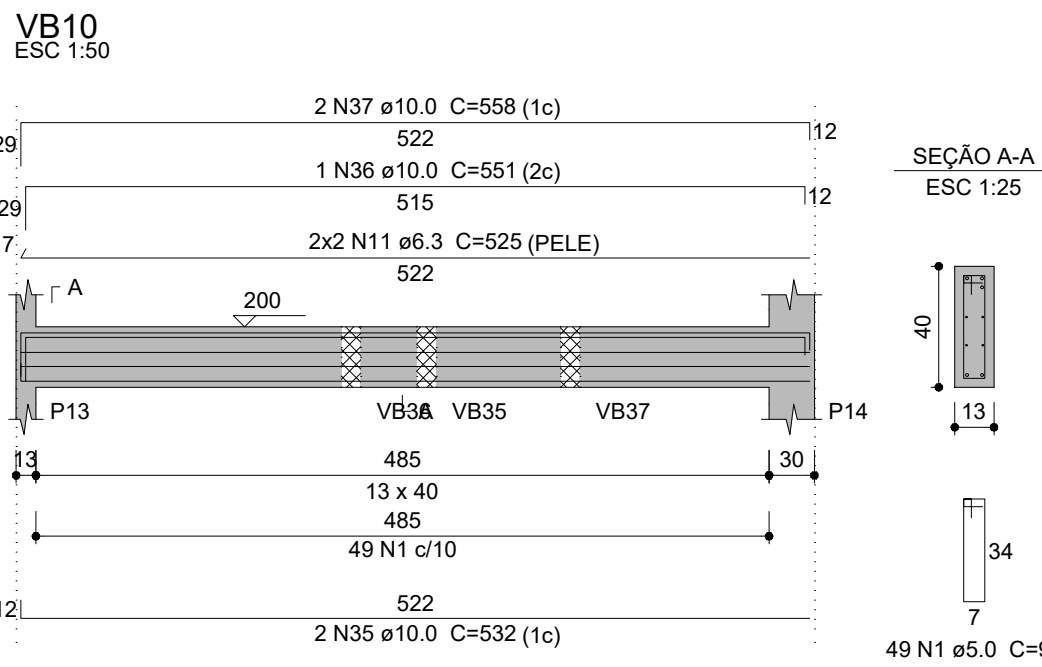
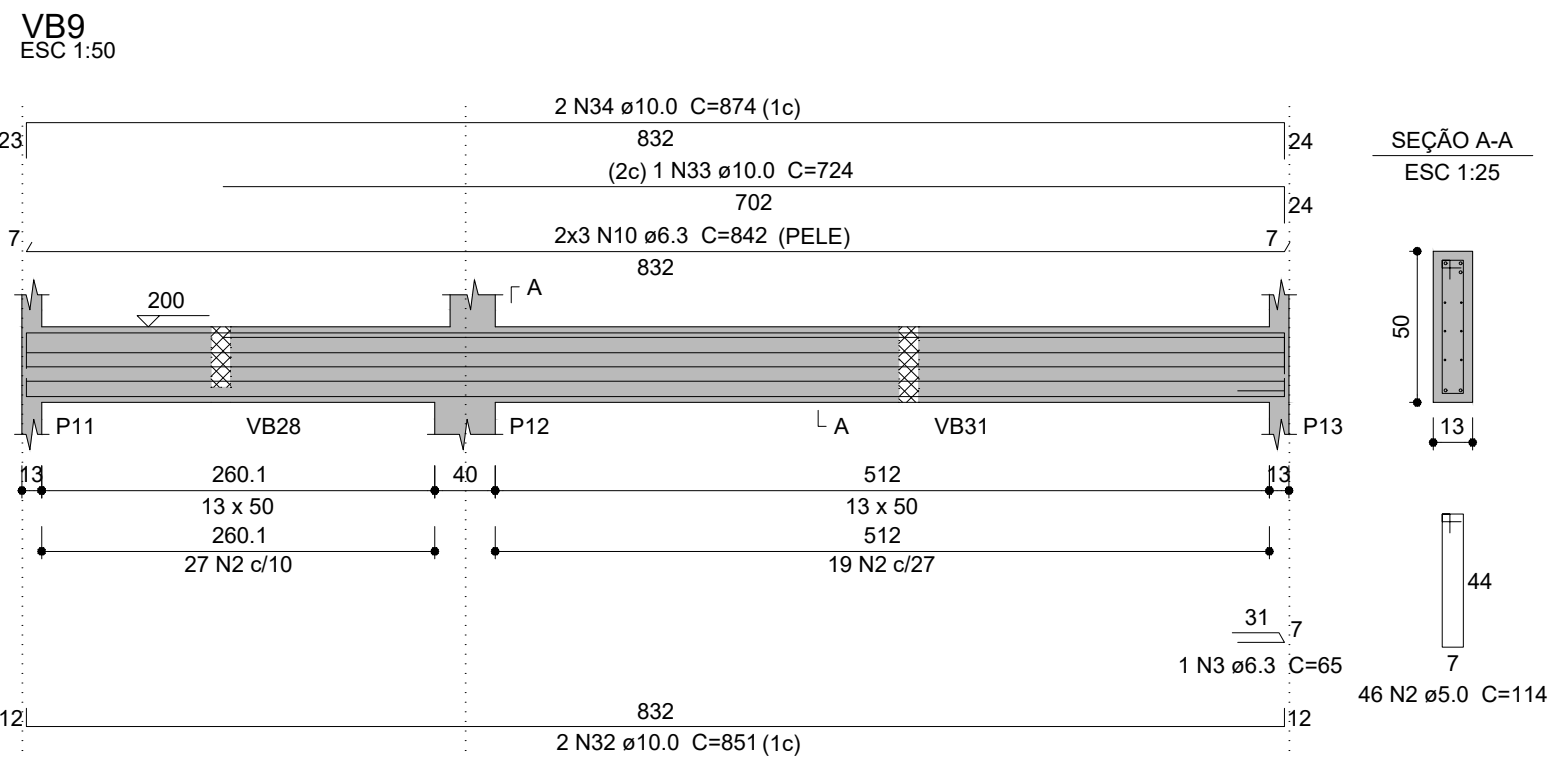
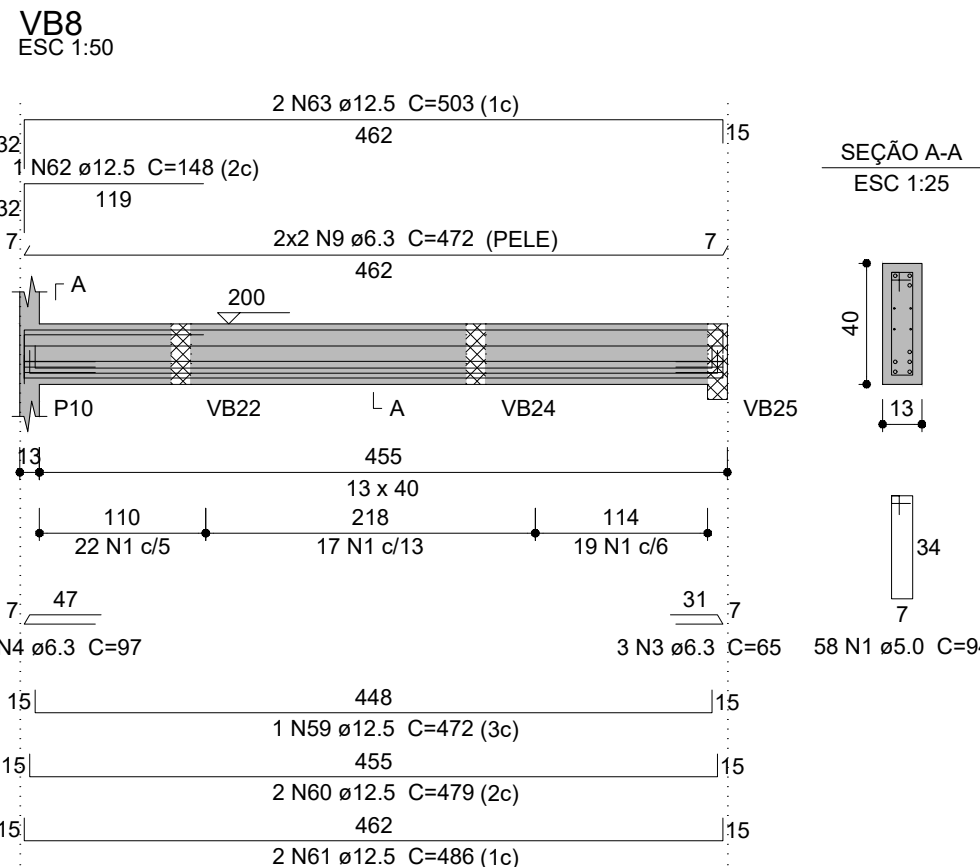
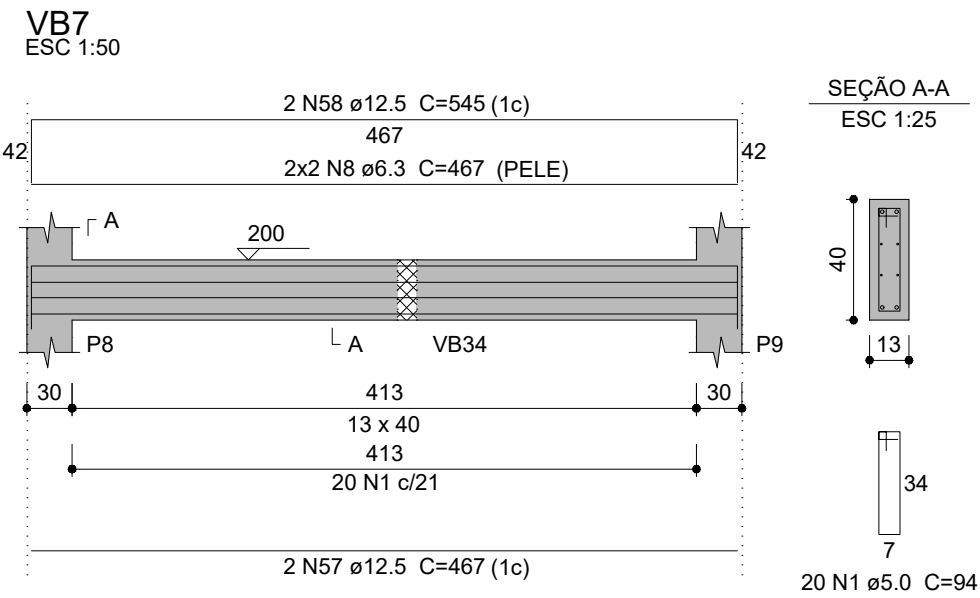
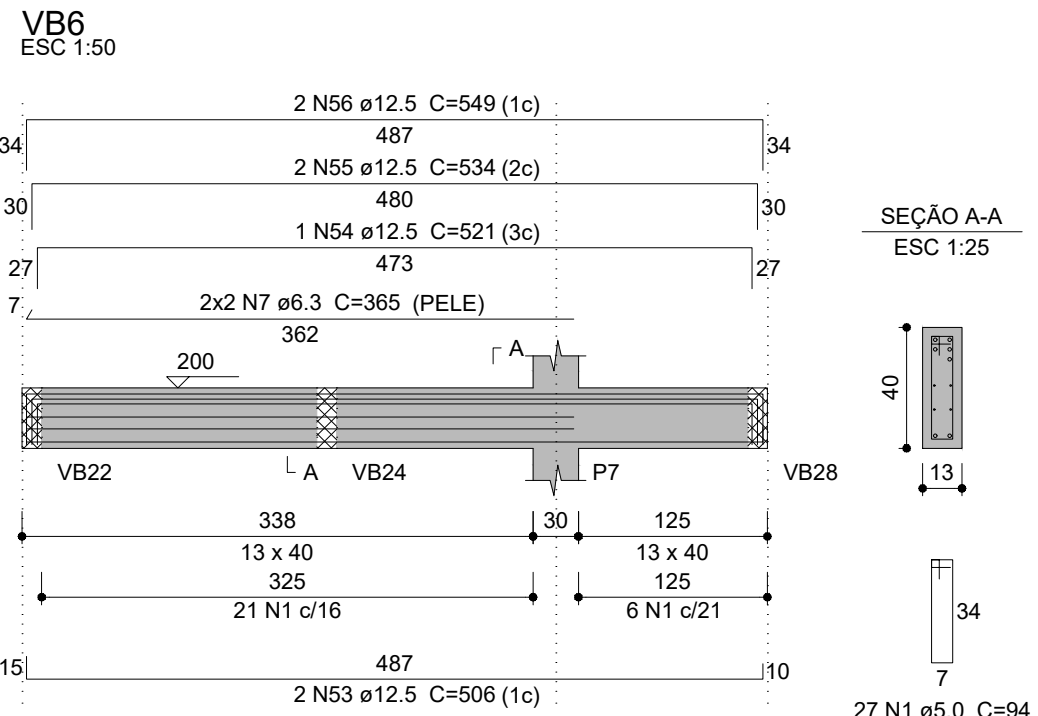
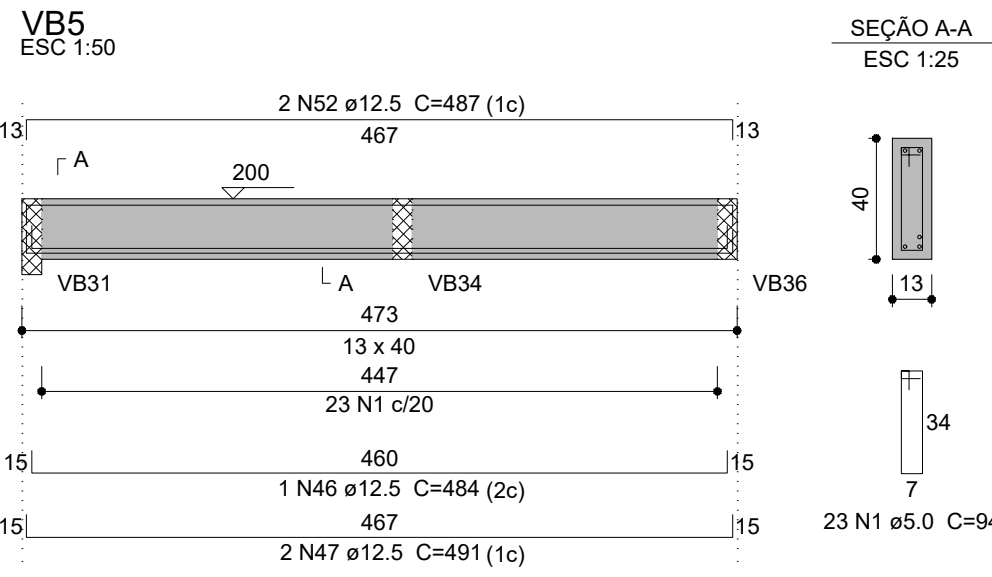
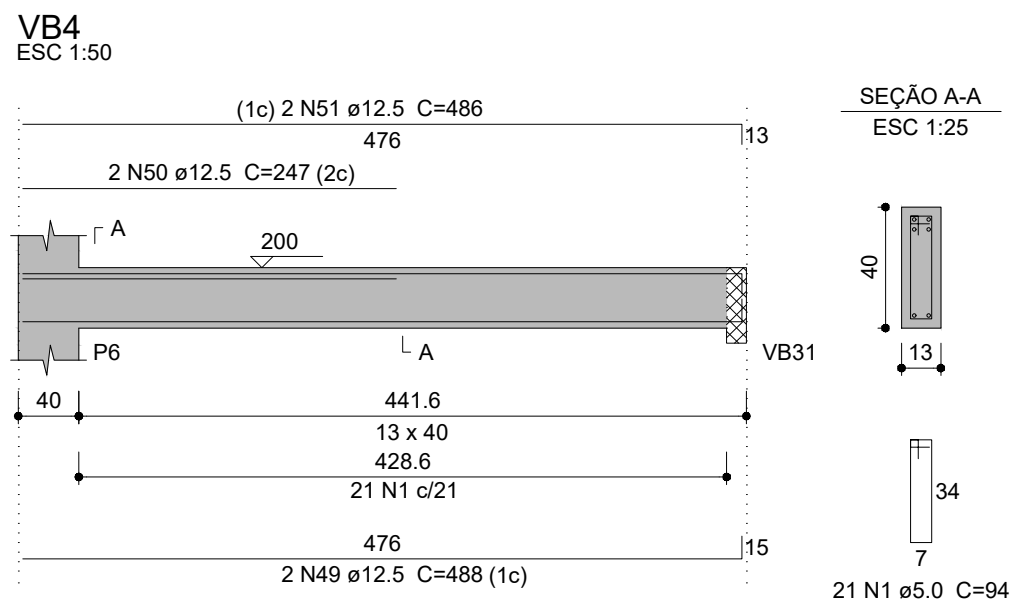
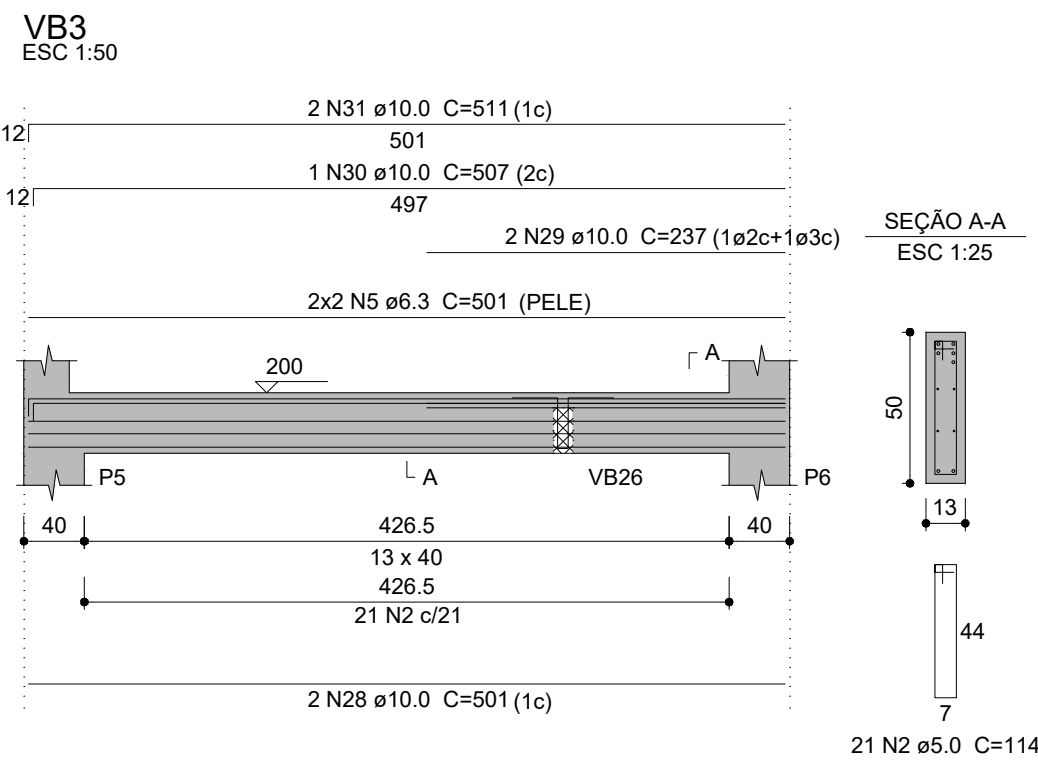
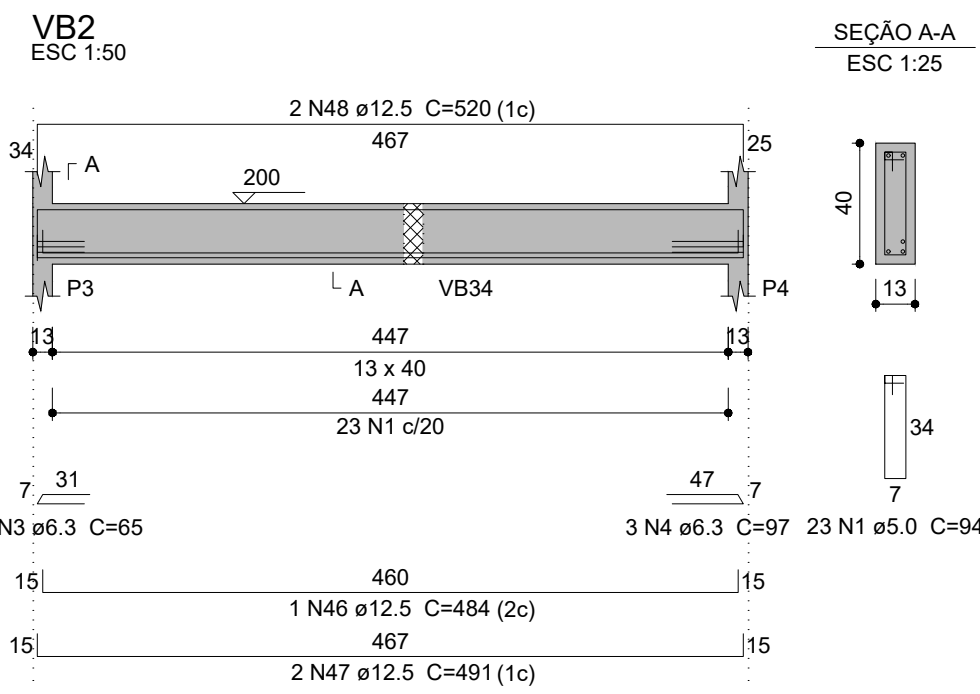
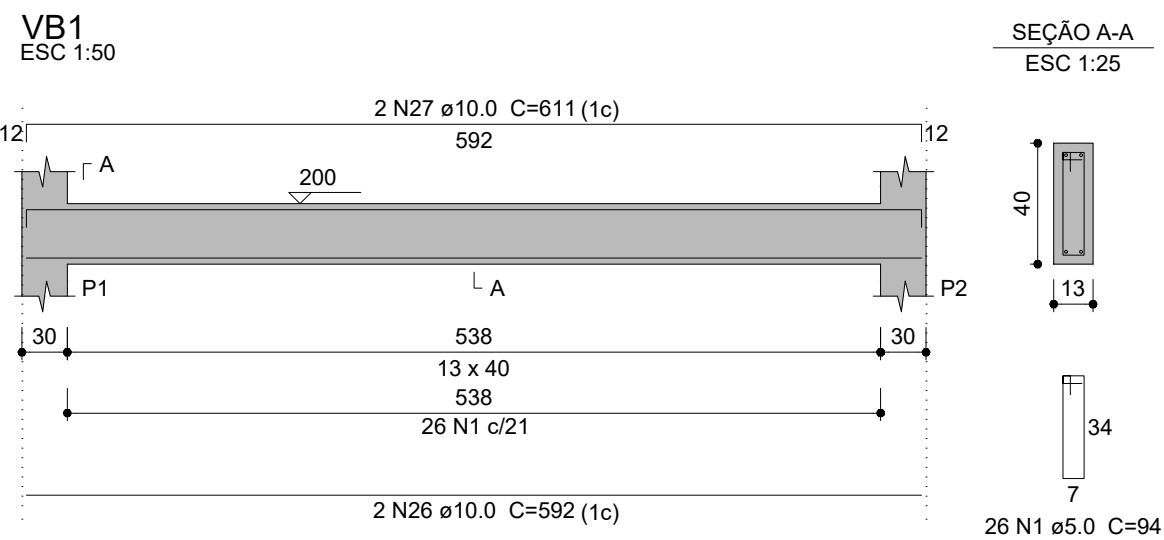
Legenda das vigas e paredes	
	Viga

Lajes						
Nome	Tipo	Dados			Sobrecarga (kgf/m²)	
		Altura (cm)	Elevação (cm)	Nível (cm)	Peso próprio (kgf/m²)	Total Localizada
L1	Trelçada 1D	16	0	200	335	250
L2	Trelçada 1D	16	0	200	335	250
L3	Trelçada 1D	16	0	200	335	250
L4	Trelçada 1D	16	0	200	335	250
L5	Trelçada 1D	16	0	200	335	250
L6	Trelçada 1D	16	0	200	335	250
L7	Trelçada 1D	16	0	200	335	250
L8	Trelçada 1D	16	0	200	335	250
L9	Trelçada 1D	16	0	200	335	250
L10	Trelçada 1D	16	0	200	335	250
L11	Trelçada 1D	16	0	200	335	250
L12	Trelçada 1D	16	0	200	335	250
L13	Trelçada 1D	16	0	200	337	250
L14	Trelçada 1D	16	0	200	337	250
L15	Trelçada 1D	16	0	200	335	250
L16	Trelçada 1D	16	0	200	335	250
L17	Trelçada 1D	16	0	200	335	250
L18	Trelçada 1D	16	0	200	335	250
L19	Trelçada 1D	16	0	200	335	250
L20	Trelçada 1D	16	0	200	337	250
L21	Trelçada 1D	16	0	200	335	250
L22	Trelçada 1D	16	0	200	335	250
L23	Trelçada 1D	16	0	200	335	250



Forma do pavimento Térreo (Nível 200)
escala 1:50

RESP. PROJETO:	
DESENHO:	
ESPECIALIDADE:	ESTRUTURA DE CONCRETO ARMADO
REFERÊNCIA:	EXECUTIVO
FORMAS TERREO	
OBSERVAÇÕES	
CONTRATANTE:	
PROPRIETÁRIO	
RESP. EXECUÇÃO	
RESP. PROJETO	
Nº OS: OS 073-19	
DATA: 19/02/2020	
ESCALA: INDICADAS	
FOLHA: CA-07	



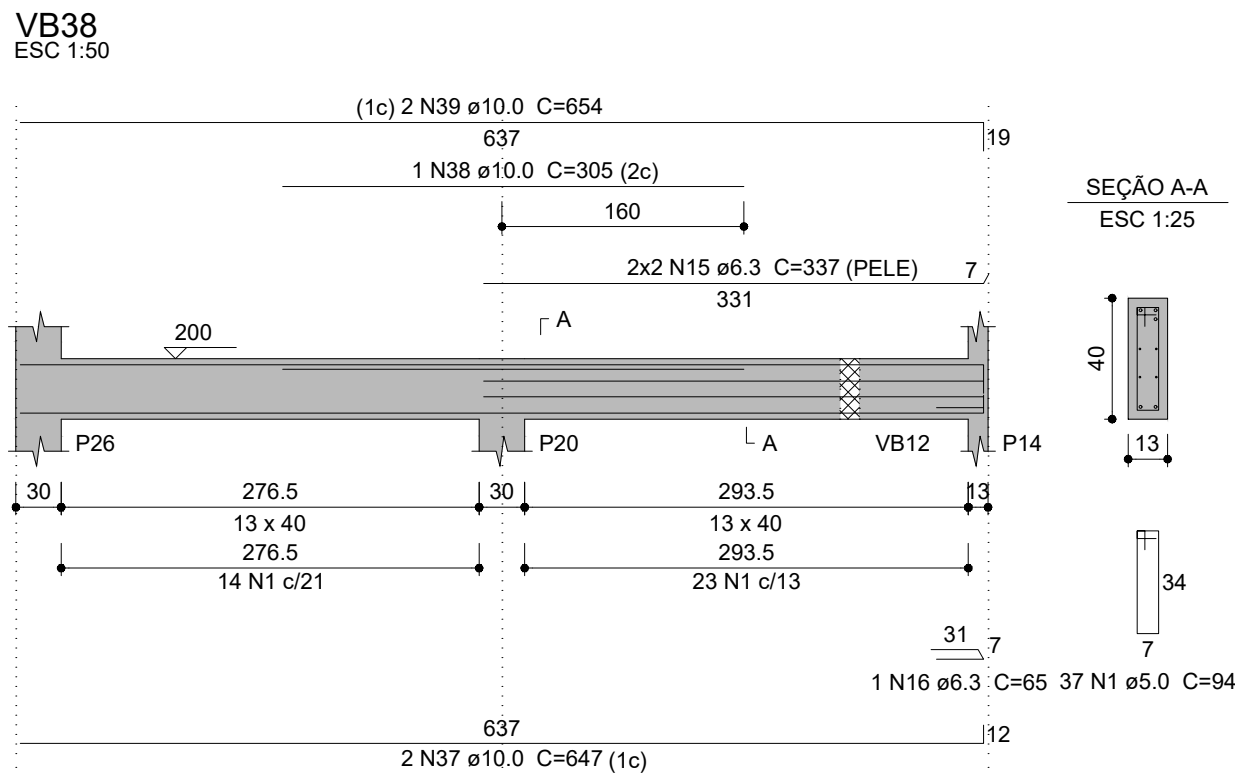
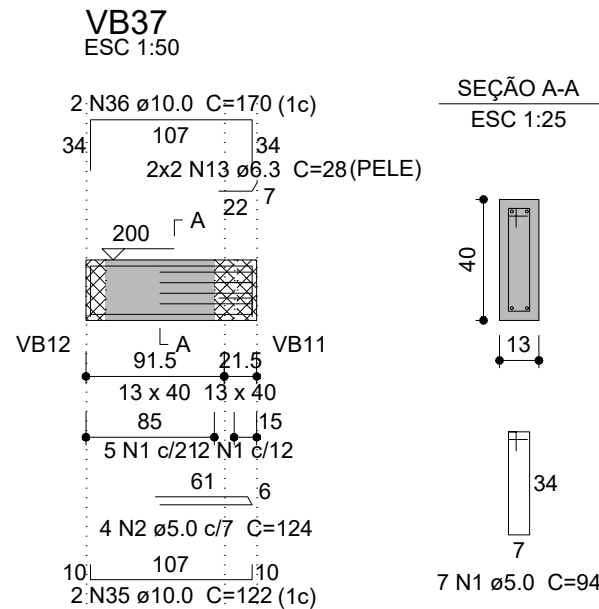
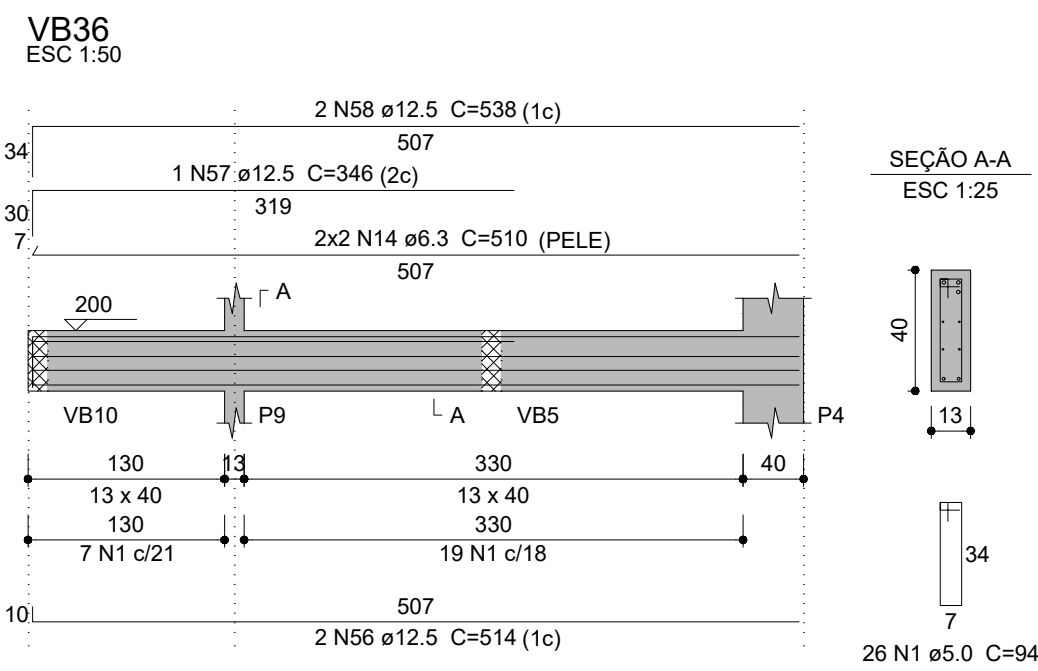
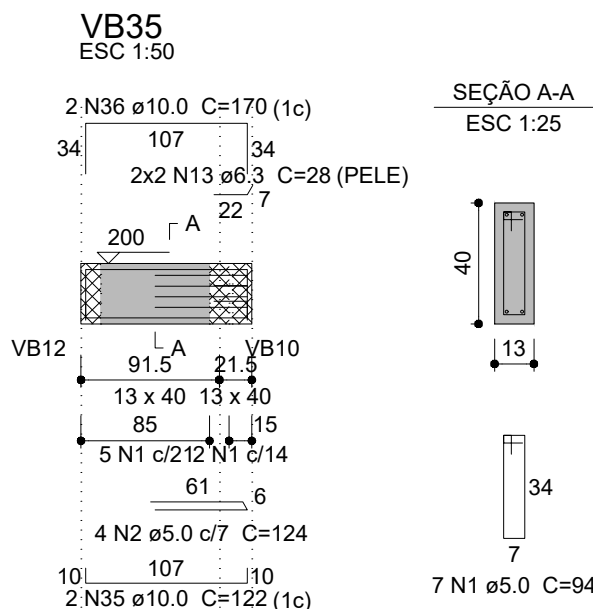
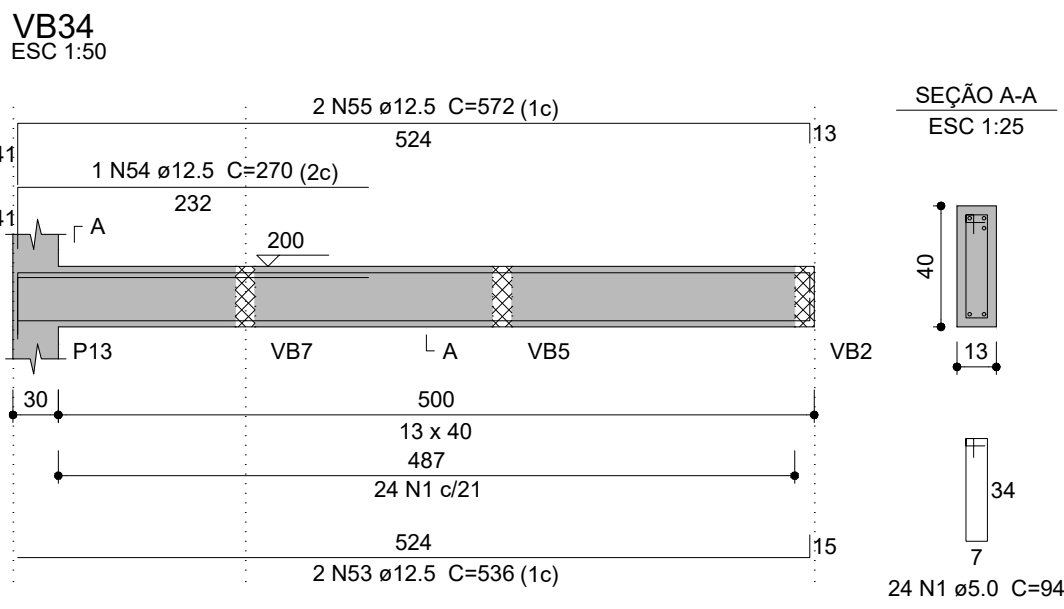
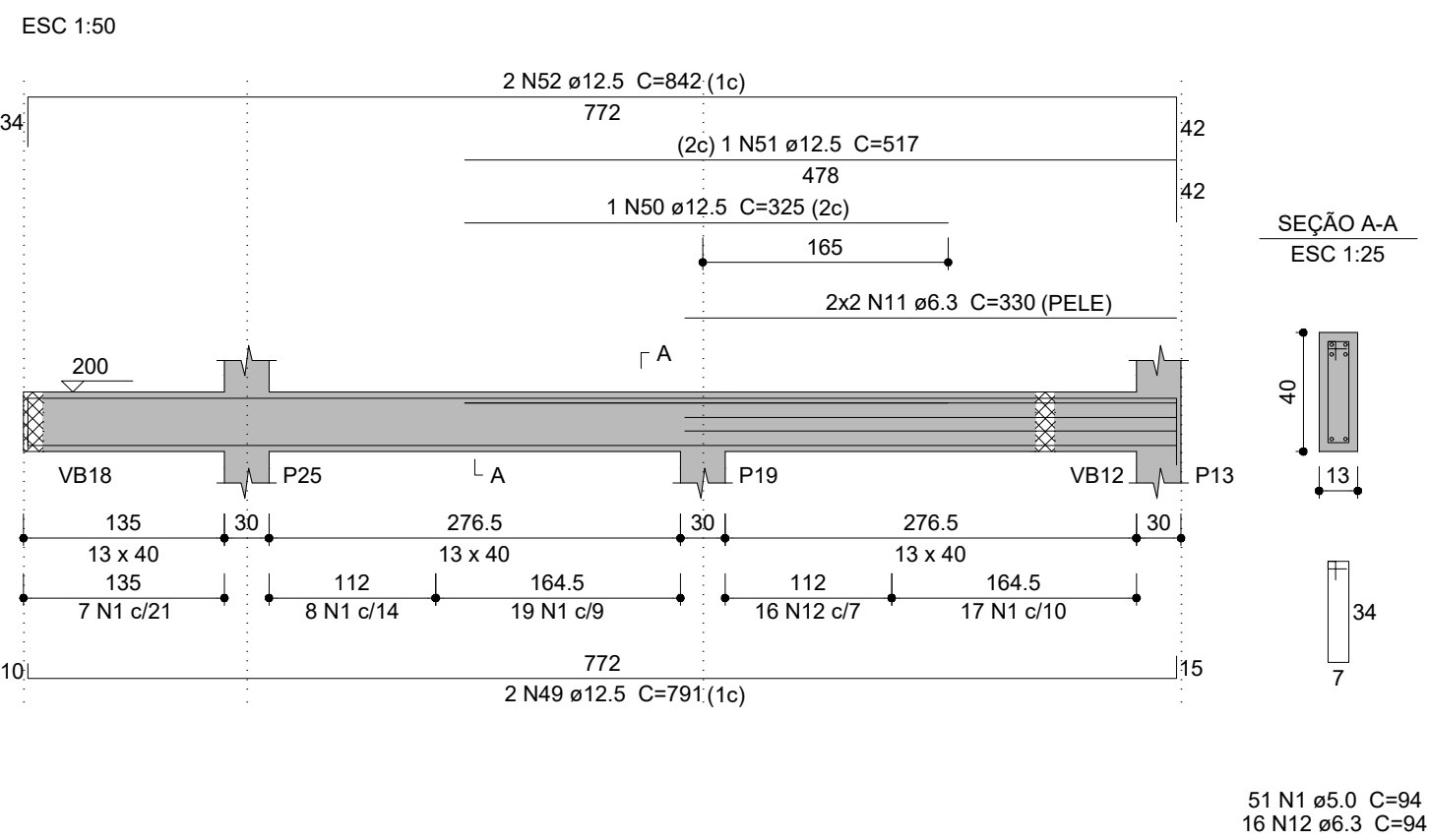
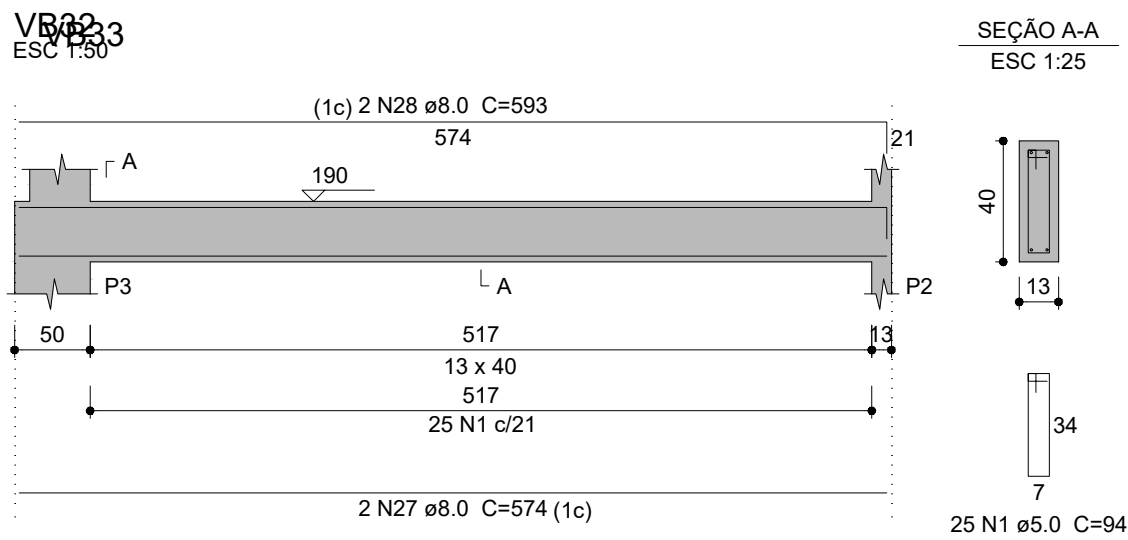
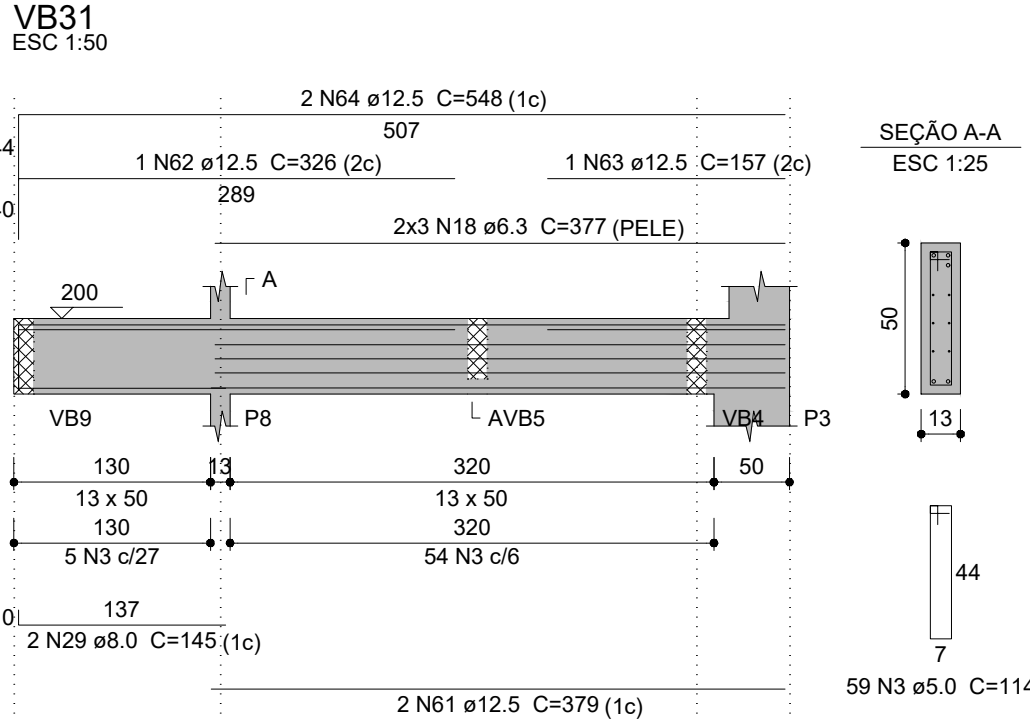
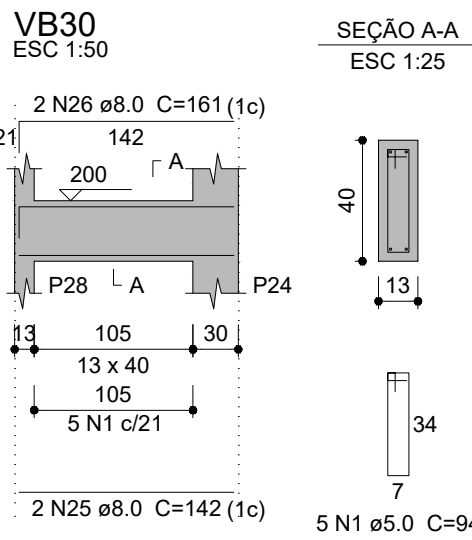
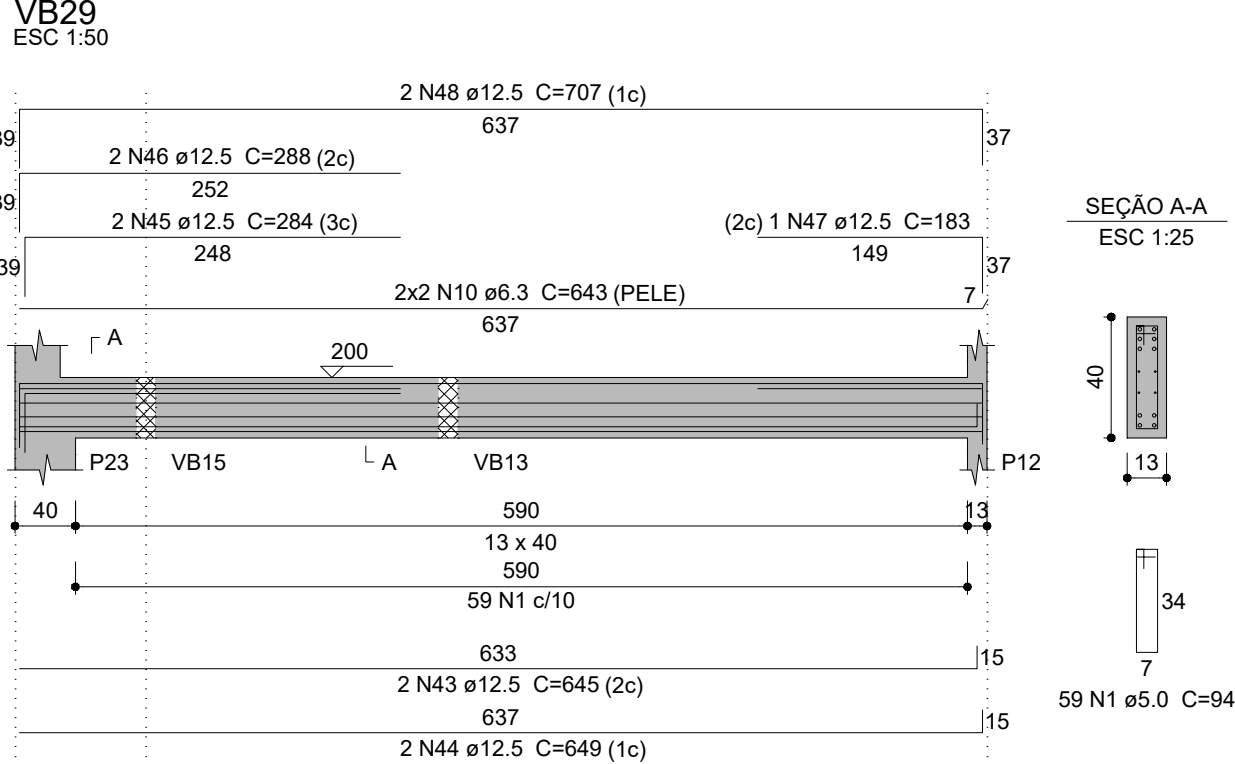
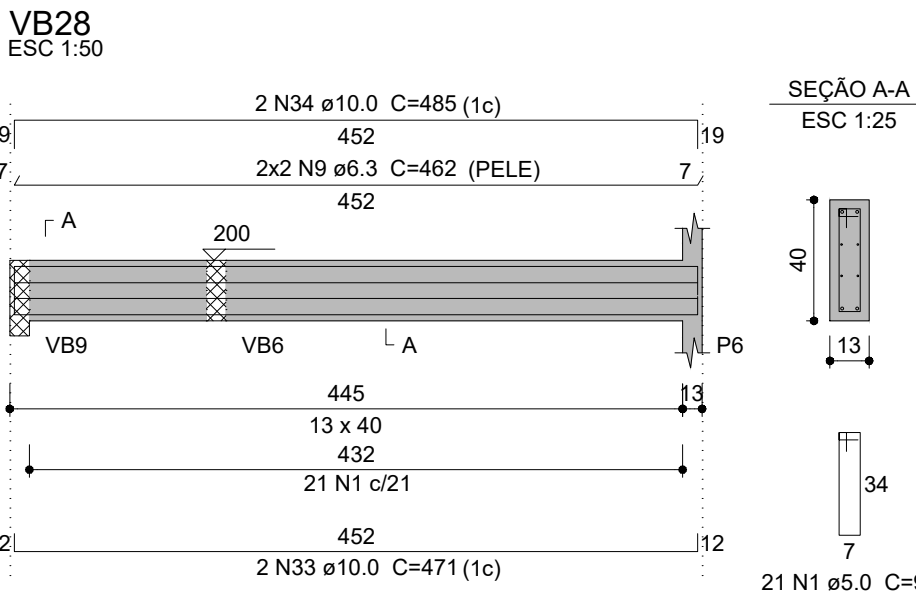
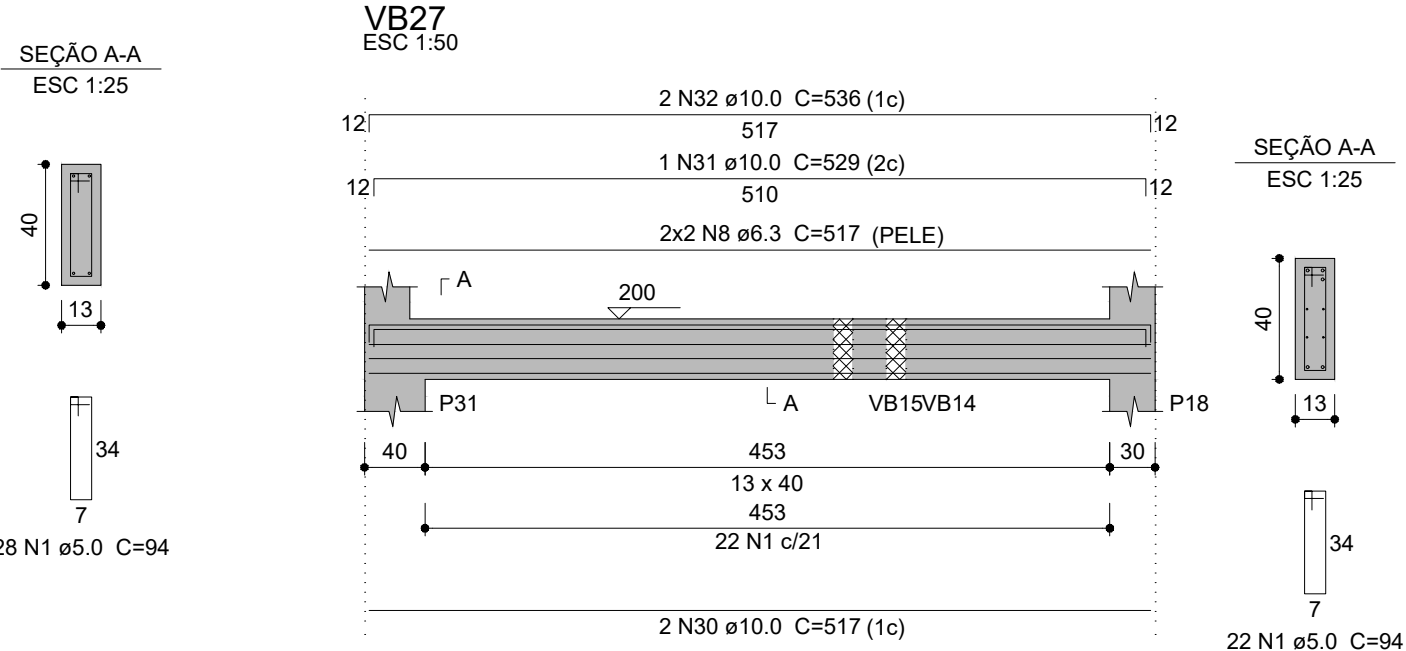
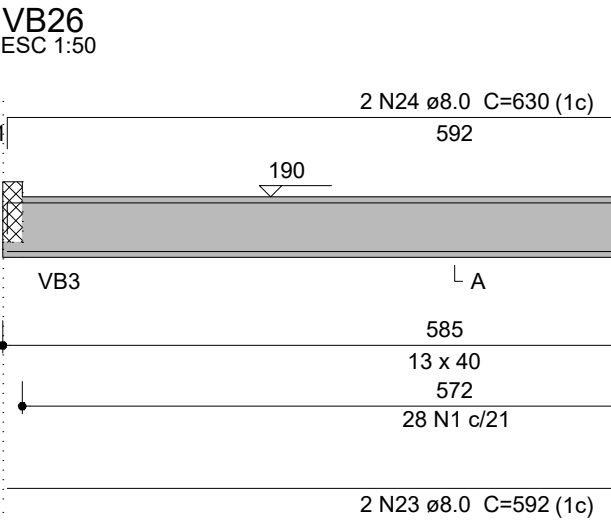
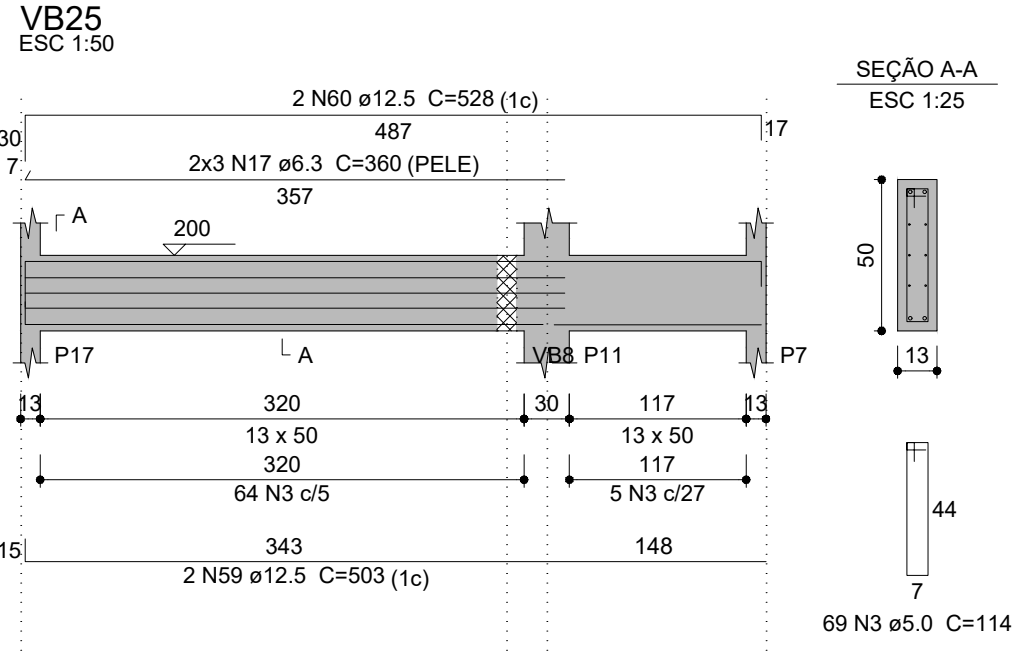
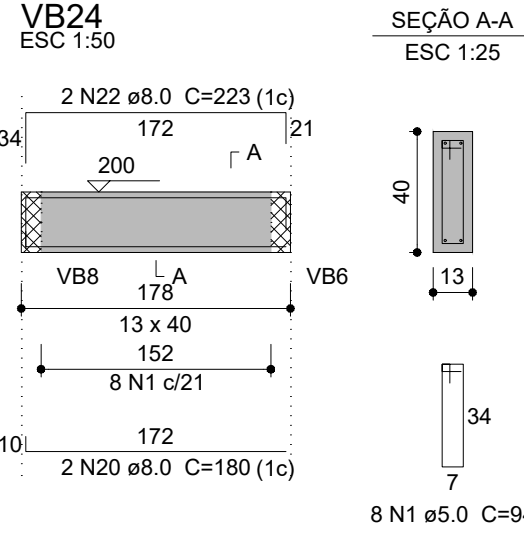
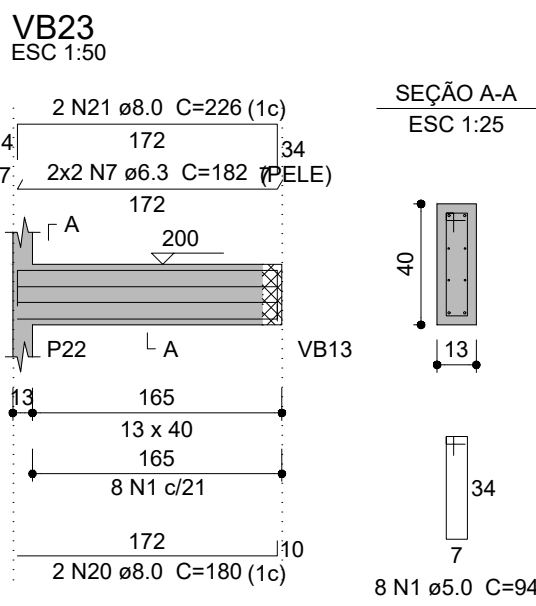
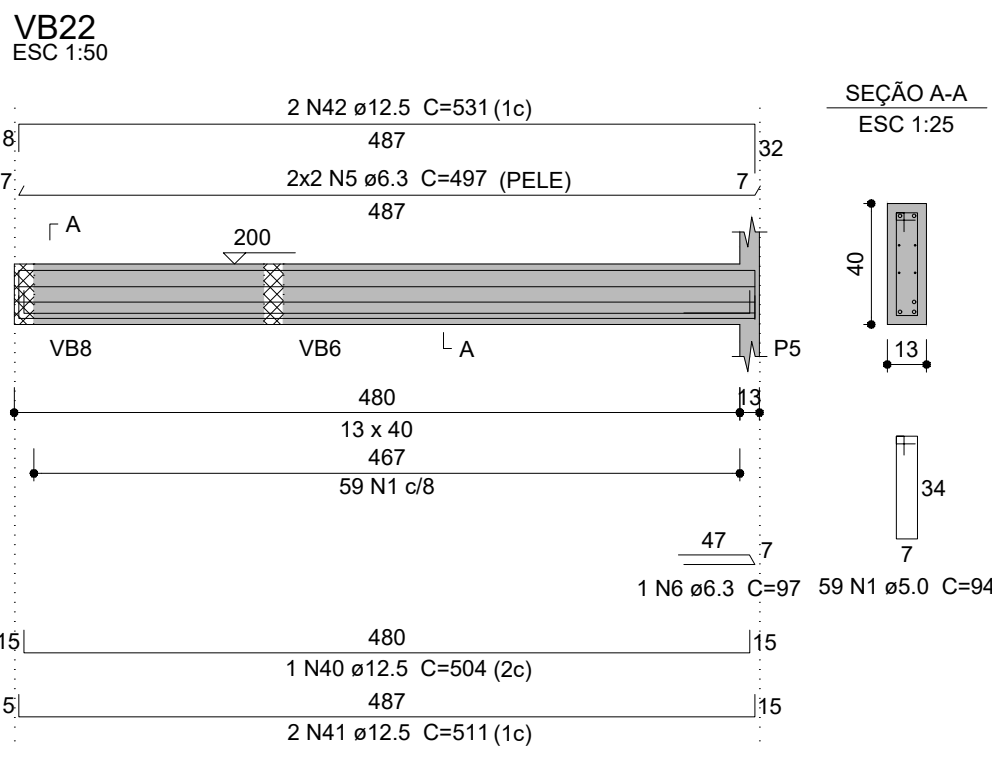
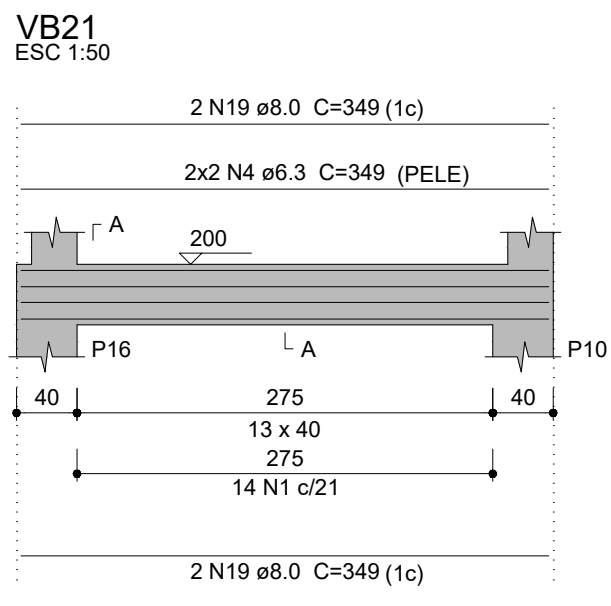
Relação do aço

VB1	VB2	VB3	VB4	VB5	VB6
VB7	VB8	VB9	VB10	VB11	VB12
VB13	VB14	VB15	VB16	VB17	VB18
VB19	VB20				
AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	493	94	46342
	2	5.0	67	114	7638
CA50	3	6.3	14	65	910
	4	6.3	6	97	582
	5	6.3	4	501	2004
	6	6.3	1	149	149
	7	6.3	4	365	1460
	8	6.3	4	467	1868
	9	6.3	4	472	1888
	10	6.3	6	842	5052
	11	6.3	4	525	2100
	12	6.3	4	532	2128
	13	6.3	4	188	752
	14	6.3	4	192	768
	15	6.3	4	520	2080
	16	8.0	2	118	236
	17	8.0	2	102	204
	18	8.0	2	190	380
	19	8.0	2	236	472
	20	8.0	2	540	1080
	21	8.0	1	199	199
	22	8.0	2	589	1178
	23	8.0	2	392	784
	24	8.0	2	411	822
	25	8.0	2	121	242
	26	10.0	2	592	1184
	27	10.0	2	611	1222
	28	10.0	2	501	1002
	29	10.0	2	237	474
	30	10.0	1	507	507
	31	10.0	2	511	1022
	32	10.0	2	851	1702
	33	10.0	1	724	724
	34	10.0	2	874	1748
	35	10.0	2	532	1064
	36	10.0	1	551	551
	37	10.0	2	558	1116
	38	10.0	1	534	534
	39	10.0	4	541	2164
	40	10.0	2	555	1110
	41	10.0	1	184	184
	42	10.0	2	562	1124
	43	10.0	2	527	1054
	44	10.0	2	227	454
	45	10.0	2	544	1088
	46	12.5	2	484	968
	47	12.5	4	491	1964
	48	12.5	2	520	1040
	49	12.5	2	488	976
	50	12.5	2	247	494
	51	12.5	2	486	972
	52	12.5	2	487	974
	53	12.5	2	506	1012
	54	12.5	1	521	521
	55	12.5	2	534	1068
	56	12.5	2	549	1098
	57	12.5	2	467	934
	58	12.5	2	545	1090
	59	12.5	1	472	472
	60	12.5	2	479	958
	61	12.5	2	486	972
	62	12.5	1	148	148
	63	12.5	2	503	1006
	64	12.5	1	601	601
	65	12.5	2	781	1562
	66	12.5	2	513	1026
	67	12.5	2	559	1118
	68	12.5	2	808	1616
	69	12.5	2	611	1222
	70	12.5	1	634	634
	71	12.5	2	649	1298
	72	12.5	1	595	595
	73	12.5	2	599	1198
	74	12.5	1	249	249
	75	12.5	2	253	506
	76	12.5	2	632	1264

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6.3	217.5	58.5
	8.0	56	24.3
	10.0	200.3	135.8
	12.5	295.6	313.2
CA60	5.0	539.8	91.5
PESO TOTAL (kg)			
CA50		531.8	
CA60		91.5	

Volume de concreto (C-30) = 5.36 m³
Área de forma = 95.58 m²



Relação do aço

VB21	VB22	VB23	VB24	VB25	VB26
VB27	VB28	VB29	VB30	VB31	VB32
VB33	VB34	VB35	VB36	VB37	VB38
AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	401	94	37694
	2	5.0	8	124	992
	3	5.0	128	114	14592
CA50	4	6.3	4	349	1396
	5	6.3	4	497	1988
	6	6.3	1	97	97
	7	6.3	4	182	728
	8	6.3	4	517	2068
	9	6.3	4	462	1848
	10	6.3	4	643	2572
	11	6.3	4	330	1320
	12	6.3	16	94	1504
	13	6.3	8	28	224
	14	6.3	4	510	2040
	15	6.3	4	337	1348
	16	6.3	1	65	65
	17	6.3	6	360	2160
	18	6.3	6	377	2262
	19	8.0	4	349	1396
	20	8.0	4	180	720
	21	8.0	2	226	452
	22	8.0	2	233	446
	23	8.0	2	592	1184
	24	8.0	2	630	1260
	25	8.0	2	142	284
	26	8.0	2	161	322
	27	8.0	2	574	1148
	28	8.0	2	593	1186
	29	8.0	2	145	290
	30	10.0	2	517	1034
	31	10.0	1	529	529
	32	10.0	2	536	1072
	33	10.0	2	471	942
	34	10.0	2	485	970
	35	10.0	4	122	488
	36	10.0	4	170	680
	37	10.0	2	647	1294
	38	10.0	1	305	305
	39	10.0	2	654	1308
	40	12.5	1	504	504
	41	12.5	2	511	1022
	42	12.5	2	531	1062
	43	12.5	2	645	1290
	44	12.5	2	649	1298
	45	12.5	2	284	568
	46	12.5	2	288	576
	47	12.5	1	183	183
	48	12.5	2	707	1414
	49	12.5	2	791	1582
	50	12.5	1	325	325
	51	12.5	1	517	517
	52	12.5	2	842	1684
	53	12.5	2	536	1072
	54	12.5	1	270	270
	55	12.5	2	572	1144
	56	12.5	2	514	1028
	57	12.5	1	346	346
	58	12.5	2	538	1076
	59	12.5	2	503	1008
	60	12.5	2	528	1056
	61	12.5	2	379	758
	62	12.5	1	326	326
	63	12.5	1	157	157
	64	12.5	2	548	1096

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6.3	216.2	58.2
	8.0	86.9	37.7
	10.0	86.3	58.5
	12.5	213.6	226.3
CA60	5.0	532.8	90.3
PESO TOTAL (kg)			
CA50	380.7		
CA60	90.3		

Volume de concreto (C-30) = 4.21 m³
Área de forma = 75.02 m²

RESP. PROJETO:

DESENHO:

ESTRUTURA DE CONCRETO ARMADO
EXECUTIVO
BALDRAME TERREÇO 2

ESPECIALIDADE:

OBSERVAÇÕES:

REV.	DATA	DESCRIÇÃO:	RESP.	VISTO:
R00	19/02/20	EMISSION INICIAL		

CONTRATANTE:
OBRA:
EDIFICAÇÃO RESIDENCIAL

PROPRIETÁRIO

RESP. EXECUÇÃO

RESP. PROJETO

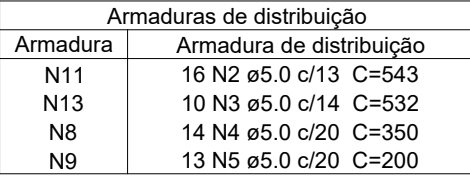
Nº OS: OS 073-19

DATA: 19/02/2020

ESCALA: INDICADAS

FOLHA:

CA-09

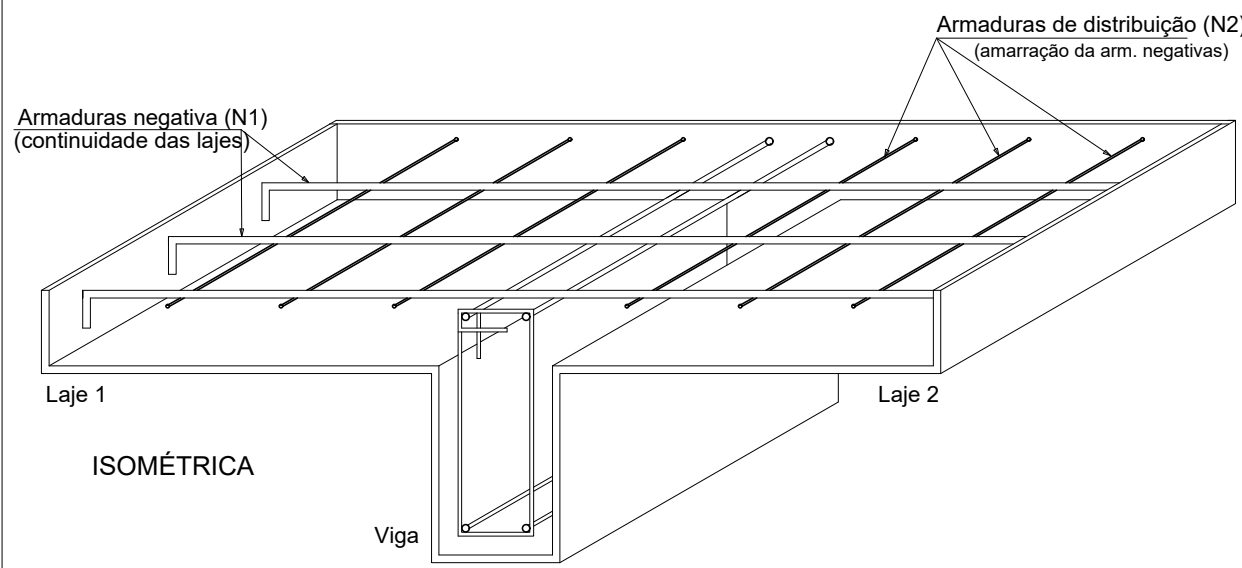


Relação do aço					
Negativos		Positivos			
AÇO	N	DIAM (mm)	QUANT	C.UNIT	C.TOTAL (cm)
CA60	1	5	2	166	332
	2	5,0	16	543	8688
CA50	3	5,0	10	532	5320
	4	5,0	28	350	9800
	5	5,0	13	200	2600
	6	8,0	3	462	1386
	7	8,0	2	637	1274
	8	10,0	17	281	4777
	9	10,0	10	262	2620
	10	10,0	23	333	7659
	11	12,5	32	207	6624
	12	12,5	2	155	310
	13	12,5	30	134	4020
	14	12,5	1	552	552

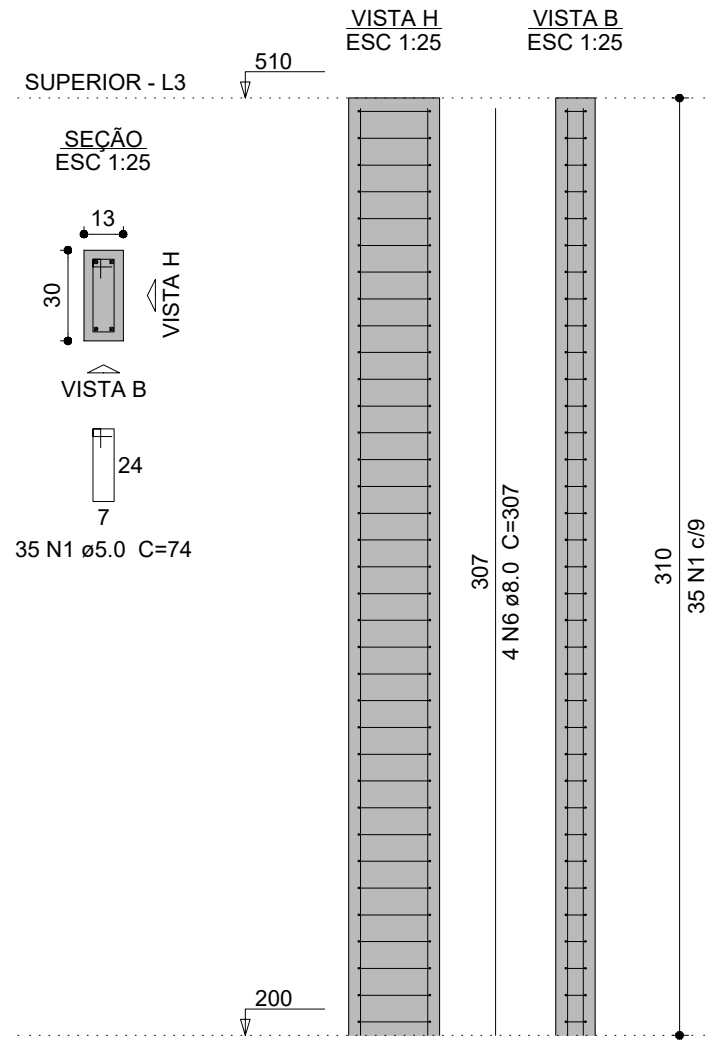
AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	8.0	26.6	11.5
	10.0	150.6	102.1
	12.5	115.1	121.9
CA60	4.2	3.4	0.4
	5.0	264.1	44.8
PESO TOTAL (kg)			
CA50	235.6		
CA60	45.2		

Volume de concreto (C-30) = 11.05 m³

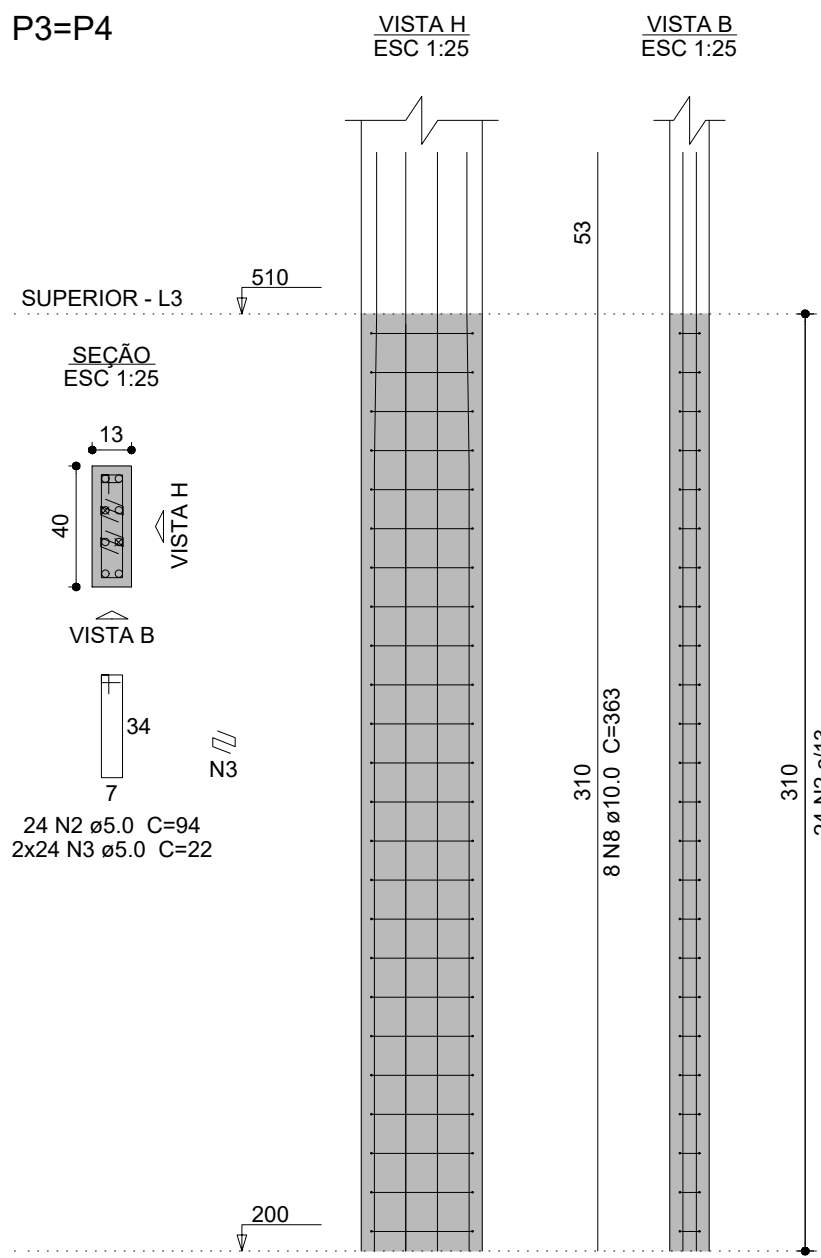
escala 1:50



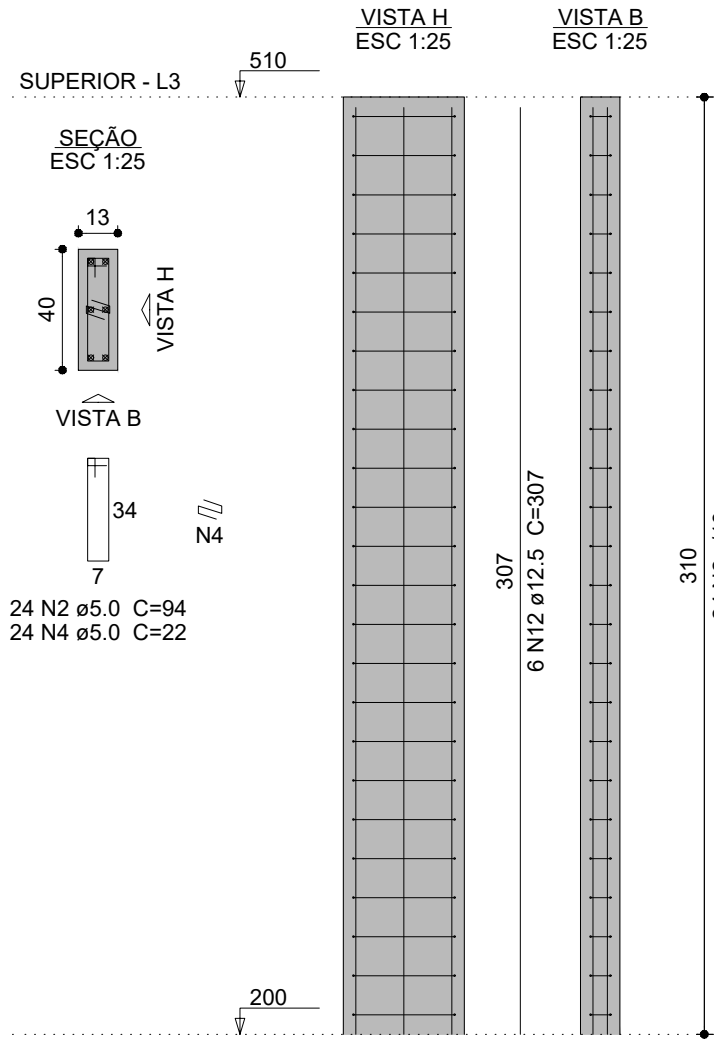
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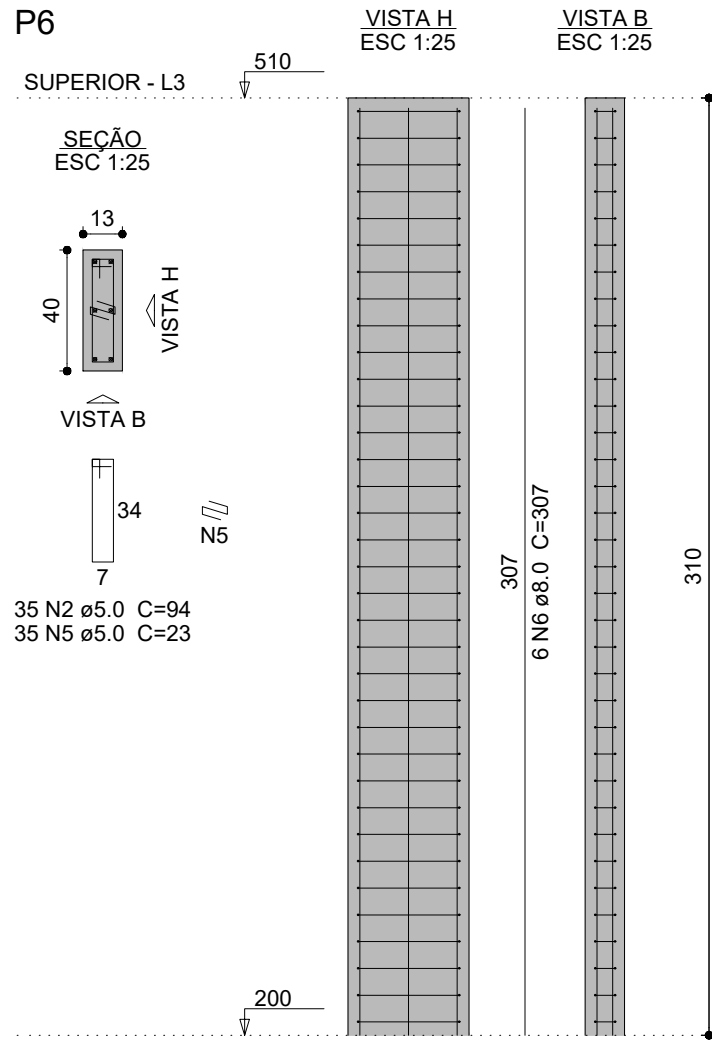
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P6



Relação do aço

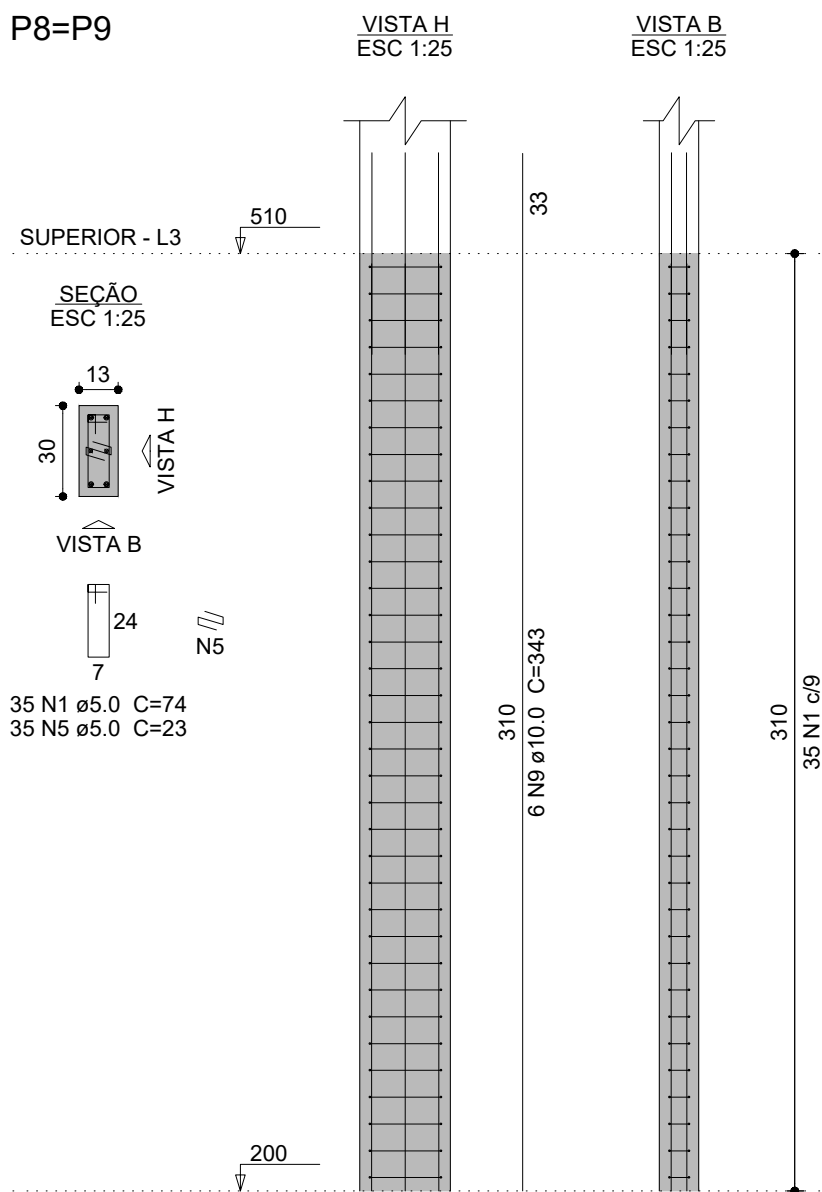
AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	825	74	61050
	2	5.0	203	94	19082
	3	5.0	96	22	2112
	4	5.0	120	22	2640
CA50	5	5.0	502	23	11546
	6	8.0	38	307	11666
	7	8.0	4	357	1428
	8	10.0	16	363	5808
	9	10.0	12	343	4116
	10	10.0	30	307	9210
	11	10.0	40	317	12680
	12	12.5	30	307	9210

Resumo do aço

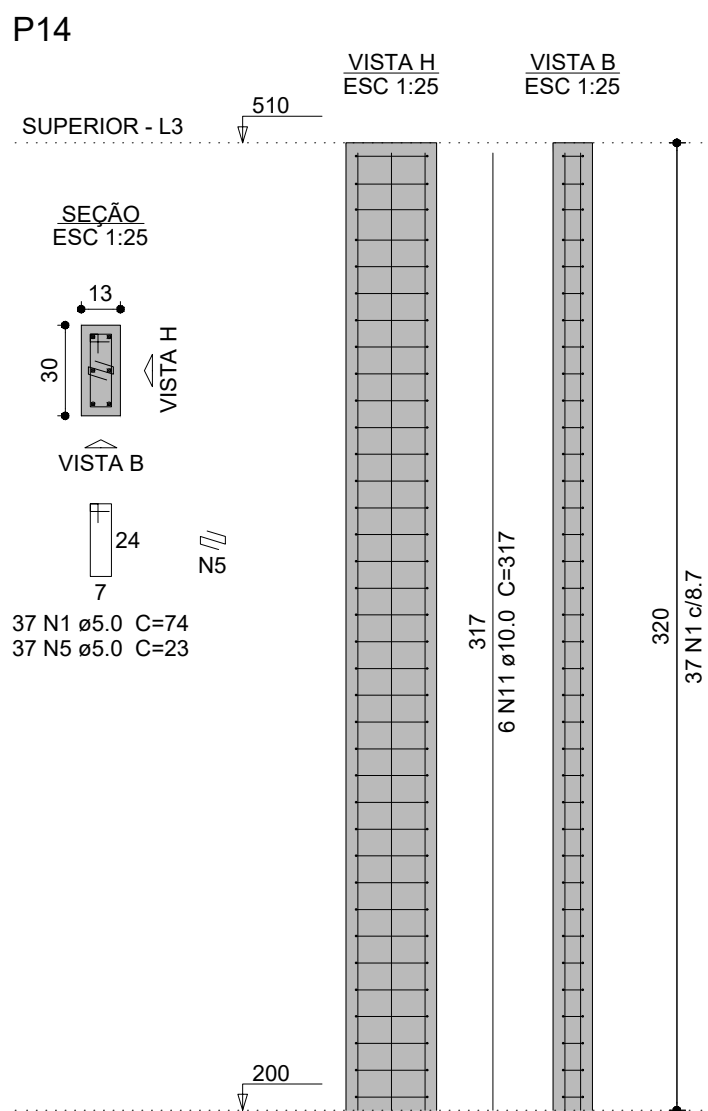
AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	8.0	131	56.8
	10.0	318.2	215.8
	12.5	92.1	97.6
CA60	5.0	964.3	163.5
	PESO TOTAL (kg)		
CA50	370.2		
CA60	163.5		

Volume de concreto (C-30) = 4.07 m³
Área de forma = 87.61 m²

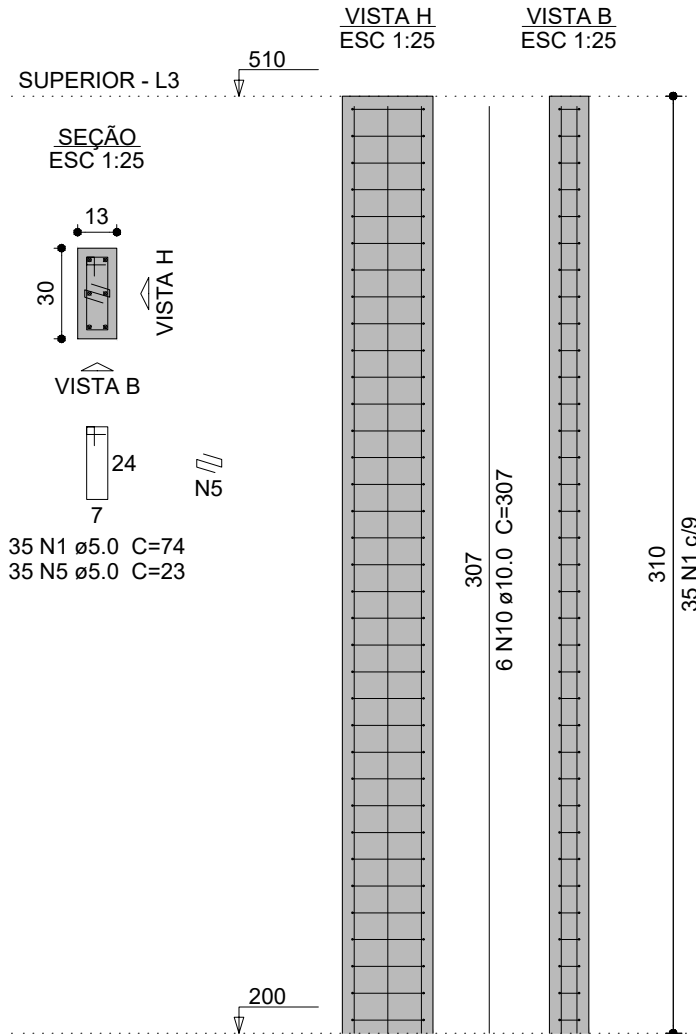
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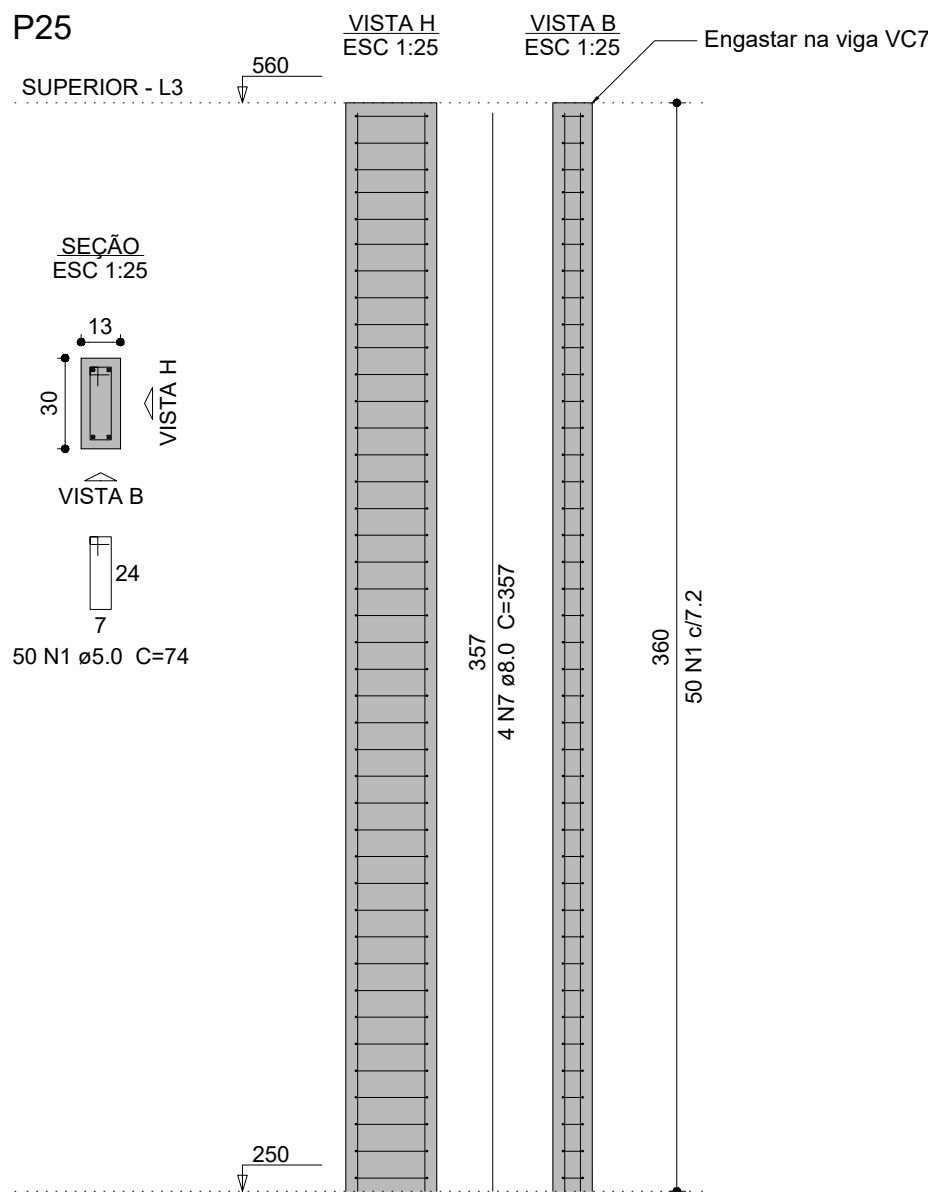
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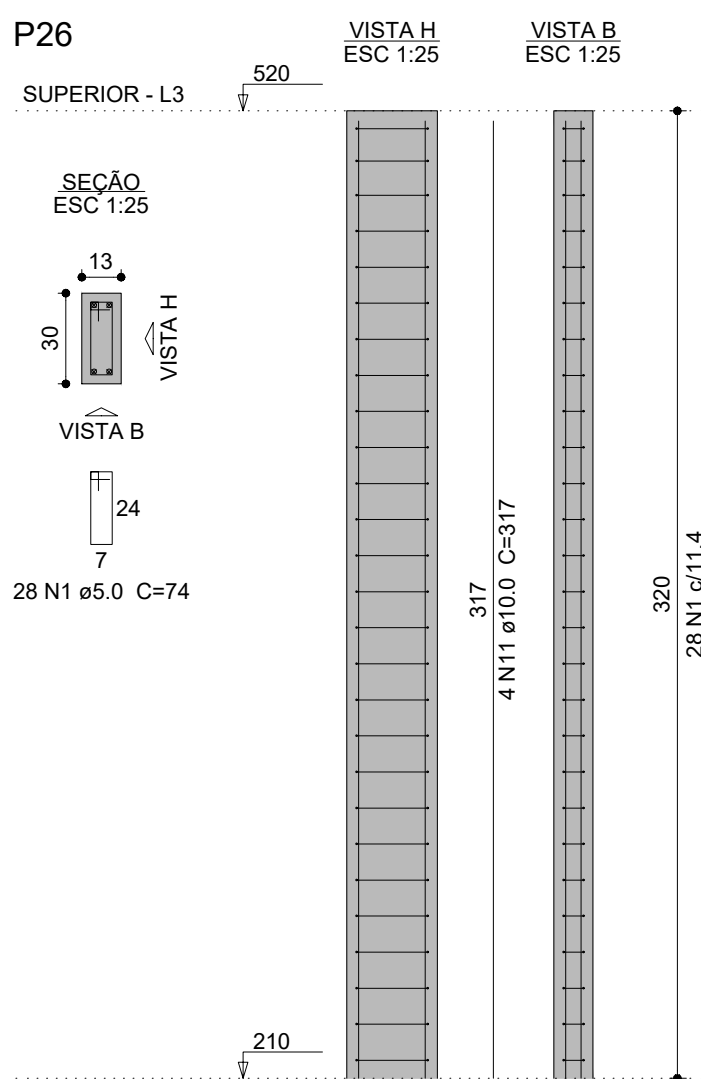
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P25



P26



RESP. PROJETO:

DESENHO:

ESPECIALIDADE: ESTRUCTURA DE CONCRETO ARMADO
EXECUTIVO
REFERENCIA: PILARES SUPERIOR

OBSERVAÇÕES

REV.	DATA	EMISSÃO INICIAL	DESCORÇÃO:	RESP.	VISTO:
R00	19/02/20				

CONTRATANTE: EDIFICAÇÃO RESIDENCIAL
OBRA:

PROPRIETÁRIO

RESP. EXECUÇÃO

RESP. PROJETO

Nº OS: OS 073-19

DATA: 19/02/2020

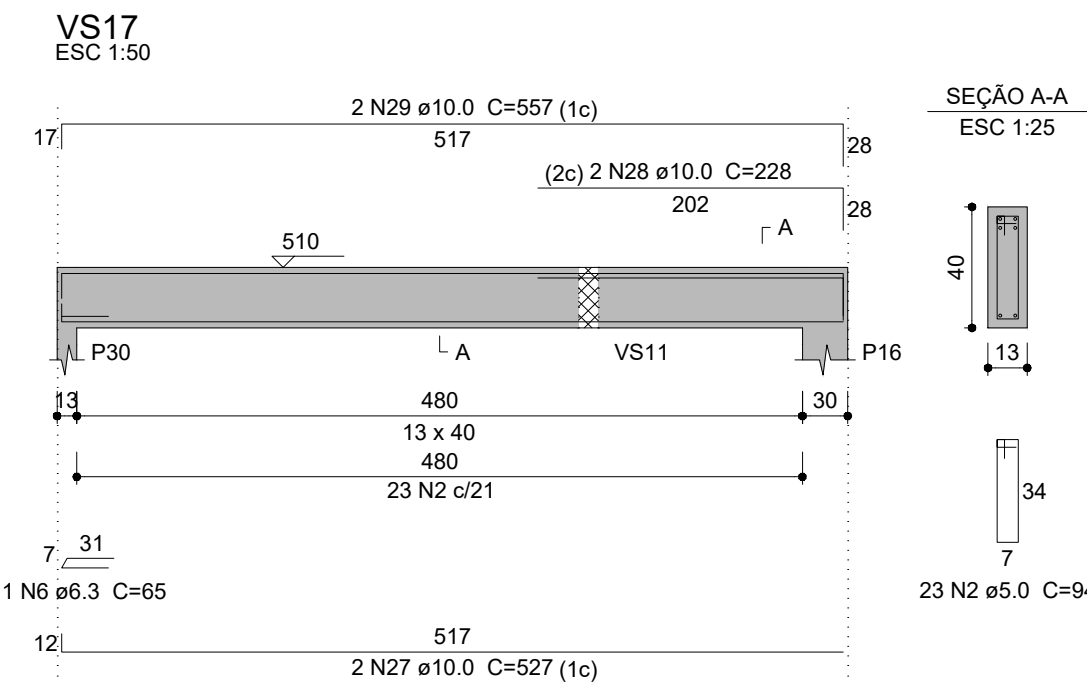
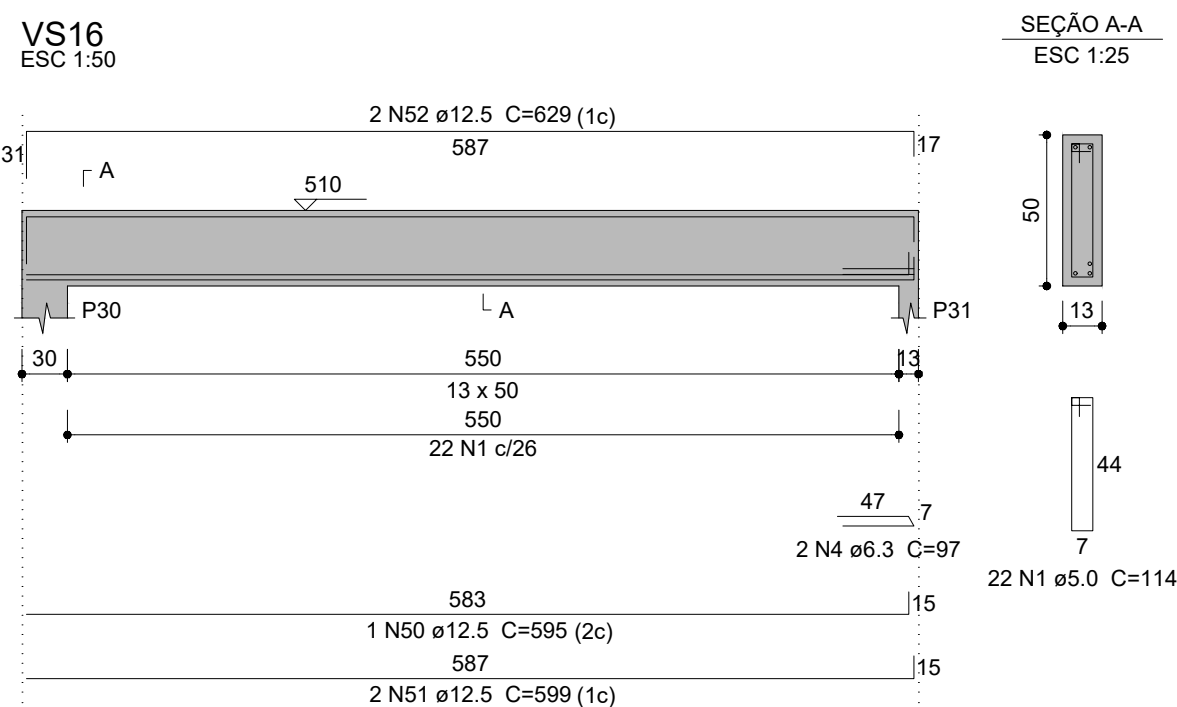
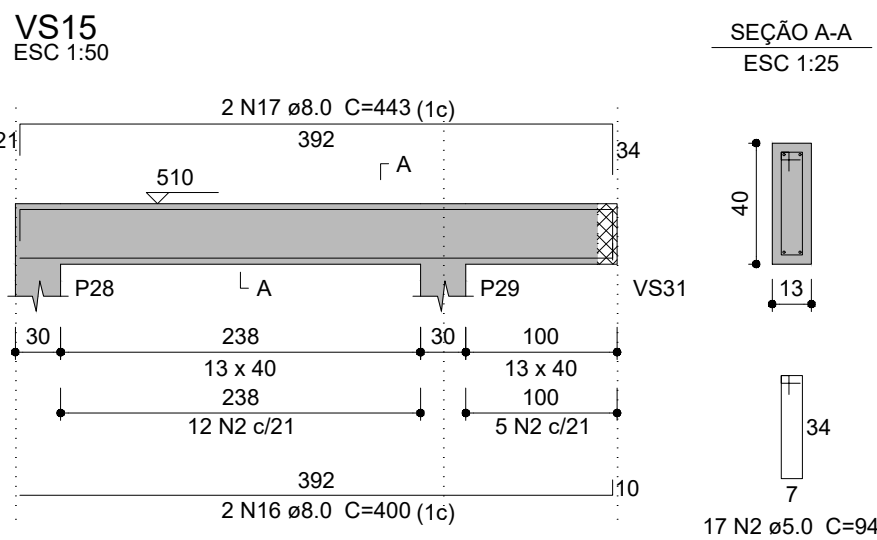
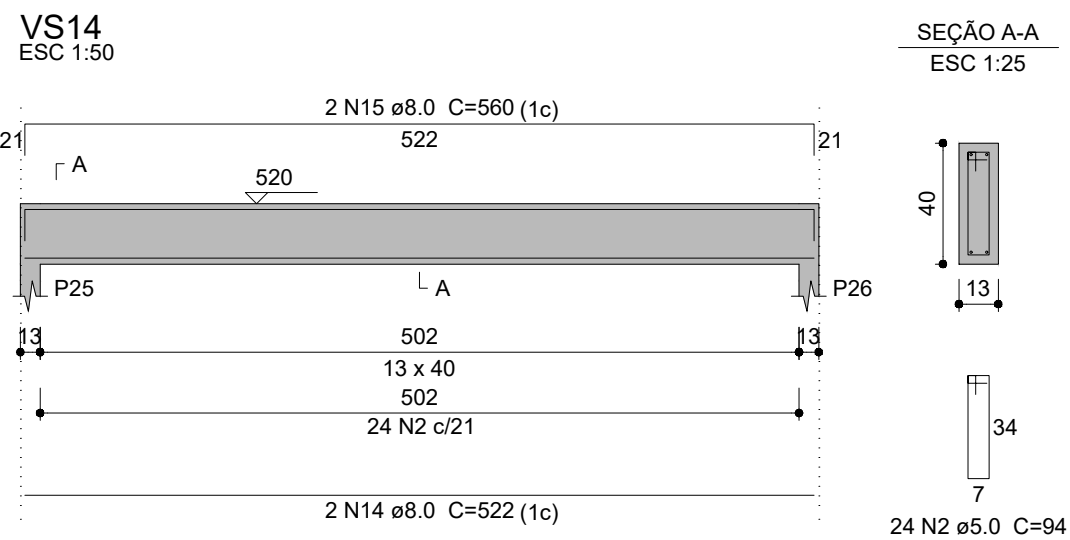
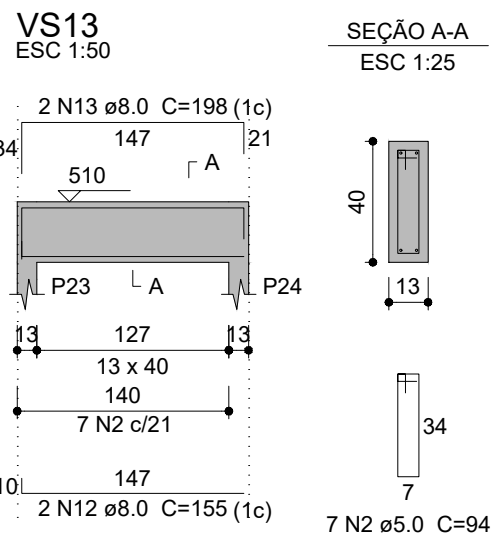
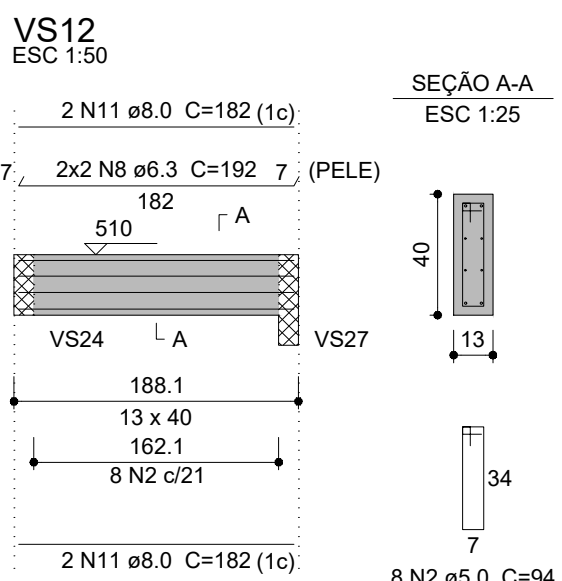
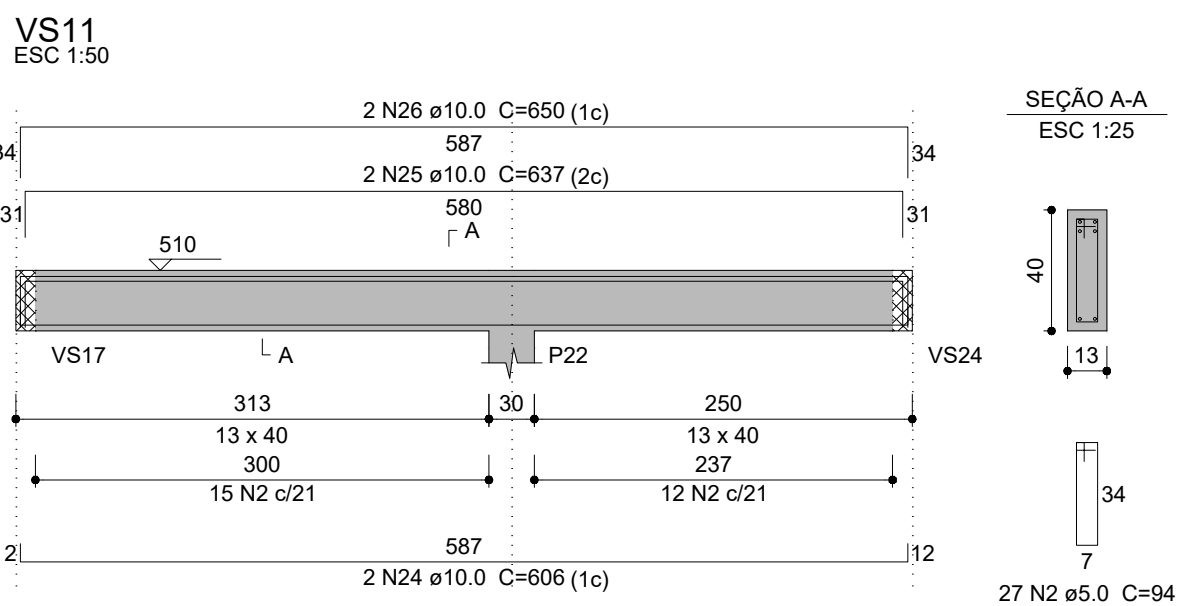
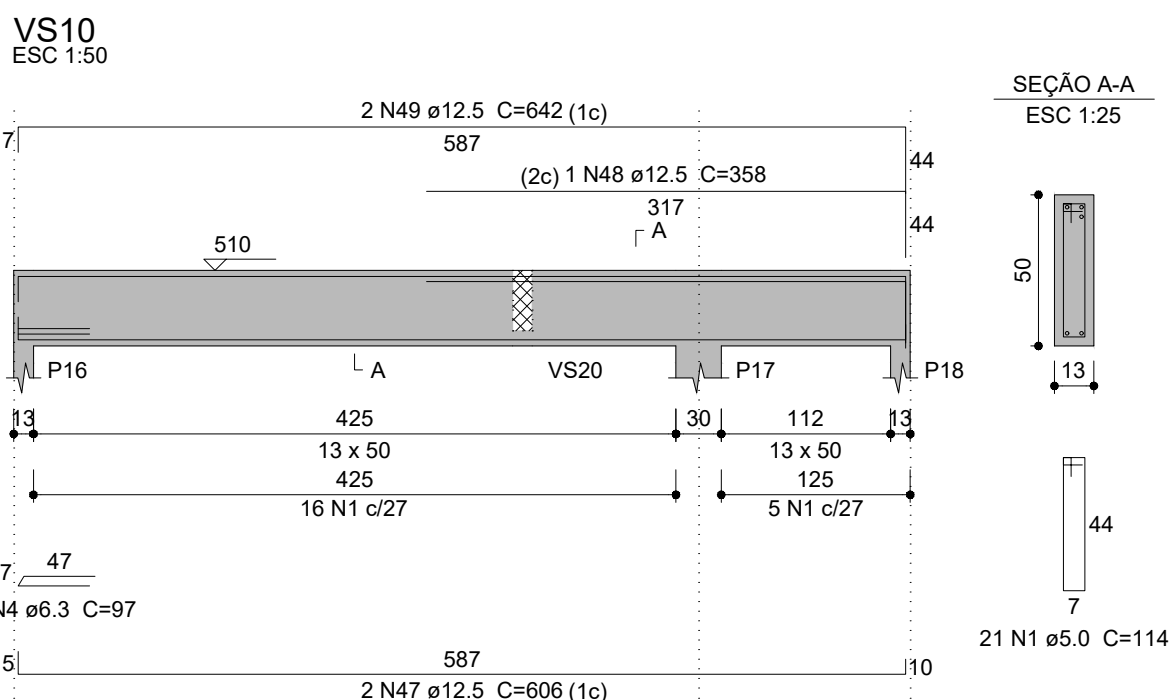
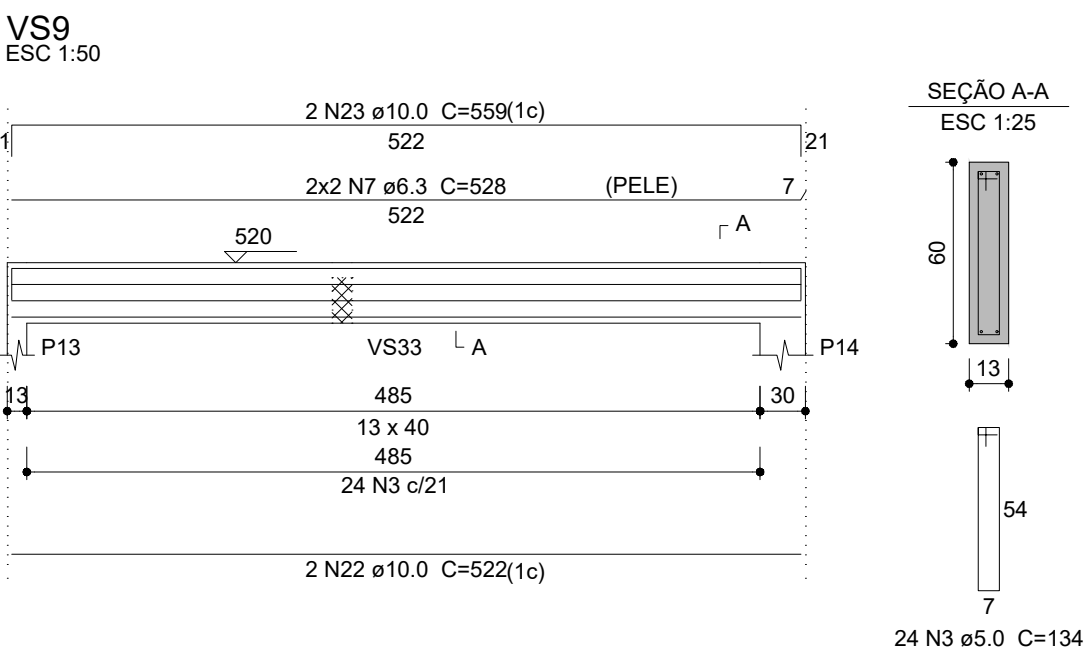
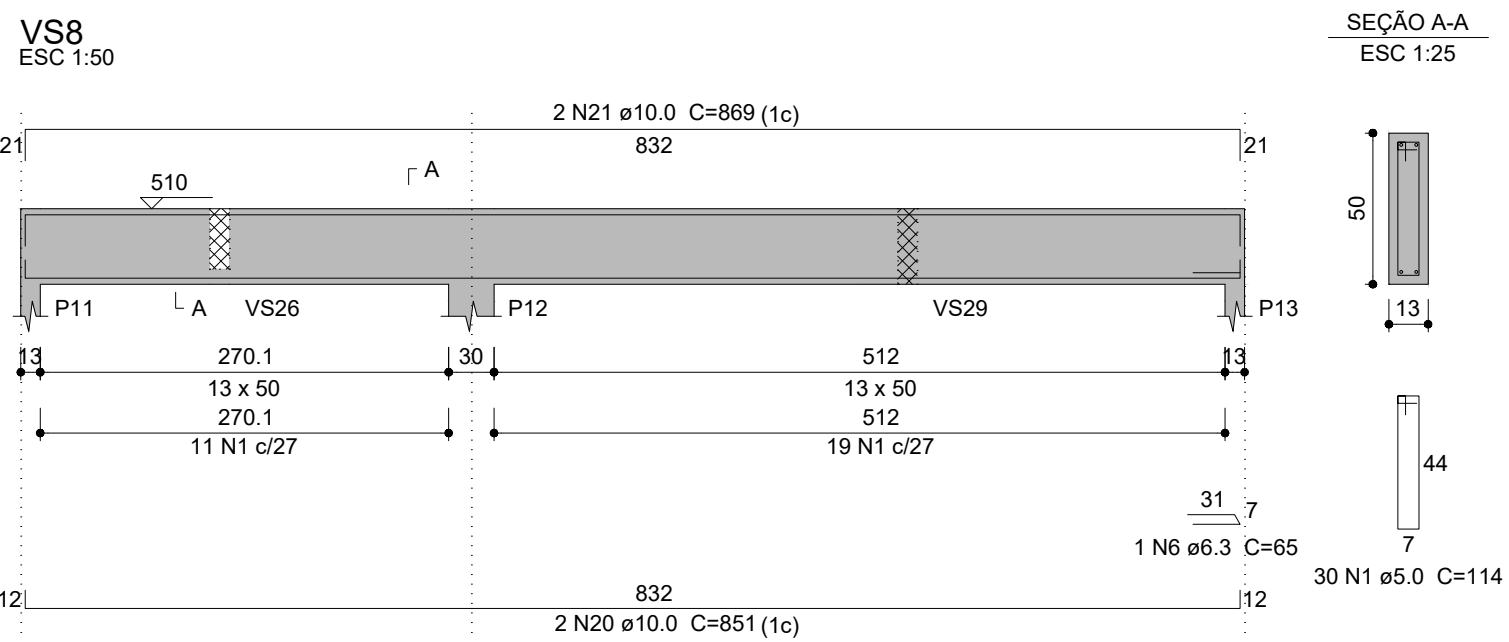
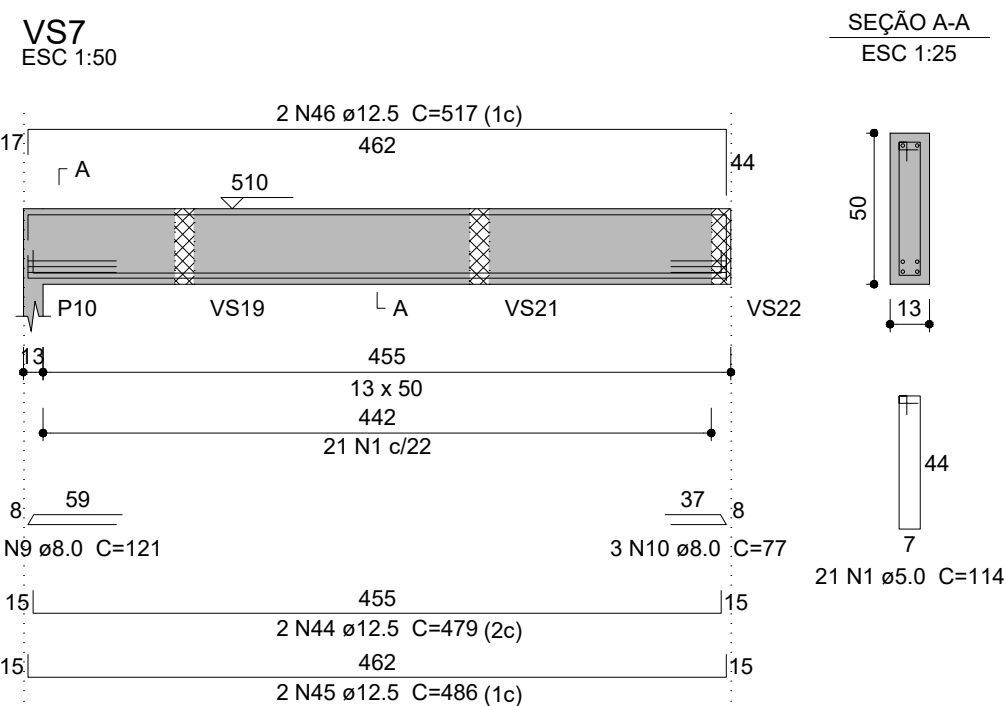
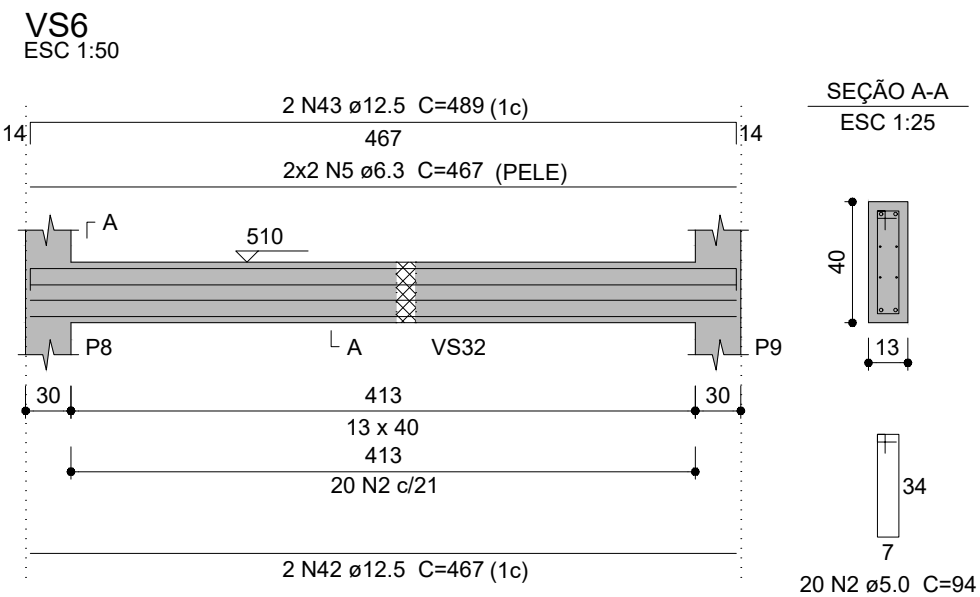
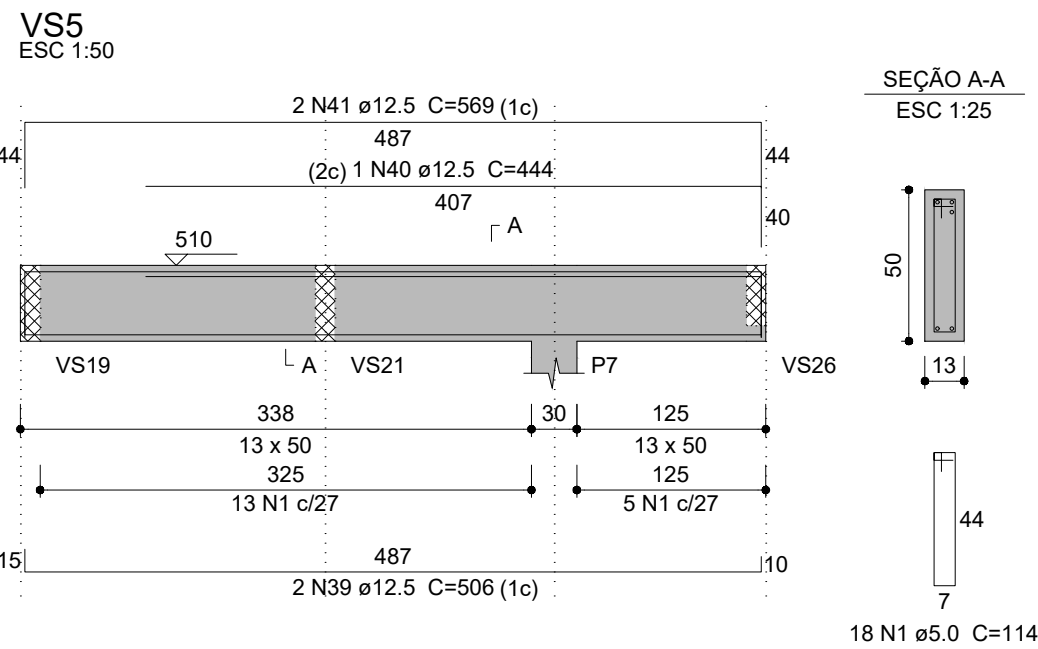
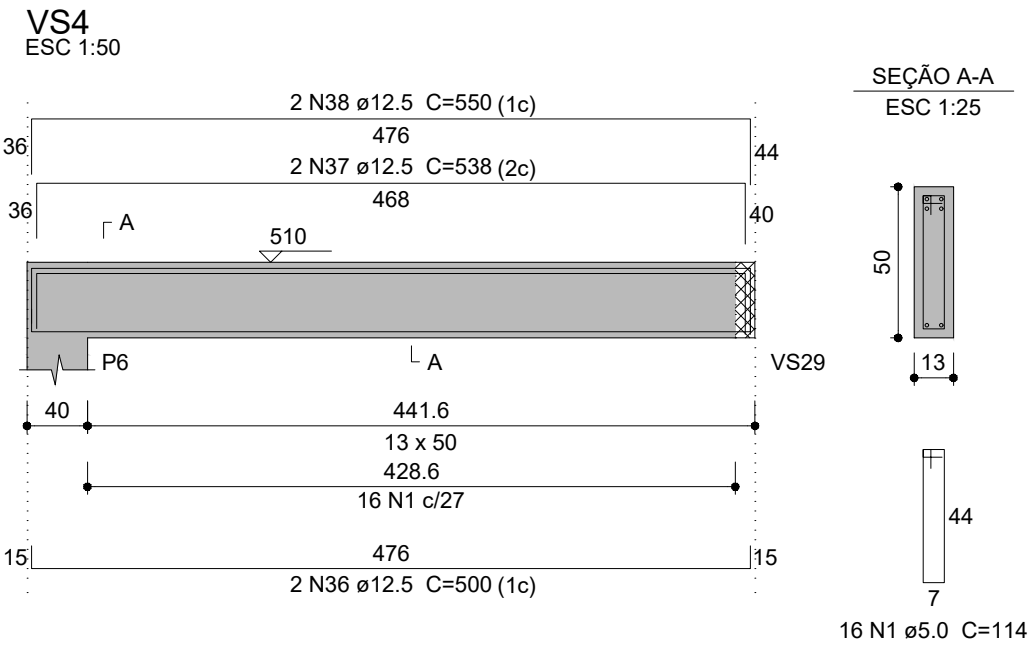
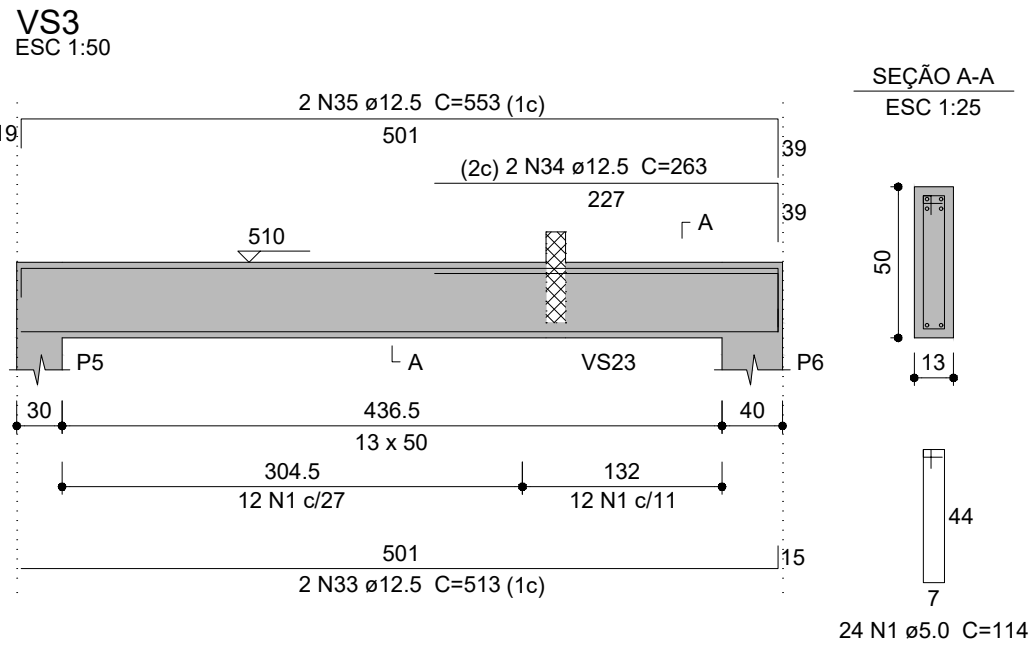
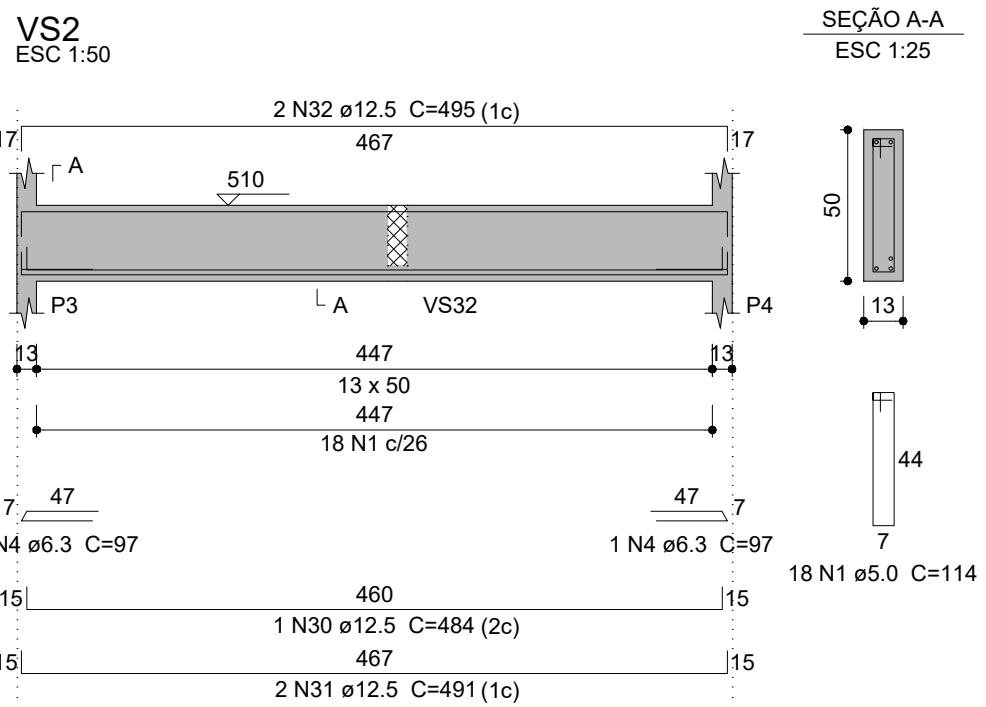
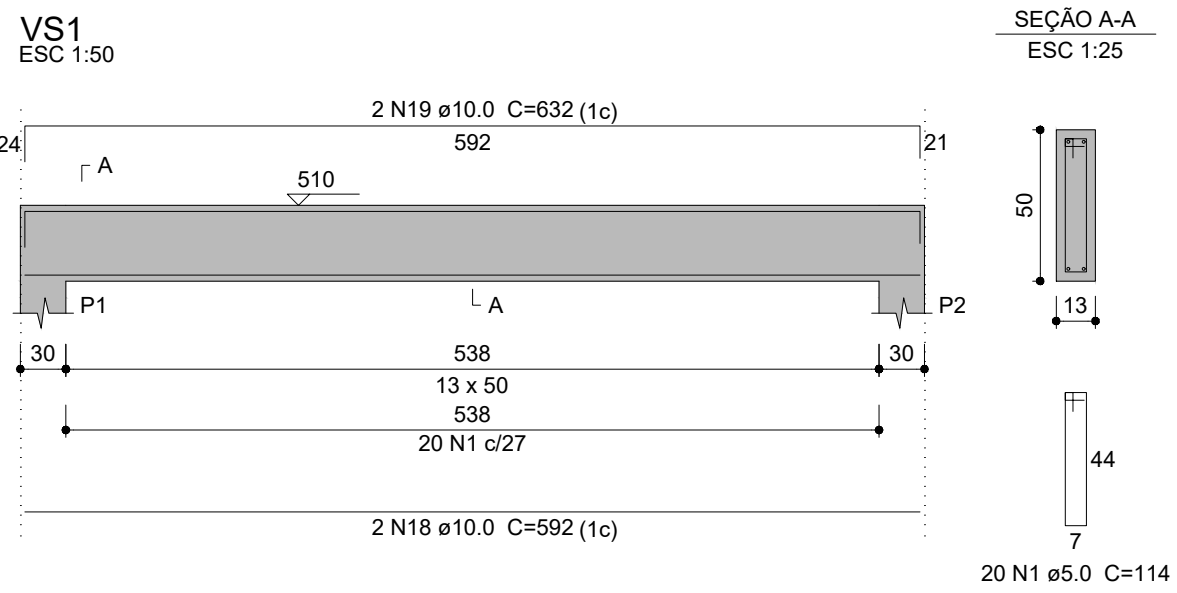
ESCALA: INDICADAS

FOLHA:

CA-11



A cross-sectional view of a shaft with a stepped profile. The main body has a diameter of 12 mm, and a smaller section at the end has a diameter of 4 mm. The shaft is shown with a hatched pattern on the left side.



Relação do aço

VS1	VS2	VS3
VS4	VS5	VS6
VS7	VS8	VS9
VS10	VS11	VS12
VS13	VS14	VS15
VS16	VS17	

ACO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	190	114	21660
	2	5.0	126	94	11844
	3	5.0	24	134	3216
CA50	4	6.3	6	97	582
	5	6.3	4	467	1868
	6	6.3	2	65	130
	7	6.3	4	528	2112
	8	6.3	4	192	768
	9	8.0	3	121	363
	10	8.0	3	77	231
	11	8.0	4	182	728
	12	8.0	2	155	310
	13	8.0	2	198	396
	14	8.0	2	522	1044
	15	8.0	2	560	1120
	16	8.0	2	400	800
	17	8.0	2	443	886
	18	10.0	2	592	1184
	19	10.0	2	632	1264
	20	10.0	2	851	1702
	21	10.0	2	869	1738
	22	10.0	2	522	1044
	23	10.0	2	559	1118
	24	10.0	2	606	1212
	25	10.0	2	637	1274
	26	10.0	2	650	1300
	27	10.0	2	527	1054
	28	10.0	2	228	456
	29	10.0	2	557	1114
	30	12.5	1	484	484
	31	12.5	2	491	982
	32	12.5	2	495	990
	33	12.5	2	513	1026
	34	12.5	2	263	526
	35	12.5	2	553	1106
	36	12.5	2	500	1000
	37	12.5	2	538	1076
	38	12.5	2	550	1100
	39	12.5	2	506	1012
	40	12.5	1	444	444
	41	12.5	2	569	1138
	42	12.5	2	467	934
	43	12.5	2	489	978
	44	12.5	2	479	958
	45	12.5	2	486	972
	46	12.5	2	517	1034
	47	12.5	2	606	1212
	48	12.5	1	358	358
	49	12.5	2	642	1284
	50	12.5	1	595	595
	51	12.5	2	599	1198
	52	12.5	2	629	1258

Resumo do aço

ACO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6.3	54.6	14.7
	8.0	58.8	25.5
	10.0	144.6	98.1
	12.5	216.7	229.6
CA60	5.0	367.2	62.3

PESO TOTAL (kg)
CA50 367.9
CA60 62.3

Volume de concreto (C-30) = 5.04 m³
Área de forma = 88.47 m²

RESP. PROJETO:

DESENHO:

ESPECIALIDADE:

ESTRUTURA DE CONCRETO ARMADO

EXECUTIVO

REFERENCIA

VIGAS SUPERIOR 1

OBSERVAÇÕES

CONSTATANTE:

OBRA:

PROPRIETÁRIO

RESP. EXECUÇÃO

RESP. PROJETO

Nº OS:

OS 073-19

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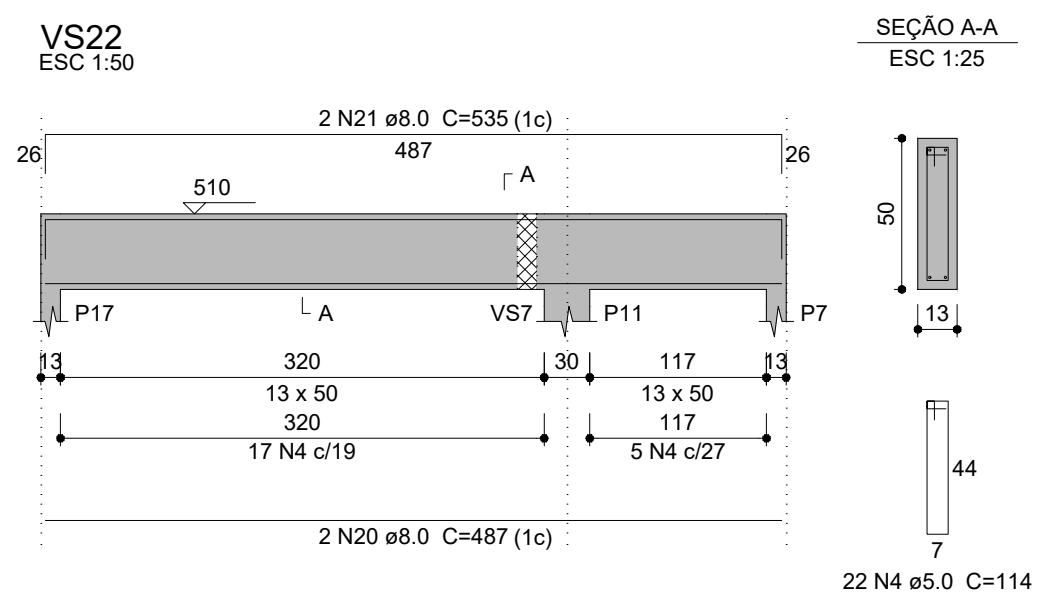
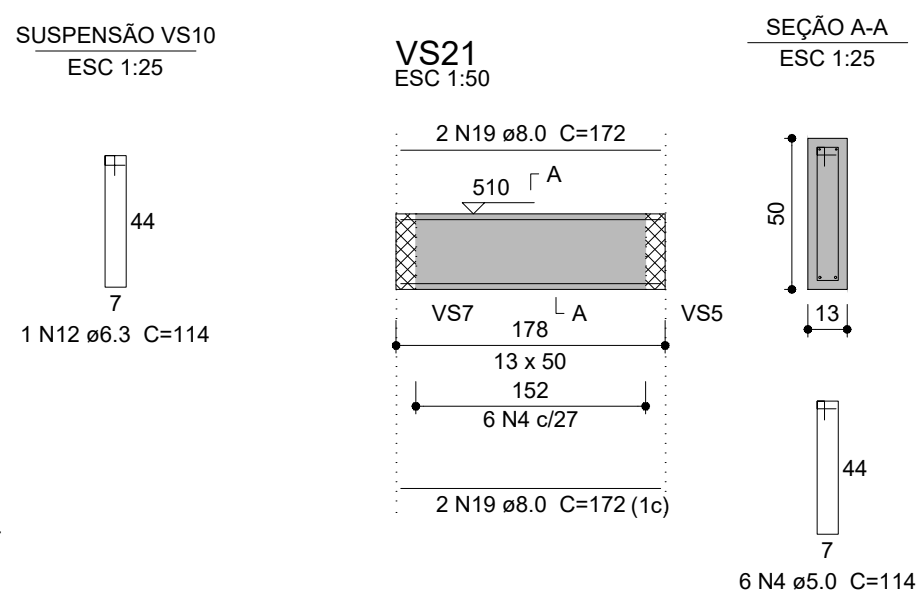
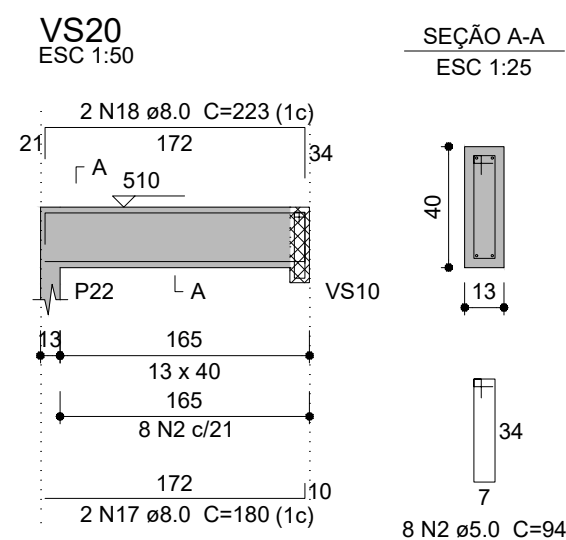
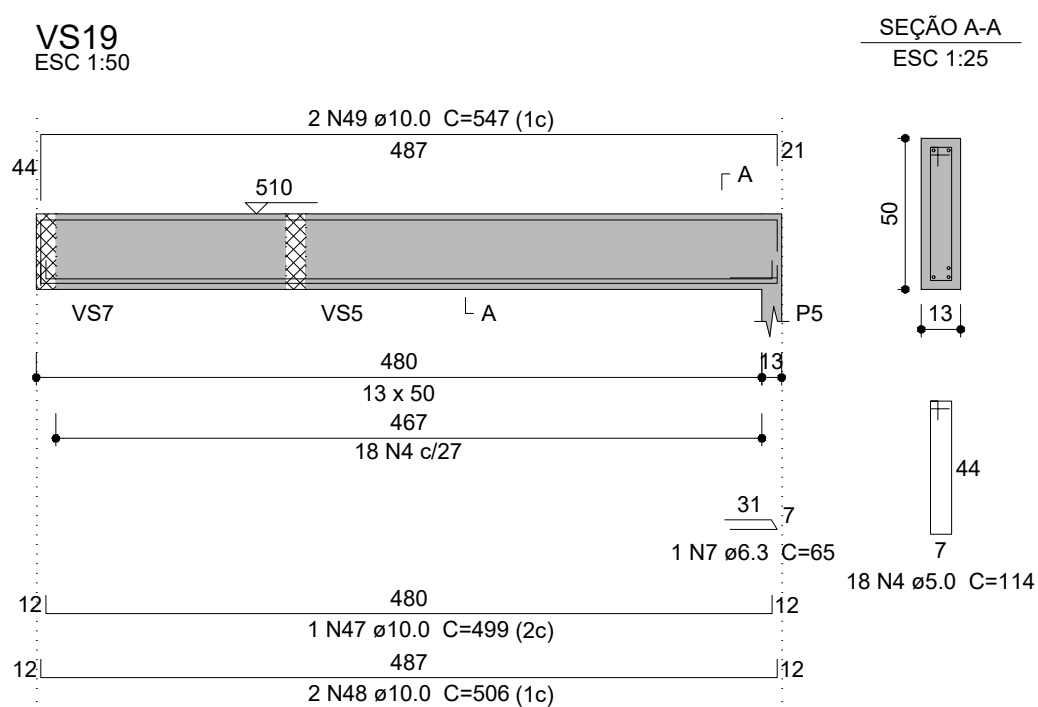
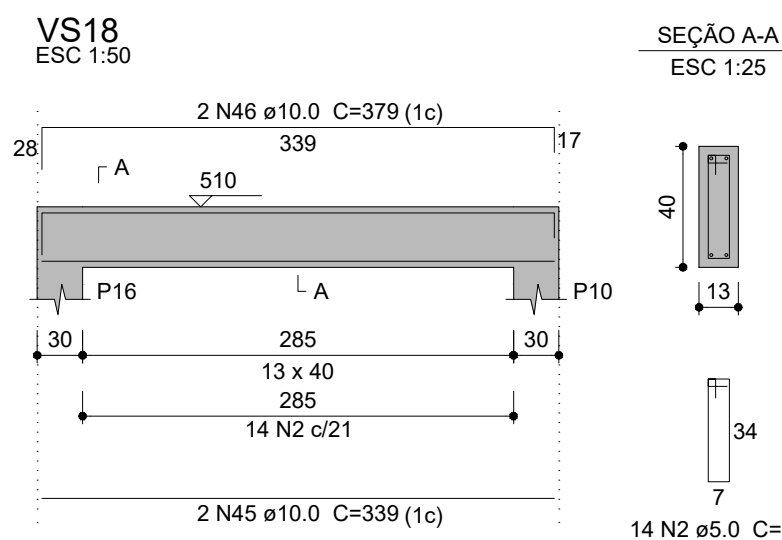
19/02/2020

ESCALA:

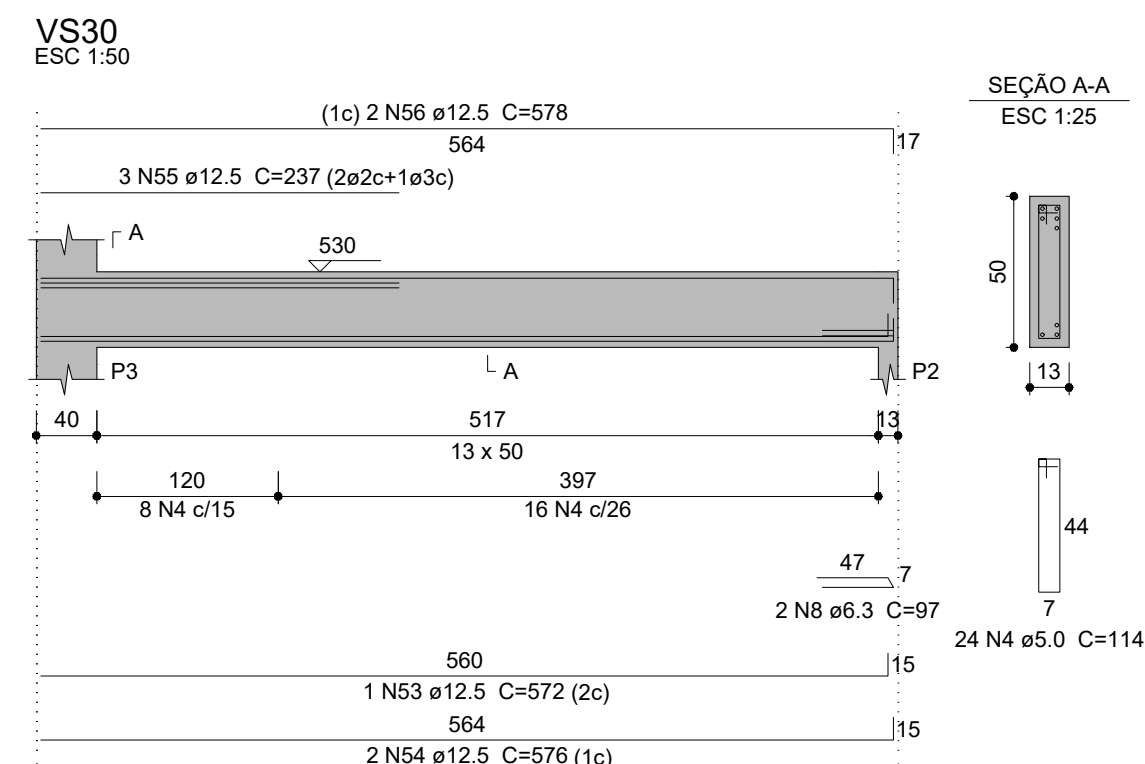
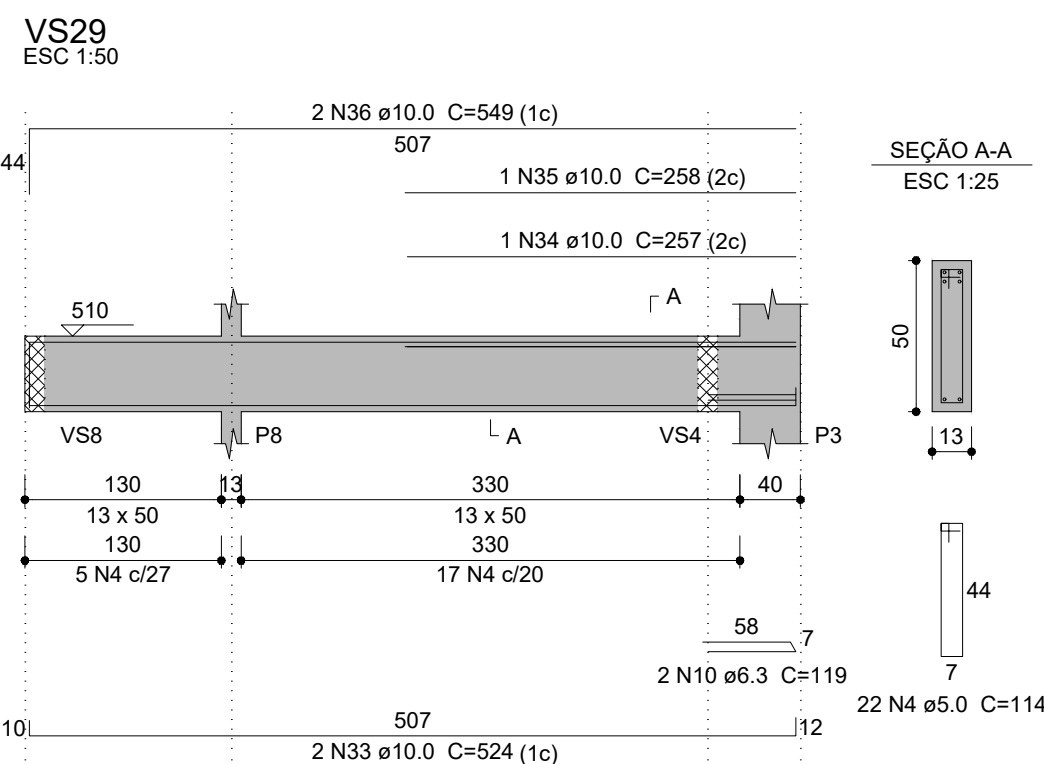
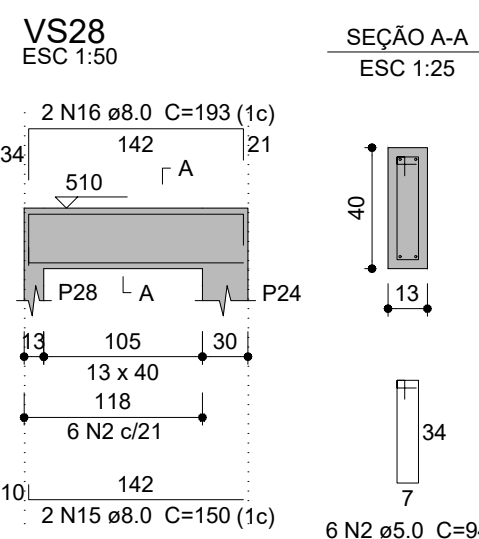
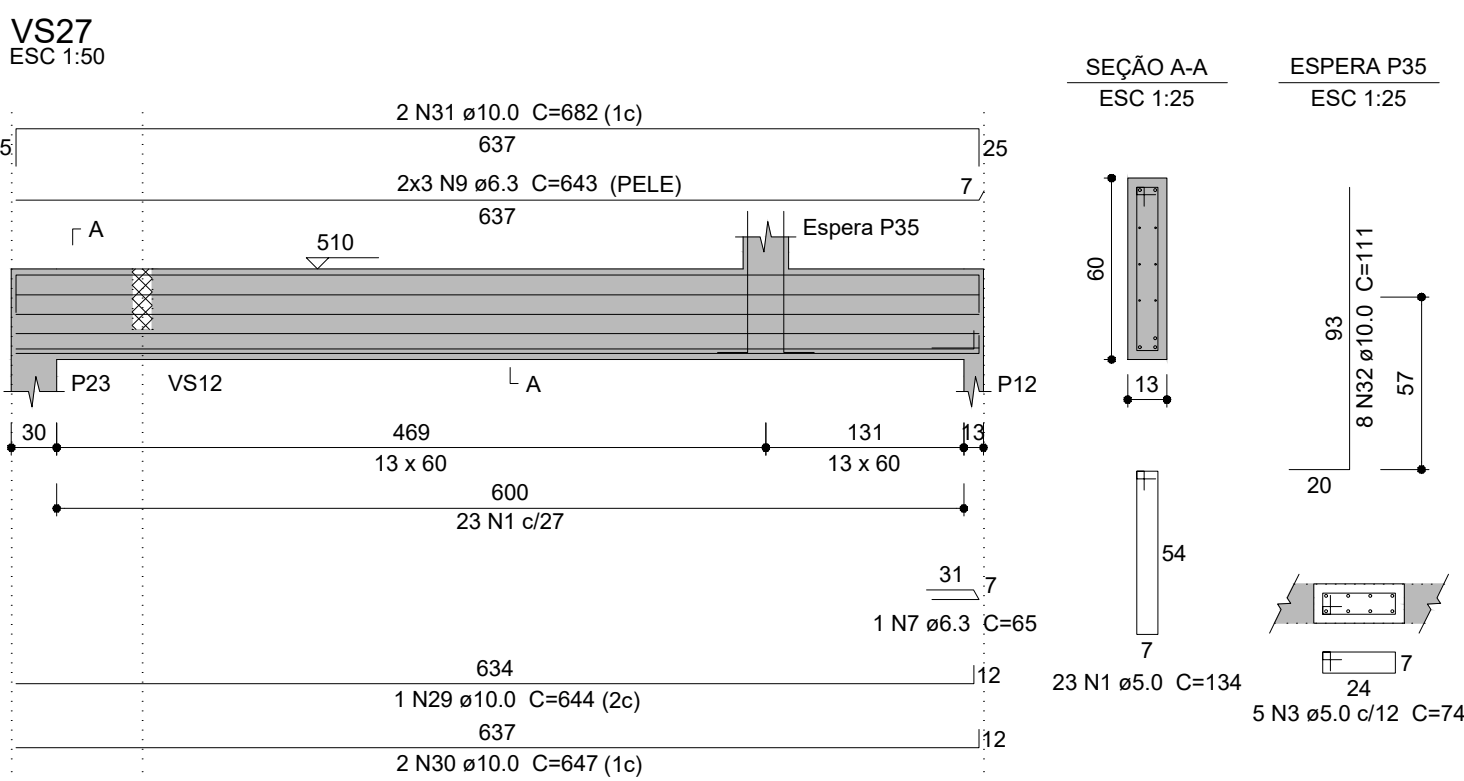
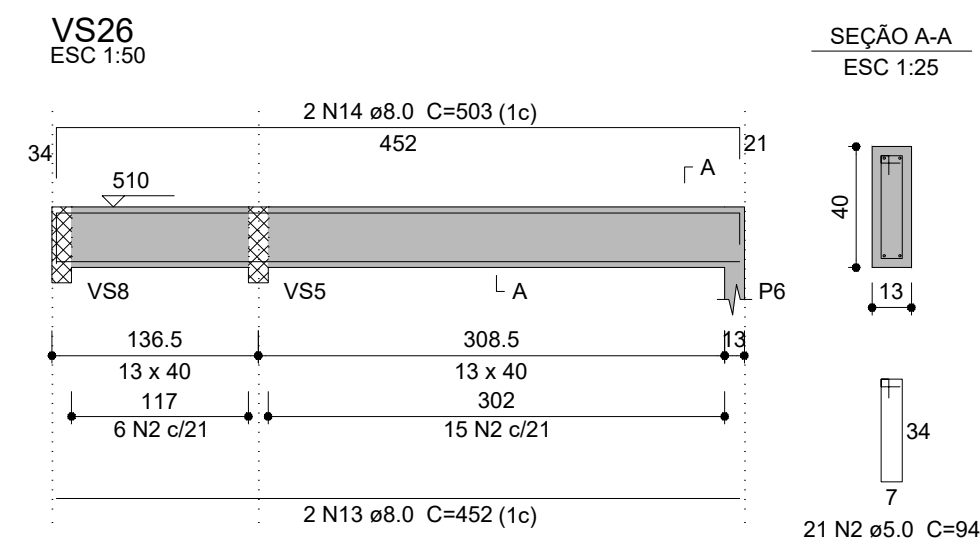
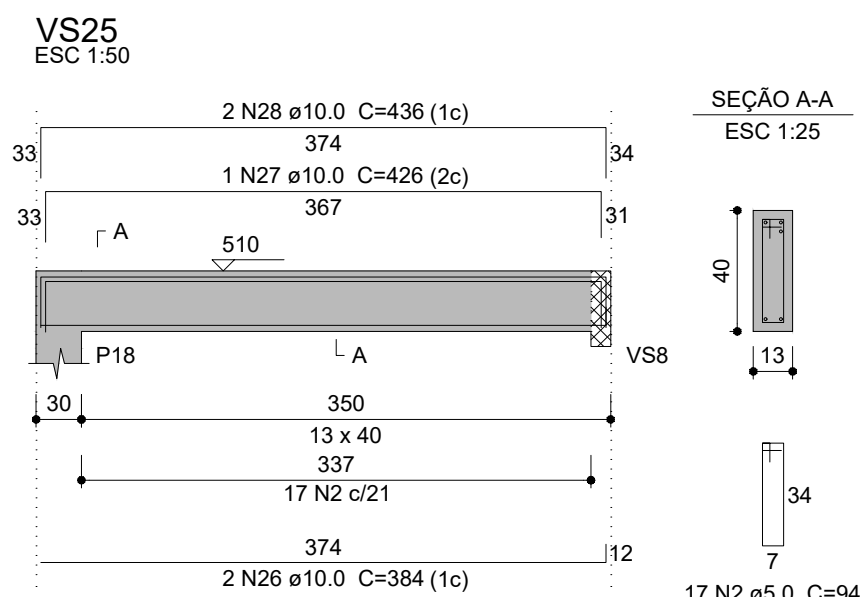
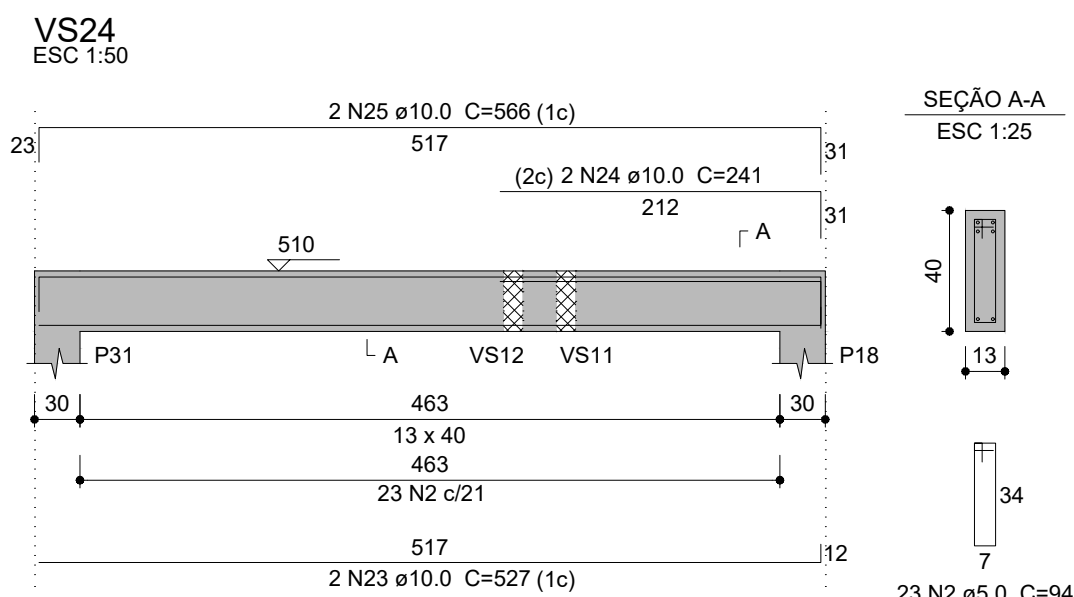
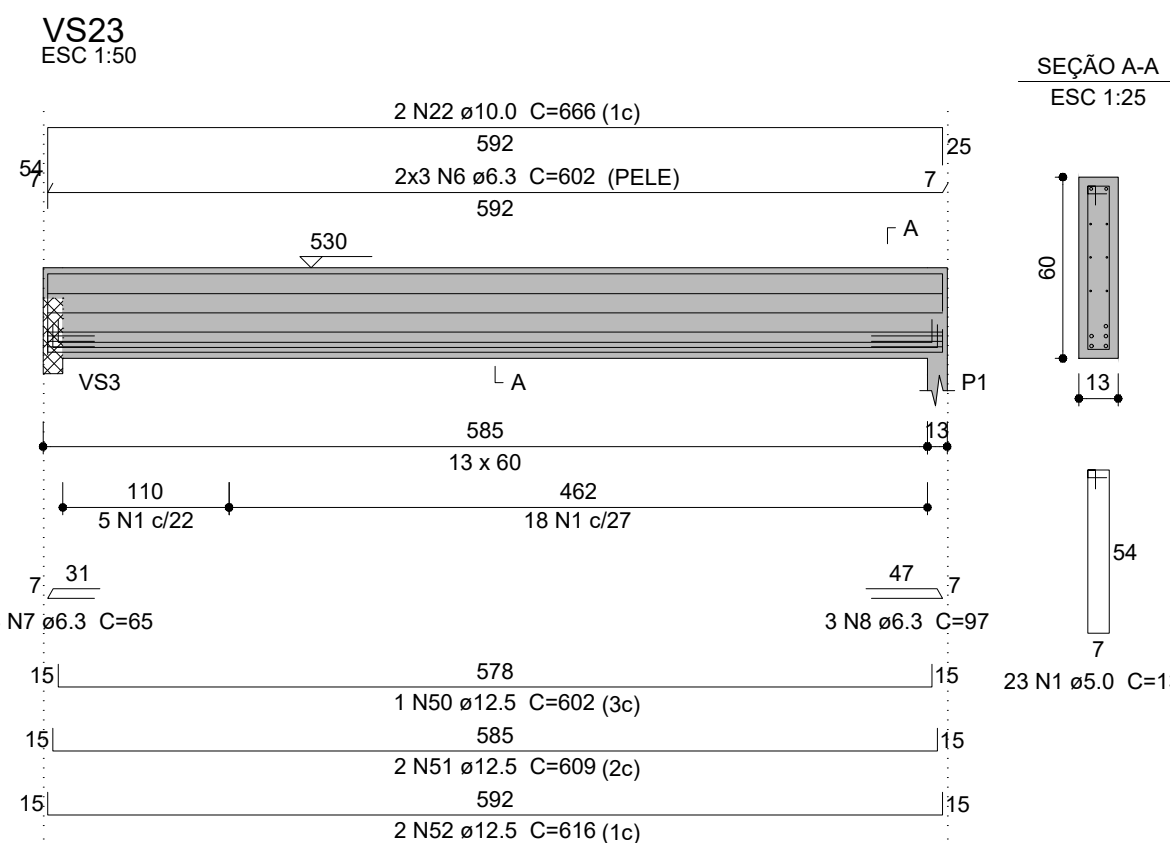
INDICADAS

FOLHA:

CA-13

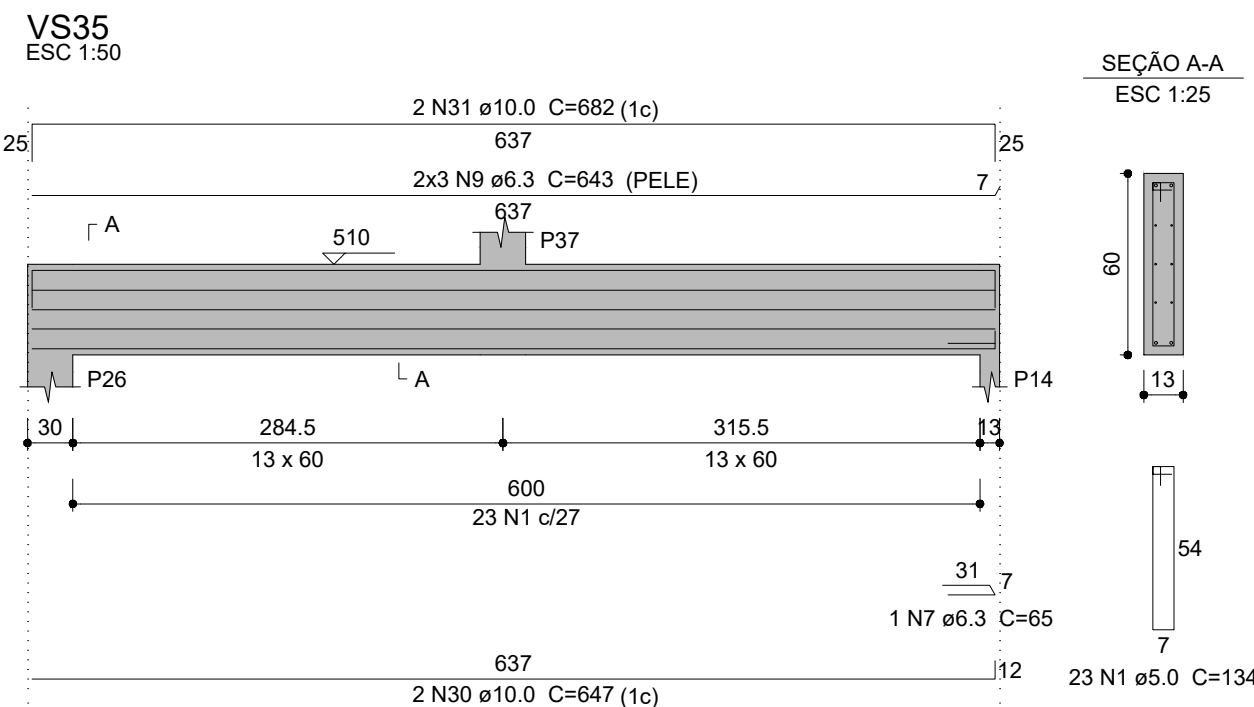
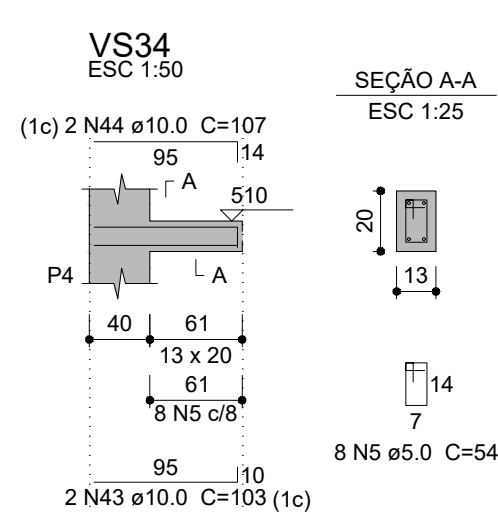
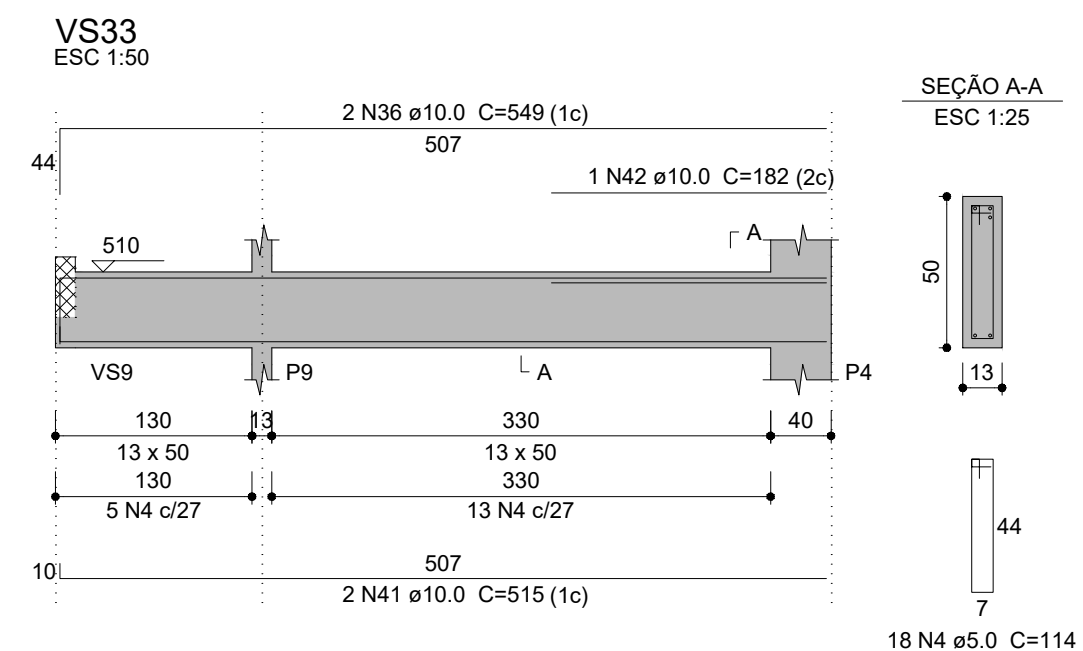
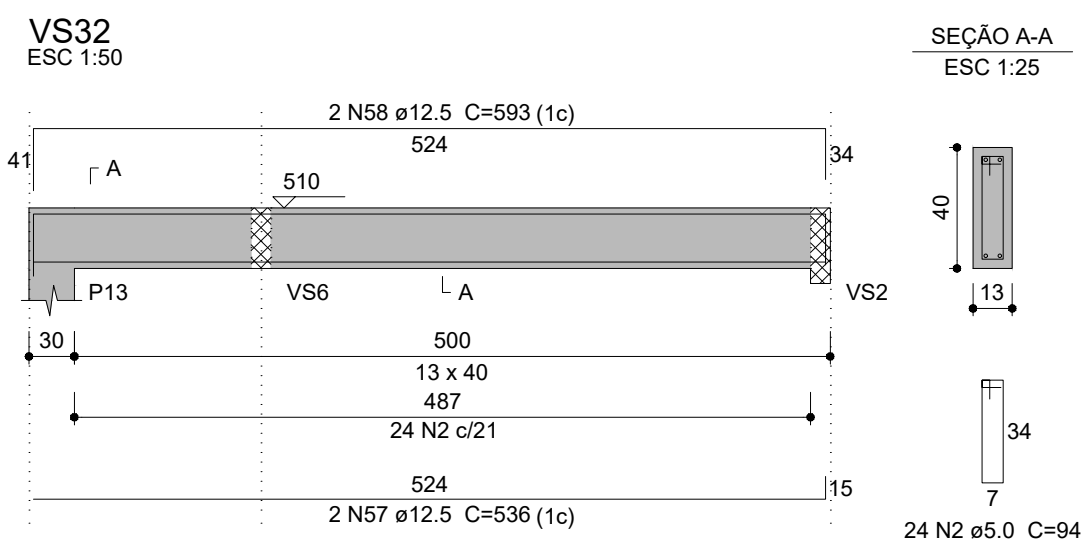
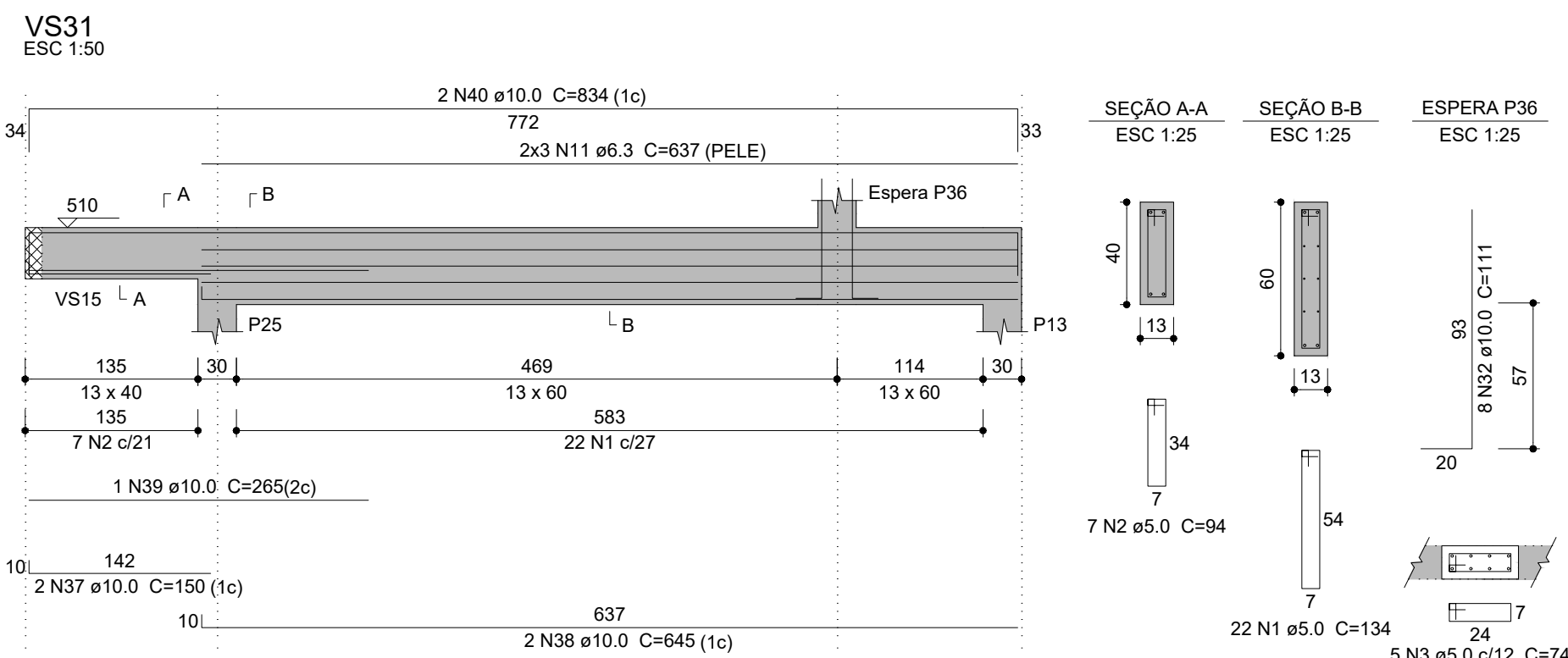


Relação do aço					
AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	91	134	12194
	2	5.0	120	94	11280
	3	5.0	10	74	740
	4	5.0	110	114	12540
CA50	5	5.0	8	54	432
	6	6.3	6	602	3612
	7	6.3	6	65	390
	8	6.3	5	97	485
	9	6.3	12	643	7716
	10	6.3	2	119	238
	11	6.3	6	637	3822
	12	6.3	1	114	114
	13	8.0	2	452	904
	14	8.0	2	503	1006
	15	8.0	2	150	300
	16	8.0	2	193	386
	17	8.0	2	180	360
	18	8.0	2	223	446
	19	8.0	4	172	688
	20	8.0	2	487	974
	21	8.0	2	535	1070
	22	10.0	2	666	1332
	23	10.0	2	527	1054
	24	10.0	2	241	482
	25	10.0	2	566	1132
	26	10.0	2	384	768
	27	10.0	1	426	426
	28	10.0	2	436	872
	29	10.0	1	644	644
	30	10.0	4	647	2588
	31	10.0	4	682	2728
	32	10.0	16	111	1776
	33	10.0	2	524	1048
	34	10.0	1	257	257
	35	10.0	1	258	258
	36	10.0	4	549	2196
	37	10.0	2	150	300
	38	10.0	2	645	1290
	39	10.0	1	265	265
	40	10.0	2	834	1668
	41	10.0	2	515	1030
	42	10.0	1	182	182
	43	10.0	2	103	206
	44	10.0	2	107	214
	45	10.0	2	339	678
	46	10.0	2	379	758
	47	10.0	1	499	499
	48	10.0	2	506	1012
	49	10.0	2	547	1094
	50	12.5	1	602	602
	51	12.5	2	609	1218
	52	12.5	2	616	1232
	53	12.5	1	572	572
	54	12.5	2	576	1152
	55	12.5	3	237	711
	56	12.5	2	578	1156
	57	12.5	2	536	1072
	58	12.5	2	593	1186



Resumo do aço			
AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6.3	163.8	44.1
	8.0	61.4	26.6
	10.0	267.6	181.5
	12.5	89.1	94.3
CA60	5.0	371.9	63
PESO TOTAL (kg)			
CA50		346.5	
CA60		63	

Volume de concreto (C=30) = 5.19 m³
Área de forma = 90.35 m²



RESP. PROJETO:

DESENHO:

ESPECIALIDADE:

ESTRUTURA DE CONCRETO ARMADO

EXECUTIVO

REFERENCIA

VIGAS SUPERIOR 2

OBSERVAÇÕES

CONTRATANTE:

OBRA:

PROPRIETÁRIO

RESP. EXECUÇÃO

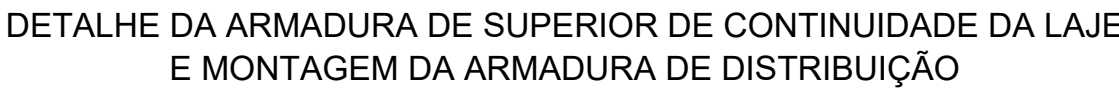
RESP. PROJETO

Nº OS: OS 073-19

DATA: 19/02/2020

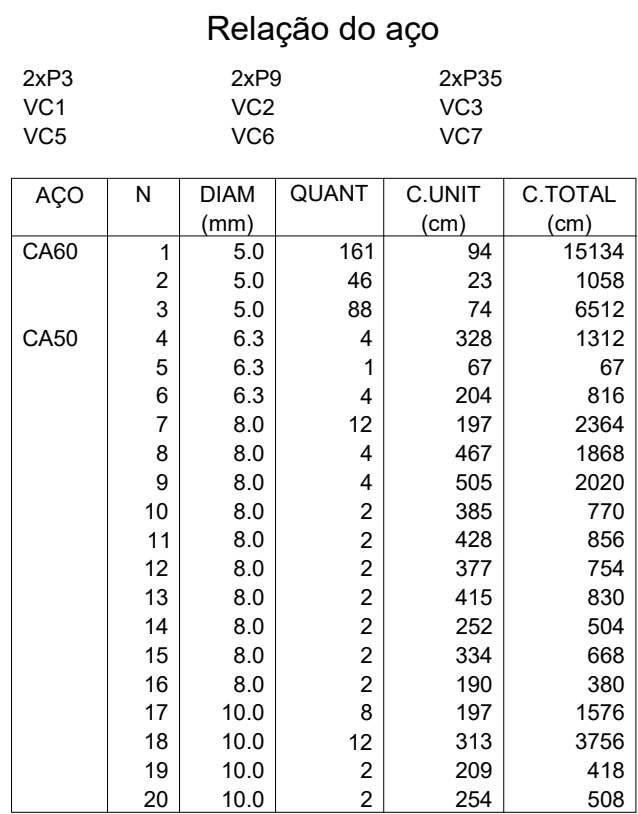
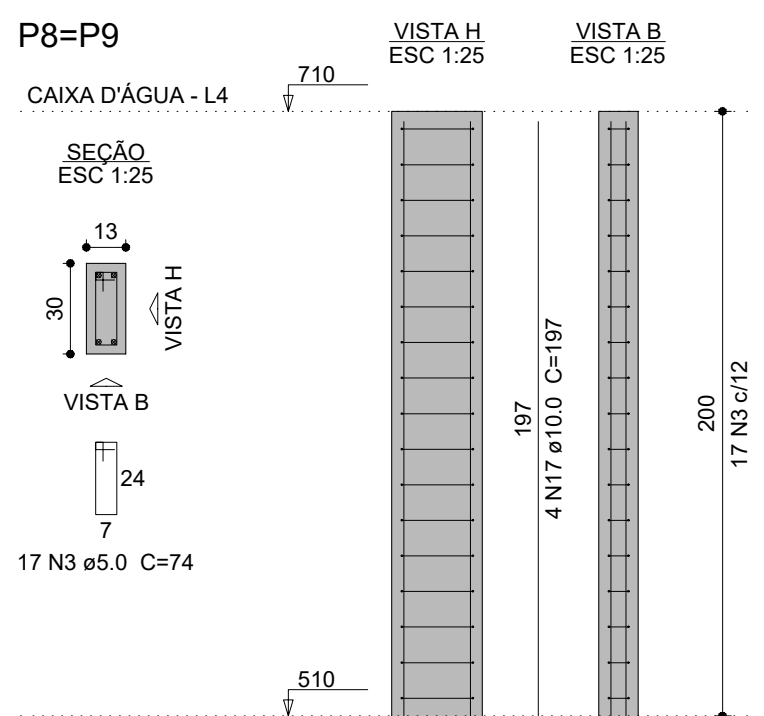
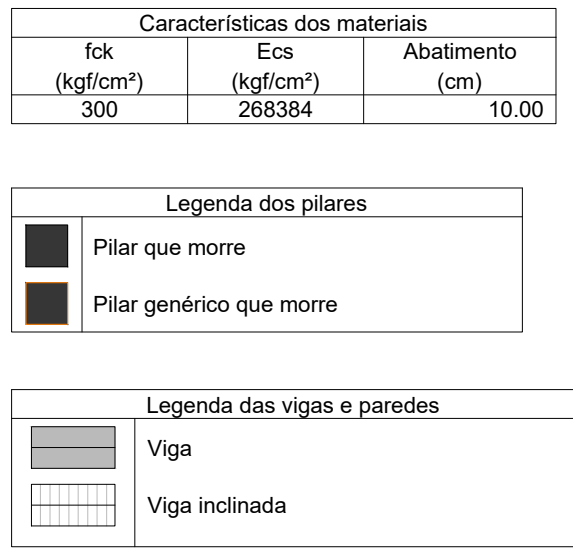
ESCALA: INDICADAS

FOLHA: CA-14



Volume de concreto (C-30) = 9.74 m³





Resumo do aço			
AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6.3	22	5.9
	8.0	110.2	47.8
	10.0	62.6	42.4
CA60	5.0	227.1	38.5
PESO TOTAL (kg)			
CA50	96.2		
CA60	38.5		

Volume de concreto (C-30) = 1.76 m³
Área de forma = 33.69 m²

escala 1:50

