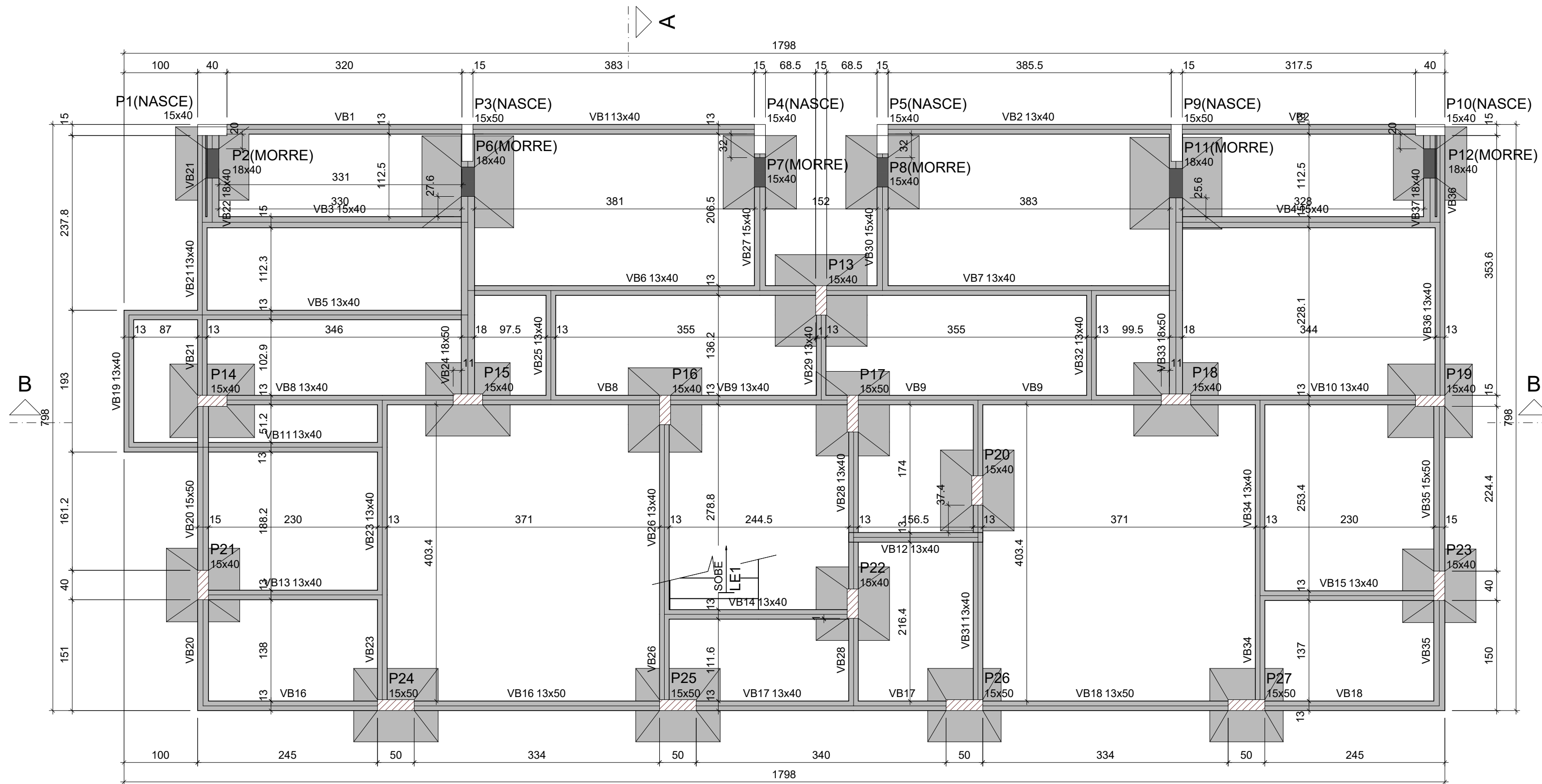


Planta de localização  
escala 1:50

Nome	Seção (cm)	X (cm)	Y (cm)	Carga Máx. (tf)	Carga Min. (tf)	Pilar				Fundação				
						Fx Máximo (tf)		Fy Máximo (tf)		Lado B (cm)	Lado H (cm)	h0 / ha (cm)	h1 / hb (cm)	df (cm)
						Positivo	Negativo	Positivo	Negativo					
P2	18x40	21.00	746.00	15.2	12.0	0.3	-0.4	0.0	-1.9	100	100	20	35	180
P6	18x40	369.00	721.12	30.2	22.4	0.1	-0.3	0.0	-2.5	125	125	20	35	180
P7	15x40	766.50	734.00	15.4	9.6	0.1	0.0	0.4	-1.1	100	100	20	35	180
P8	15x40	933.50	734.00	15.6	9.9	0.1	-0.2	0.4	-1.0	100	100	20	35	180
P11	18x40	1333.00	719.13	30.0	22.7	0.2	-0.2	0.0	-2.6	125	125	20	35	180
P12	18x40	1679.00	746.00	14.4	11.1	0.3	-0.4	0.0	-1.9	100	100	20	35	180
P13	15x40	850.00	559.50	28.5	24.3	0.1	-0.1	1.6	-0.6	125	125	20	40	180
P14	15x40	21.00	422.87	25.2	19.1	0.4	-0.5	0.7	-0.2	100	115	20	35	180
P15	15x40	369.00	424.86	26.2	19.1	0.6	-0.7	0.7	-0.2	100	115	20	35	180
P16	15x40	637.50	410.37	27.7	22.9	0.2	-0.1	1.0	0.0	100	115	20	35	180
P17	15x50	893.01	405.36	24.6	12.4	0.1	-0.2	2.3	-0.9	100	115	20	35	180
P18	15x40	1333.00	424.86	27.2	21.5	0.6	-0.4	0.7	-0.2	100	115	20	35	180
P19	15x40	1679.00	422.86	22.7	16.6	0.5	-0.4	0.7	0.0	100	115	20	35	180
P20	15x40	1062.50	300.77	22.5	15.6	0.1	0.0	1.4	-0.7	100	110	25	45	180
P21	15x40	8.50	172.00	15.8	10.5	0.0	-0.2	1.8	0.0	100	100	20	35	180
P22	15x40	893.02	146.58	17.5	6.4	0.2	0.0	2.3	-0.7	100	100	20	35	180
P23	15x40	1691.50	171.00	15.4	10.2	0.2	0.0	1.9	0.0	100	100	20	35	180
P24	15x50	271.00	8.50	24.0	18.7	0.4	-0.6	0.2	-0.3	100	115	20	35	180
P25	15x50	655.00	8.50	27.5	20.0	0.6	-0.5	0.4	-0.3	100	115	20	35	180
P26	15x50	1045.00	8.50	23.6	11.8	0.5	-0.6	0.6	-0.3	100	100	20	35	180
P27	15x50	1429.00	8.50	23.7	18.6	0.7	-0.4	0.2	-0.3	100	100	20	35	180



Forma do pavimento Baldrames (Nível 11)  
escala 1:50

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

Dimensão máxima do agregado = 19 mm

Legenda dos pilares	
	Pilar que morre
	Pilar que passa
	Pilar que nasce

Legenda das vigas e paredes	
	Viga

00	Emissão inicial	Geisa	14/09/2020
NÚMERO	MODIFICAÇÃO	NOME	DATA

Edificação em alvenaria - Residencial Multifamiliar

Prancha:  
Locação / Formas térreo

Responsável técnico:  
Geisa Marques

Obra:  
Edificação em alvenaria - Residencial Multifamiliar

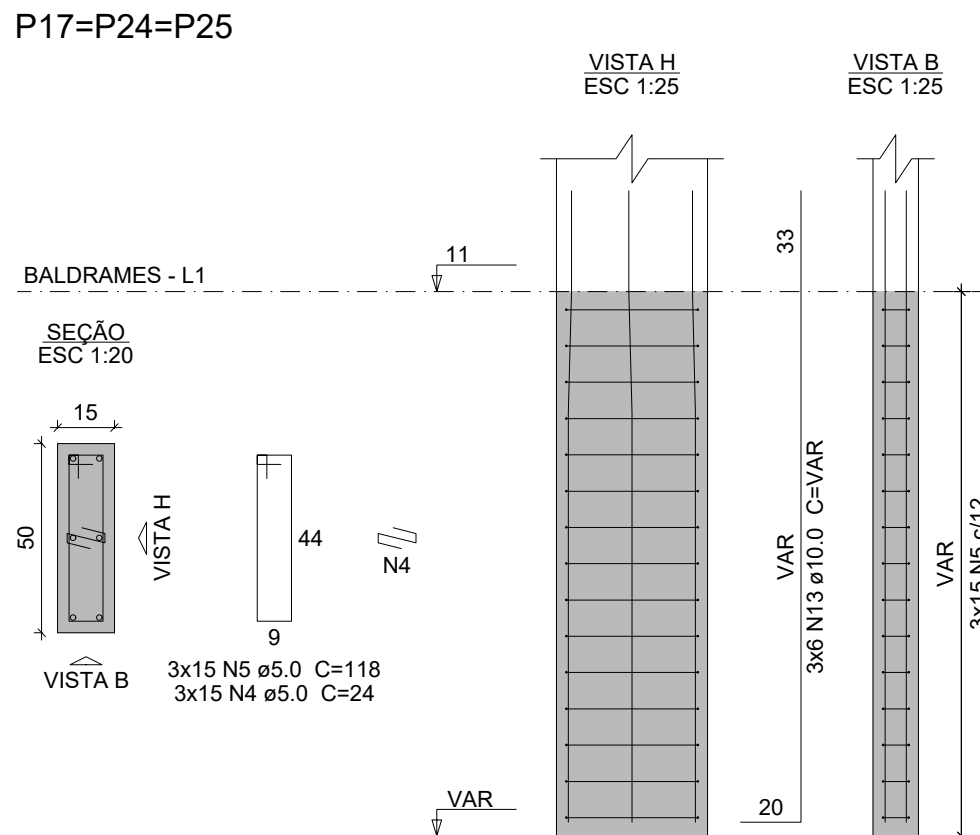
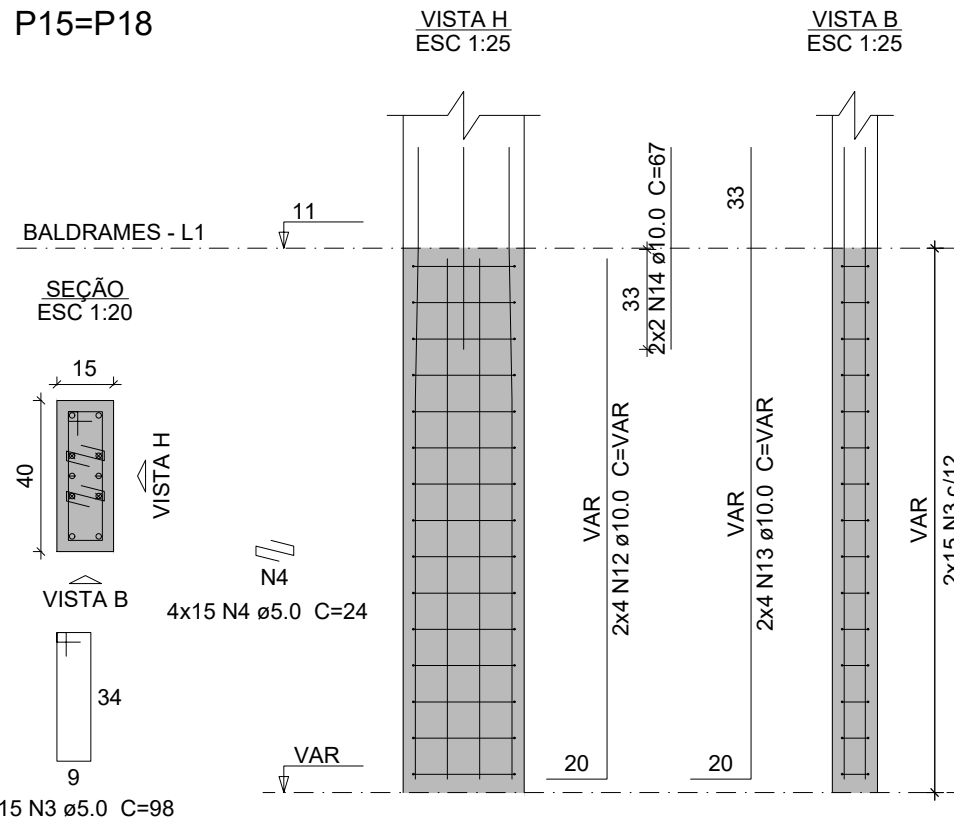
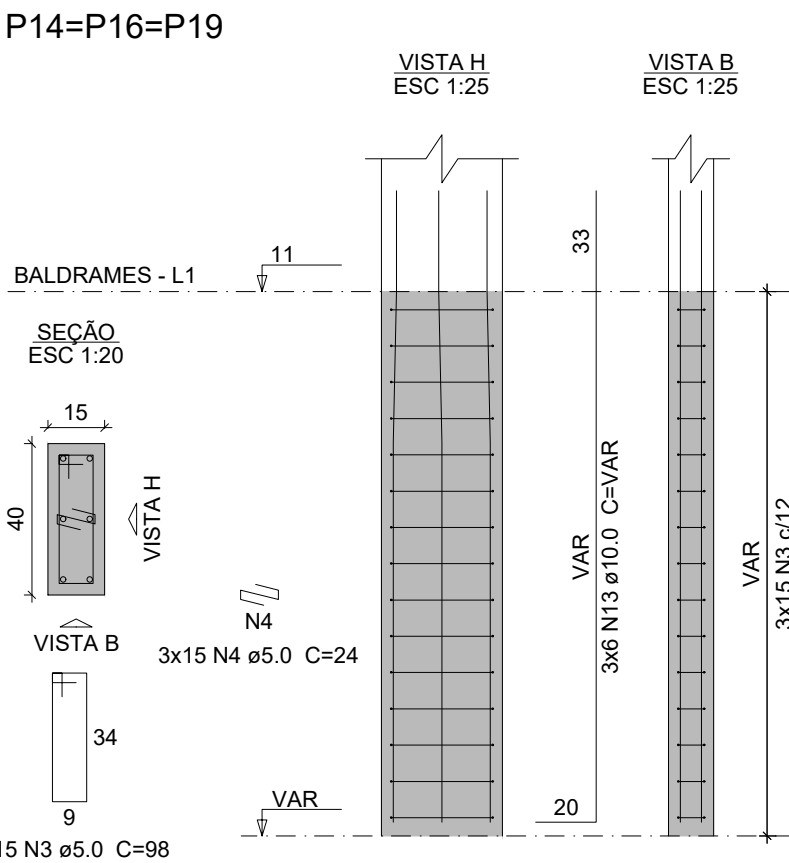
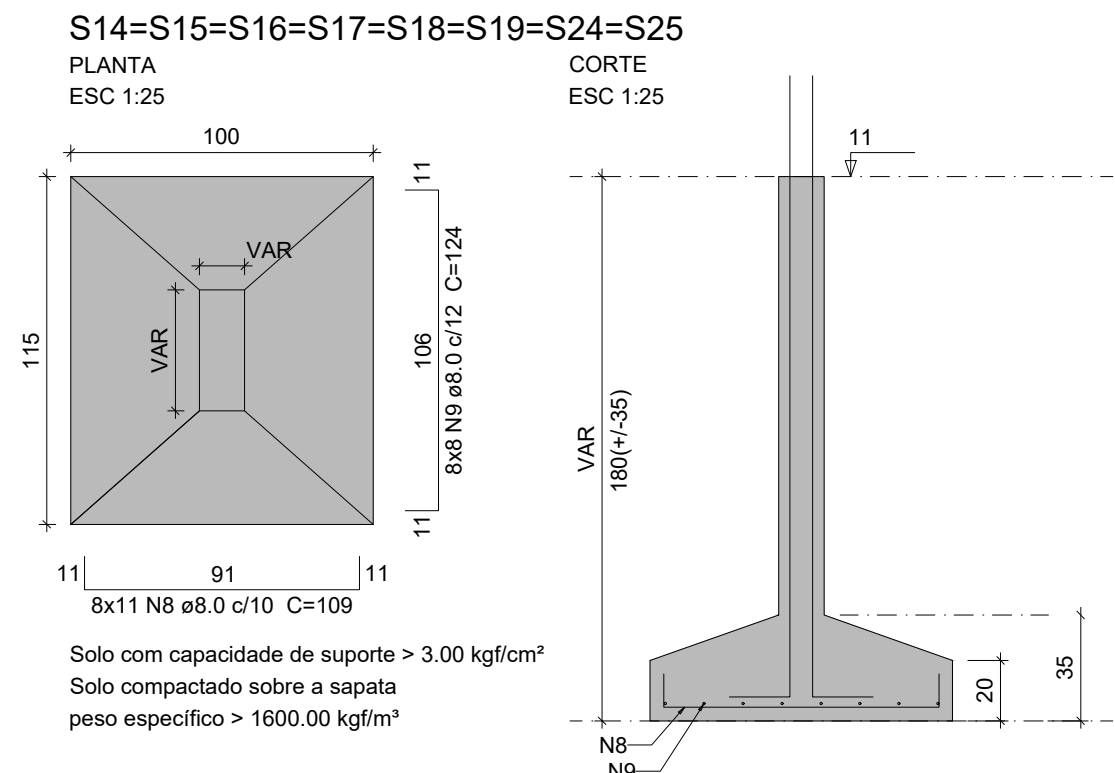
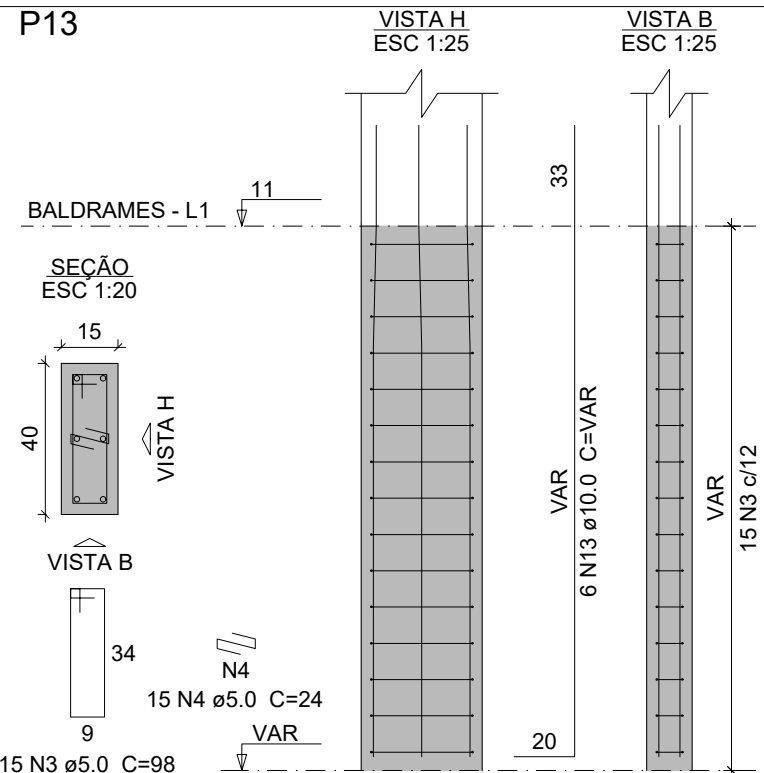
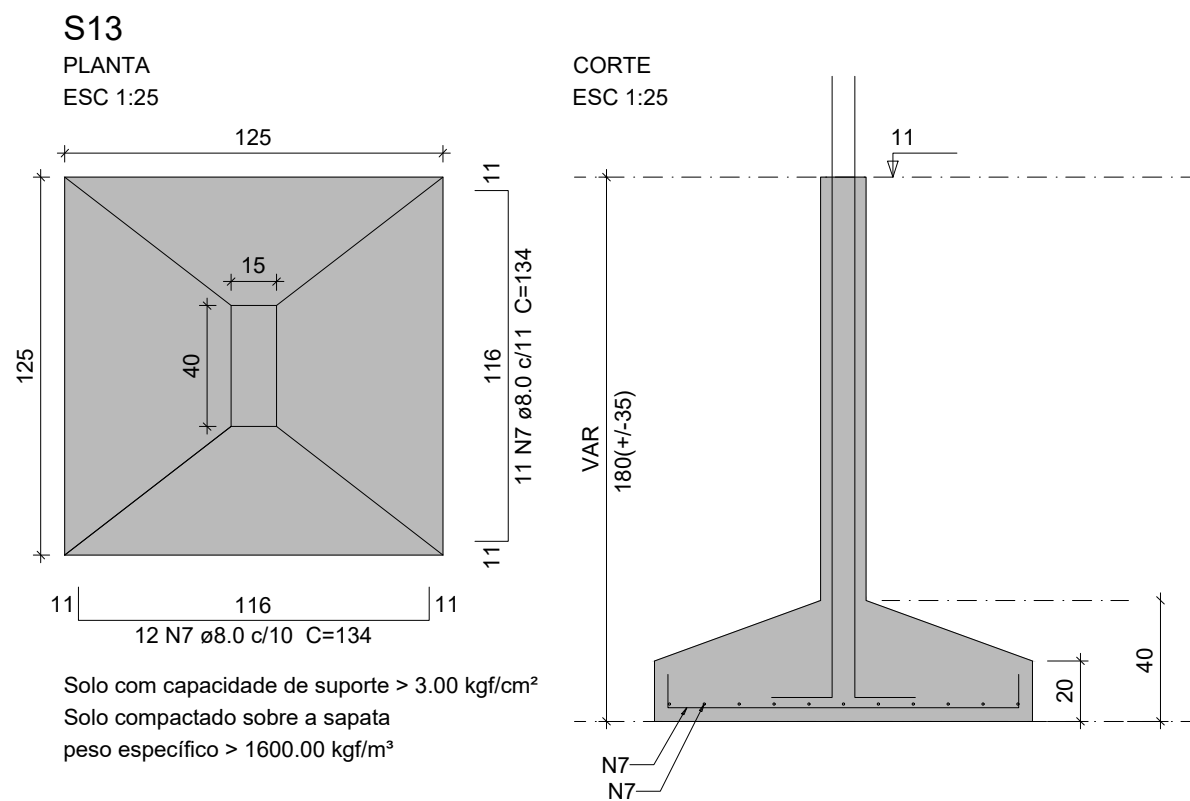
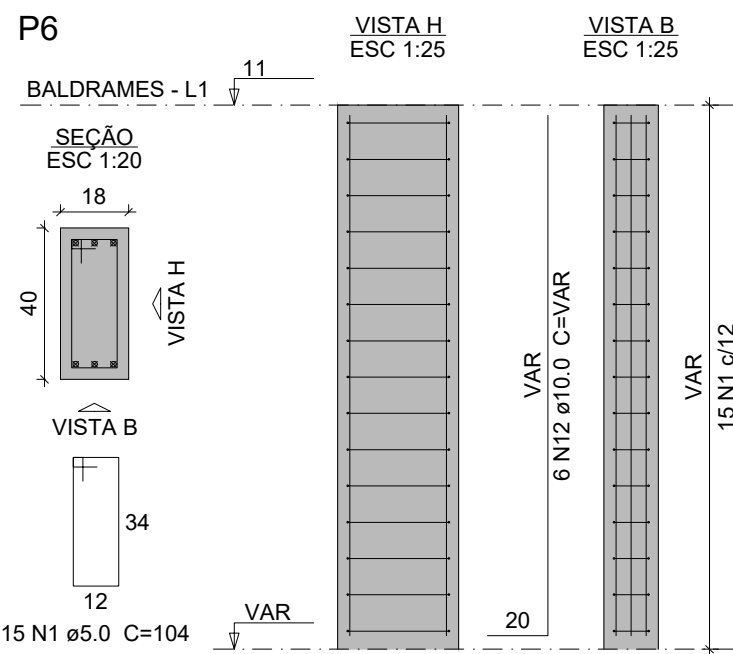
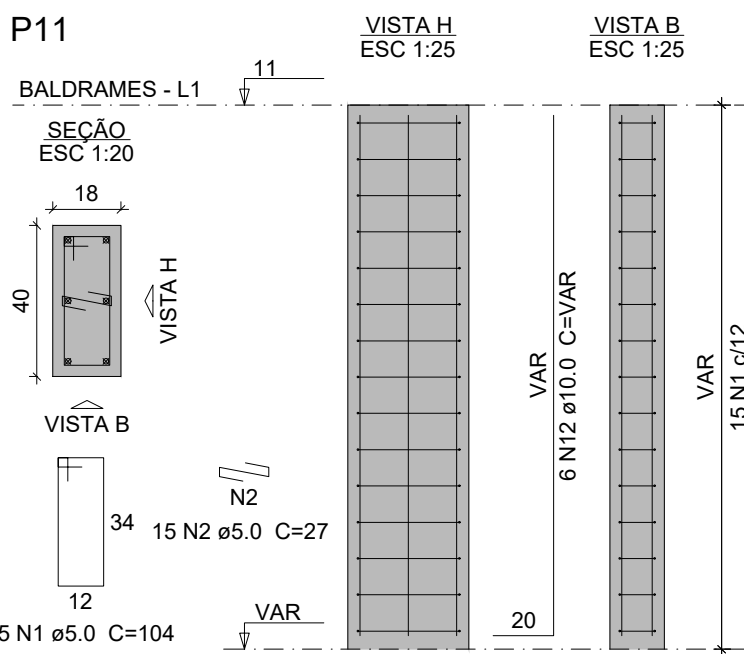
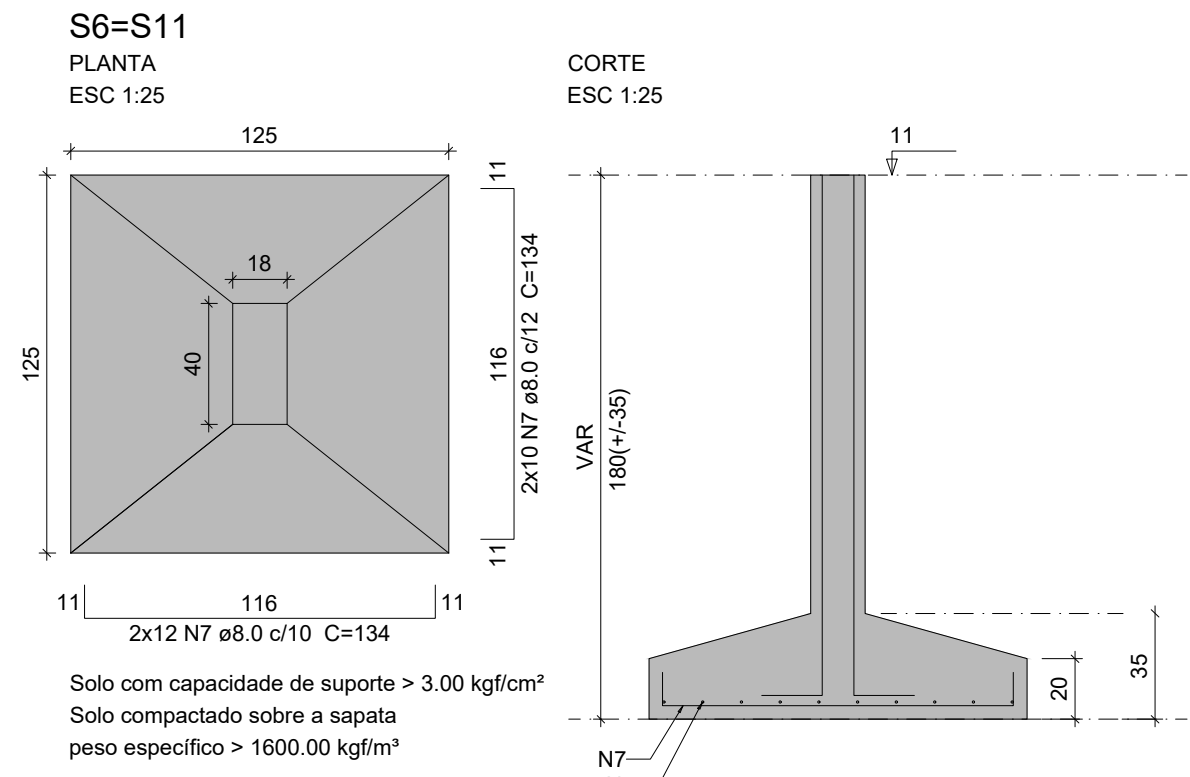
Localização:  
Cidade/Estado: Blumenau/Santa Catarina

Edificação em alvenaria - Residencial Multifamiliar

Escala INDICADA  
Data 14/09/2020  
Revisão 00  
Projeto Estrutural

Desenho Geisa Marques  
Prancha: CA-01

Nº Projeto:



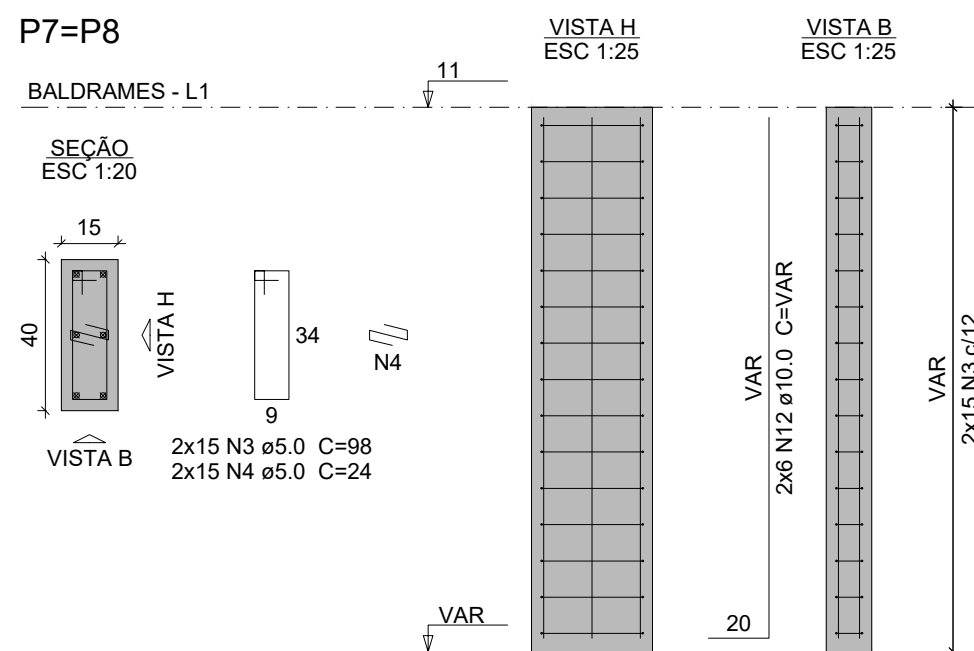
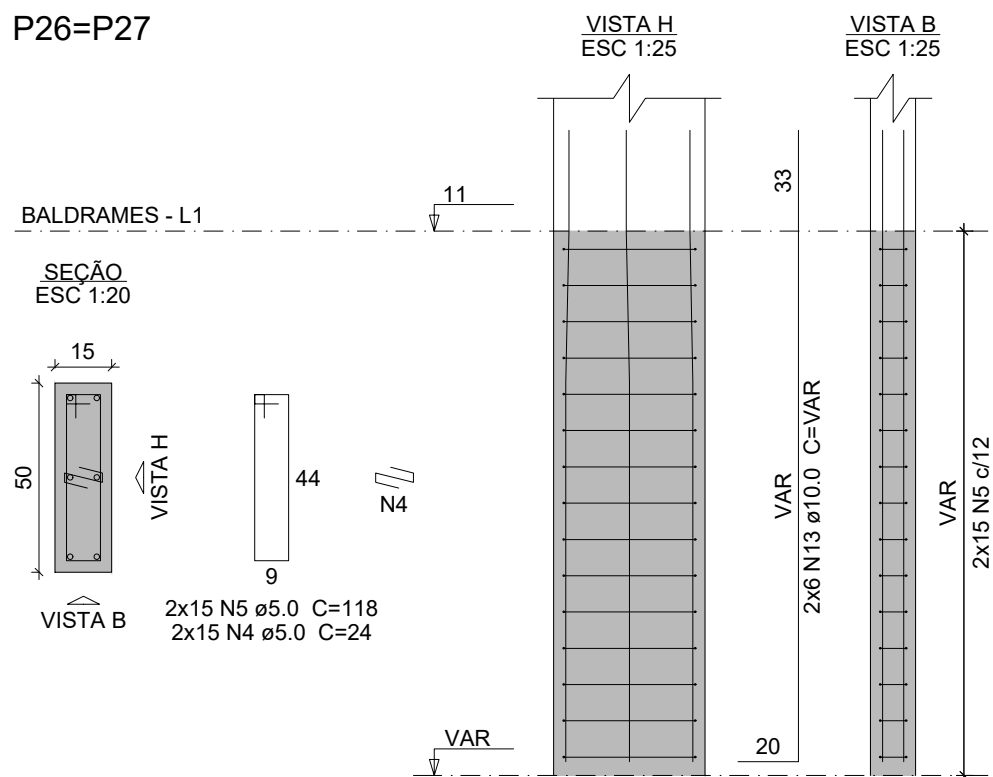
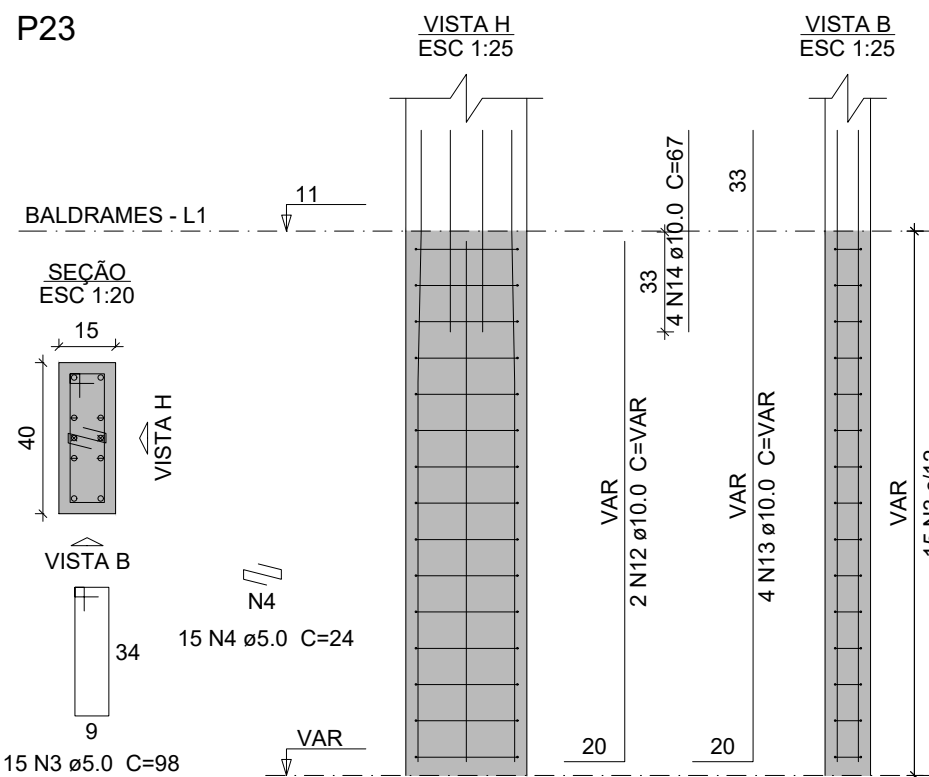
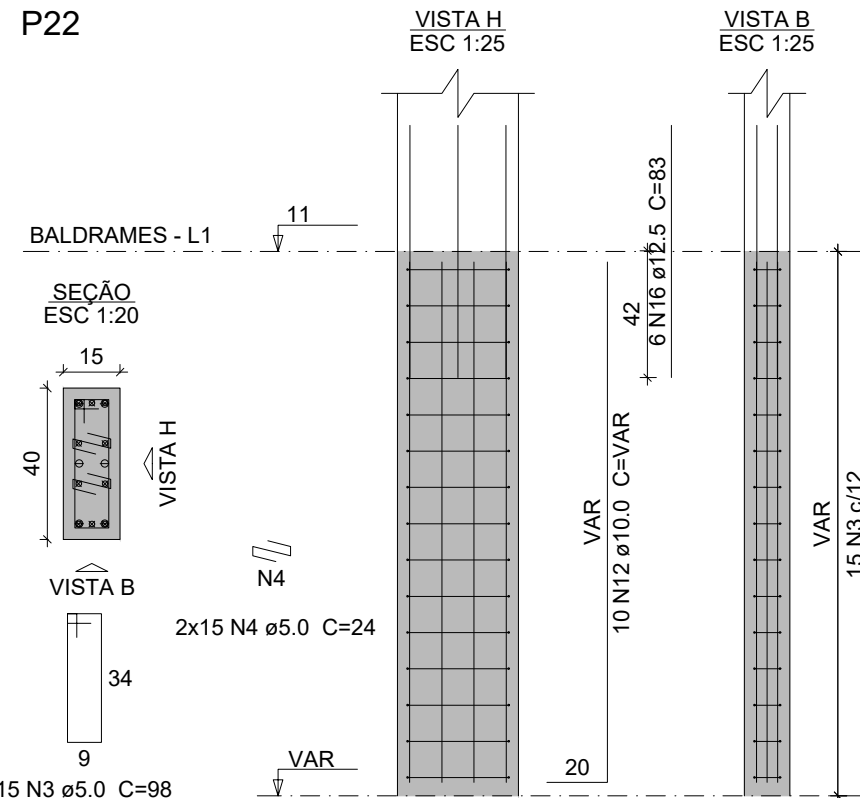
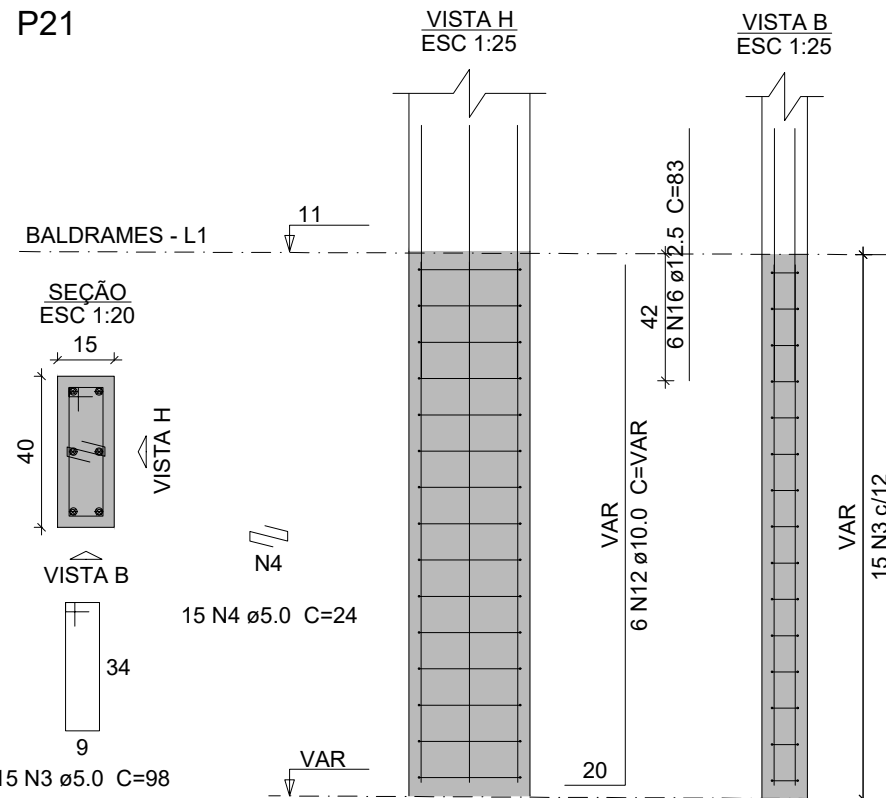
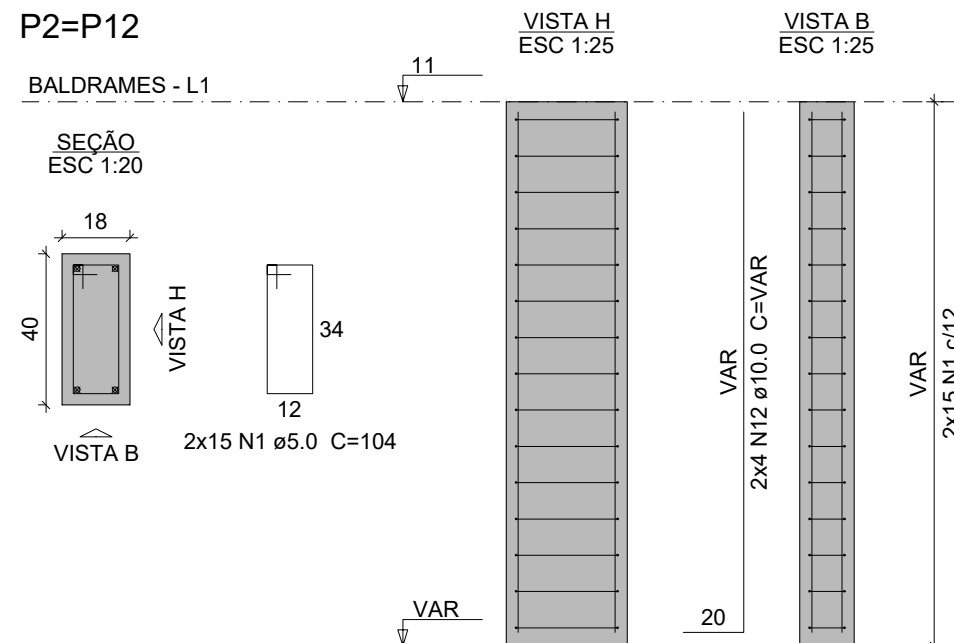
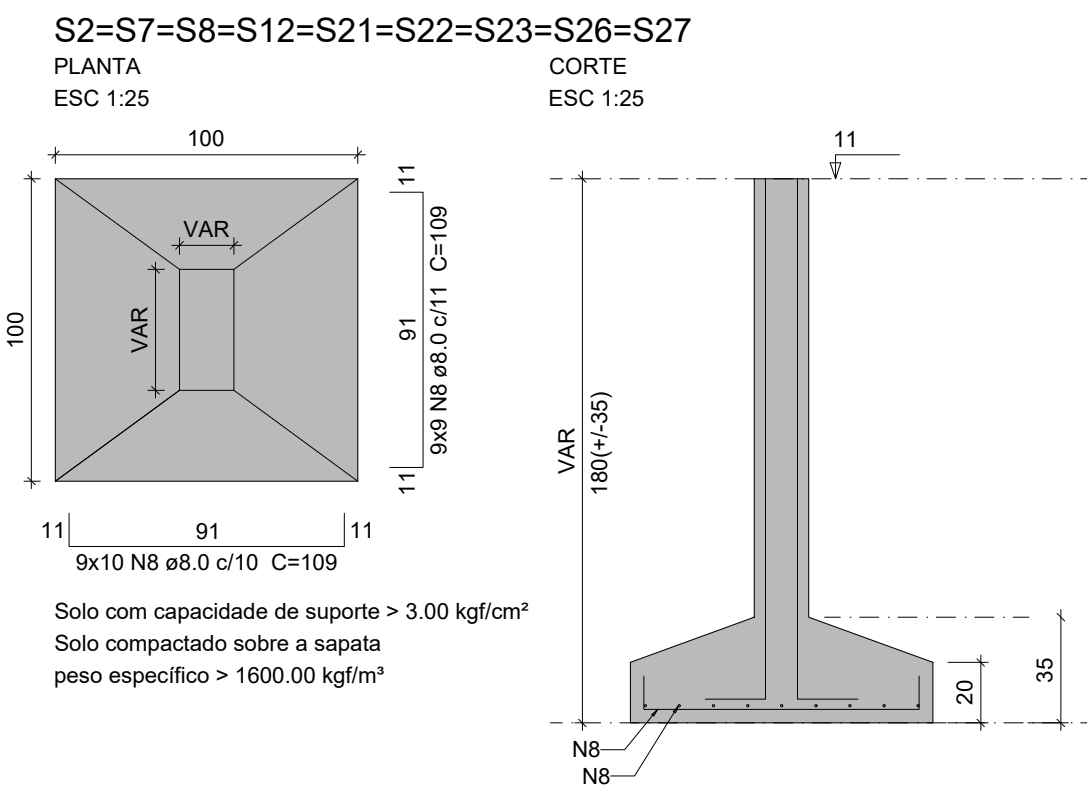
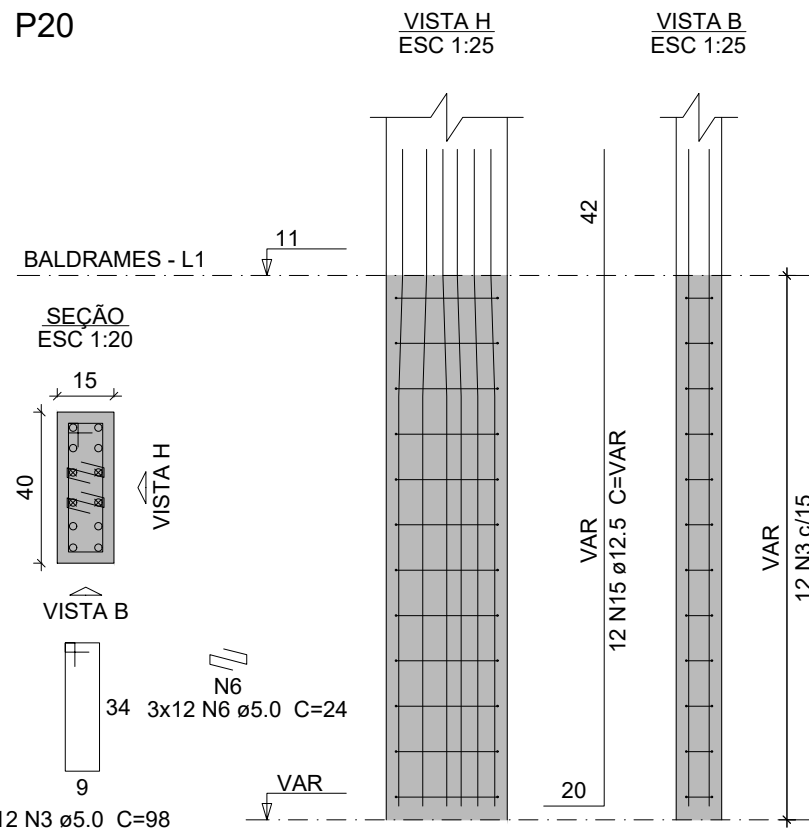
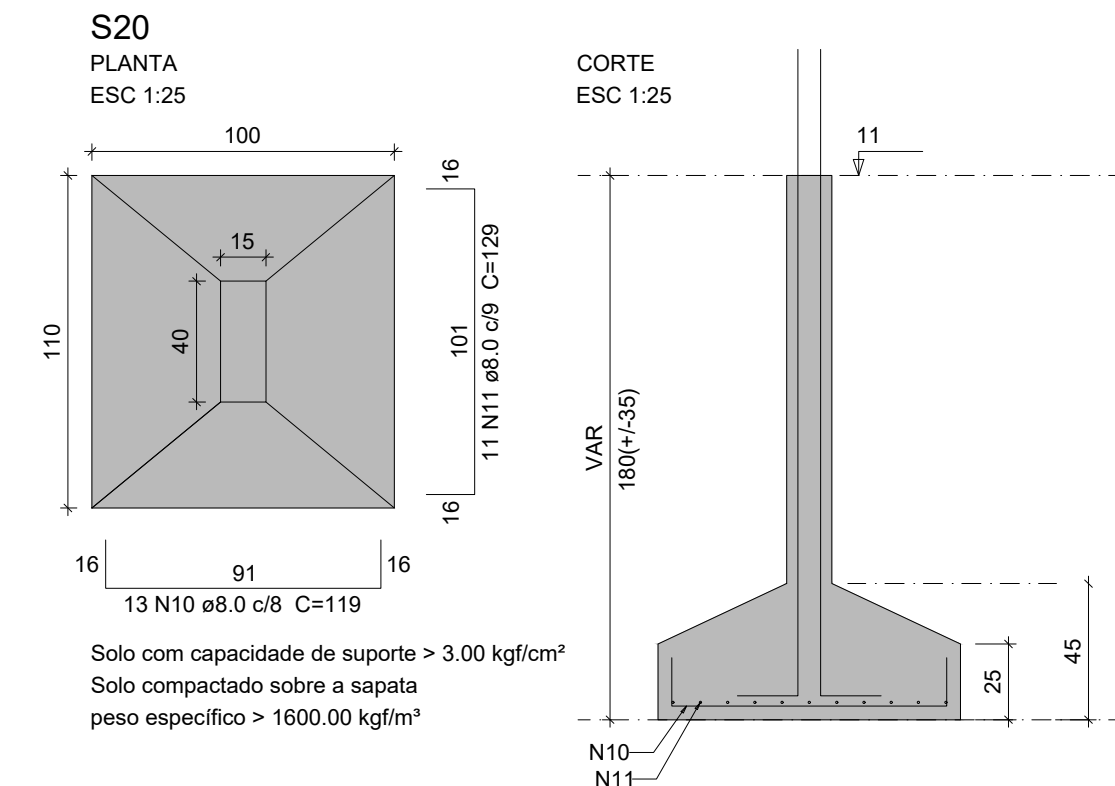
Relação do aço

ACO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	60	104	6240
	2	5.0	15	27	405
	3	5.0	177	98	17346
	4	5.0	285	24	6840
	5	5.0	75	118	8850
	6	5.0	36	24	864
	7	8.0	67	134	8978
	8	8.0	259	109	28231
	9	8.0	64	124	7936
	10	8.0	13	119	1547
	11	8.0	11	129	1419
	12	10.0	58	VAR	VAR
	13	10.0	66	VAR	VAR
	14	10.0	8	67	536
	15	12.5	12	VAR	VAR
	16	12.5	12	83	996

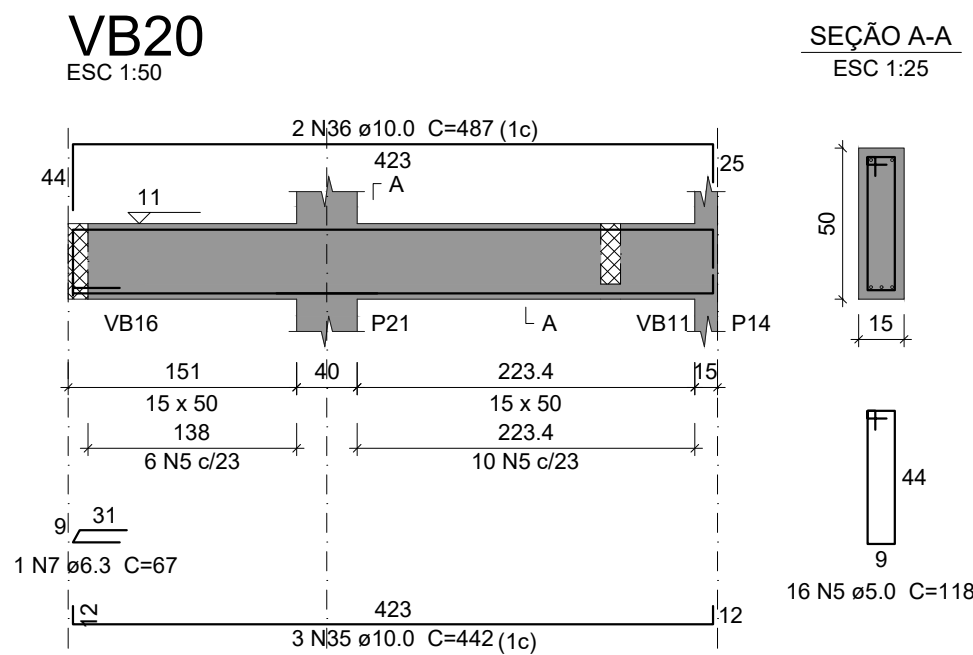
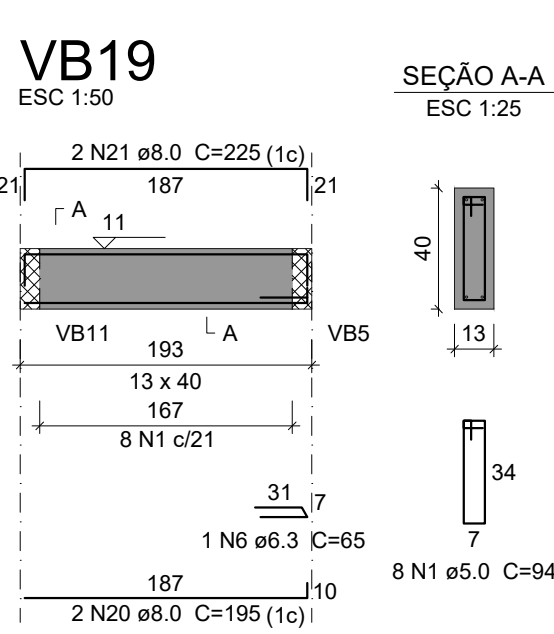
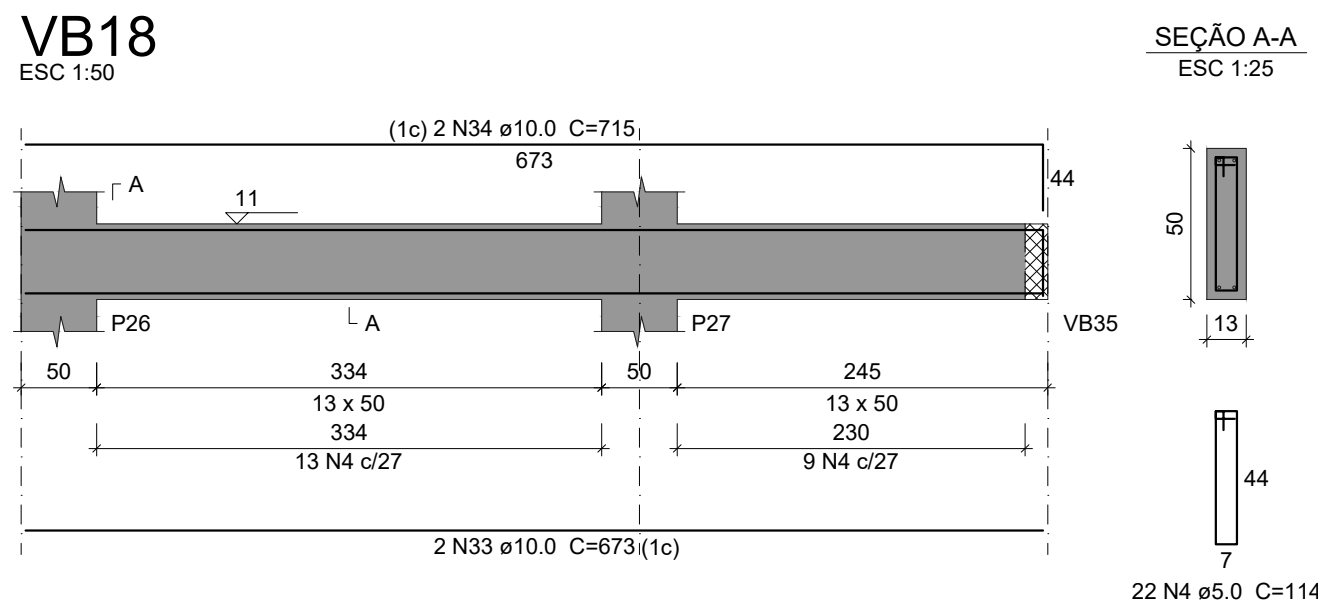
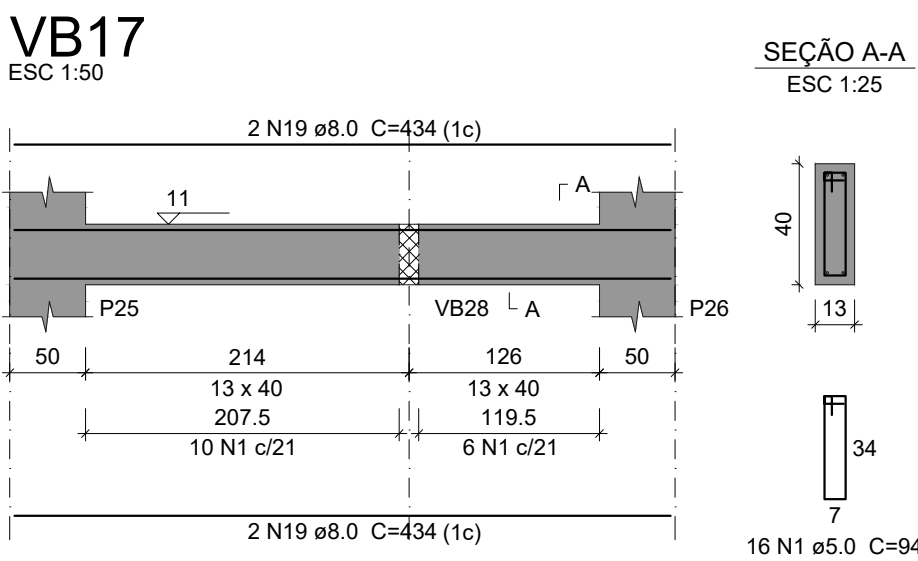
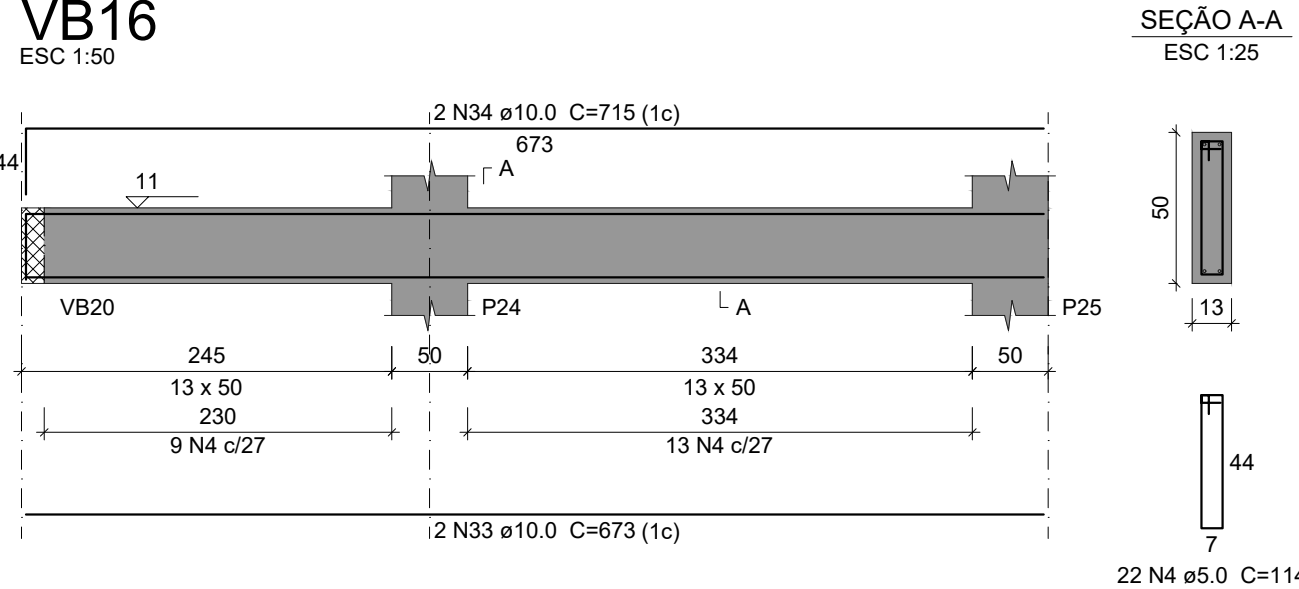
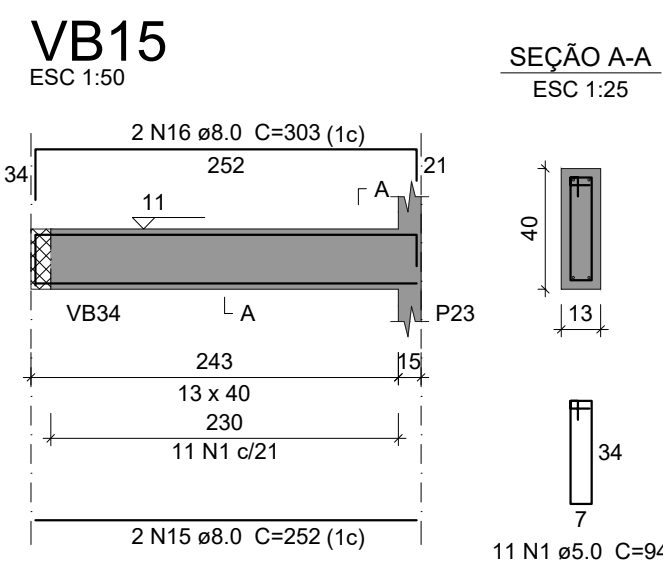
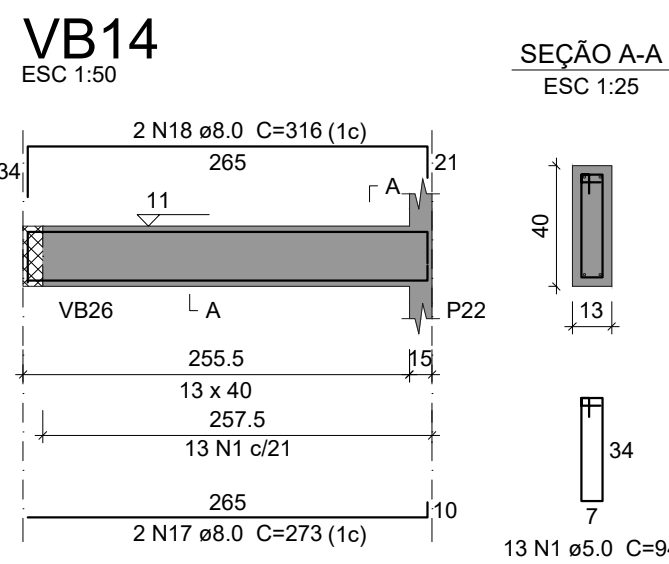
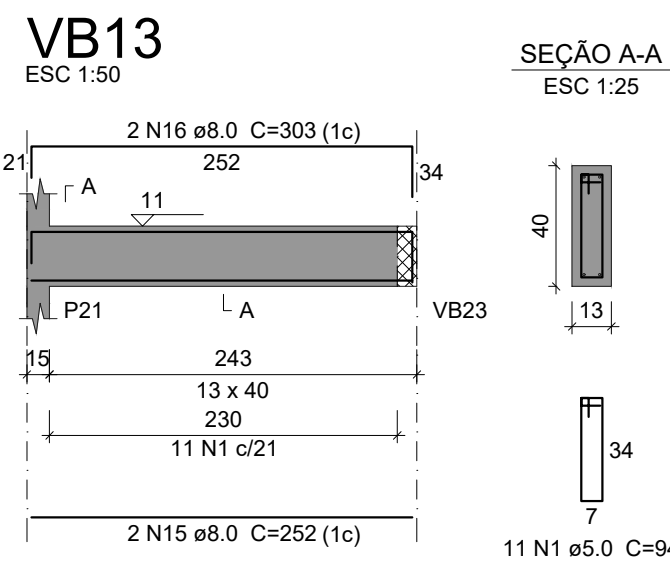
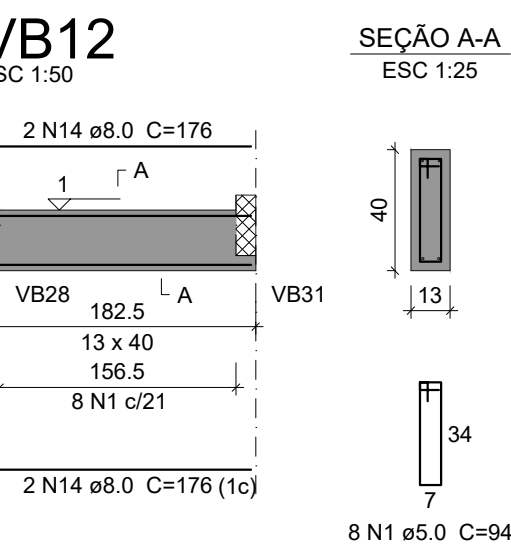
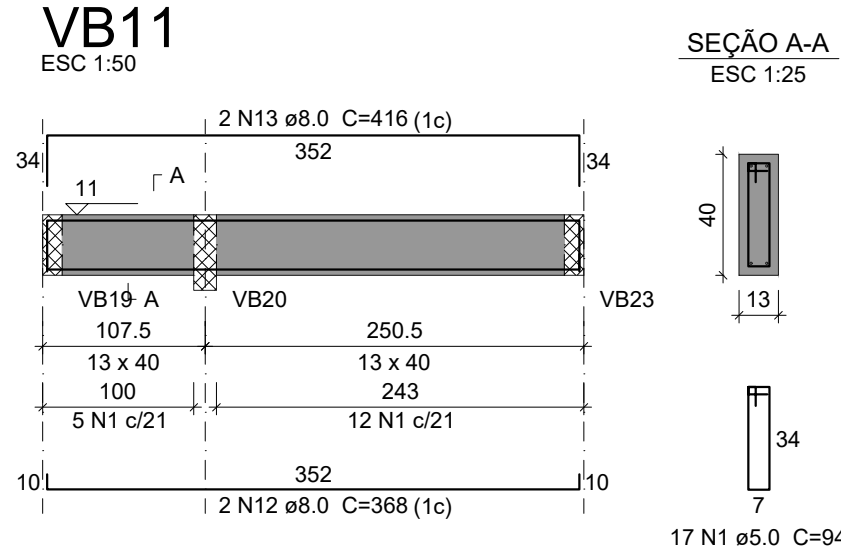
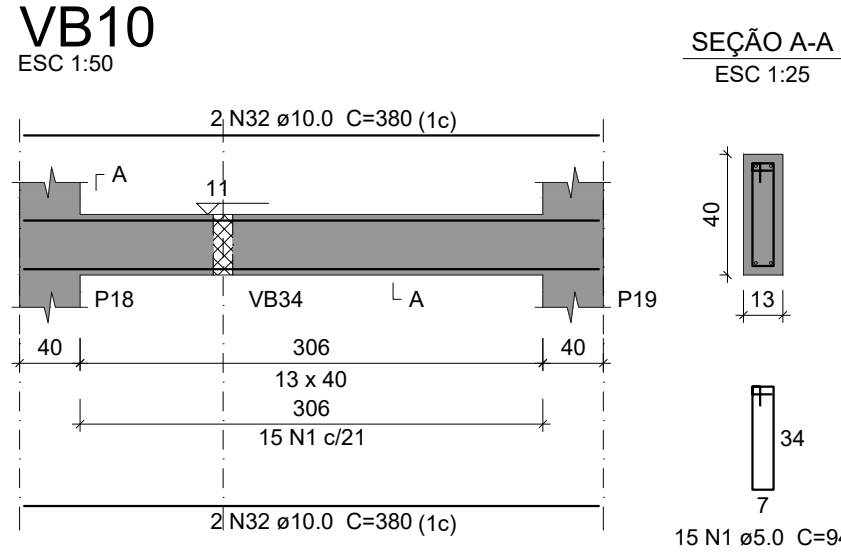
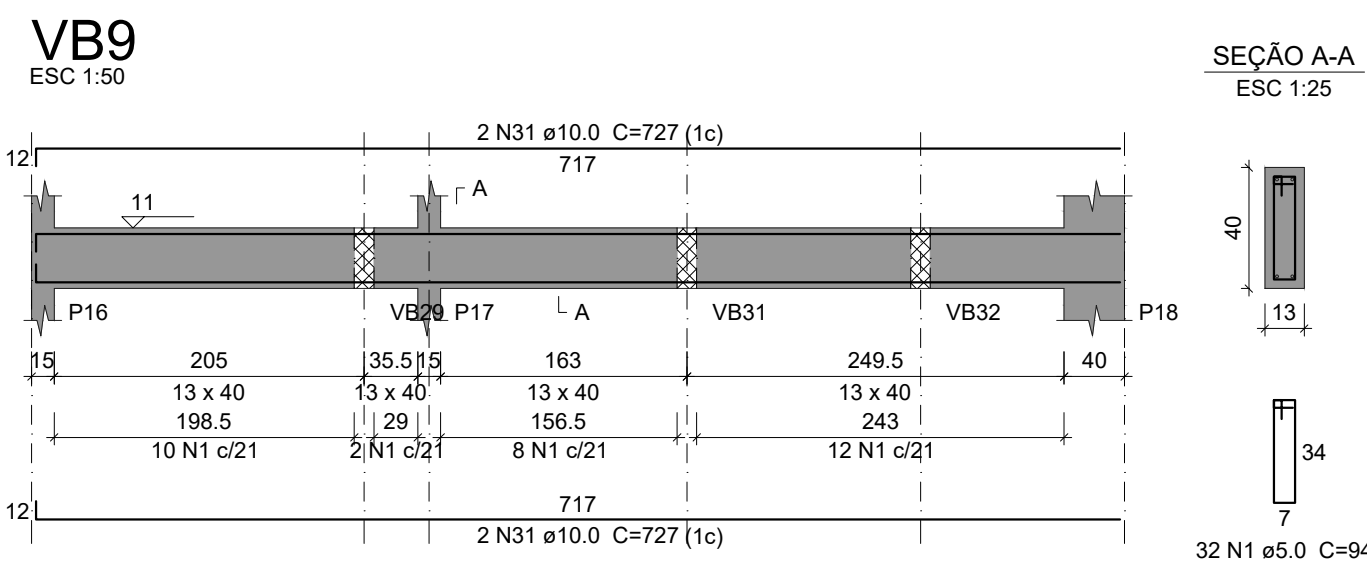
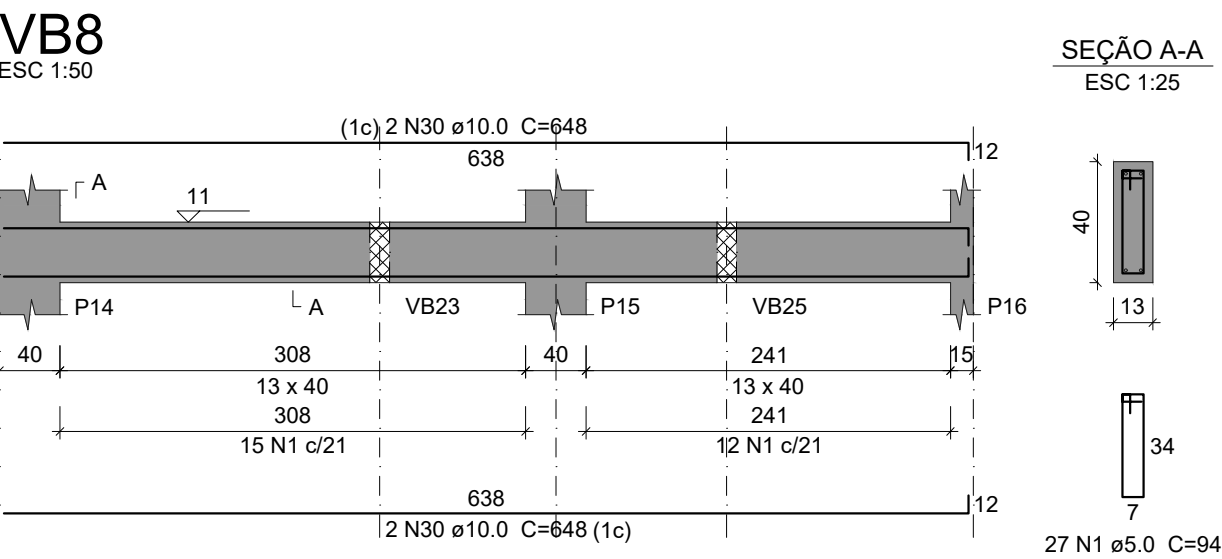
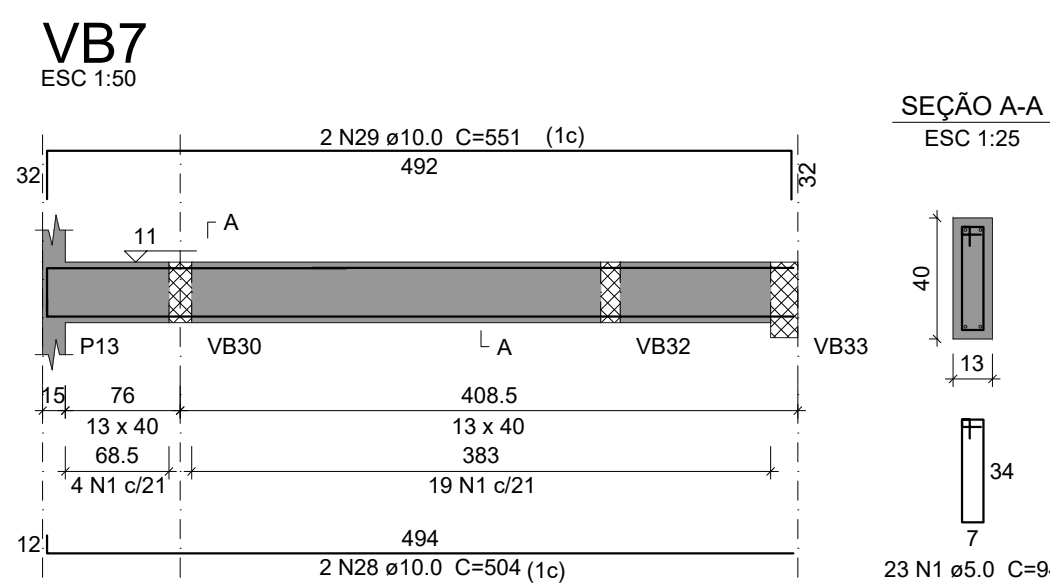
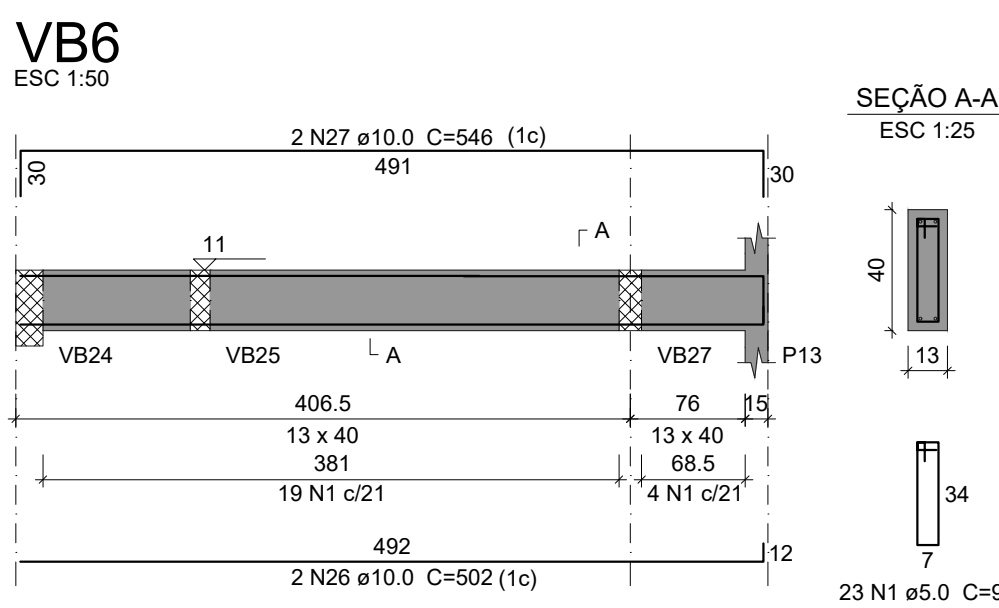
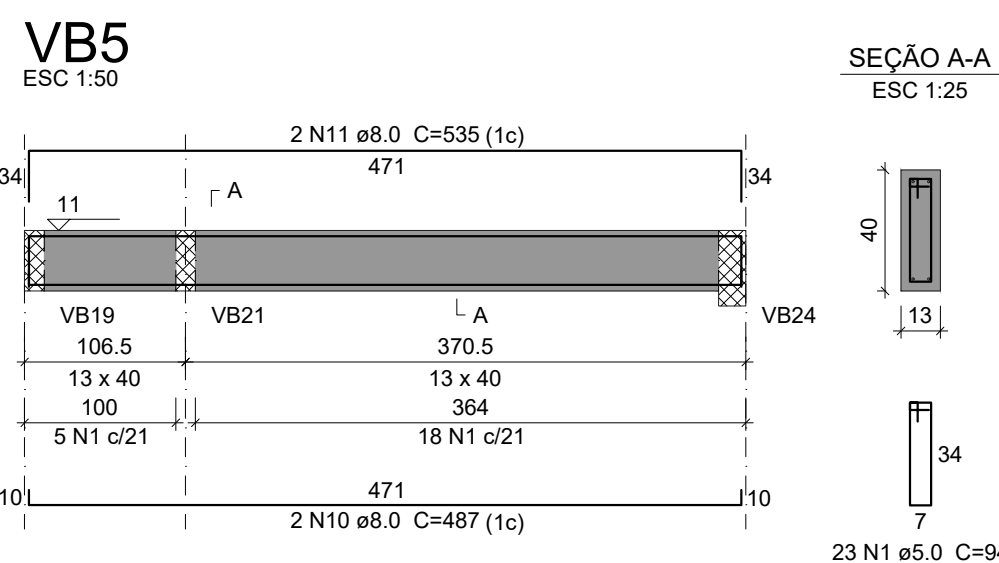
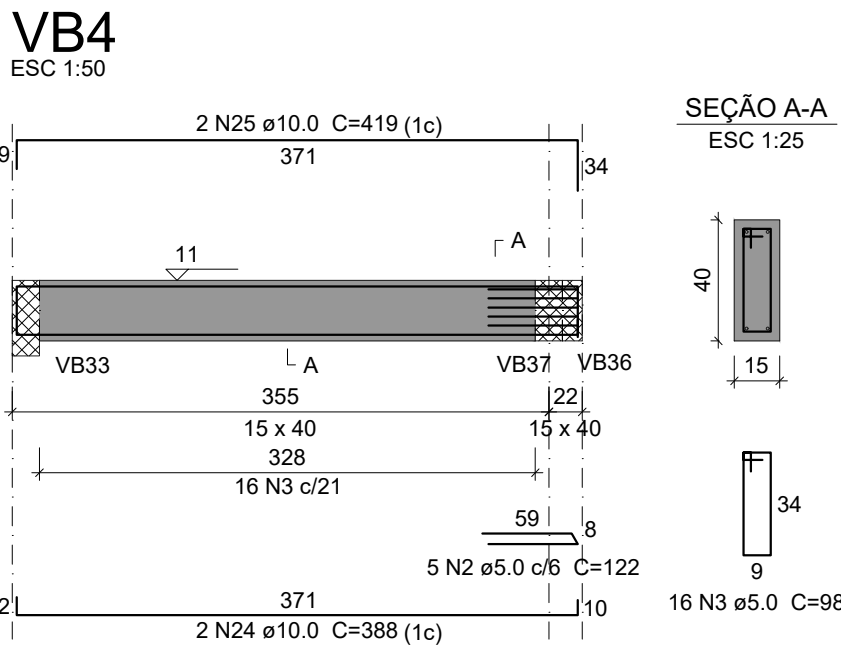
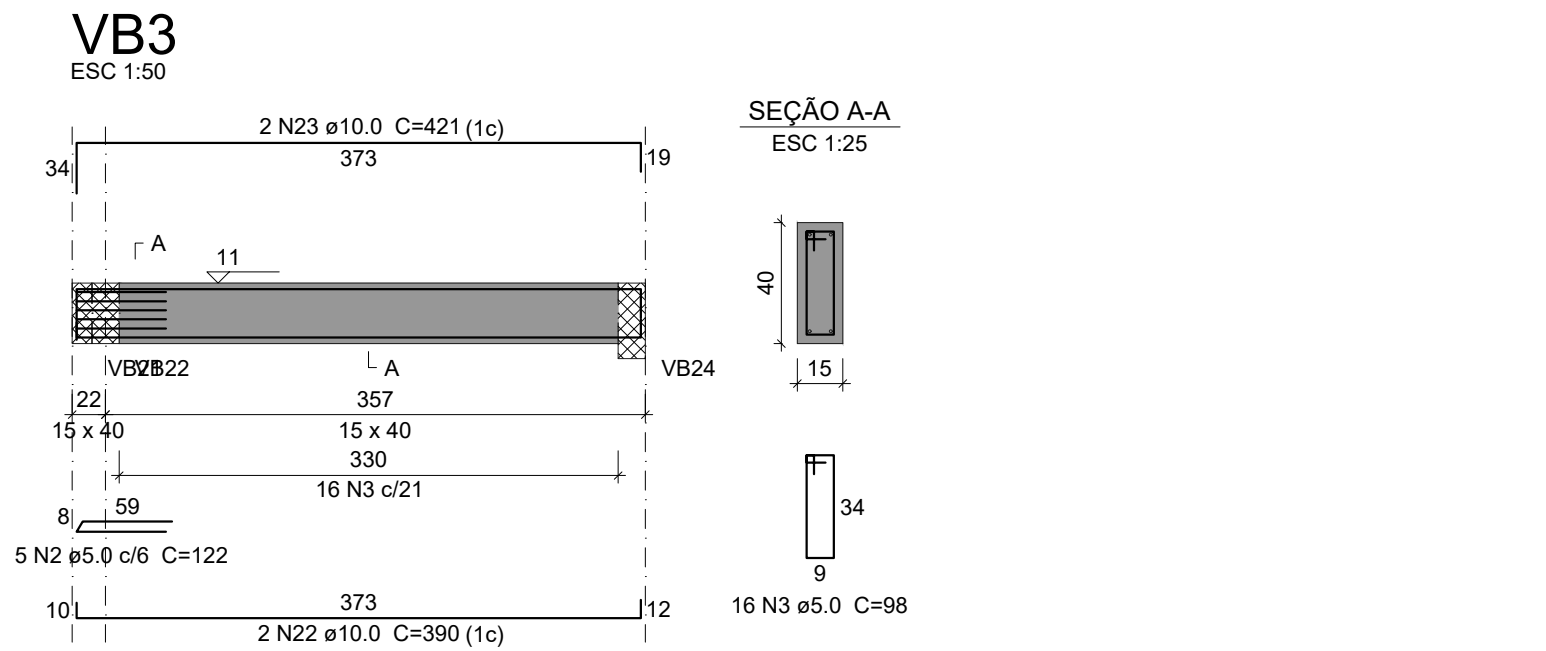
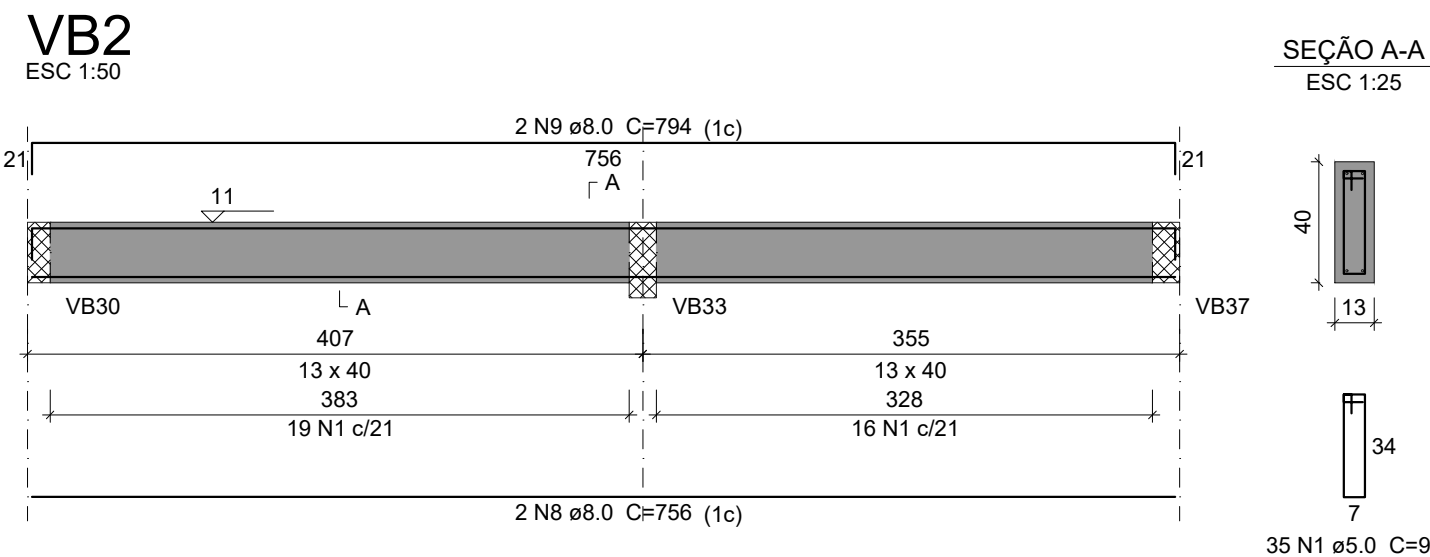
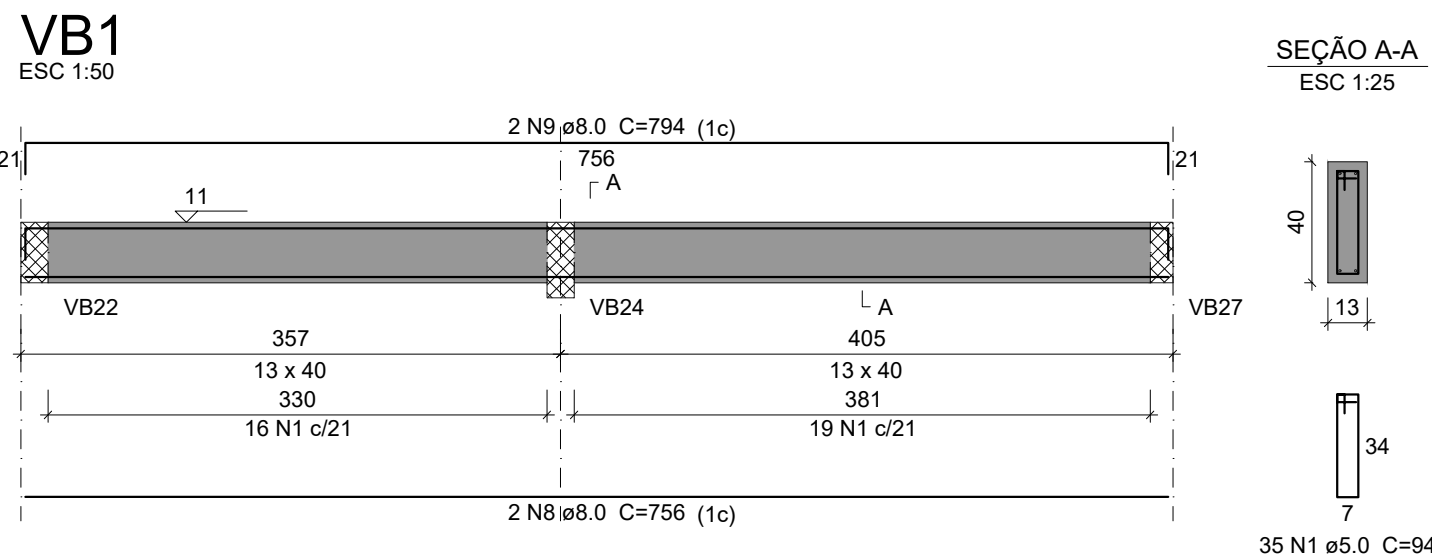
Resumo do aço

ACO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	8.0	481.2	208.8
	10.0	265.4	180
	12.5	38.2	40.4
CA60	5.0	405.5	68.7
PESO TOTAL (kg)			
CA50	429.2		
CA60	68.7		

Volume de concreto (C-30) = 8.95 m³  
Área de forma = 61.94 m²



00	Emissão inicial	Geisa	14/09/2020
NÚMERO	MODIFICAÇÃO	NOME	DATA
Obs: Caso divergência entre cota e escala, prevalece a cota.			
<b>Edificação em alvenaria - Residencial Multifamiliar</b>			
Prancha: Sapatas térreo			
Responsável técnico: Geisa Marques			
Obra: Edificação em alvenaria - Residencial Multifamiliar			
Localização: Cidade/Estado: Blumenau/Santa Catarina			
Edificação em alvenaria - Residencial Multifamiliar			
Escala INDICADA	Data 14/09/2020	Revisão 00	Projeto Estrutural
Desenho Geisa Marques		Prancha: CA-02	
Nº Projeto:			



Relação do aço

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
VB1					
VB4					
VB7					
VB10					
VB13					
VB16					
VB19					
VB2					
VB5					
VB8					
VB11					
VB14					
VB17					
VB18					
CA60	1	5.0	297	94	27918
	2	5.0	10	122	1220
	3	5.0	32	98	3136
	4	5.0	44	114	5016
	5	5.0	16	118	1888
	6	6.3	1	65	65
	7	6.3	1	67	67
	8	8.0	4	756	3024
	9	8.0	4	794	3176
	10	8.0	2	487	974
	11	8.0	2	535	1070
	12	8.0	2	368	736
	13	8.0	2	416	832
	14	8.0	4	176	704
	15	8.0	4	252	1008
	16	8.0	4	303	1212
	17	8.0	2	273	546
	18	8.0	2	316	632
	19	8.0	4	434	1736
	20	8.0	2	195	390
	21	8.0	2	225	450
	22	10.0	2	390	780
	23	10.0	2	421	842
	24	10.0	2	388	776
	25	10.0	2	419	838
	26	10.0	2	502	1004
	27	10.0	2	546	1092
	28	10.0	2	504	1008
	29	10.0	2	551	1102
	30	10.0	4	648	2592
	31	10.0	4	727	2908
	32	10.0	4	380	1520
	33	10.0	4	673	2692
	34	10.0	4	715	2860
	35	10.0	3	442	1326
	36	10.0	2	487	974

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6.3	1.4	0.4
	8.0	164.9	71.6
	10.0	223.2	151.3
CA60	5.0	391.8	66.4
PESO TOTAL (kg)			
CA50		223.3	
CA60		66.4	

Volume de concreto (C=30) = 5.15 m³  
Área de forma = 89.88 m²

00	Emissão inicial	Geisa	14/09/2020
NÚMERO	MODIFICAÇÃO	NOME	DATA

Obs: Caso divergência entre cota e escala, prevalece a cota.

Edificação em alvenaria - Residencial Multifamiliar

Prancha:  
Vigas baldrame térreo

Responsável técnico:  
Geisa Marques

Obra:  
Edificação em alvenaria - Residencial Multifamiliar

Localização:  
Cidade/Estado: Blumenau/Santa Catarina

Edificação em alvenaria - Residencial Multifamiliar

Escala

INDICADA

Data

14/09/2020

Revisão

00

Projeto

Estrutural

Desenho

Geisa Marques

Prancha:

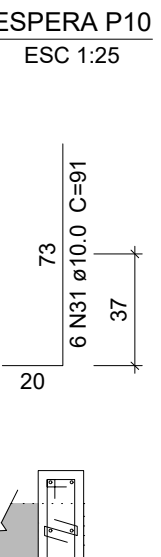
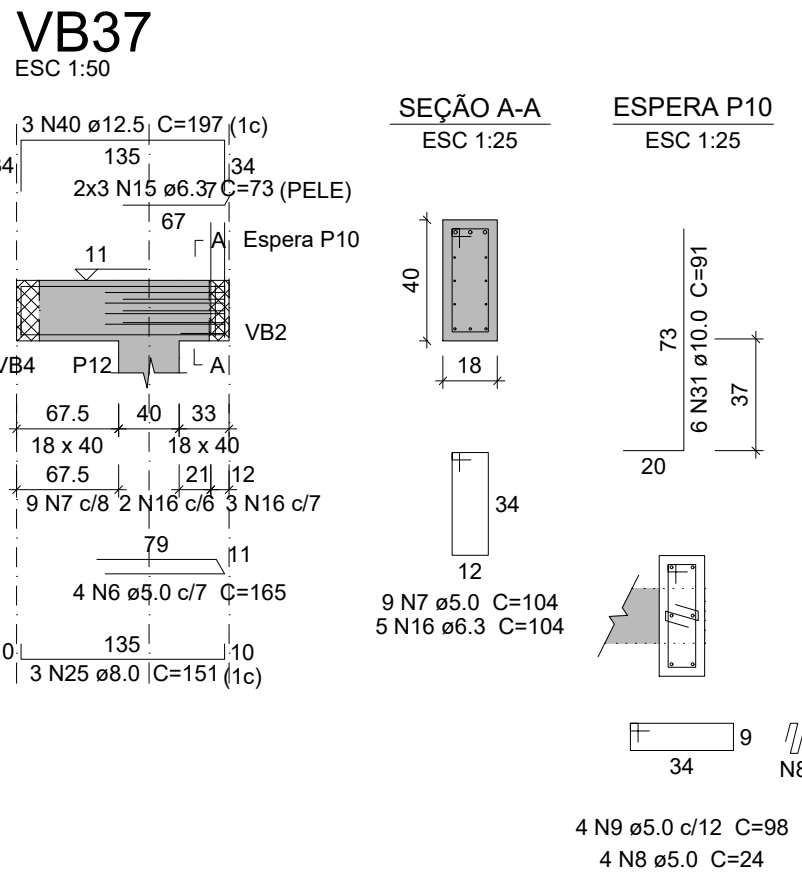
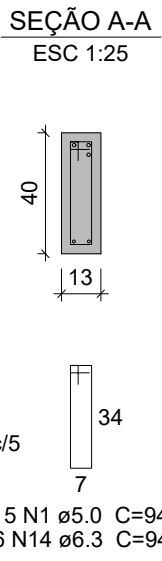
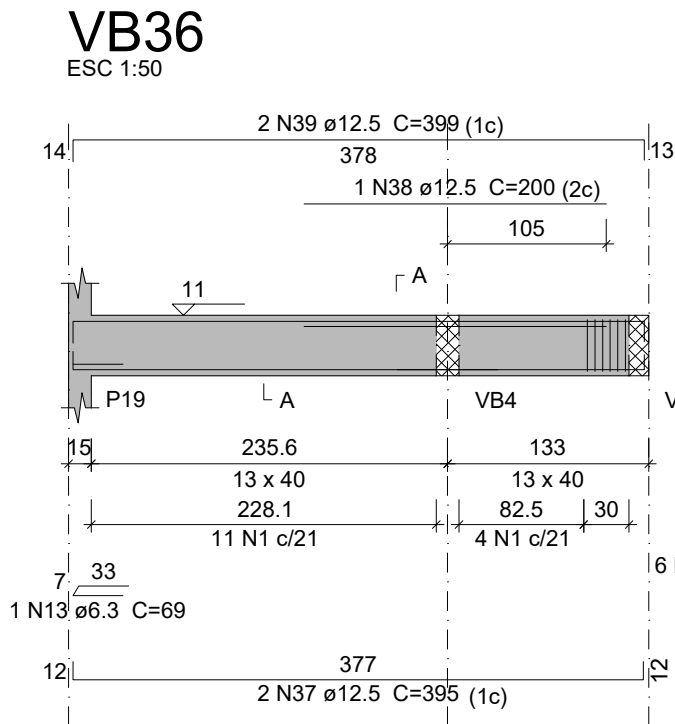
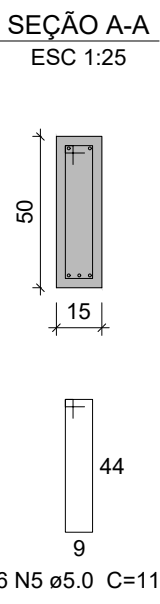
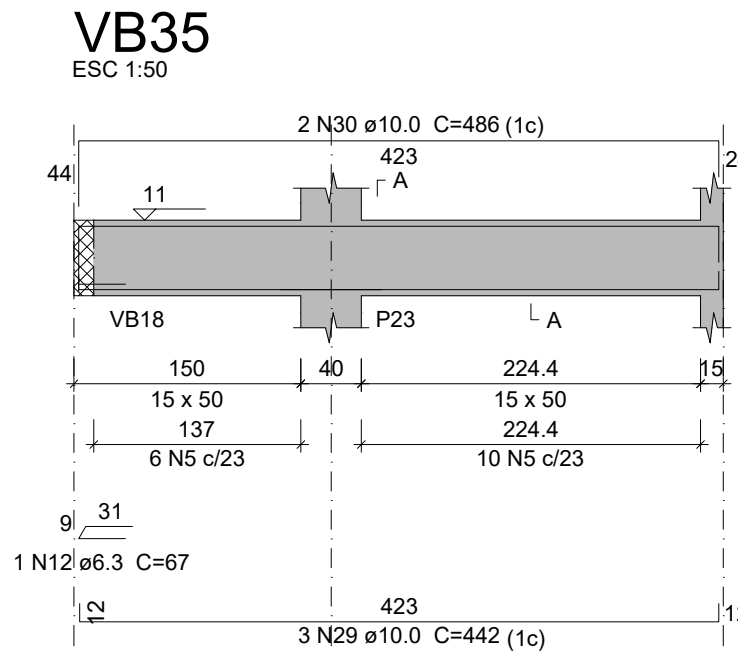
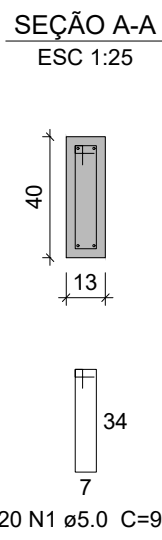
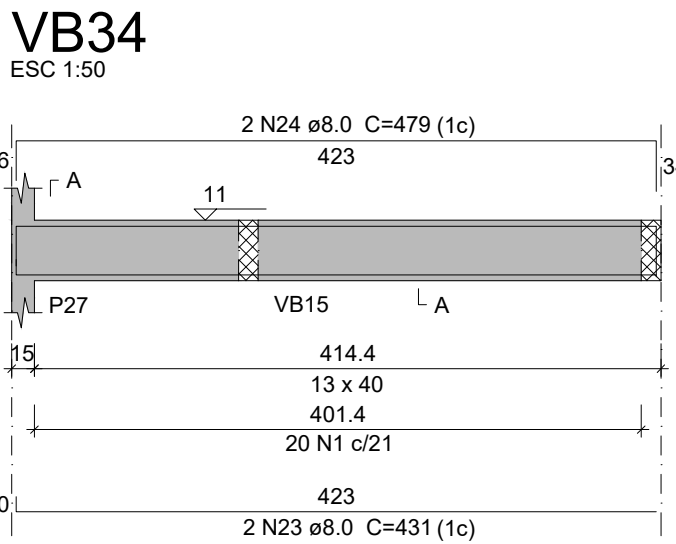
CA-03

Nº Projeto:



Relação do aço					
VB21	VB22	VB23			
VB24	VB25	VB26			
VB27	VB28	VB29			
VB30	VB31	VB32			
VB33	VB34	VB35			
VB36	VB37				
AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	143	94	13442
	2	5.0	30	124	3720
	3	5.0	8	24	192
	4	5.0	8	118	944
	5	5.0	16	118	1888
	6	5.0	8	165	1320
	7	5.0	21	104	2184
	8	5.0	16	24	384
	9	5.0	16	98	1568
	10	5.0	16	98	1568
CA50	11	6.3	5	74	370
	12	6.3	1	67	67
	13	6.3	2	69	138
	14	6.3	12	94	1128
	15	6.3	12	73	876
	16	6.3	11	104	1144
	17	6.3	8	85	680
	18	6.3	18	98	1764
	19	6.3	6	98	588
	20	8.0	2	164	328
	21	8.0	6	156	936
	22	8.0	21	124	2604
	23	8.0	4	431	1724
	24	8.0	2	479	958
	25	8.0	3	151	453
	26	8.0	2	480	960
	27	10.0	1	75	75
	28	10.0	4	393	1572
	29	10.0	3	442	1326
	30	10.0	2	486	972
	31	10.0	24	91	2184
	32	10.0	1	73	73
	33	12.5	2	447	894
	34	12.5	2	170	340
	35	12.5	2	465	930
	36	12.5	12	109	1308
	37	12.5	2	395	790
	38	12.5	1	200	200
	39	12.5	2	399	798
	40	12.5	6	197	1182
	41	12.5	2	385	770
	42	12.5	1	230	230
	43	12.5	2	404	808
	44	12.5	2	149	298
	45	12.5	1	181	181
	46	12.5	4	435	1740
	47	12.5	1	122	122
	48	12.5	2	441	882
	49	12.5	4	245	980
	50	12.5	2	226	452
	51	12.5	4	280	1120
	52	12.5	4	288	1152
	53	12.5	1	225	225
	54	12.5	2	197	394
	55	12.5	2	454	908
	56	12.5	2	168	336
	57	12.5	1	187	187
	58	12.5	2	198	396
	59	16.0	1	273	273
	60	16.0	1	310	310
	61	16.0	4	431	1724
	62	16.0	1	271	271
	63	16.0	1	315	315

Resumo do aço			
AÇO	DIAM (mm)	C.TOTAL (m)	PESO ~ 10 % (kg)
CA50	6.3	67.6	18.2
	8.0	79.7	34.6
	10.0	62.1	42.1
	12.5	176.3	186.7
	16.0	29	50.2
CA60	5.0	272.1	46.1
PESO TOTAL (kg)			
CA50	331.8		
CA60	46.1		
Volume de concreto (C-30) = 3.26 m³			
Área de forma = 52.74 m²			

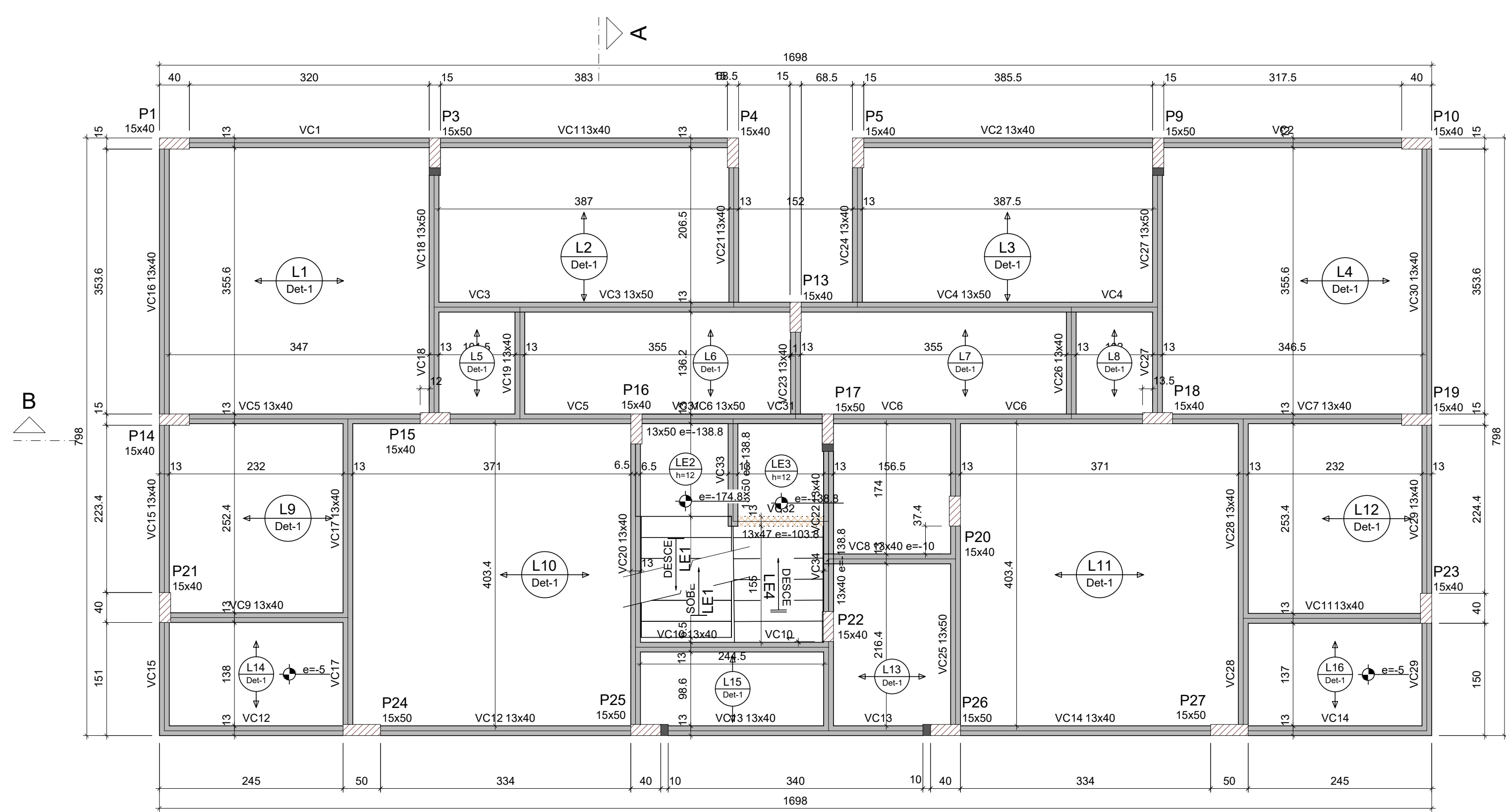


00	Emissão inicial	Geisa	14/09/2020
NÚMERO	MODIFICAÇÃO	NOME	DATA

Obs: Caso divergência entre cota e escala, prevalece a cota.

## Edificação em alvenaria - Residencial Multifamiliar

Prancha: Vigas baldrame térreo	
Responsável técnico: Geisa Marques	
Obra: Edificação em alvenaria - Residencial Multifamiliar	
Localização: Cidade/Estado: Blumenau/Santa Catarina	
Edificação em alvenaria - Residencial Multifamiliar	
Escala INDICADA	Data 14/09/2020
Revisão 00	Projeto Estrutural
Desenho Geisa Marques	Prancha: CA-04
Nº Projeto:	



## Forma do pavimento Pavimento Tipo 1

escala 1:50

Blocos de enchimento					
Detalhe	Tipo	Nome	Dimensões (cm)		Quantidade
1	Lajota cerâmica	B8/30/20	8	30	20
			1300		

Lajes							
Dados				Sobrecarga (kgf/m²)			
Nome	Tipo	Altura (cm)	Elevação (cm)	Nível (cm)	Peso próprio (kgf/m²)	Adicional	Localizada
L1	Trelçada 1D	12	0	306	257	154	150
L2	Trelçada 1D	12	0	306	257	154	150
L3	Trelçada 1D	12	0	306	257	154	150
L4	Trelçada 1D	12	0	306	257	154	150
L5	Trelçada 1D	12	0	306	257	154	150
L6	Trelçada 1D	12	0	306	257	182	150
L7	Trelçada 1D	12	0	306	257	182	150
L8	Trelçada 1D	12	0	306	257	154	150
L9	Trelçada 1D	12	0	306	257	154	150
L10	Trelçada 1D	12	0	306	257	182	150
L11	Trelçada 1D	12	0	306	257	182	150
L12	Trelçada 1D	12	0	306	257	154	150
L13	Trelçada 1D	12	0	306	257	154	150
L14	Trelçada 1D	12	-5	301	257	182	200
L15	Trelçada 1D	12	0	306	257	154	150
L16	Trelçada 1D	12	-5	301	257	182	200
LE1	Maciça	12	-139	167,2	674	0	0
LE2	Maciça	12	-175	131,2	300	0	0
LE3	Maciça	12	-139	167,2	300	0	0
LE4	Maciça	12	0	306	628	0	0

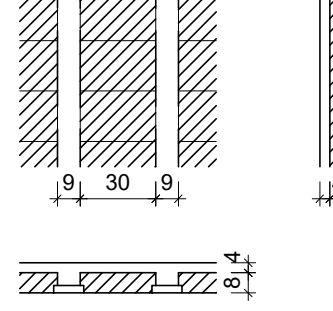
Características dos materiais	
fck (kgf/cm²)	Ecs (kgf/cm²)
300	268/384

Dimensão máxima do agregado = 19 mm

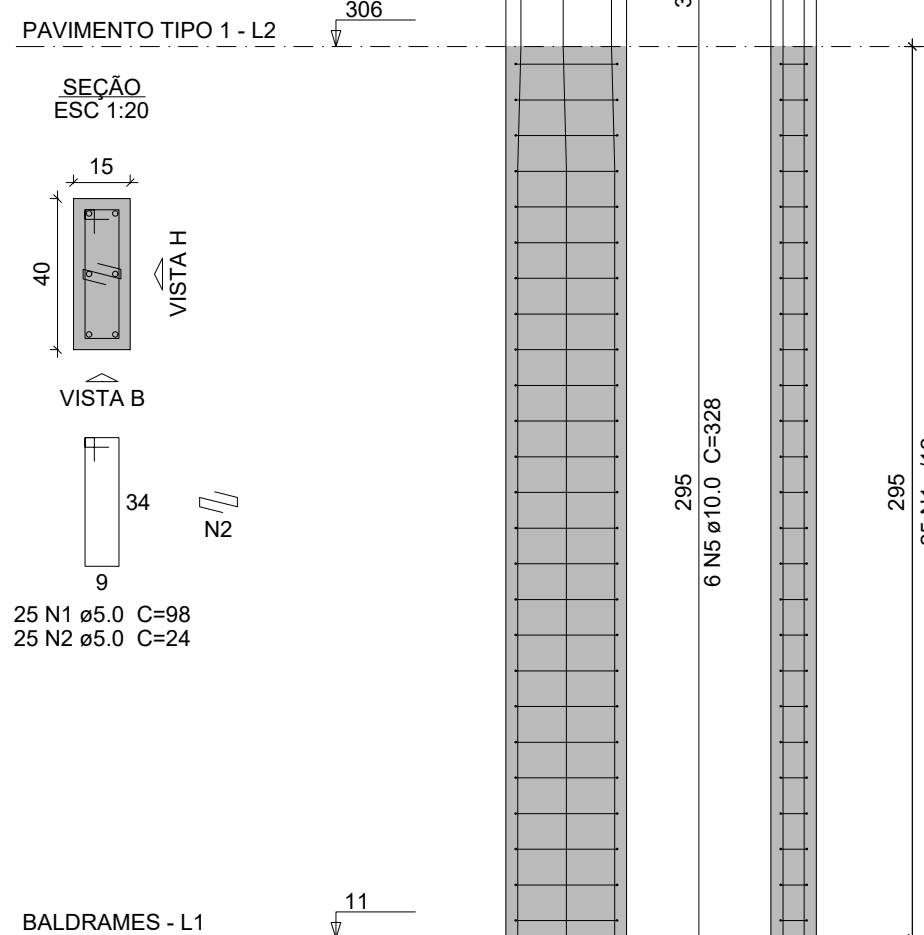
Legenda dos pilares	
	Pilar que passa
	Pilar com mudança de seção

Legenda das vigas e paredes	
	Viga

Detalhe 1 (esc. 1:30)



P1=P4=P5=P10=P13=P14=P16=P19



### Relação do aço

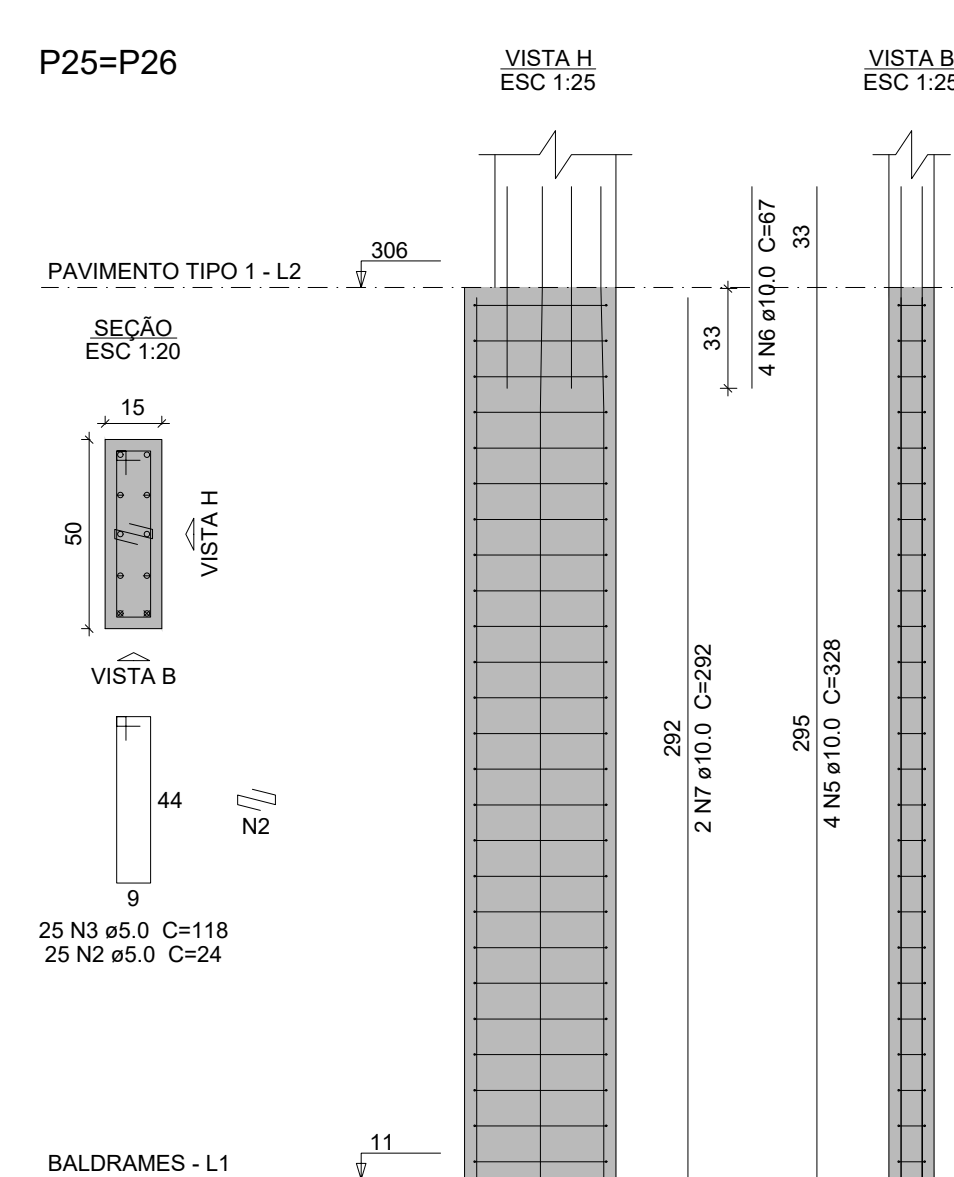
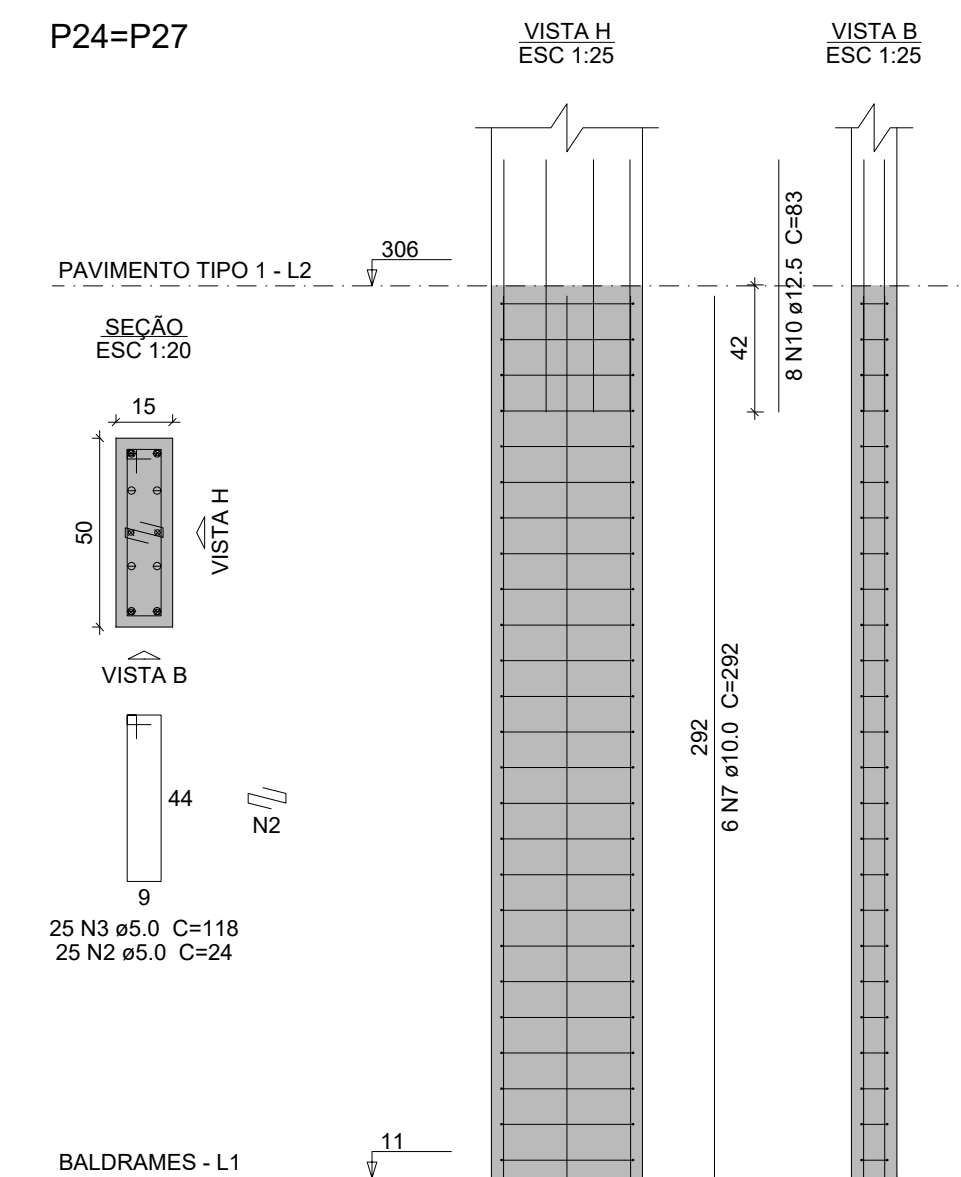
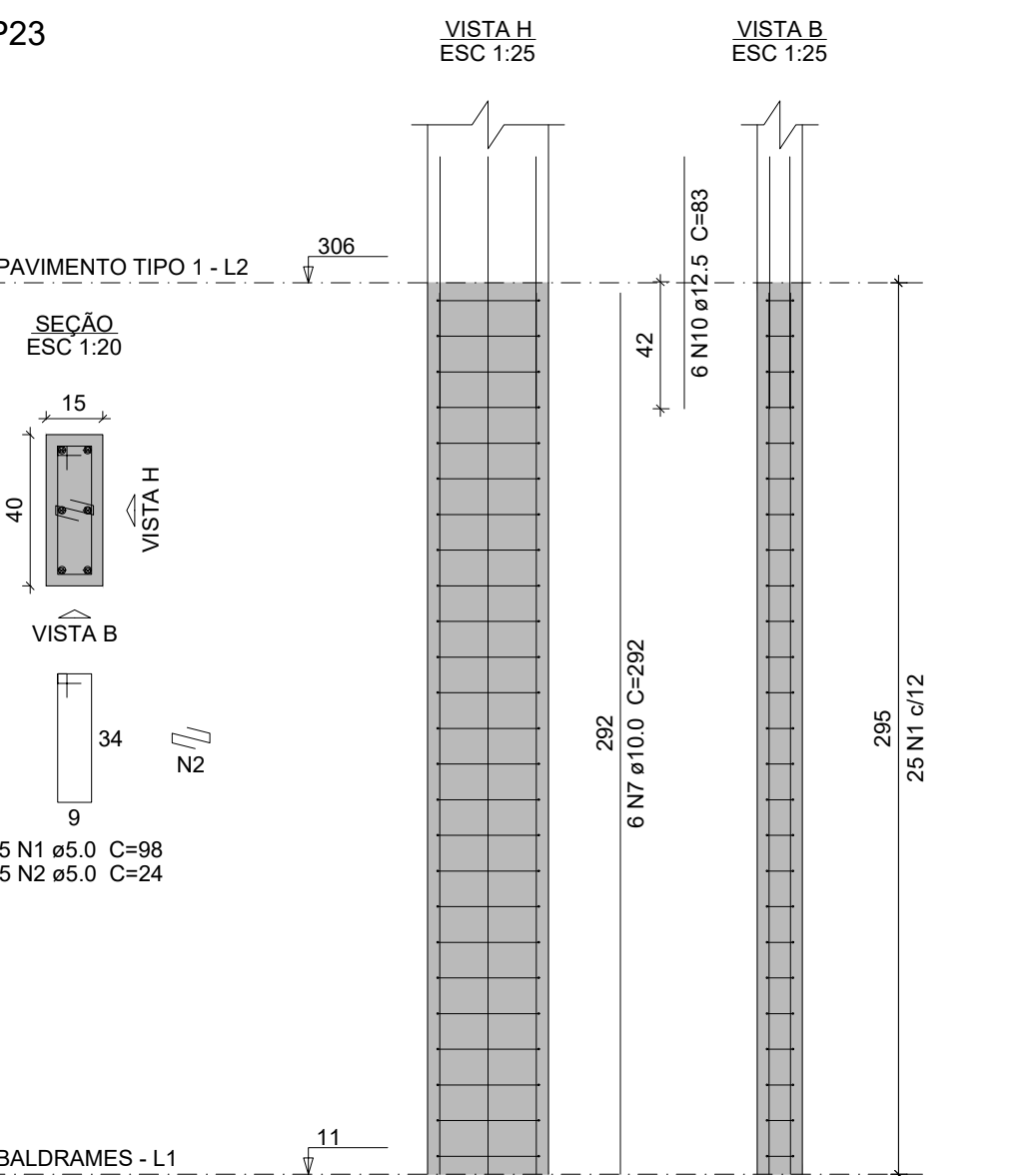
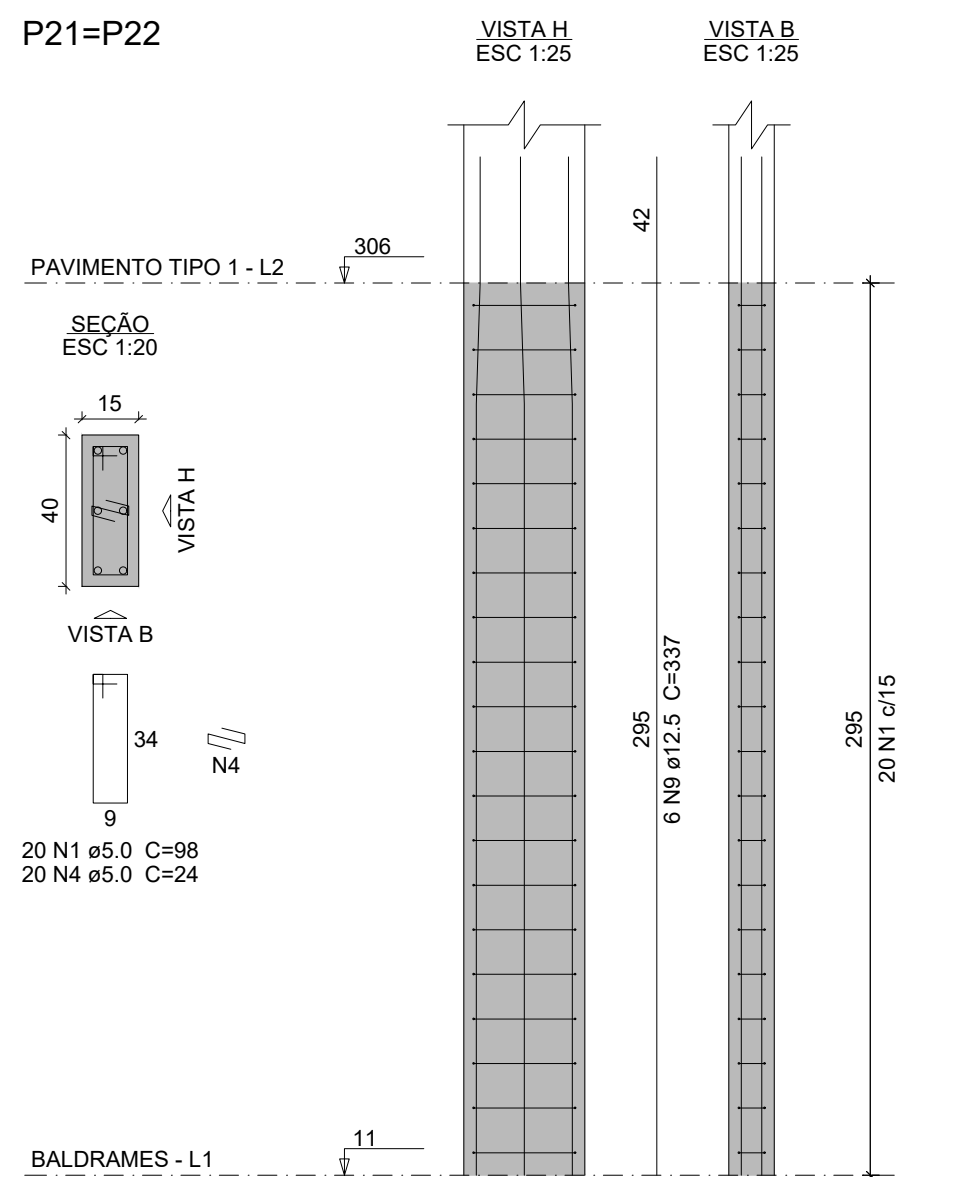
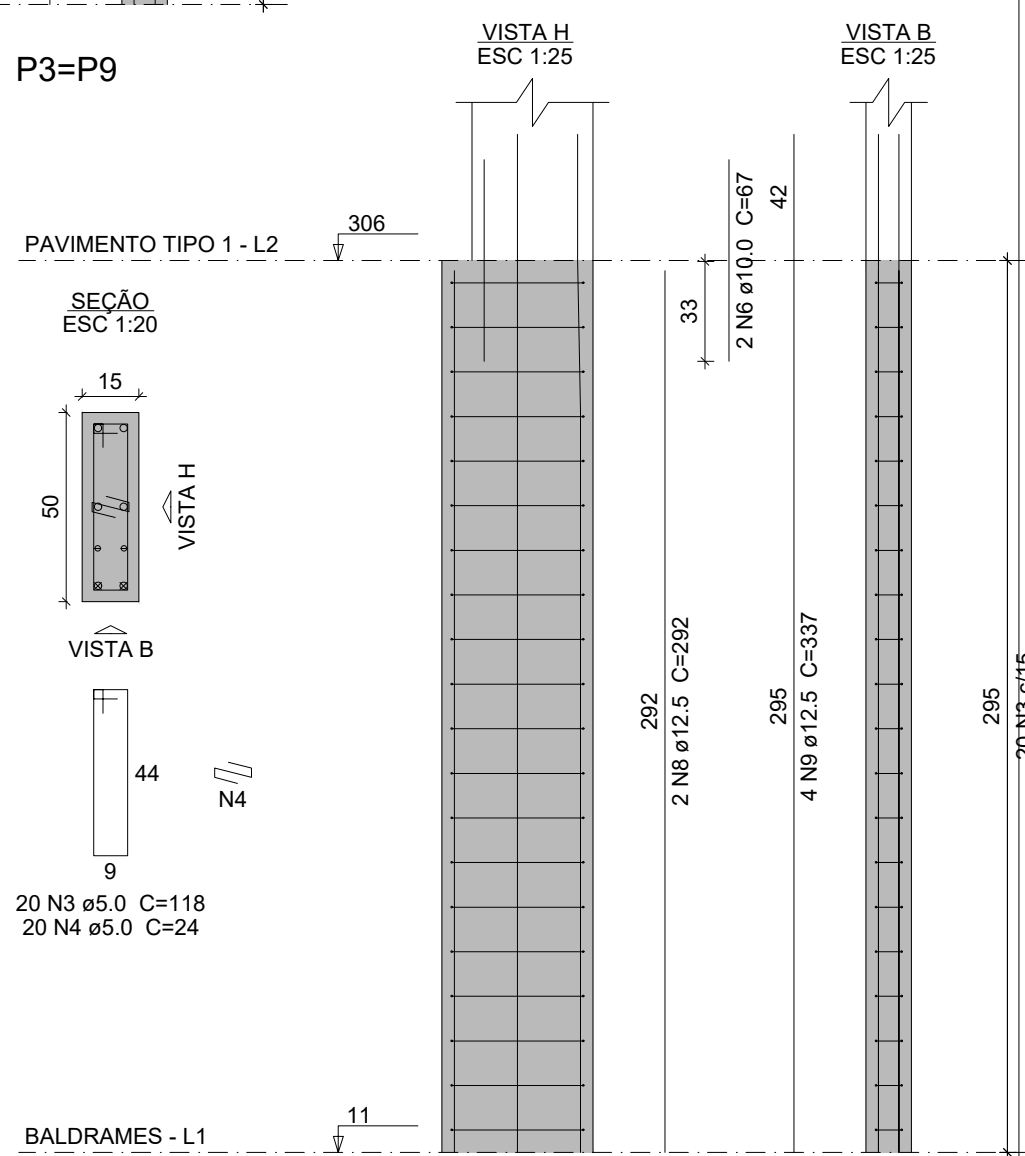
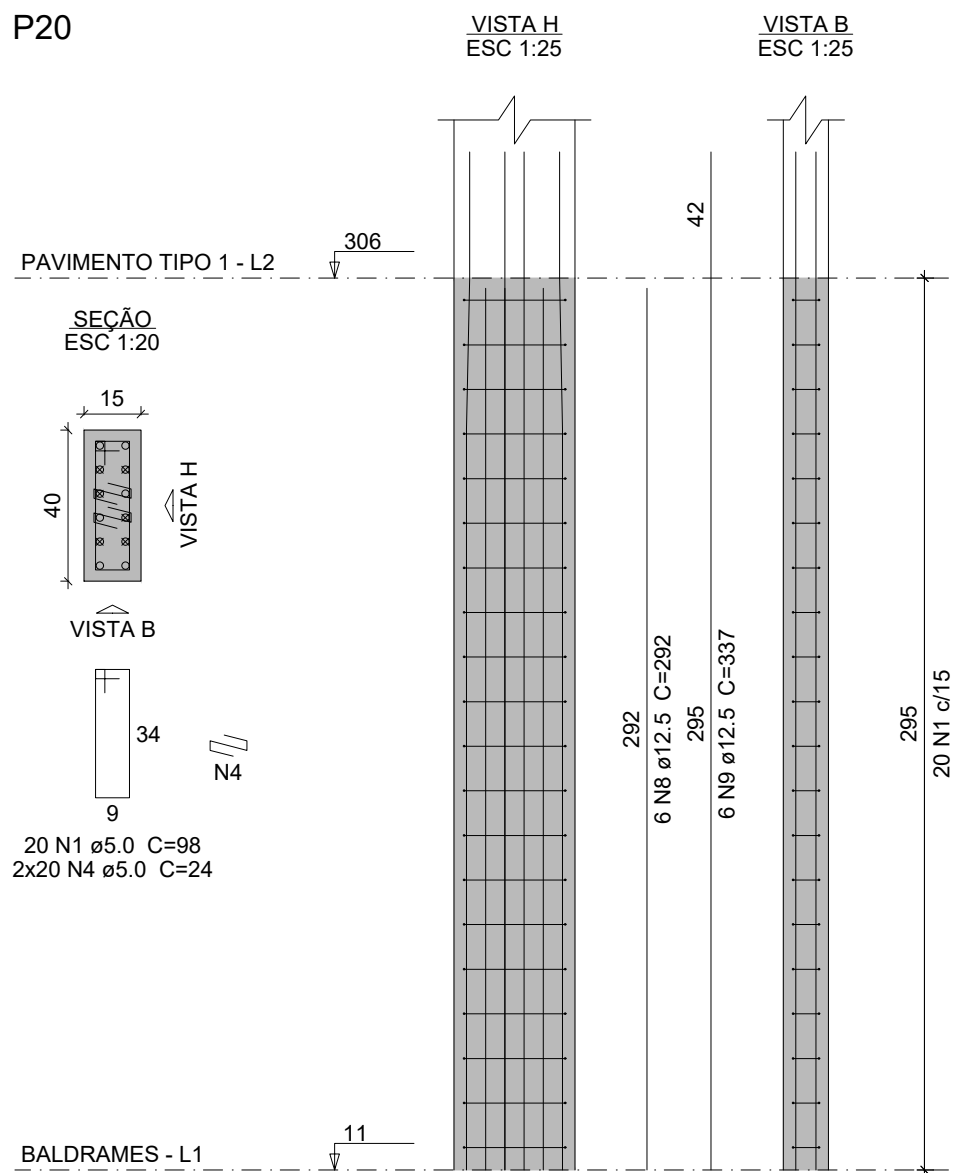
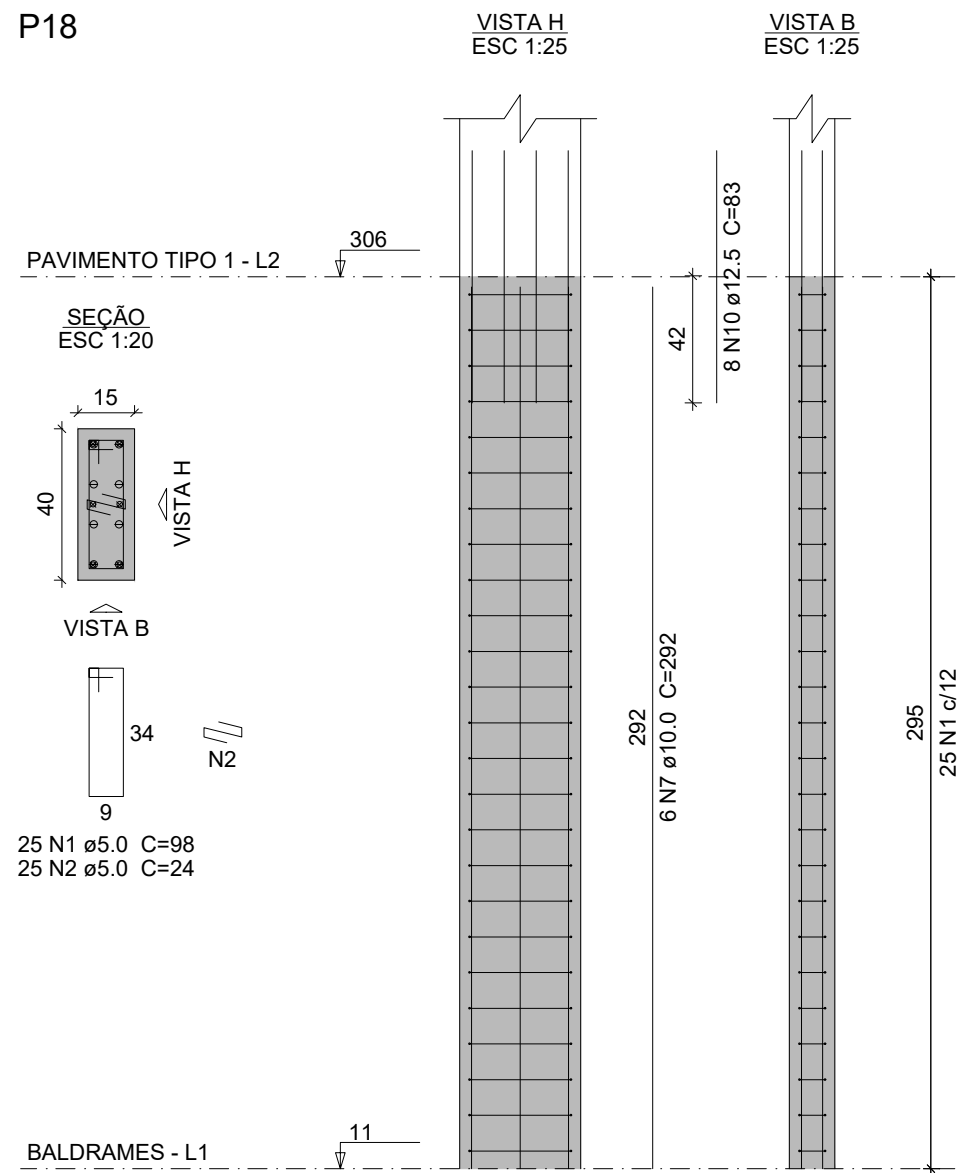
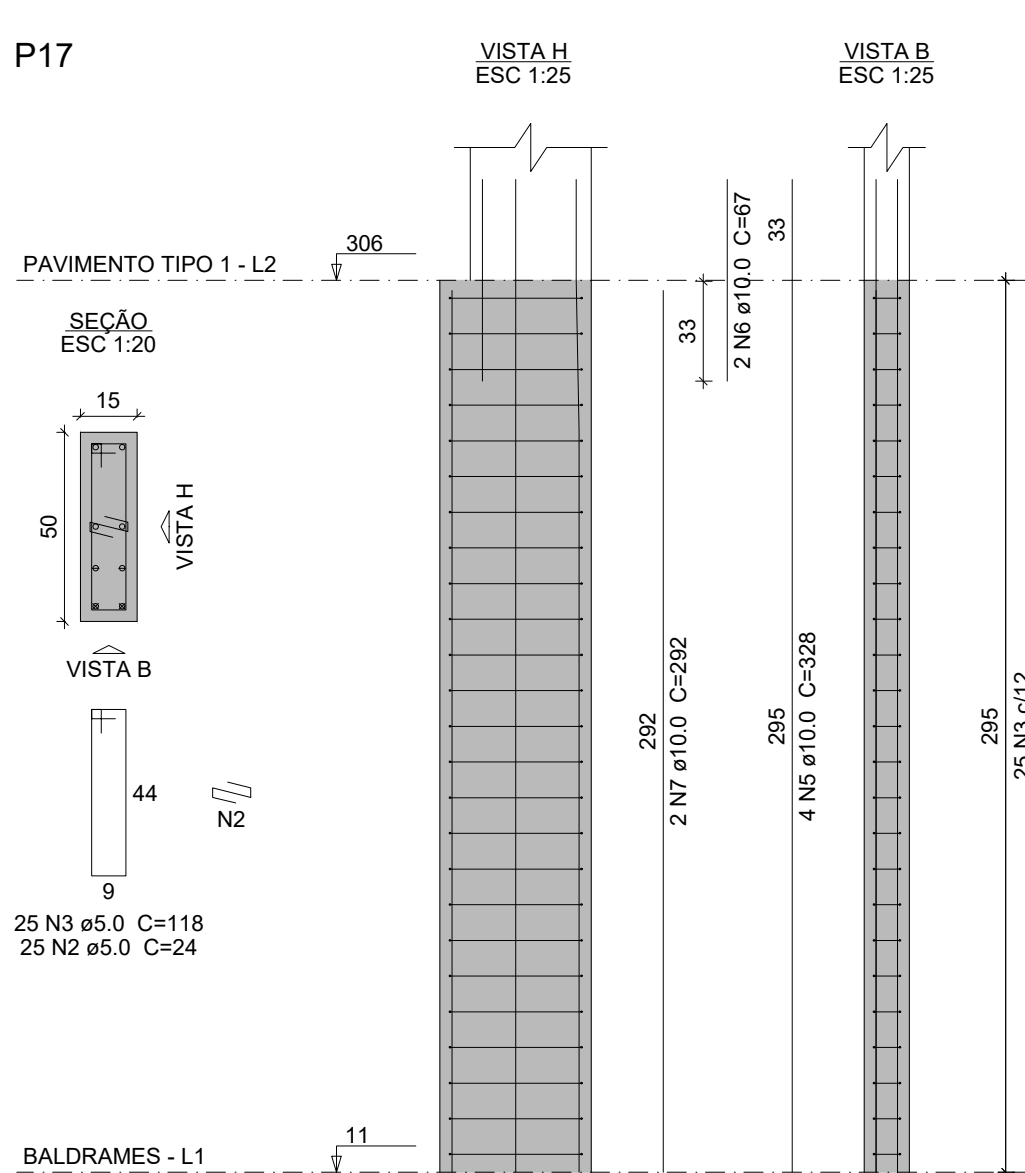
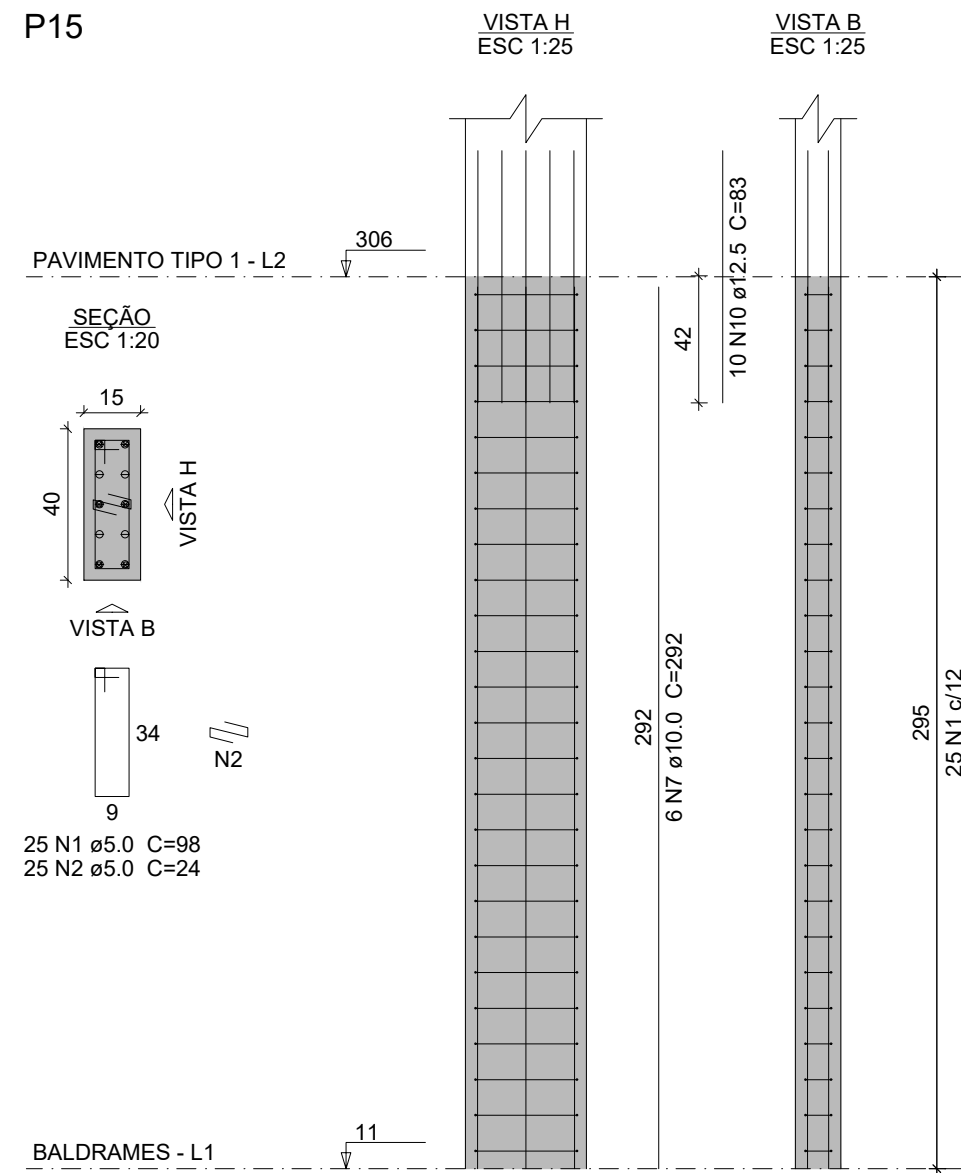
AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	335	98	32830
	2	5.0	400	24	9600
	3	5.0	165	118	19470
	4	5.0	120	24	2880
	5	10.0	60	328	19680
	6	10.0	14	67	938
	7	10.0	36	292	10512
	8	12.5	10	292	2920
	9	12.5	26	337	8762
	10	12.5	40	83	3320

### Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	10.0	311.3	211.1
CA60	12.5	150.1	159
	5.0	647.8	109.8

Volume de concreto (C-30) = 4.03 m³

Área de forma = 72.28 m²

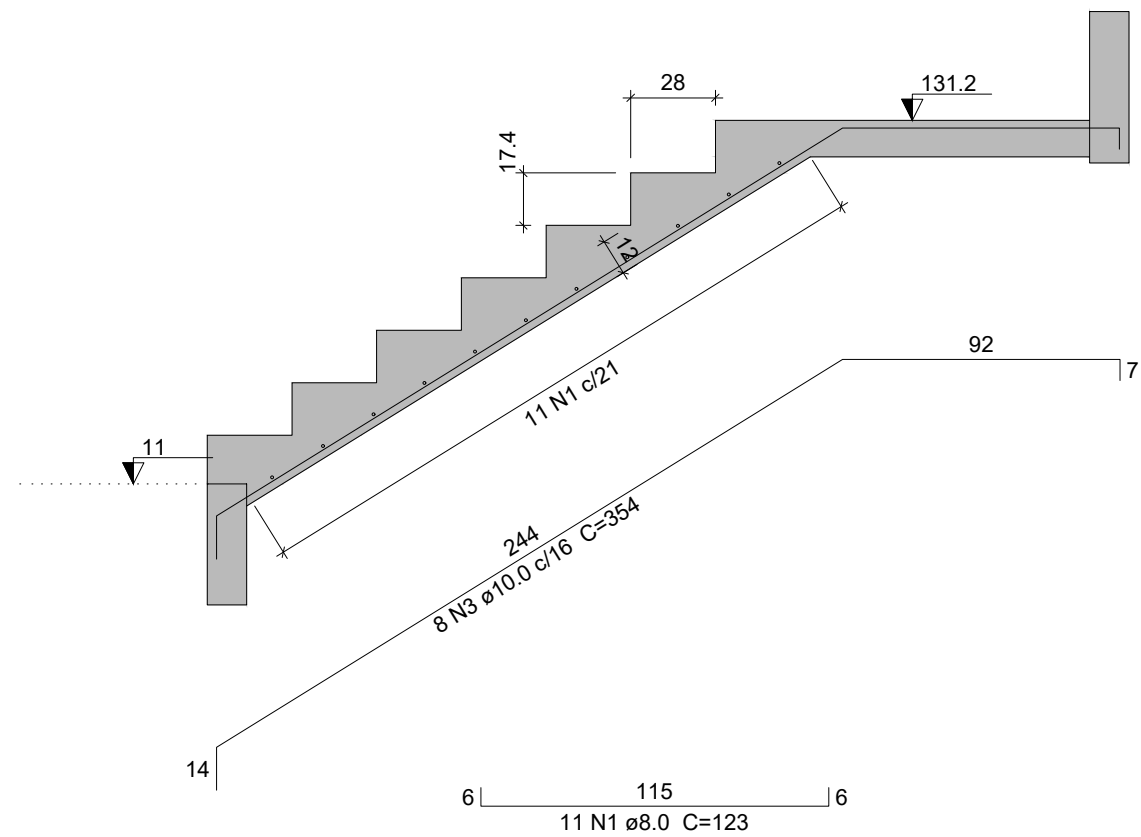
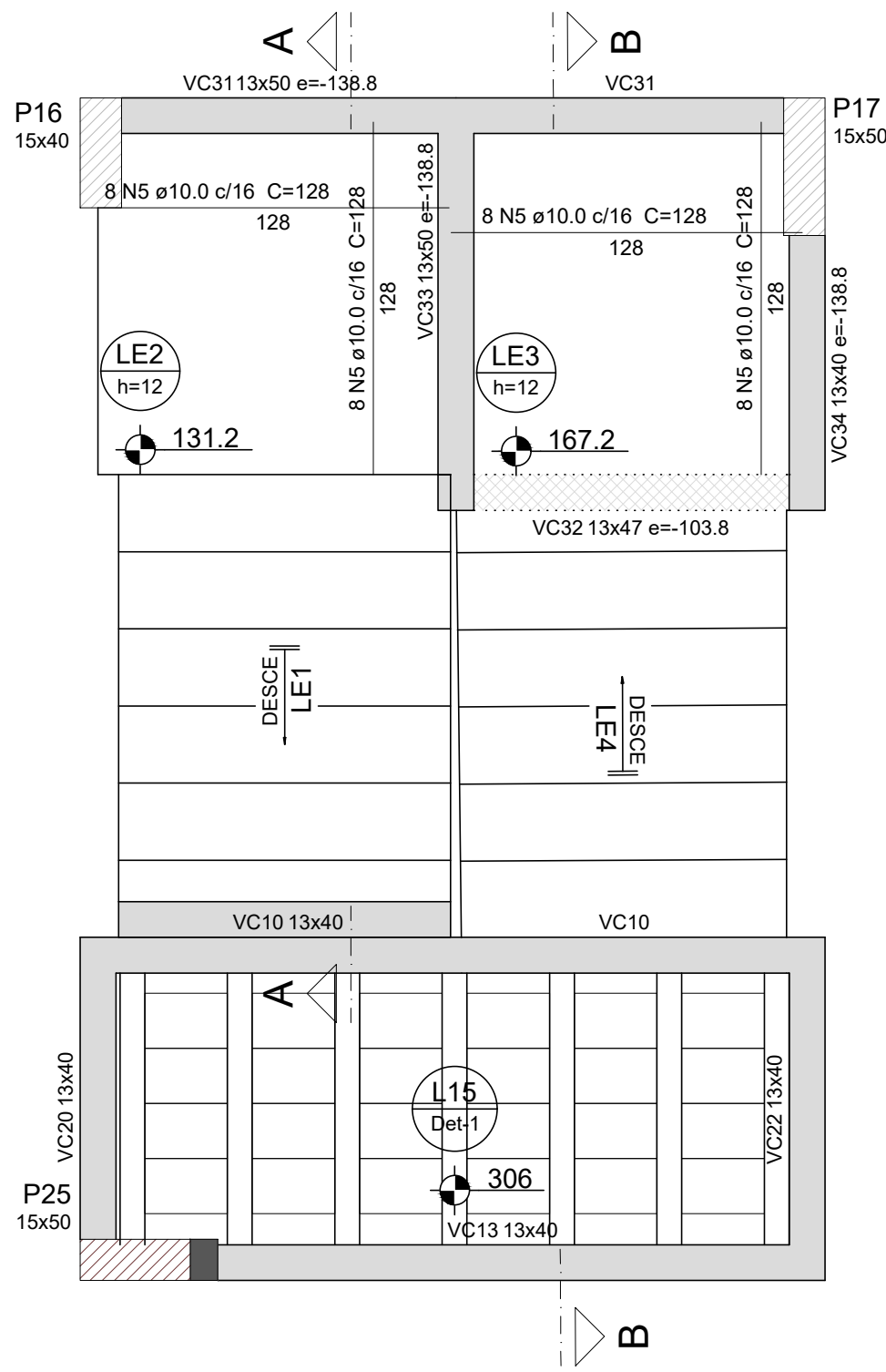


00	Emissão inicial	Geisa	14/09/2020
NÚMERO	MODIFICAÇÃO	NOME	DATA

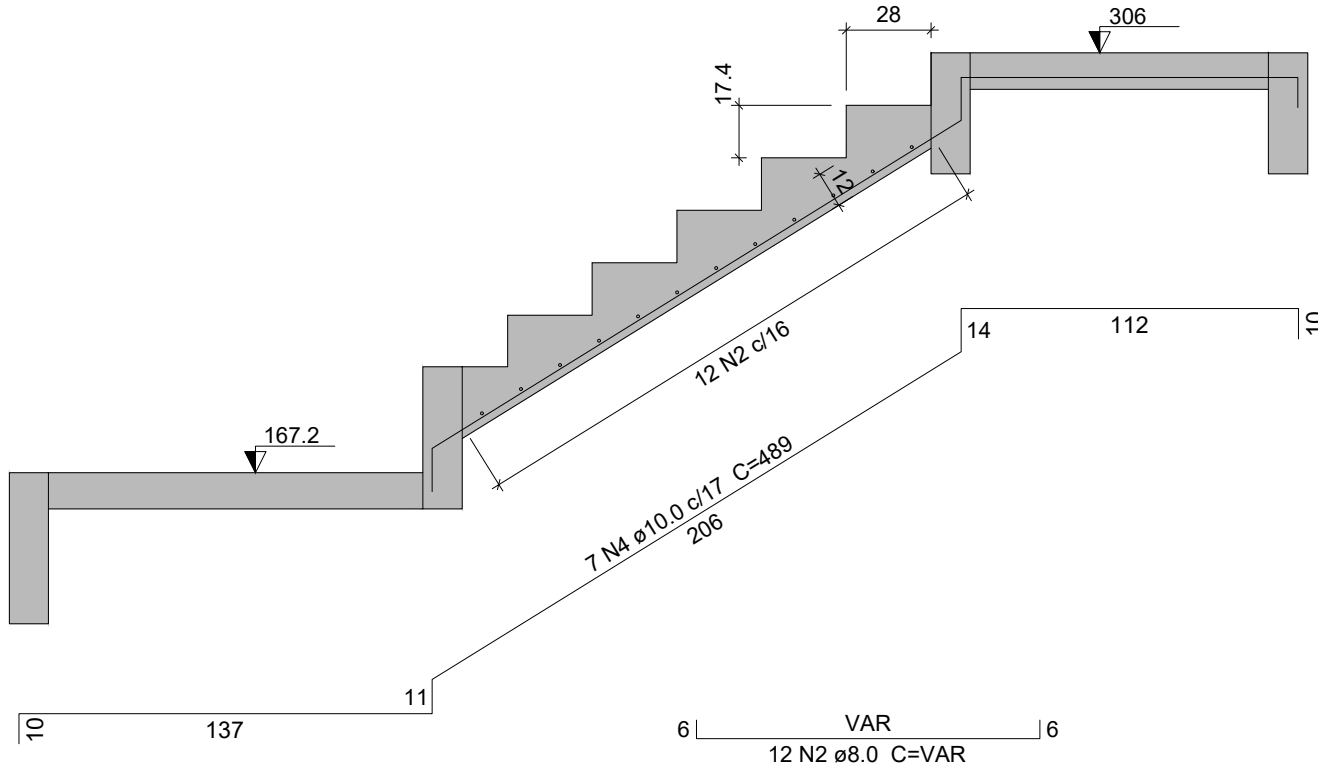
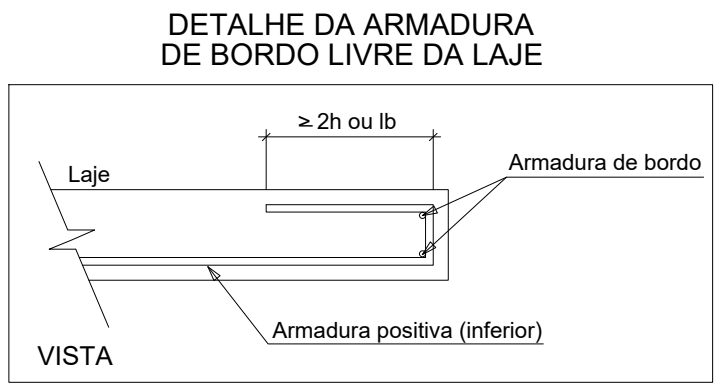
Obs: Caso divergência entre cota e escala, prevalece a cota.

## Edificação em alvenaria - Residencial Multifamiliar

Prancha: Formas / Pilares pavt. tipo 1	
Responsável técnico: Geisa Marques	
Obra: Edificação em alvenaria - Residencial Multifamiliar	
Localização: Cidade/Estado: Blumenau/Santa Catarina	
Edificação em alvenaria - Residencial Multifamiliar	
Escala INDICADA	Data 14/09/2020
Revisão 00	Projeto Estrutural
Desenho Geisa Marques	Prancha: CA-05
Nº Projeto:	



Corte A-A (LE1)  
ESC 1:25



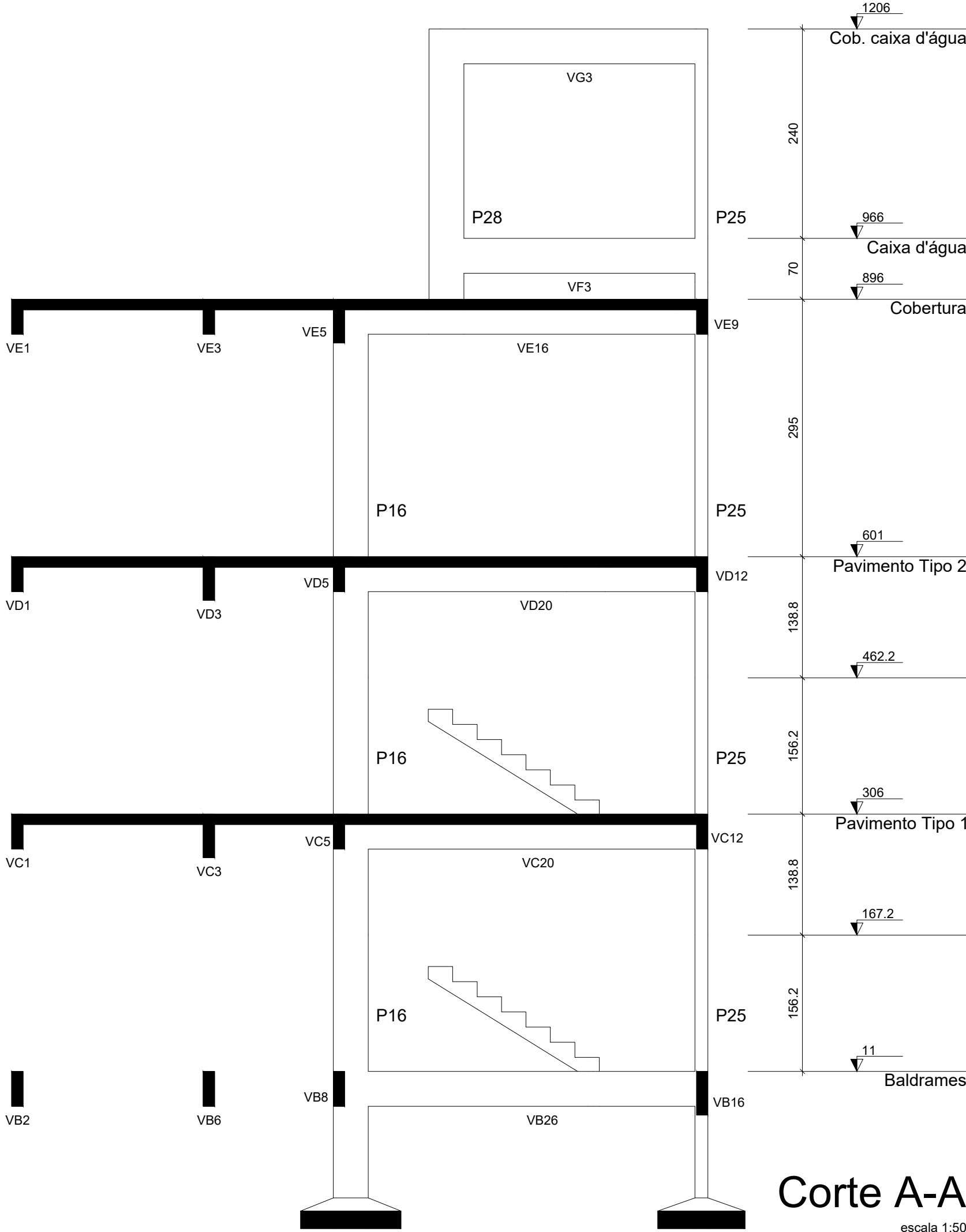
Corte B-B (LE4)  
ESC 1:25

Relação do aço					
2xLE1					
ÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA50	1	8.0	22	123	2706
	2	8.0	24	VAR	VAR
	3	10.0	16	354	5664
	4	10.0	14	489	6846
	5	10.0	64	128	8192

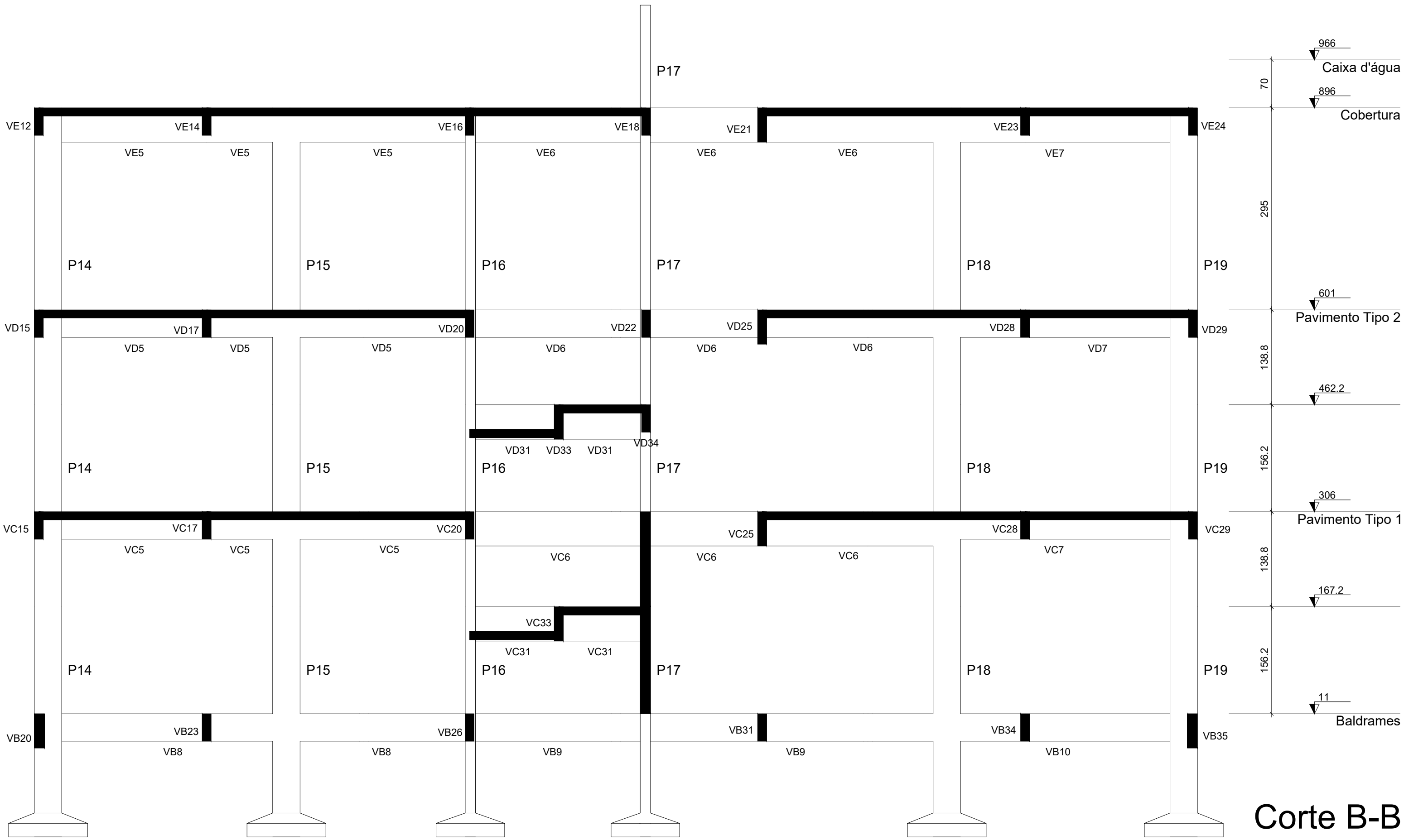
Resumo do aço				
ÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)	%
CA50	8.0	56.4	24.5	24.5
	10.0	207.1	140.4	140.4
PESO TOTAL (kg)				
CA50		164.9		

Volume de concreto (C-30) = 2.6 m³  
Área de forma = 26.44 m²

Armação positiva da escada E1  
ESC 1:25



Corte A-A  
escala 1:50



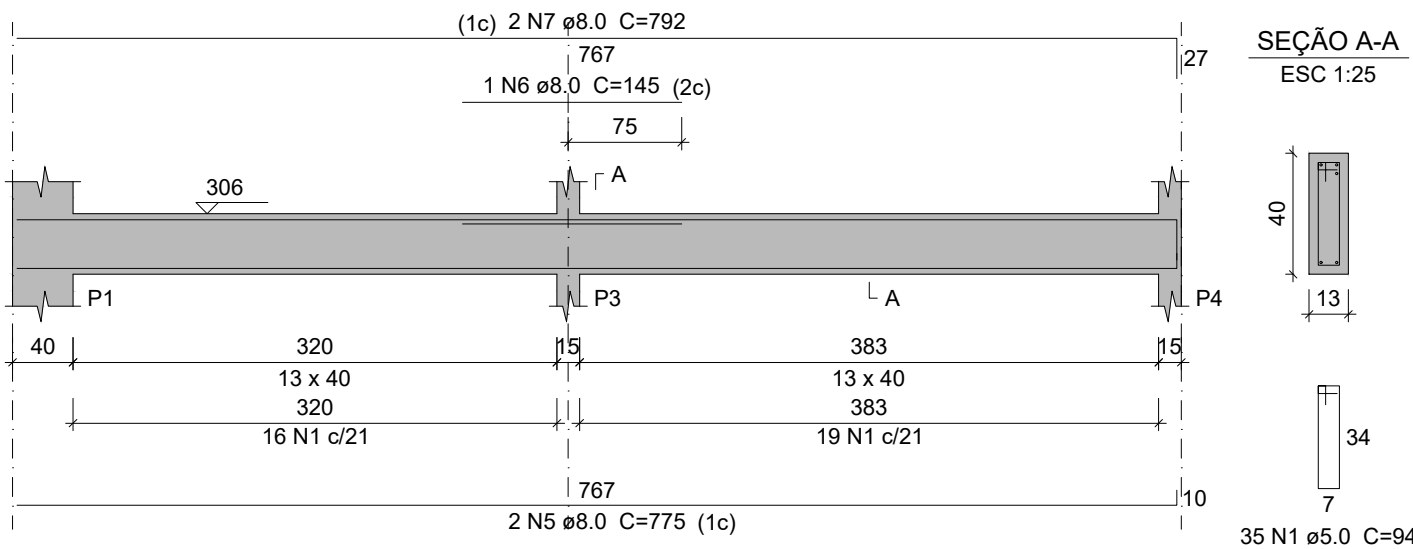
Corte B-B  
escala 1:50

00	Emissão inicial	Geisa	14/09/2020
NÚMERO	MODIFICAÇÃO	NOME	DATA
Obs: Caso divergência entre cota e escala, prevalece a cota.			
Edificação em alvenaria - Residencial Multifamiliar			
Prancha: Escada pavt. tipo 1 / pavt. tipo 2			
Responsável técnico: Geisa Marques			
Obra: Edificação em alvenaria - Residencial Multifamiliar			
Localização: Cidade/Estado: Blumenau/Santa Catarina			
Edificação em alvenaria - Residencial Multifamiliar			
Escala INDICADA	Data 14/09/2020	Revisão 00	Projeto Estrutural
Desenho Geisa Marques		Prancha: CA-06	
Nº Projeto:			



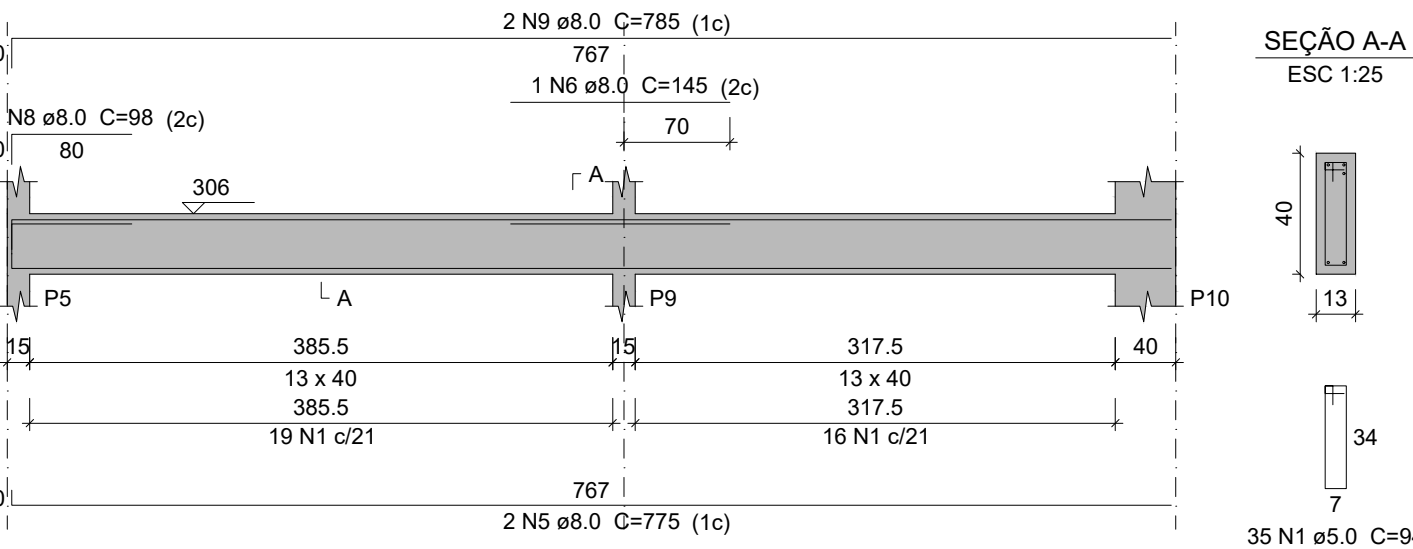
### VC1

ESC 1:50



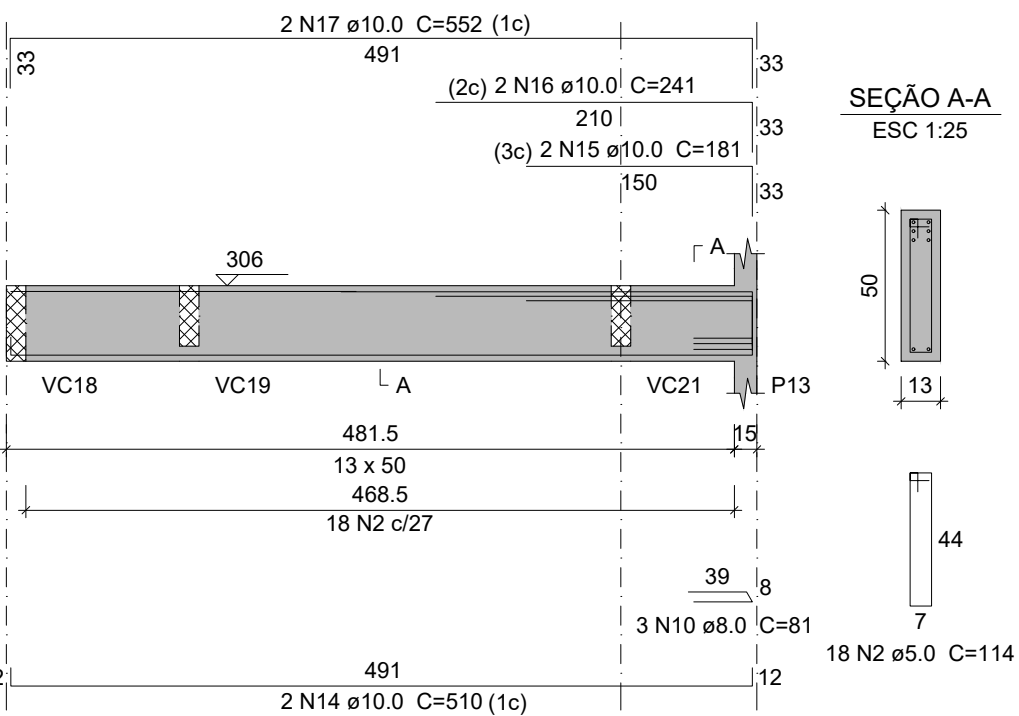
### VC2

ESC 1:50



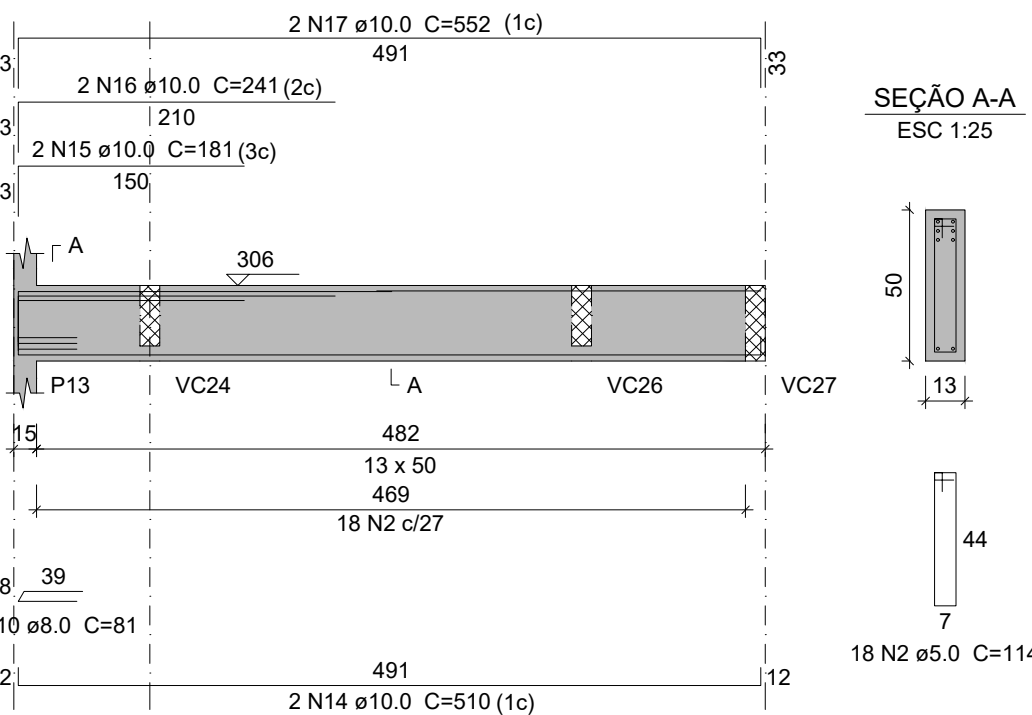
### VC3

ESC 1:50



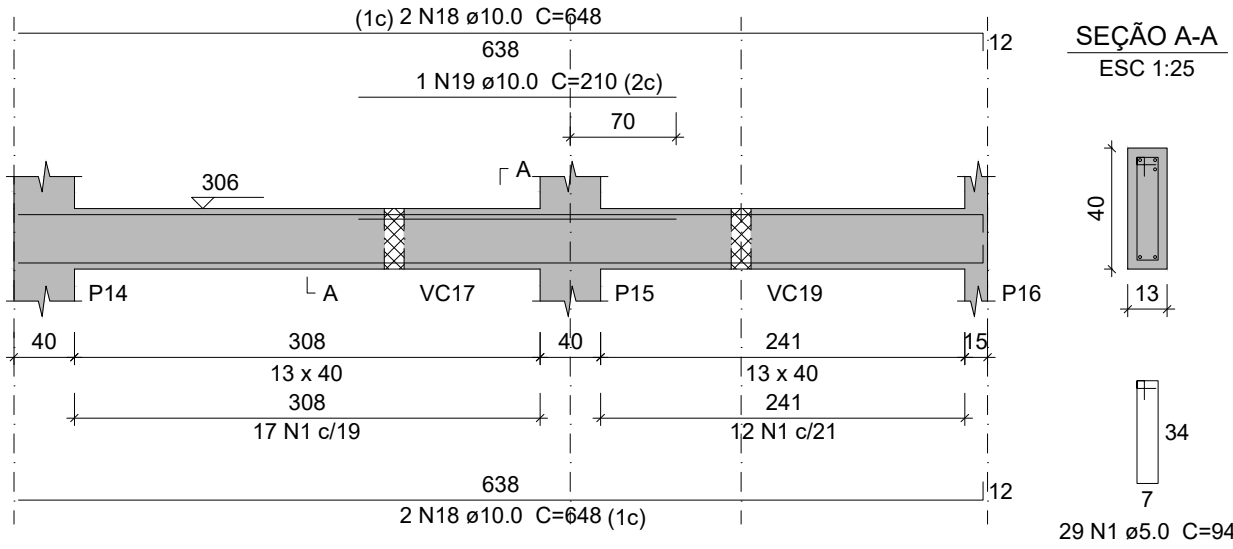
### VC4

ESC 1:50



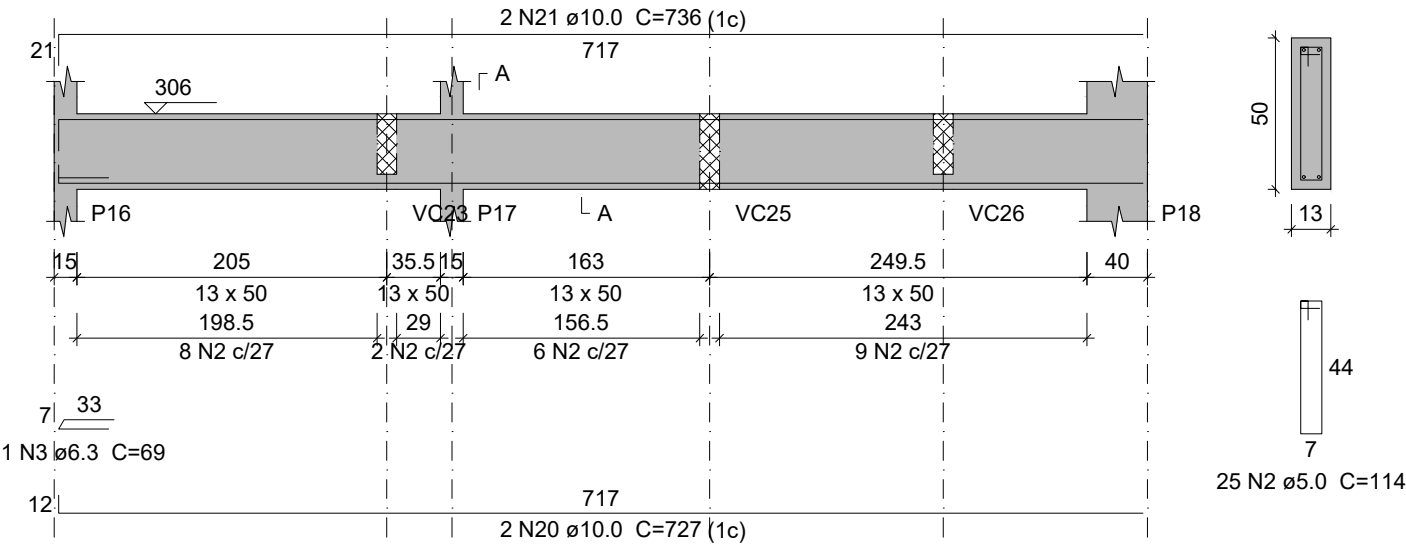
### VC5

ESC 1:50



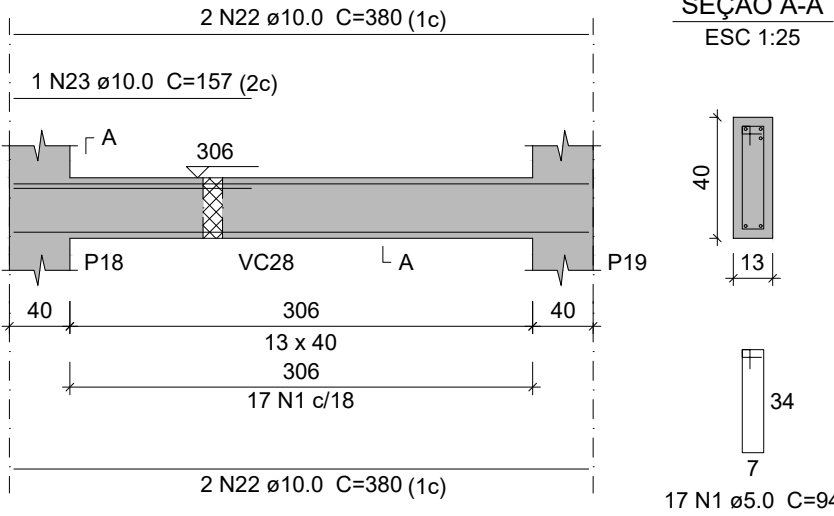
### VC6

ESC 1:50



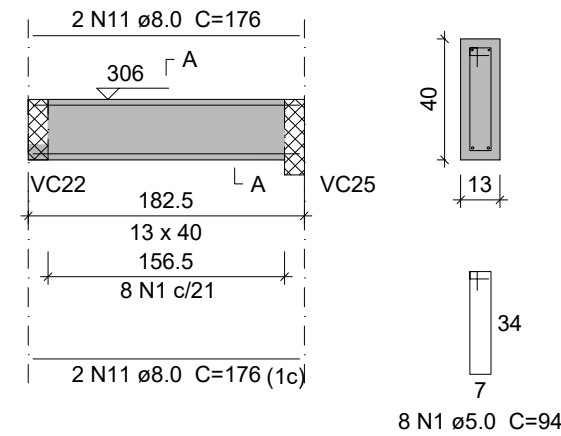
### VC7

ESC 1:50



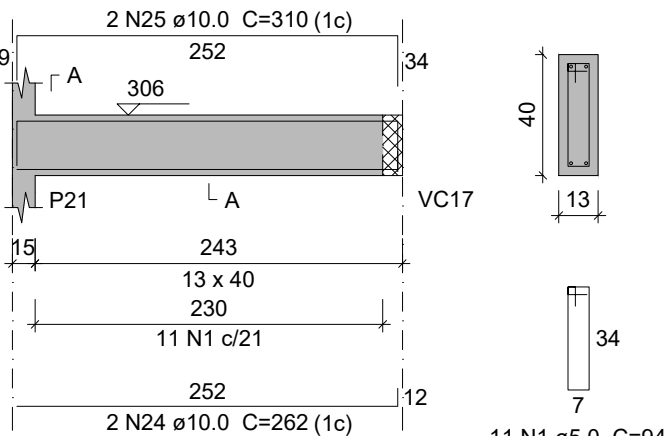
### VC8

ESC 1:50



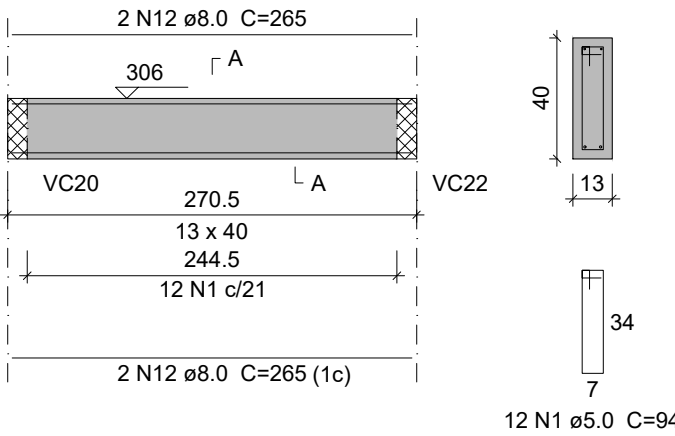
### VC9

ESC 1:50



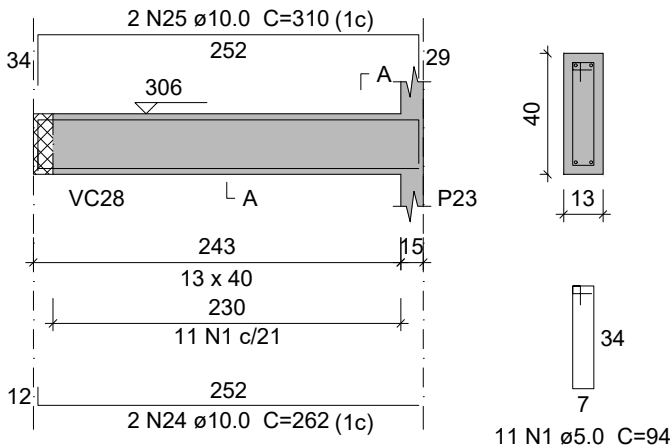
### VC10

ESC 1:50



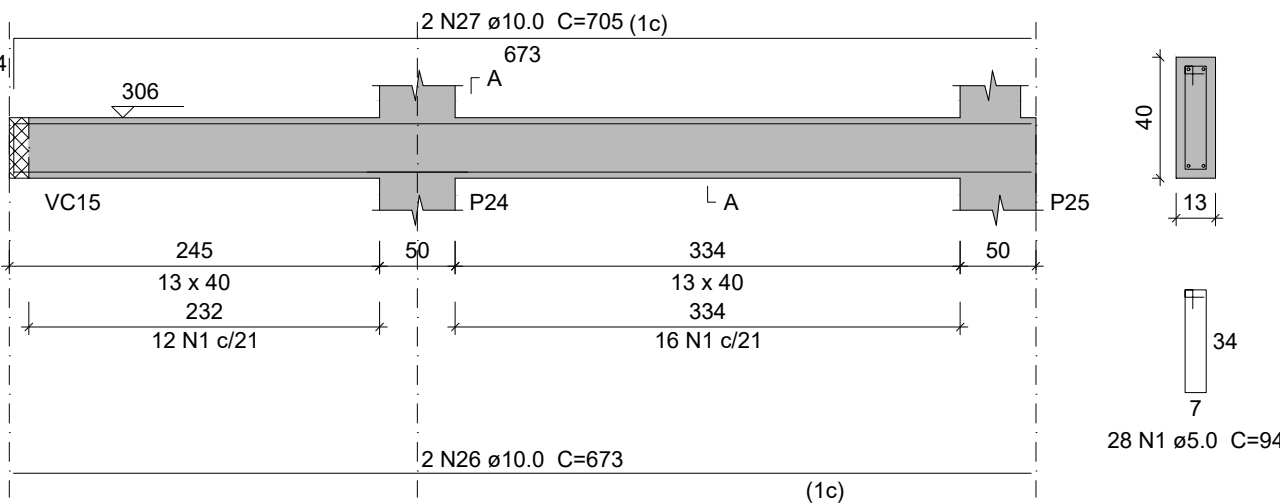
### VC11

ESC 1:50



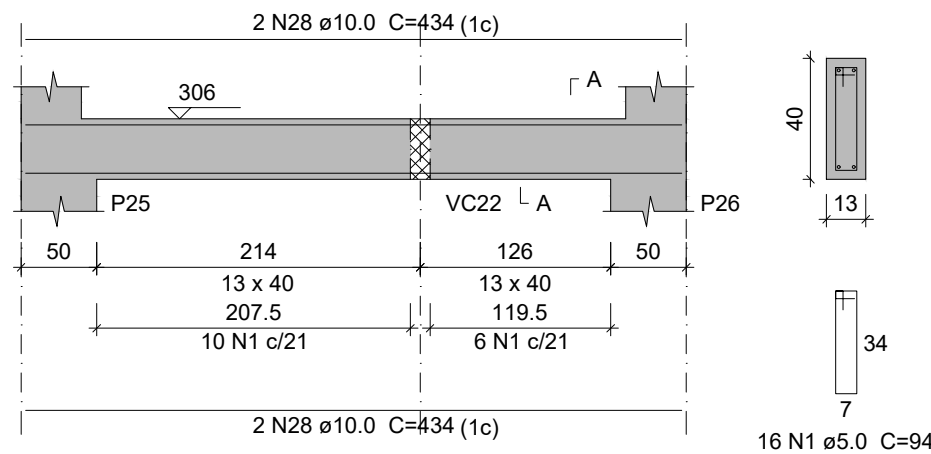
### VC12

ESC 1:50



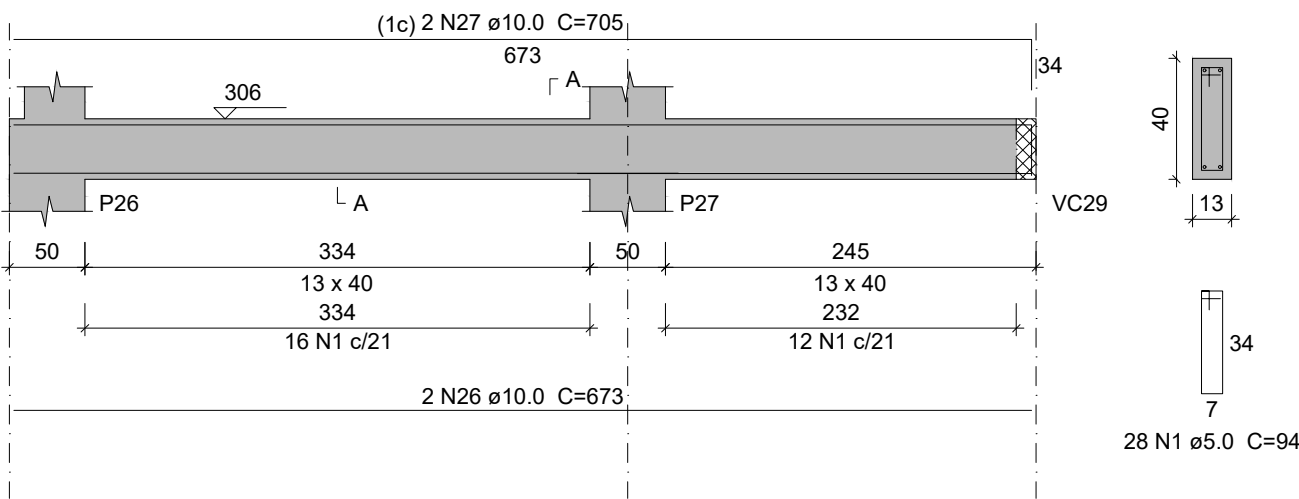
### VC13

ESC 1:50



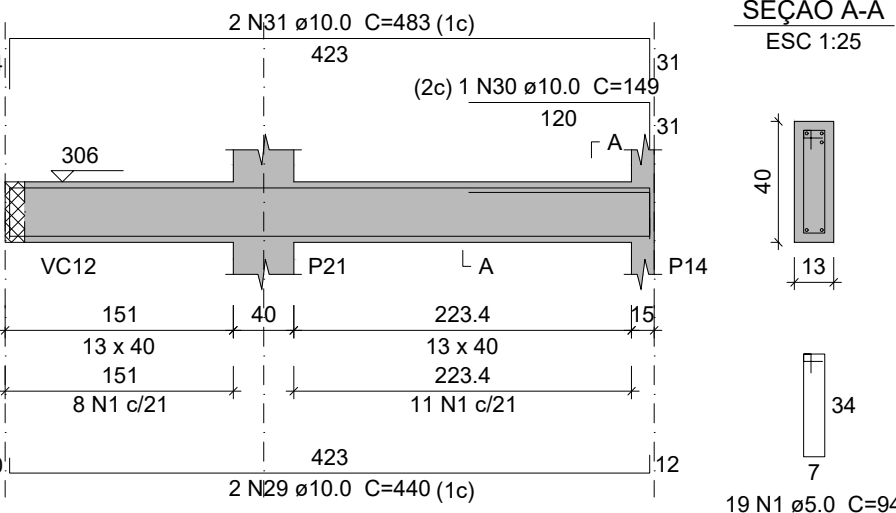
### VC14

ESC 1:50



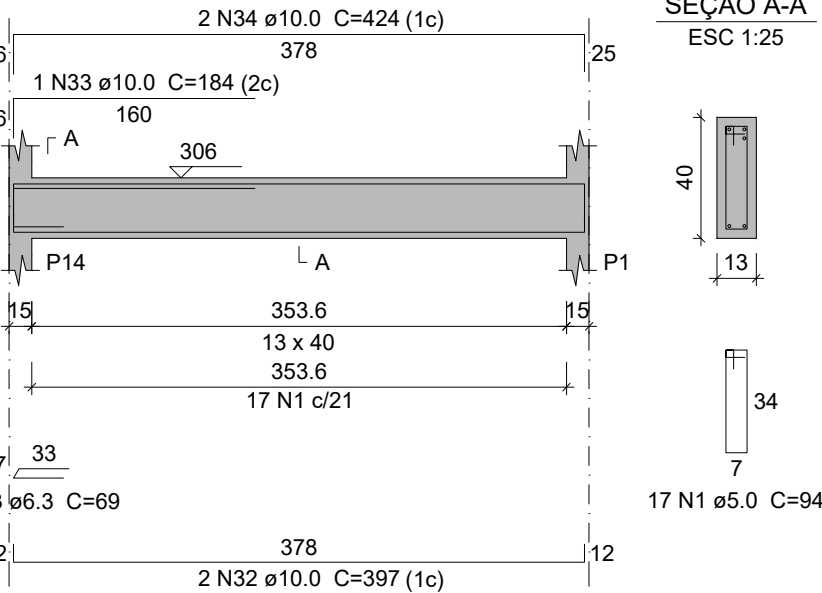
### VC15

ESC 1:50



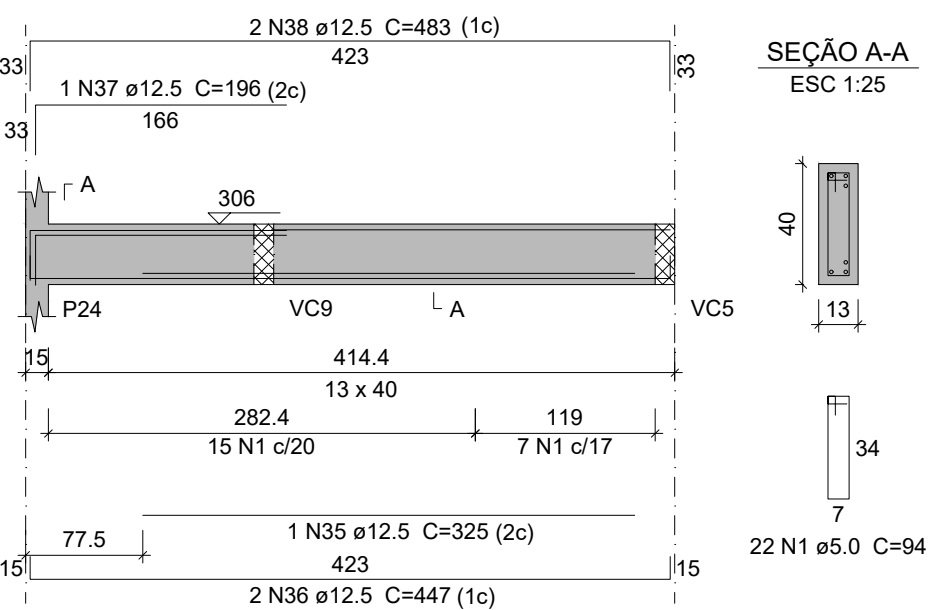
### VC16

ESC 1:50



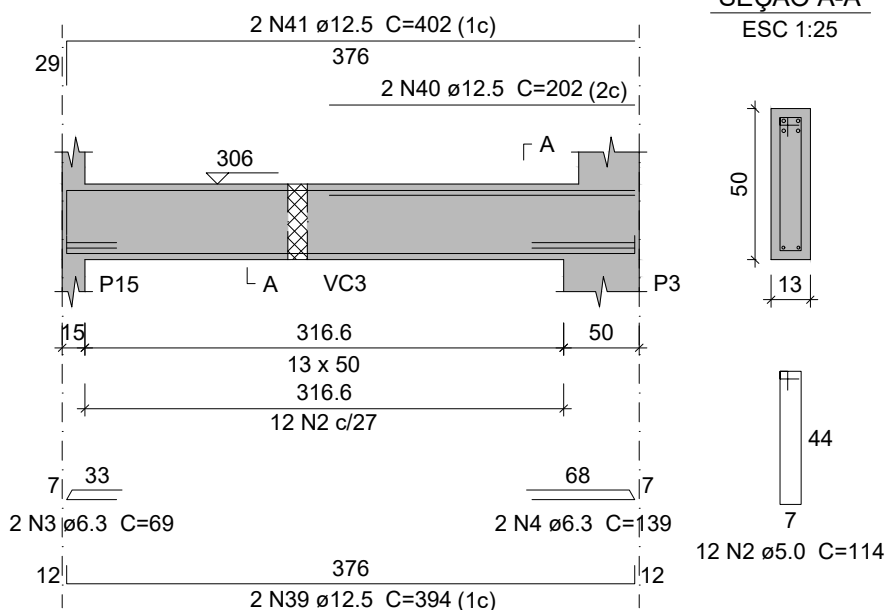
### VC17

ESC 1:50



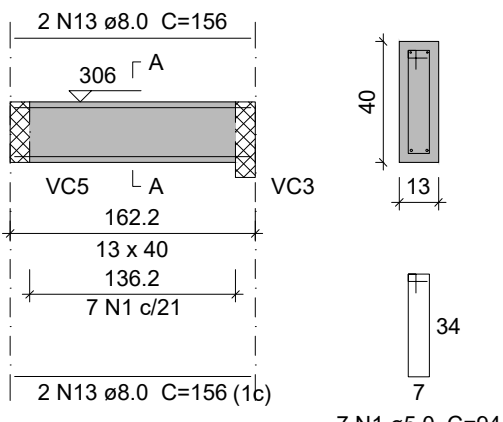
### VC18

ESC 1:50



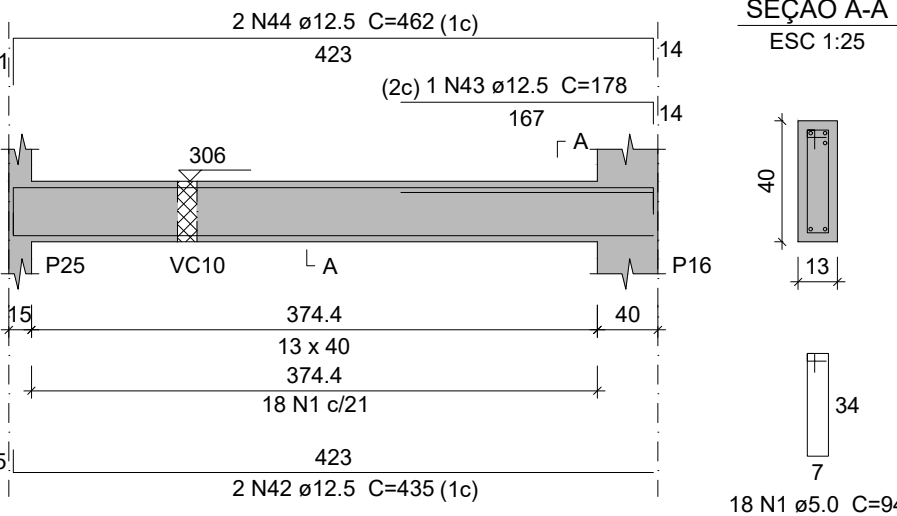
### VC19

ESC 1:50



### VC20

ESC 1:50



#### Relação do aço

VC1	VC2	VC3
VC4	VC5	VC6
VC7	VC8	VC9
VC10	VC11	VC12
VC13	VC14	VC15
VC16	VC17	VC18
VC19	VC20	

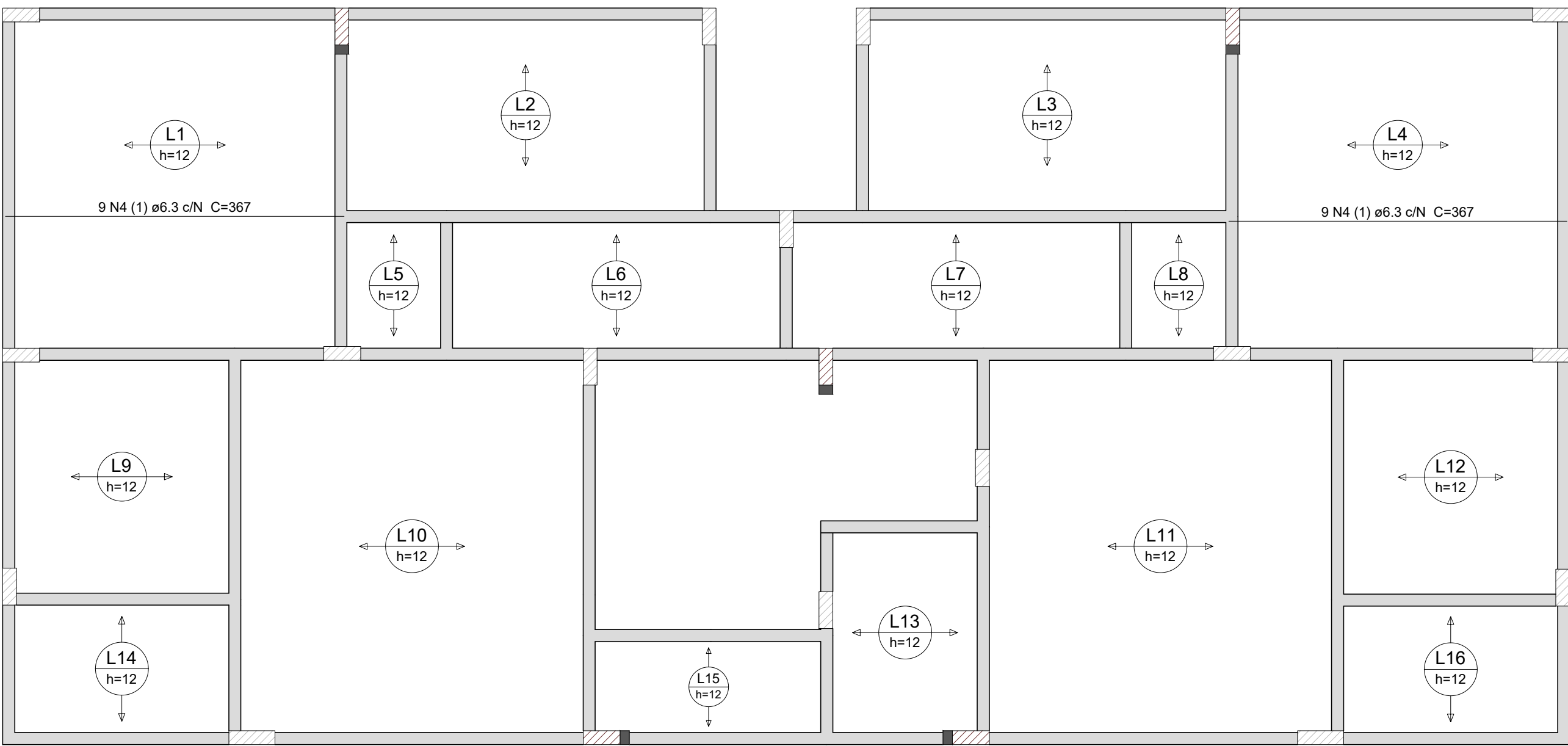
AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	313	94	29422
	2	5.0	73	114	8322
CA50	3	6.3	4	69	276
	4	6.3	2	139	278
	5	8.0	4	775	3100
	6	8.0	2	145	290
	7	8.0	2	792	1584
	8	8.0	1	98	98
	9	8.0	2	785	1570
	10	8.0	6	81	486
	11	8.0	4	176	704
	12	8.0	4	265	1060
	13	8.0	4	156	624
	14	10.0	4	510	2040
	15	10.0	4	181	724
	16	10.0	4	241	964
	17	10.0	4	552	2208
	18	10.0	4	648	2592
	19	10.0	1	210	210
	20	10.0	2	727	1454
	21	10.0	2	736	1472
	22	10.0	4	380	1520
	23	10.0	1	157	157
	24	10.0	4	262	1048
	25	10.0	4	310	1240
	26	10.0	4	673	2692
	27	10.0	4	705	2820
	28	10.0	4	434	1736
	29	10.0	2	440	880
	30	10.0	1	149	149
	31	10.0	2	483	966
	32	10.0	2	397	794
	33	10.0	1	164	164
	34	10.0	2	424	848
	35	12.5	1	325	325
	36	12.5	2	447	894
	37	12.5	1	196	196
	38	12.5	2	483	966
	39	12.5	2	394	788
	40	12.5	2	202	404
	41	12.5	2	402	804
	42	12.5	2	435	870
	43	12.5	1	178	178
	44	12.5	2	462	924

#### Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6.3	5.6	1.5
	8.0	95.2	41.3
	10.0	267	181.1
	12.5	63.5	67.3
CA60	5.0	377.5	64
PESO TOTAL (kg)			
CA50		291.1	
CA60		64	

Volume de concreto (C-30) = 5.1 m³  
Área de forma = 90.45 m²

00	Emissão inicial	Geisa	14/09/2020
NÚMERO	MODIFICAÇÃO	NOME	DATA
Obs: Caso divergência entre cota e escala, prevalece a cota.			
Edificação em alvenaria - Residencial Multifamiliar			
Prancha: Vigas pavt. tipo 1			
Responsável técnico: Geisa Marques			
Obra: Edificação em alvenaria - Residencial Multifamiliar			
Localização: Cidade/Estado: Blumenau/Santa Catarina			
Edificação em alvenaria - Residencial Multifamiliar			
Escala INDICADA	Data 14/09/2020	Revisão 00	Projeto Estrutural
Desenho Geisa Marques		Prancha: CA-07	
Nº Projeto:			

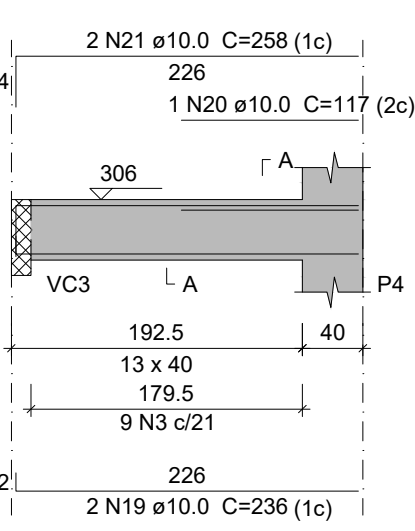


Armação positiva das lajes do pavimento Pavimento Tipo 1 (Eixo X)

escala 1:50

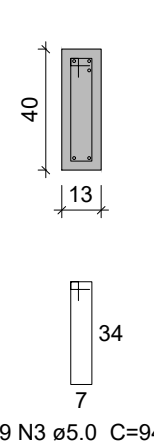
VC21

ESC 1:50



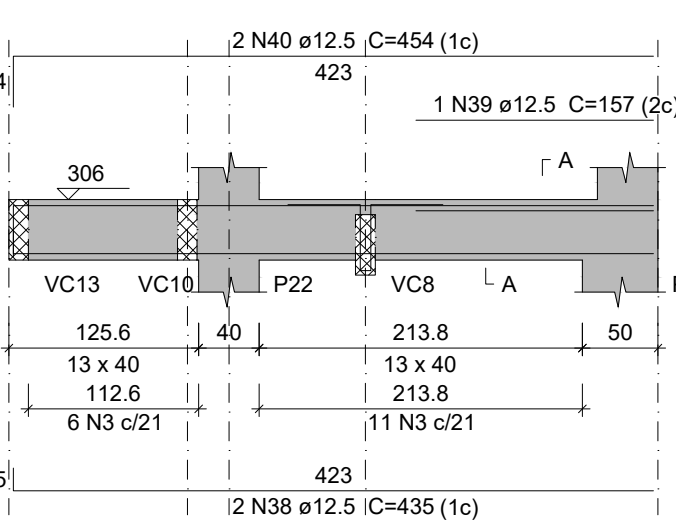
SEÇÃO A-A

ESC 1:25



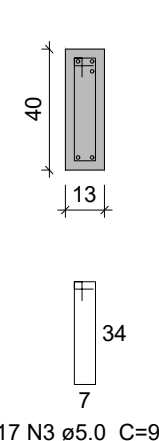
VC22

ESC 1:50



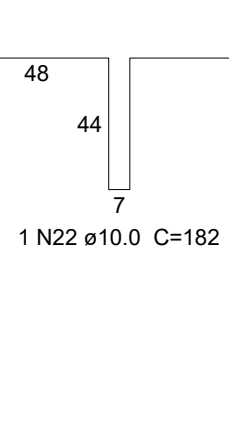
SEÇÃO A-A

ESC 1:25



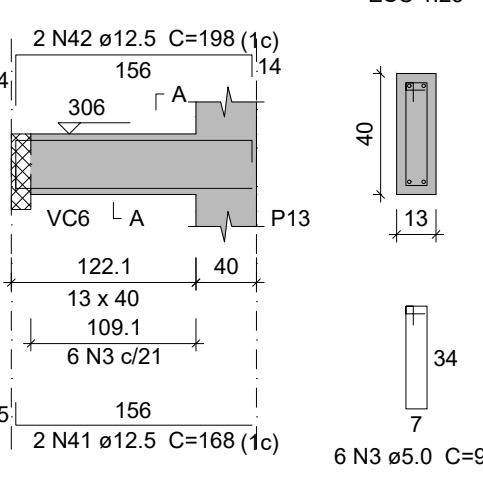
SUSPENSÃO VC8

ESC 1:25



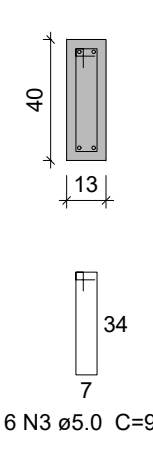
VC23

ESC 1:50



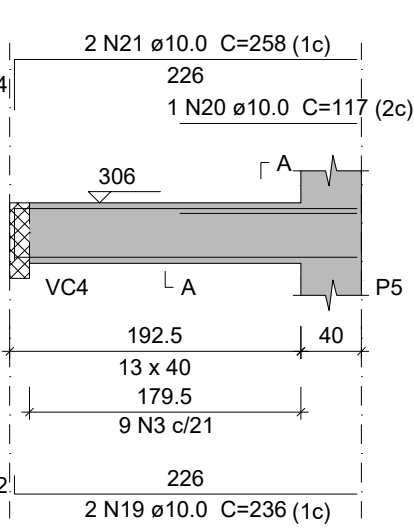
SEÇÃO A-A

ESC 1:25



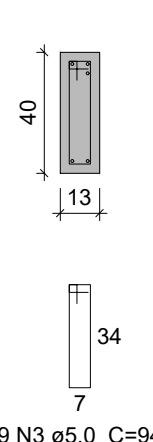
VC24

ESC 1:50



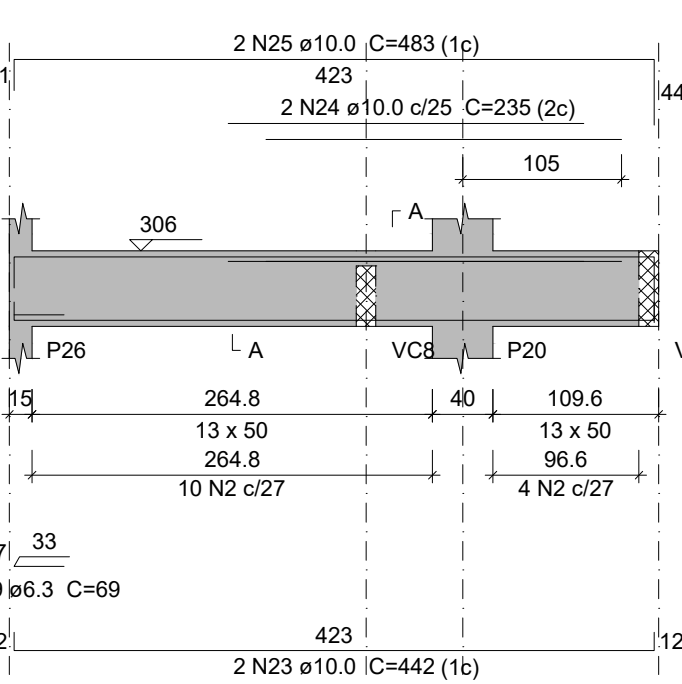
SEÇÃO A-A

ESC 1:25



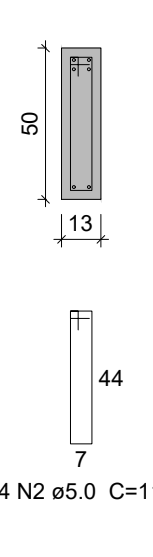
VC25

ESC 1:50



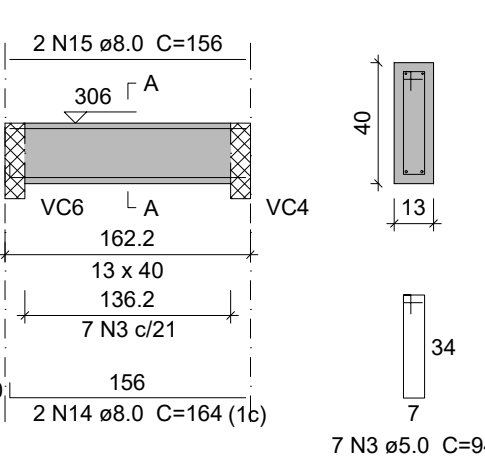
SEÇÃO A-A

ESC 1:25



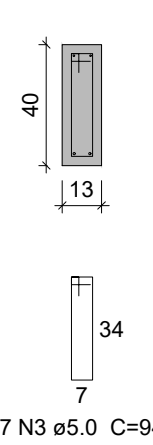
VC26

ESC 1:50



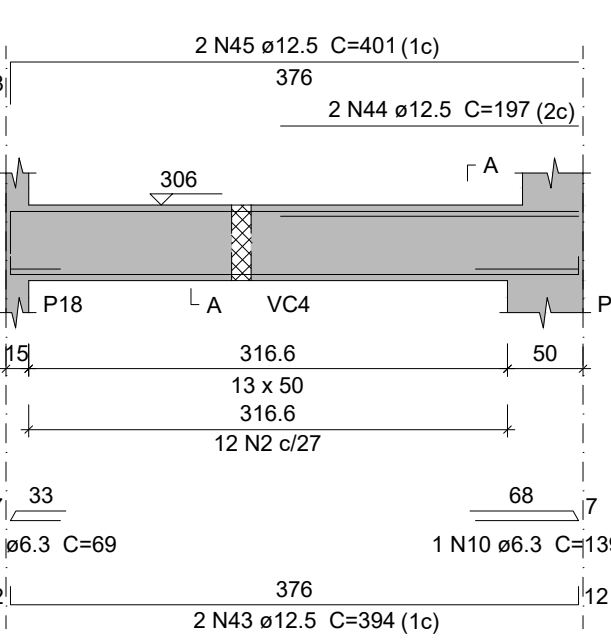
SEÇÃO A-A

ESC 1:25



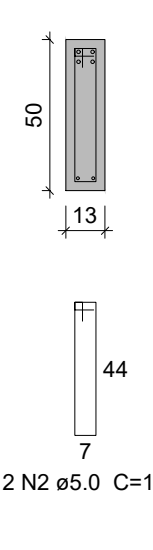
VC27

ESC 1:50



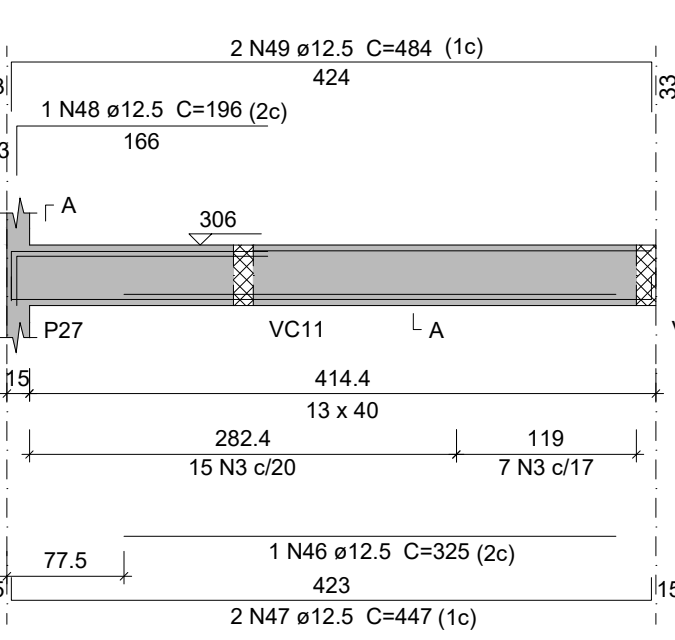
SEÇÃO A-A

ESC 1:25



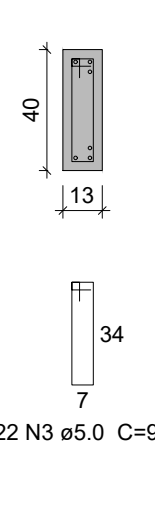
VC28

ESC 1:50



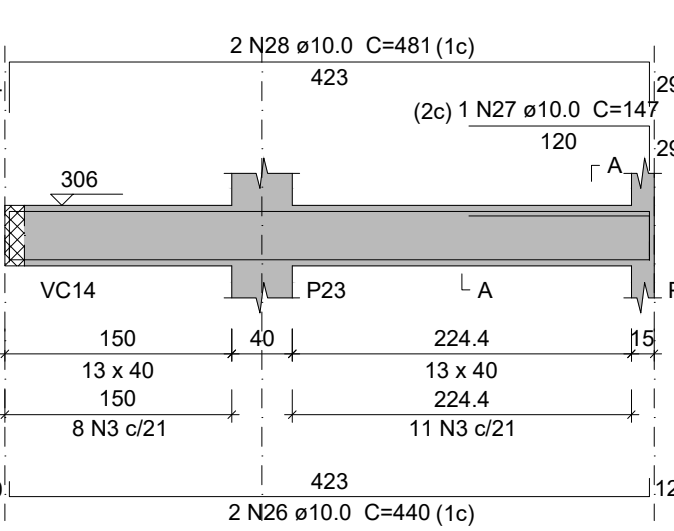
SEÇÃO A-A

ESC 1:25



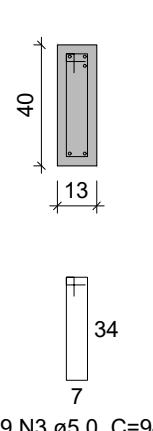
VC29

ESC 1:50



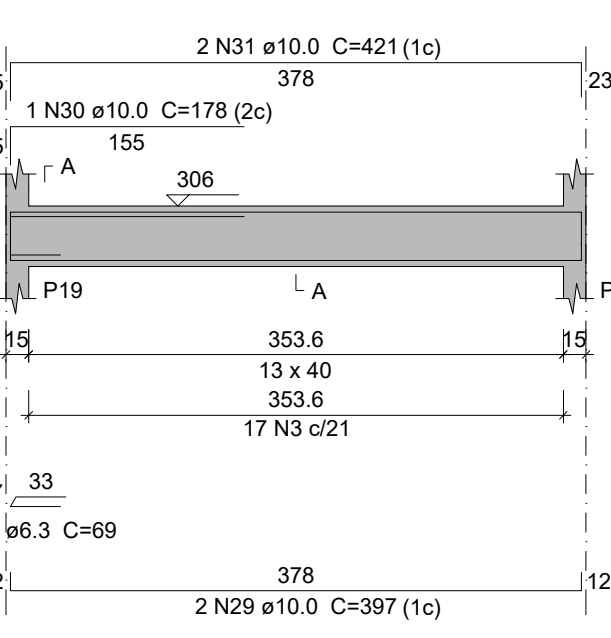
SEÇÃO A-A

ESC 1:25



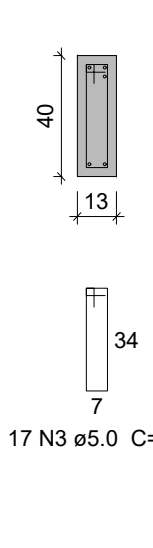
VC30

ESC 1:50



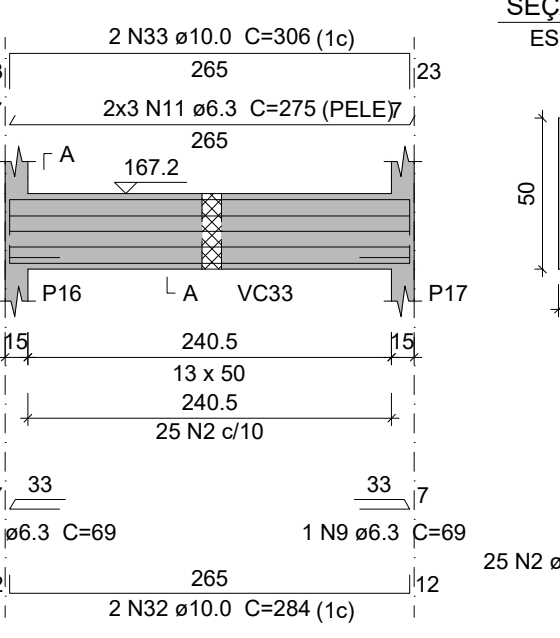
SEÇÃO A-A

ESC 1:25



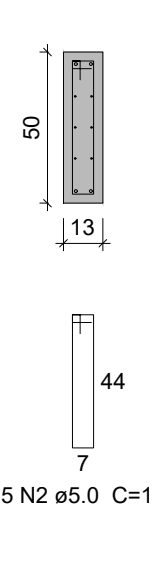
VC31

ESC 1:50



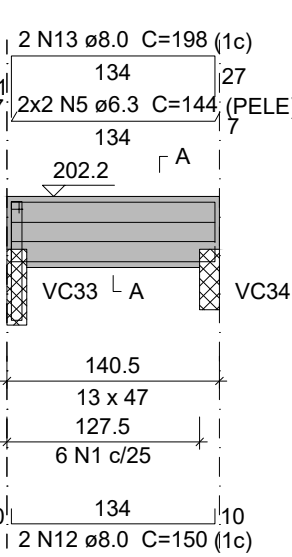
SEÇÃO A-A

ESC 1:25



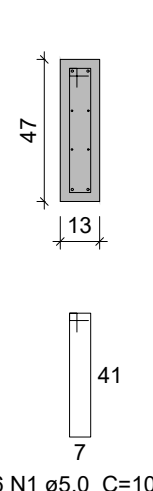
VC32

ESC 1:50



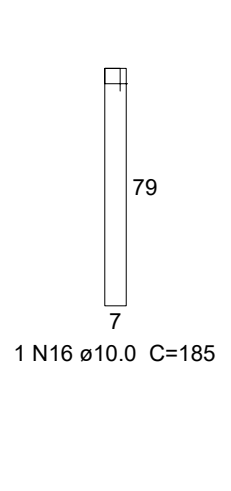
SEÇÃO A-A

ESC 1:25



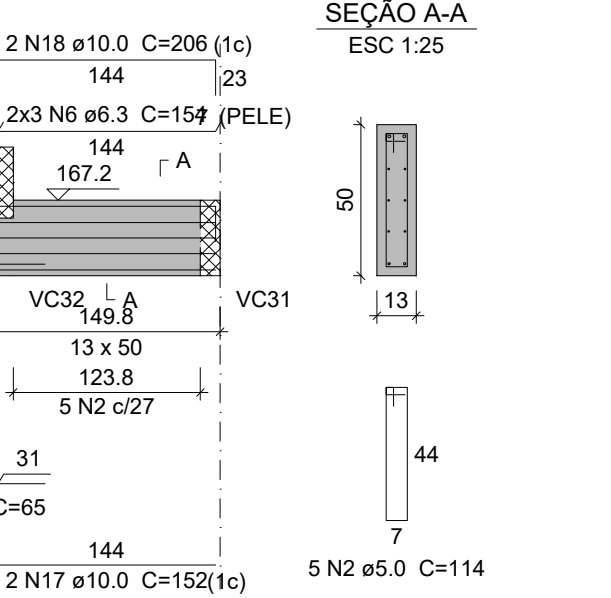
SUSPENSÃO VC33

ESC 1:25



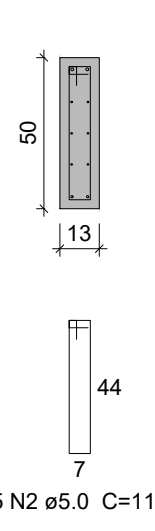
VC33

ESC 1:50



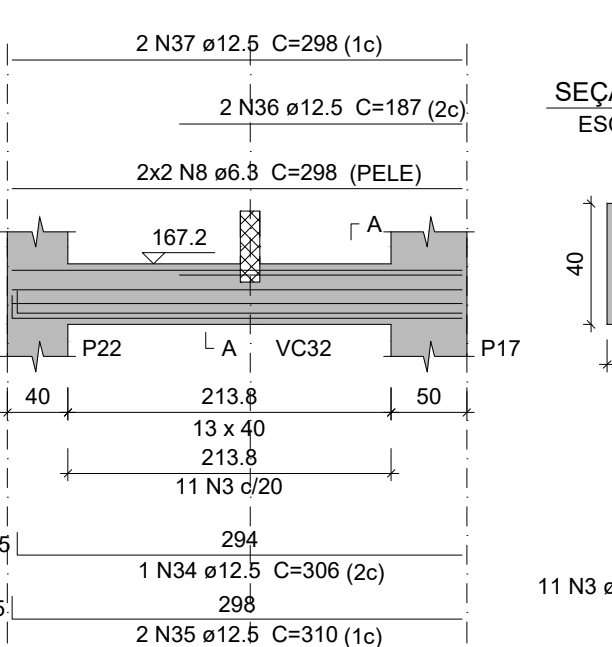
SEÇÃO A-A

ESC 1:25



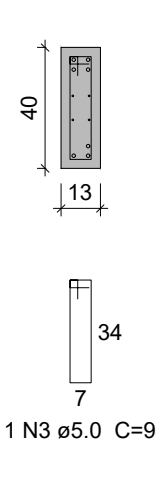
VC34

ESC 1:50



SEÇÃO A-A

ESC 1:25



Relação do aço

Positivos X		VC21	VC22	VC23	VC24	VC25	VC26	VC27	VC28	VC29	VC30	VC31	VC32	VC33	VC34
ÁÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)	C.UNIT (cm)	C.TOTAL (cm)	C.UNIT (cm)	C.TOTAL (cm)	C.UNIT (cm)	C.TOTAL (cm)	C.UNIT (cm)	C.TOTAL (cm)	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	6	108	648	108	648	108	648	108	648	108	648	108	648
	2	5.0	56	114	6384	114	6384	114	6384	114	6384	114	6384	114	6384
	3	5.0	117	94	10998	94	10998	94	10998	94	10998	94	10998	94	10998
	4	6.3	18	367	6606	367	6606	367	6606	367	6606	367	6606	367	6606
	5	6.3	4	144	576	144	576	144	576	144	576	144	576	144	576
	6	6.3	6	154	924	154	924	154	924	154	924	154	924	154	924
	7	6.3	1	65	65	65	65	65	65	65	65	65	65	65	65
	8	6.3	4	298	1192	298	1192	298	1192	298	1192	298	1192	298	1192
	9	6.3	5	69	345	69	345	69	345	69	345	69	345	69	345
	10	6.3	1	139	139	139	139	139	139	139	139	139	139	139	139
CA50	11	6.3	6	275	1650	275	1650	275	1650	275	1650	275	1650	275	1650
	12	8.0	2	150	300	150	300	150	300	150	300	150	300	150	300
	13	8.0	2	198	396	198	396	198	396	198	396	198	396	198	396
	14	8.0	2	164	328	164	328	164	328	164	328	164	328	164	328
	15	8.0	2	156	312	156	312	156	312	156	312	156	312	156	312
	16	10.0	1	185	185	185	185	185	185	185	185	185	185	185	185
	17	10.0	2	152	304	152	304	152	304	152	304	152	304	152	304
	18	10.0	2	206	412	206	412	206	412	206	412	206	412	206	412
	19	10.0	4	236	944	236	944	236	944	236	944	236	944	236	944
	20	10.0	2	117	234	117	234	117	234	117	234	117	234	117	234
	21	10.0	4	258	1032	258	1032	258	1032	258	1032	258	1032	258	1032
	22	10.0	1	182	182	182	182	182	182	182	182	182	182	182	182
	23	10.0	2	442	884	442	884	442	884	442	884	442	884	442	884
	24	10.0	2	235	470	235	470	235	470	235	470	235	470	235	470
	25	10.0	2	483	966	483	966	483	966	483	966	483	966	483	966
	26	10.0	2	440	880	440	880	440	880	440	880	440	880	440	880
	27	10.0	1	147	147	147	147	147	147	147	147	147	147	147	147
	28	10.0	2	481	962	481	962	481	962	481	962	481	962	481	962
	29	10.0	2	397	794	397	794	397	794	397	794	397	794	397	794
	30	10.0	1	178	178	178	178	178	178	178	178	178	178	178	178
	31	10.0	2	421	842	421	842	421	842	421	842	421	842	421	842
	32	10.0	2	284	568	284	568	284	568	284	568	284	568	284	568
	33	10.0	2	306	612	306	612	306	612	306	612	306	612	306	612
	34	12.5	1	306	306	306	306	306	306	306	306	306	306	306	306
	35	12.5	2	310	620	310	620	310	620	310	620	310	620	310	620
	36	12.5	2	187	374	187	374	187	374	187	374	187	374	187	374
	37	12.5	2	298	596	298	596	298	596	298	596	298	596	298	596
	38	12.5	2	435	870	435	870	435	870	435	870	435	870	435	870
	39	12.5	1	157	157	157	157	157	157	157	157	157	157	157	157
	40	12.5	2	454	908	454	908	454	908	454	908	454	908	454	908
	41	12.5	2	168	336	168	336	168	336	168	336	168	336	168	336
	42	12.5	2	198	396	198	396	198	396	198	396	198	396	198	396
	43	12.5	2	394	788	394	788	394	788	394	788	394	788	394	788
	44	12.5	2	197	394	197	394	197	394	197	394	197	394	197	394
	45	12.5	2	401	802	401	802	401	802	401	802	401	802	401	802
	46	12.5	1	325	325	325	325	325	325	325	325	325	325	325	325
	47	12.5	2	447	894	447	894	447	894	447	894	447	894	447	894
	48	12.5	1	196	196	196	196	196	196	196	196	196	196	196	196
	49	12.5	2	484	968	484	968	484	968	484	968	484	968	484	968

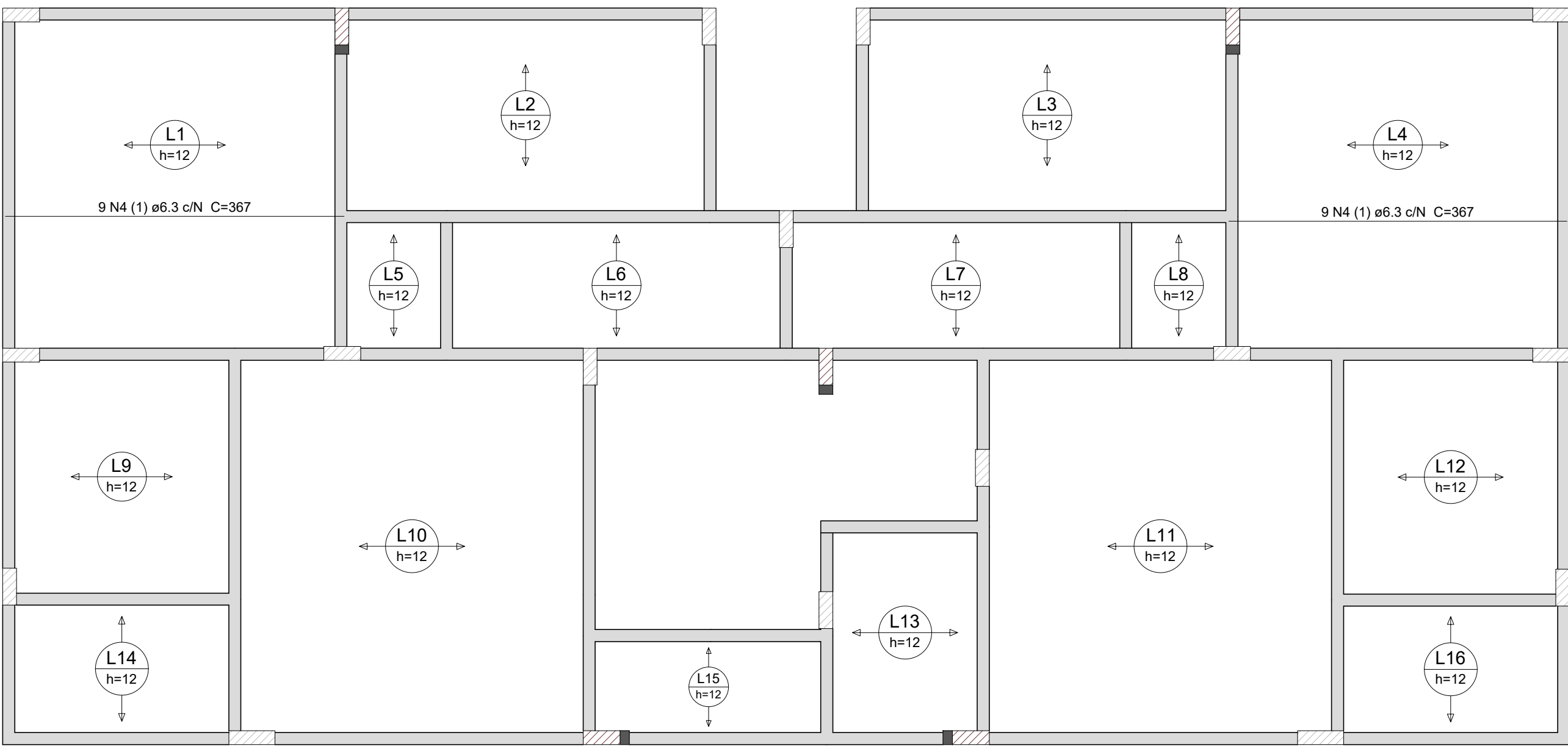
Resumo do aço

ÁÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6.3	115	30.9
	8.0	13.4	5.8
	10.0	106	71.9
	12.5	89.3	94.6
CA60	5.0	180.3	30.6
PESO TOTAL (kg)		203.2	
CA50		203.2	
CA60		30.6	

Volume de concreto (C-30) = 7.86 m³  
Área de forma = 41.13 m²

00	Emissão inicial	Geisa	14/09/2020
NÚMERO	MODIFICAÇÃO	NOME	DATA
Obs: Caso divergência entre cota e escala, prevalece a cota.			
Edificação em alvenaria - Residencial Multifamiliar			
Prancha: Lajes / Vigas pavt. tipo 1			
Responsável técnico: Geisa Marques			
Obra: Edificação em alvenaria - Residencial Multifamiliar			
Localização: Cidade/Estado: Blumenau/Santa Catarina			
Edificação em alvenaria - Residencial Multifamiliar			
Escala INDICADA	Data 14/09/2020	Revisão 00	Projeto Estrutural
Desenho Geisa Marques		Prancha: CA-08	
Nº Projeto:			



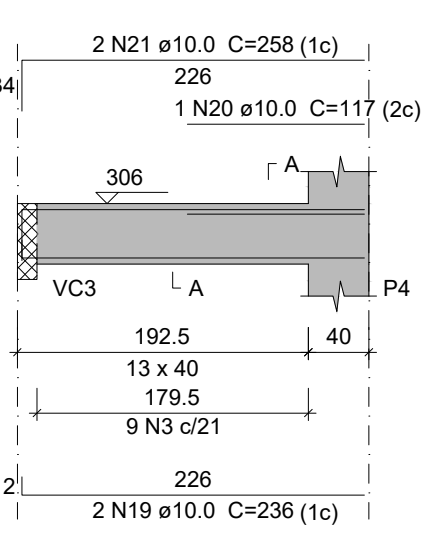


Armação positiva das lajes do pavimento Pavimento Tipo 1 (Eixo X)

escala 1:50

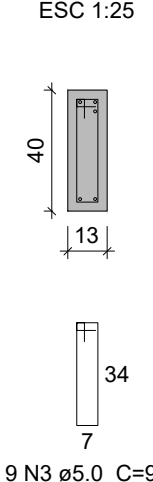
VC21

ESC 1:50



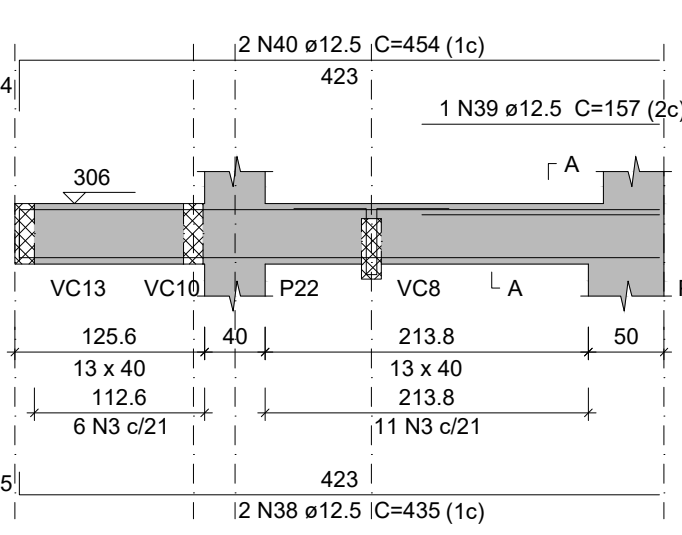
SEÇÃO A-A

ESC 1:25



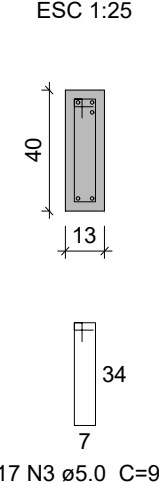
VC22

ESC 1:50



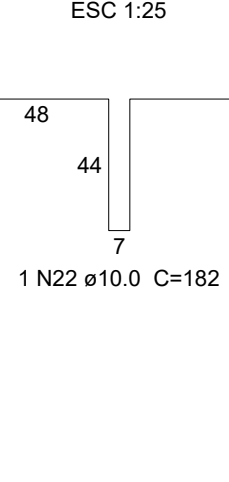
SEÇÃO A-A

ESC 1:25



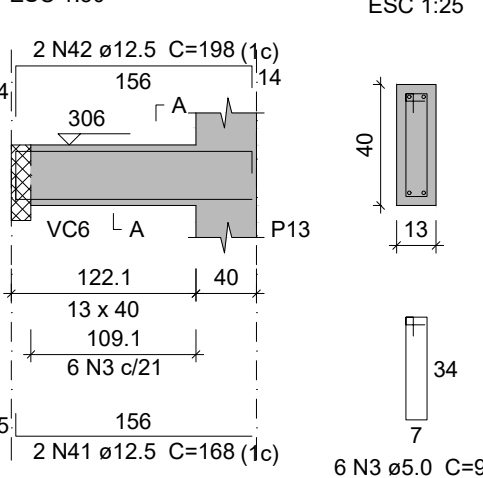
SUSPENSÃO VC8

ESC 1:25



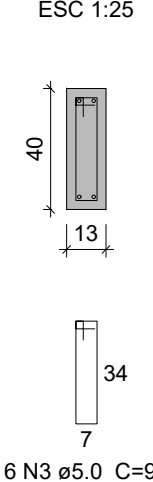
VC23

ESC 1:50



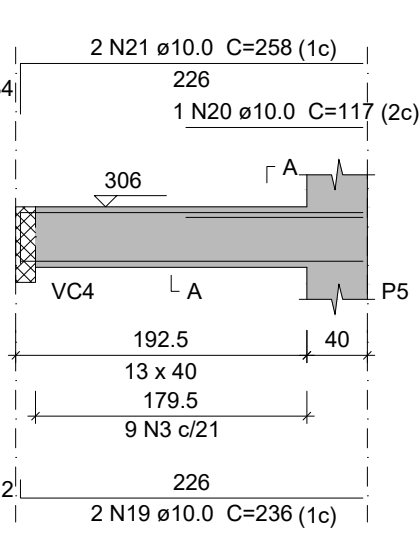
SEÇÃO A-A

ESC 1:25



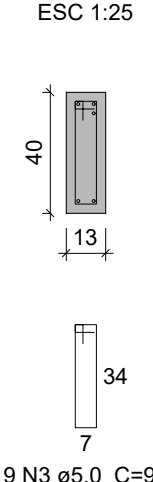
VC24

ESC 1:50



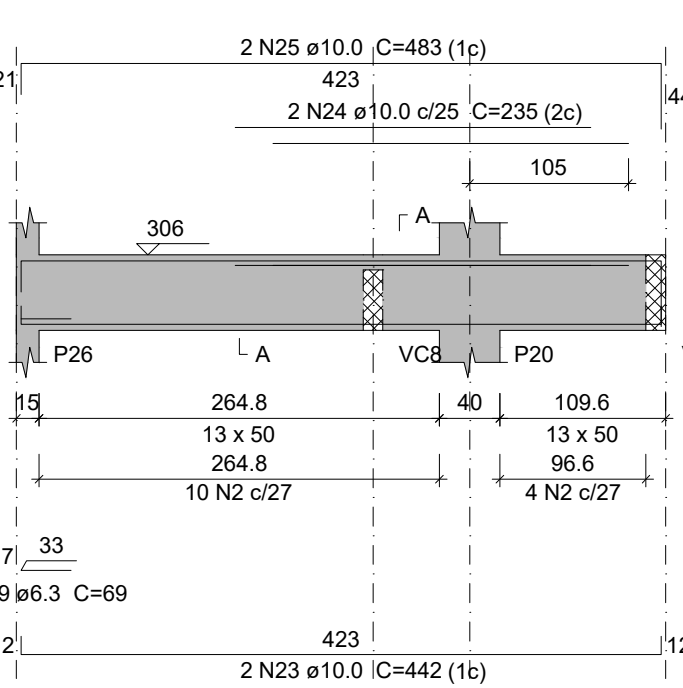
SEÇÃO A-A

ESC 1:25



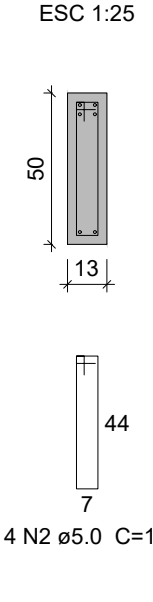
VC25

ESC 1:50



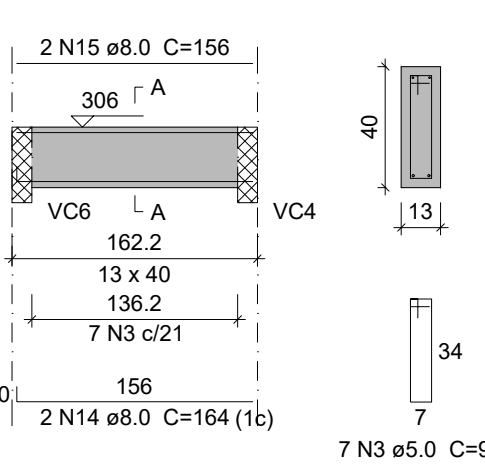
SEÇÃO A-A

ESC 1:25



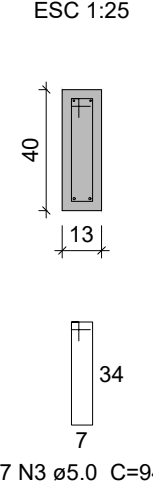
VC26

ESC 1:50



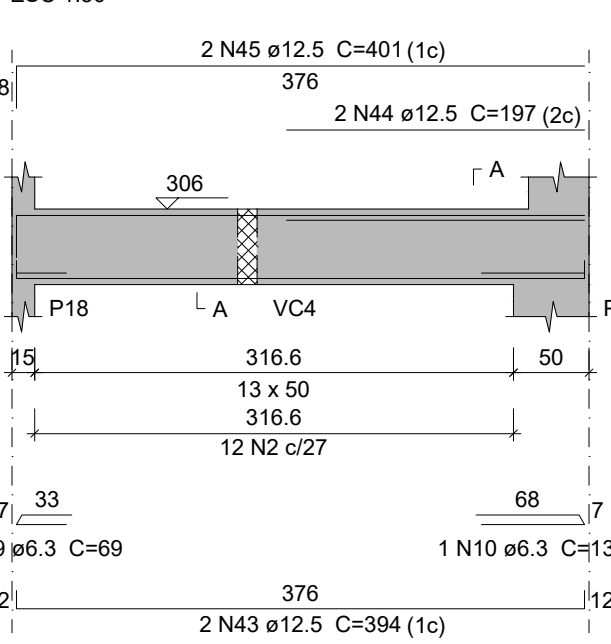
SEÇÃO A-A

ESC 1:25



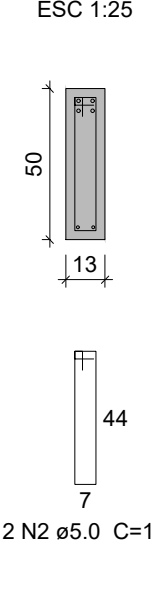
VC27

ESC 1:50



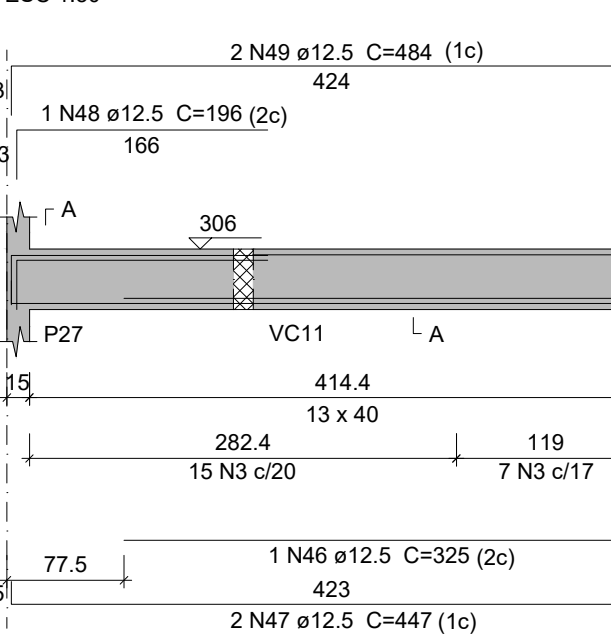
SEÇÃO A-A

ESC 1:25



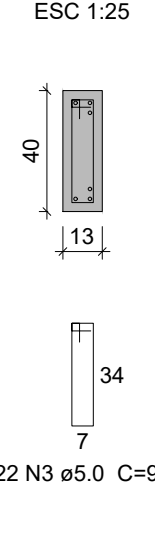
VC28

ESC 1:50



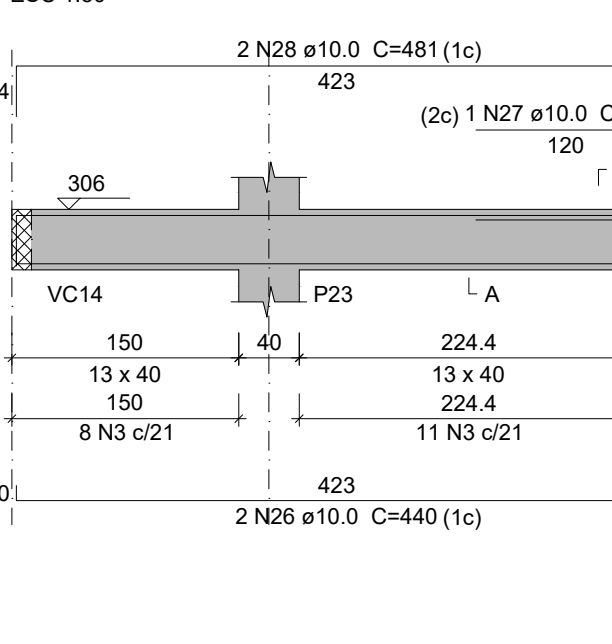
SEÇÃO A-A

ESC 1:25



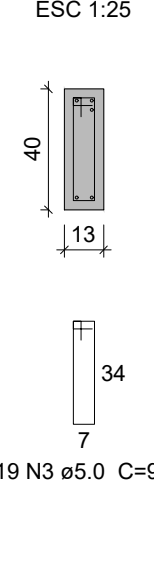
VC29

ESC 1:50



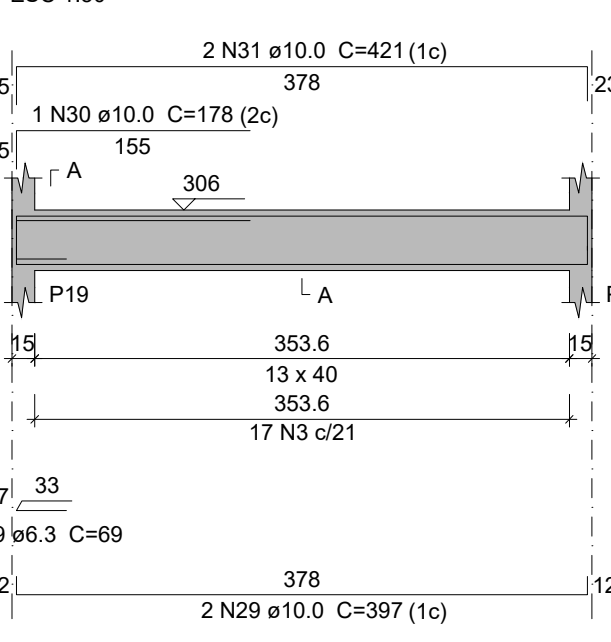
SEÇÃO A-A

ESC 1:25



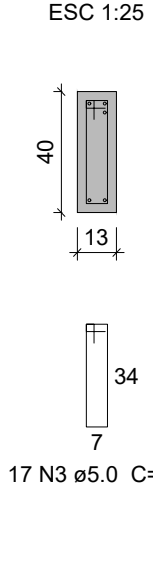
VC30

ESC 1:50



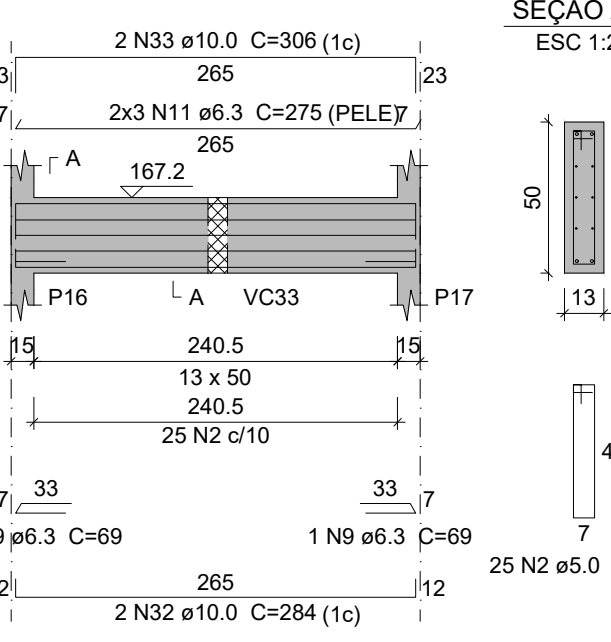
SEÇÃO A-A

ESC 1:25



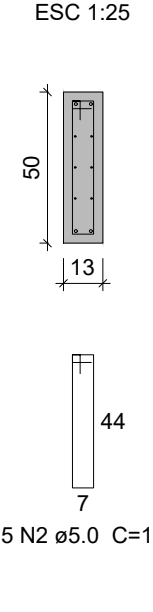
VC31

ESC 1:50



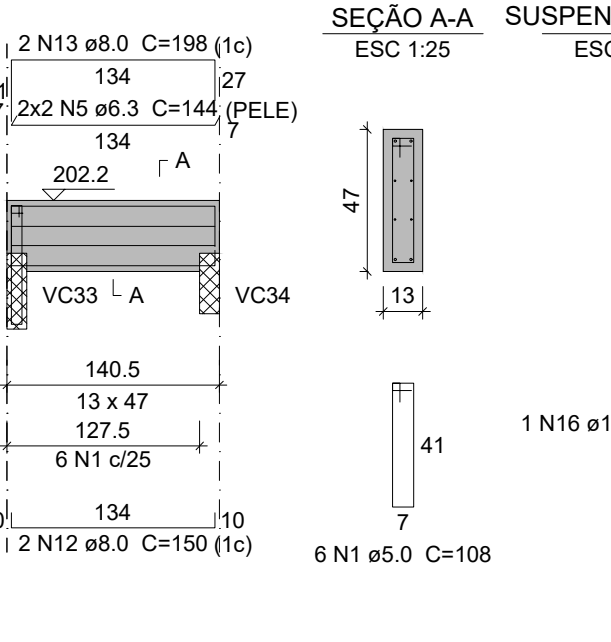
SEÇÃO A-A

ESC 1:25



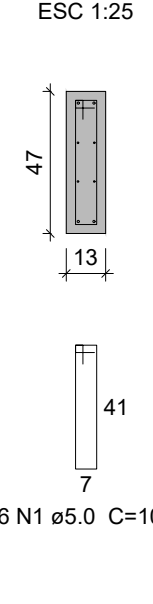
VC32

ESC 1:50



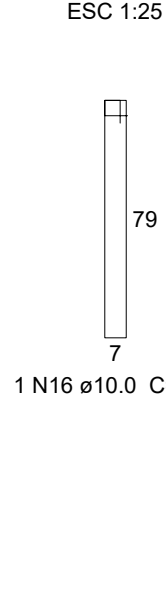
SEÇÃO A-A

ESC 1:25



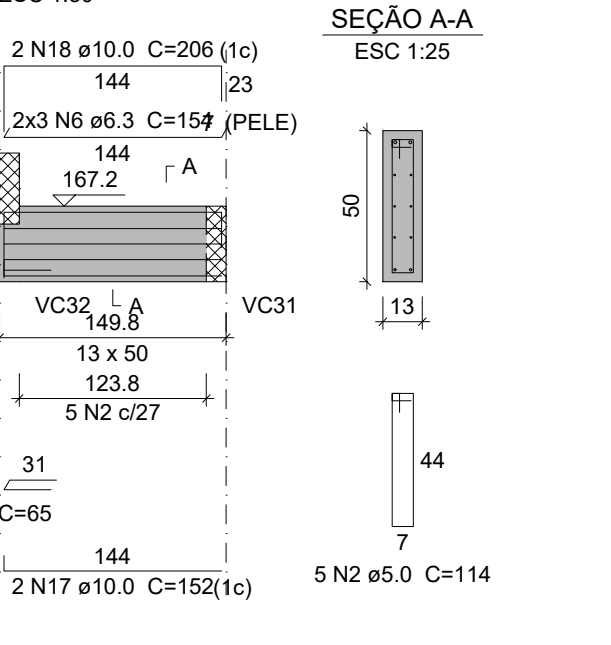
SUSPENSÃO VC33

ESC 1:25



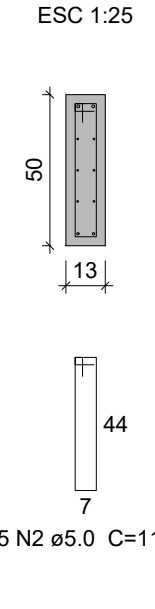
VC33

ESC 1:50



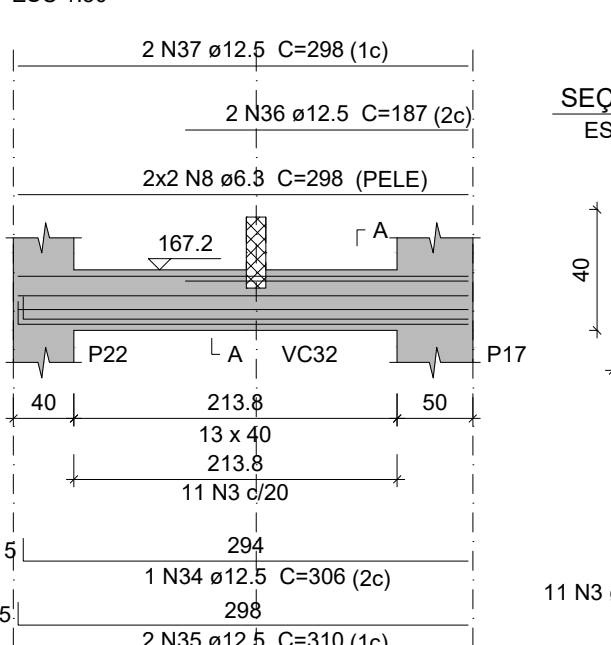
SEÇÃO A-A

ESC 1:25



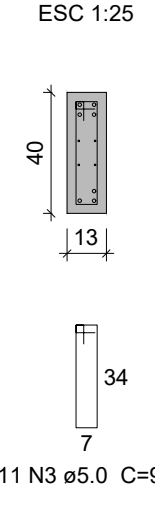
VC34

ESC 1:50



SEÇÃO A-A

ESC 1:25



Relação do aço

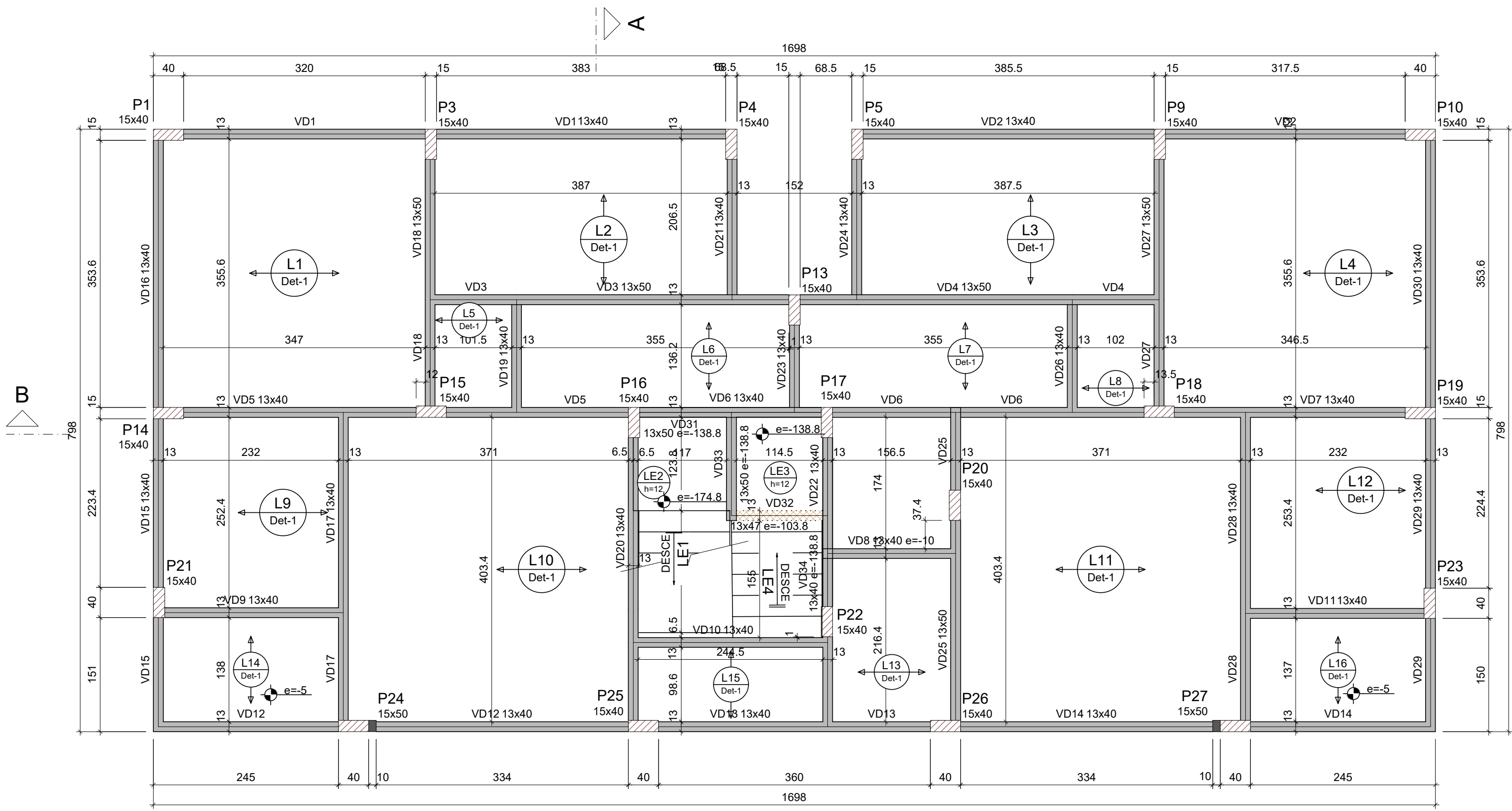
Positivos X	VC21	VC22			
VC23	VC24	VC25			
VC26	VC27	VC28			
VC29	VC30	VC31			
VC32	VC33	VC34			
ÁÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	6	108	648
	2	5.0	56	114	6384
CA50	3	5.0	117	94	10998
	4	6.3	18	367	6606
	5	6.3	4	144	576
	6	6.3	6	154	924
	7	6.3	1	65	65
	8	6.3	4	298	1192
	9	6.3	5	69	345
	10	6.3	1	139	139
	11	6.3	6	275	1650
	12	8.0	2	150	300
	13	8.0	2	198	396
	14	8.0	2	164	328
	15	8.0	2	156	312
	16	10.0	1	185	185
	17	10.0	2	152	304
	18	10.0	2	206	412
	19	10.0	4	236	944
	20	10.0	2	117	234
	21	10.0	4	258	1032
	22	10.0	1	182	182
	23	10.0	2	442	884
	24	10.0	2	235	470
	25	10.0	2	483	966
	26	10.0	2	440	880
	27	10.0	1	147	147
	28	10.0	2	481	962
	29	10.0	2	397	794
	30	10.0	1	178	178
	31	10.0	2	421	842
	32	10.0	2	284	568
	33	10.0	2	306	612
	34	12.5	1	306	306
	35	12.5	2	310	620
	36	12.5	2	187	374
	37	12.5	2	298	596
	38	12.5	2	435	870
	39	12.5	1	157	157
	40	12.5	2	454	908
	41	12.5	2	168	336
	42	12.5	2	198	396
	43	12.5	2	394	788
	44	12.5	2	197	394
	45	12.5	2	401	802
	46	12.5	1	325	325
	47	12.5	2	447	894
	48	12.5	1	196	196
	49	12.5	2	484	968

Resumo do aço

ÁÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6.3	115	30.9
	8.0	13.4	5.8
	10.0	106	71.9
	12.5	89.3	94.6
CA60	5.0	180.3	30.6
PESO TOTAL (kg)			
CA50	203.2		
CA60	30.6		

Volume de concreto (C-30) = 7.86 m³  
Área de forma = 41.13 m²

00	Emissão inicial	Geisa	14/09/2020
NÚMERO	MODIFICAÇÃO	NOME	DATA
Obs: Caso divergência entre cota e escala, prevalece a cota.			
Edificação em alvenaria - Residencial Multifamiliar			
Prancha: Lajes / Vigas pavt. tipo 1			
Responsável técnico: Geisa Marques			
Obra: Edificação em alvenaria - Residencial Multifamiliar			
Localização: Cidade/Estado: Blumenau/Santa Catarina			
Edificação em alvenaria - Residencial Multifamiliar			
Escala INDICADA	Data 14/09/2020	Revisão 00	Projeto Estrutural
Desenho Geisa Marques		Prancha: CA-08	
Nº Projeto:			



Blocos de enchimento				
Detalhe	Tipo	Nome	Dimensões(cm)	Quantidade
1	Lajota cerâmica	B8/30/20	8 30 20	1316

Lajes							
Dados				Sobrecarga (kgf/m²)			
Nome	Tipo	Altura (cm)	Elevação (cm)	Nível (cm)	Peso próprio (kgf/m²)	Adicional	Localizada
L1	Trelçada 1D	12	0	601	257	154	150 -
L2	Trelçada 1D	12	0	601	257	154	150 -
L3	Trelçada 1D	12	0	601	257	154	150 -
L4	Trelçada 1D	12	0	601	257	154	150 -
L5	Trelçada 1D	12	0	601	257	154	150 -
L6	Trelçada 1D	12	0	601	257	182	150 -
L7	Trelçada 1D	12	0	601	257	182	150 -
L8	Trelçada 1D	12	0	601	257	154	150 -
L9	Trelçada 1D	12	0	601	257	154	150 -
L10	Trelçada 1D	12	0	601	257	182	150 -
L11	Trelçada 1D	12	0	601	257	182	150 -
L12	Trelçada 1D	12	0	601	257	154	150 -
L13	Trelçada 1D	12	0	601	257	154	150 -
L14	Trelçada 1D	12	-5	596	257	182	200 -
L15	Trelçada 1D	12	0	601	257	154	150 -
L16	Trelçada 1D	12	-5	596	257	182	200 -
LE1	Maciça	12	-139	462.2	674	0	0 -
LE2	Maciça	12	-175	426.2	300	0	0 -
LE3	Maciça	12	-139	462.2	300	0	0 -
LE4	Maciça	12	0	601	628	0	0 -

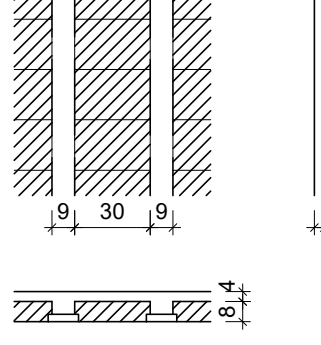
Características dos materiais	
fck (kgf/cm²)	Ecs (kgf/cm²)
300	268384

Dimensão máxima do agregado = 19 mm

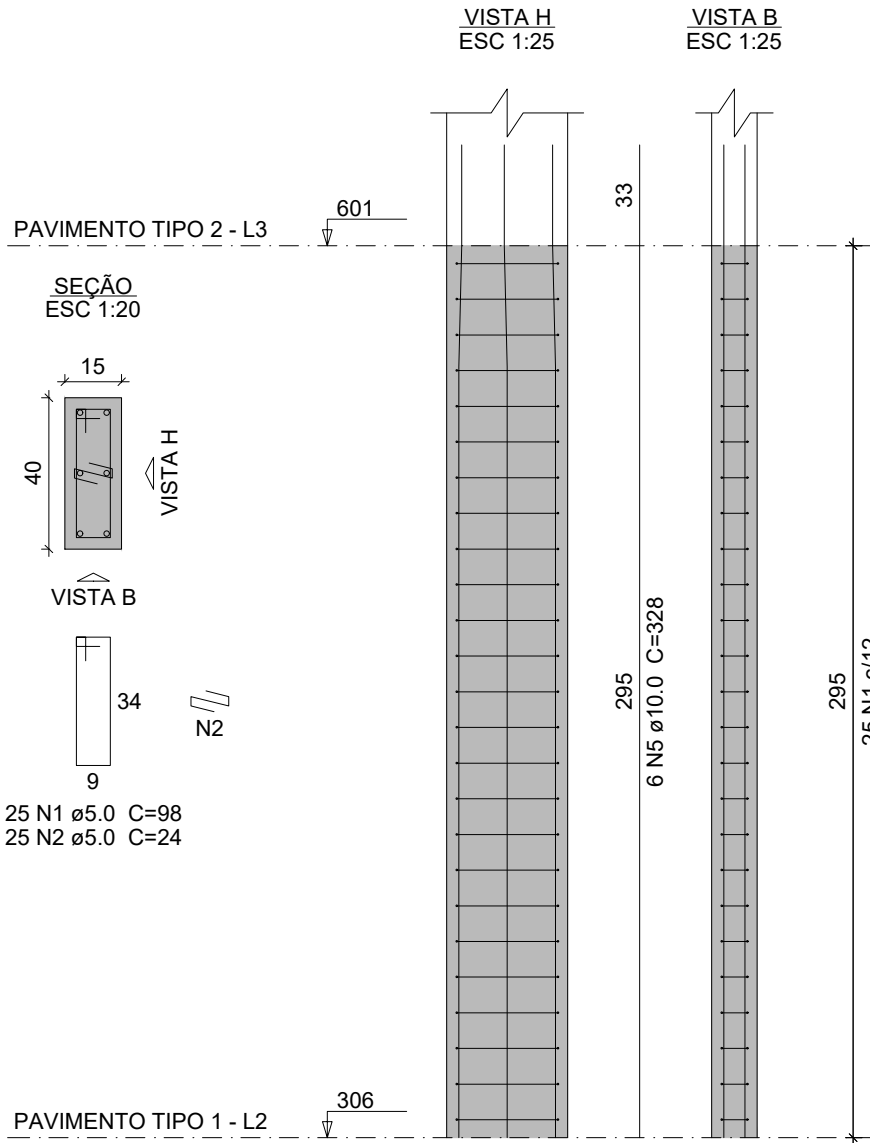
Legenda dos pilares	
	Pilar que passa
	Pilar com mudança de seção

Legenda das vigas e paredes	
	Viga

Detalhe 1 (esc. 1:30)

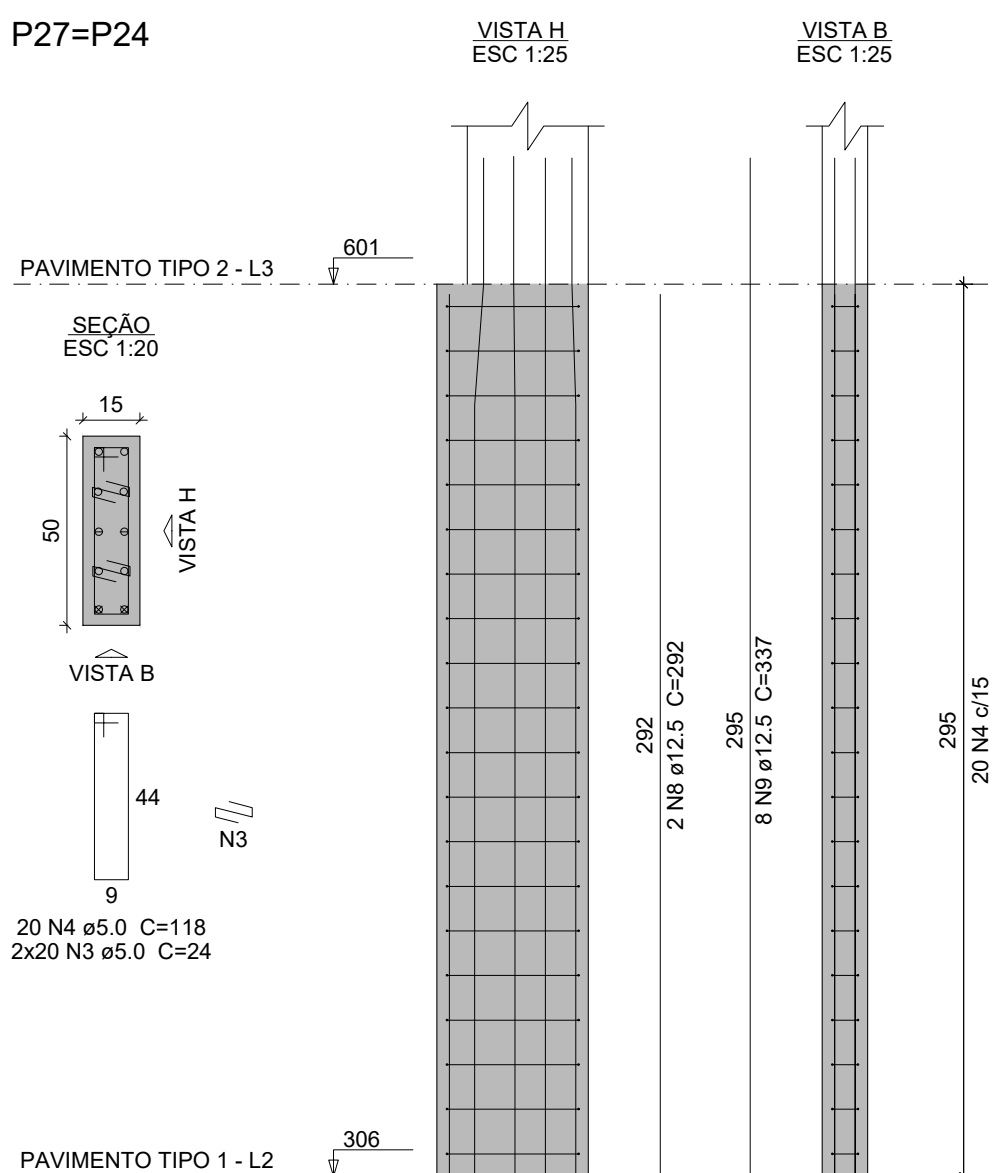
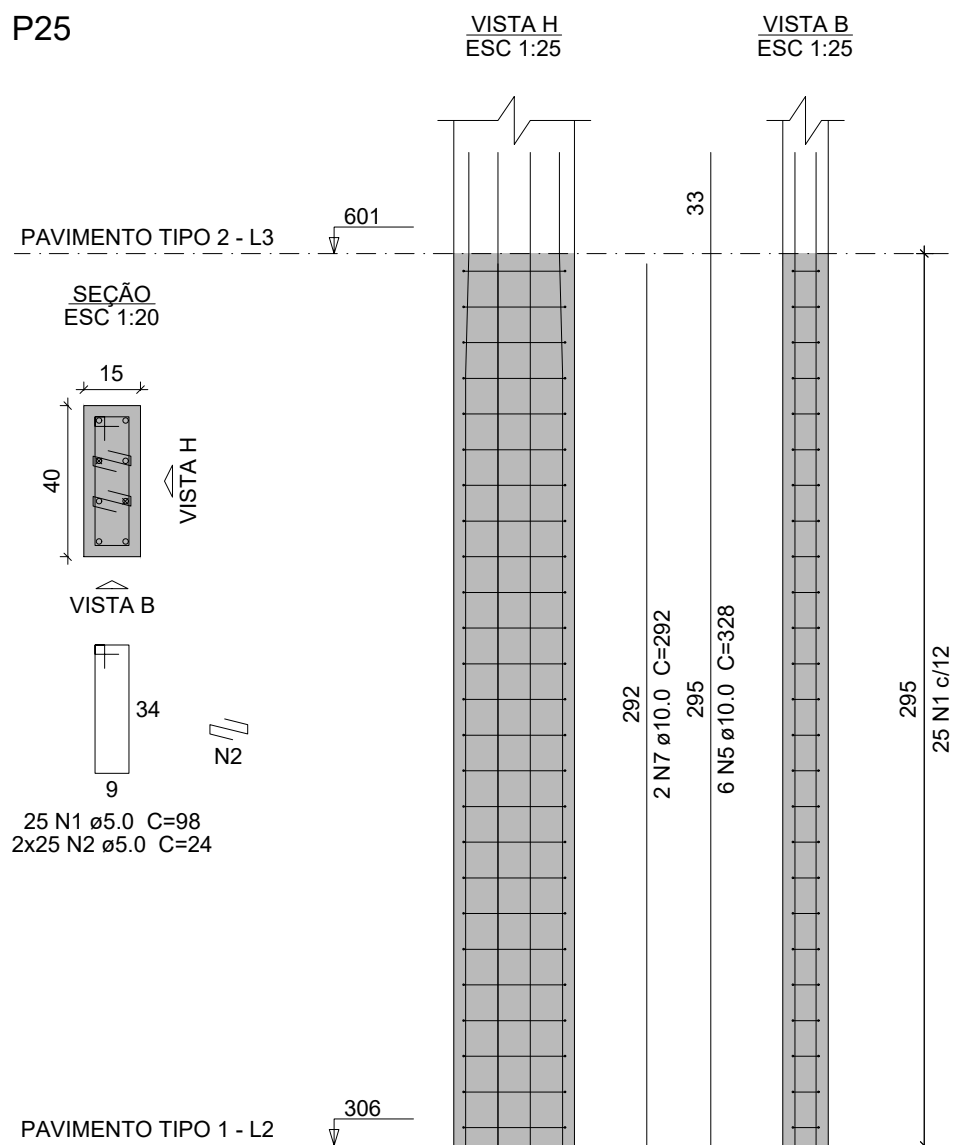
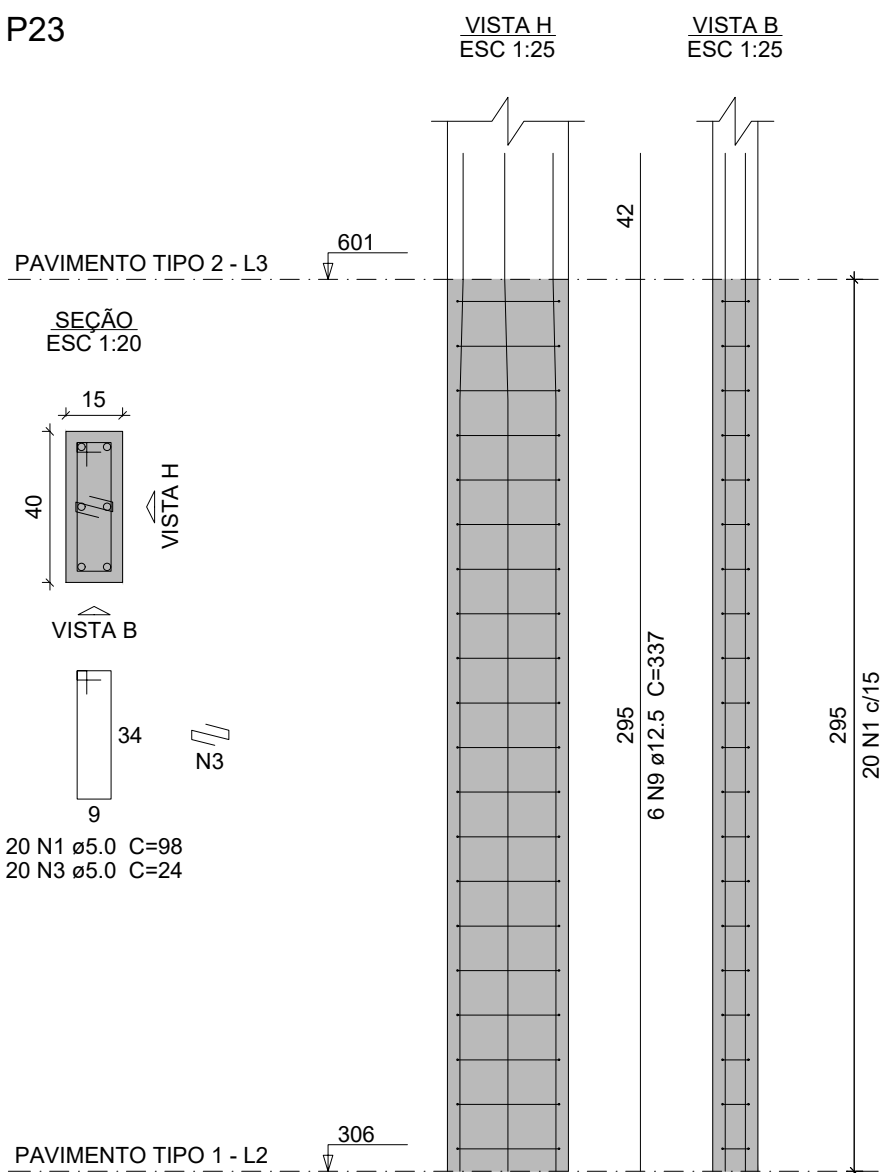
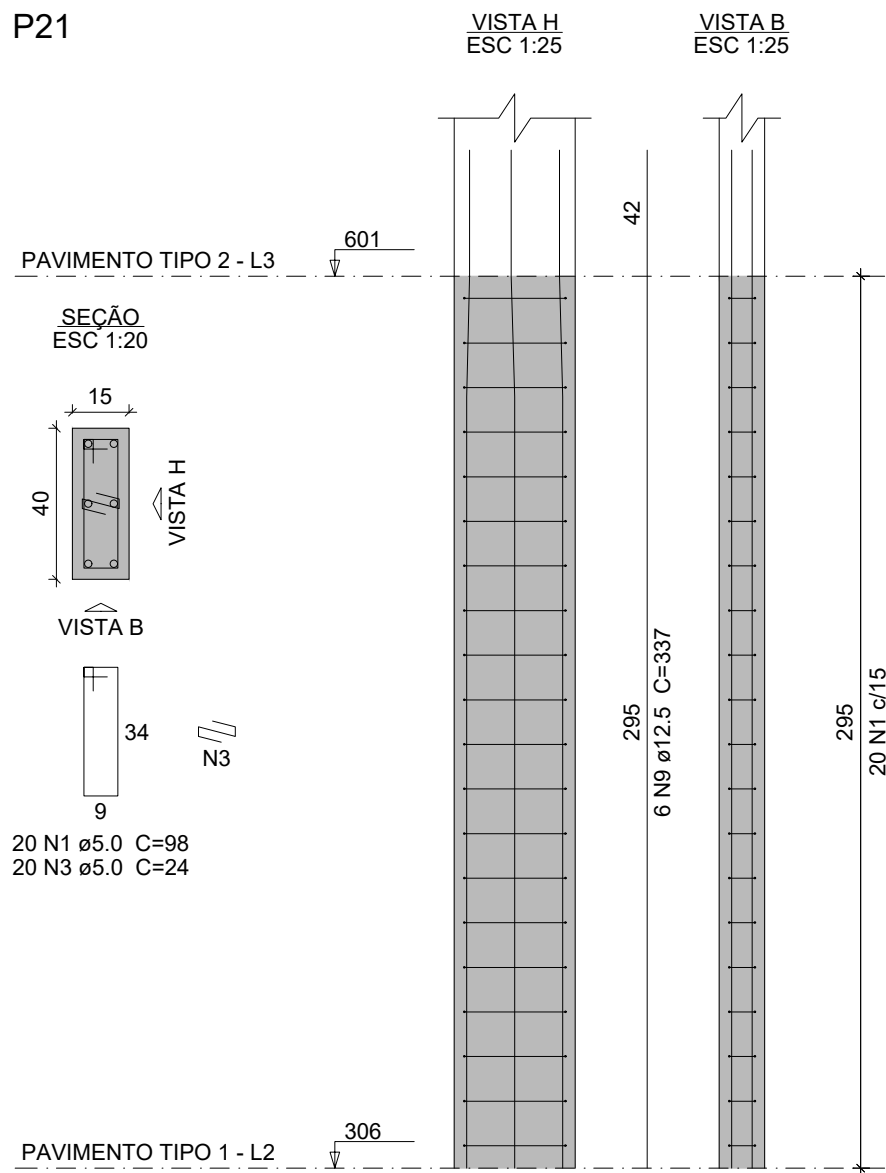
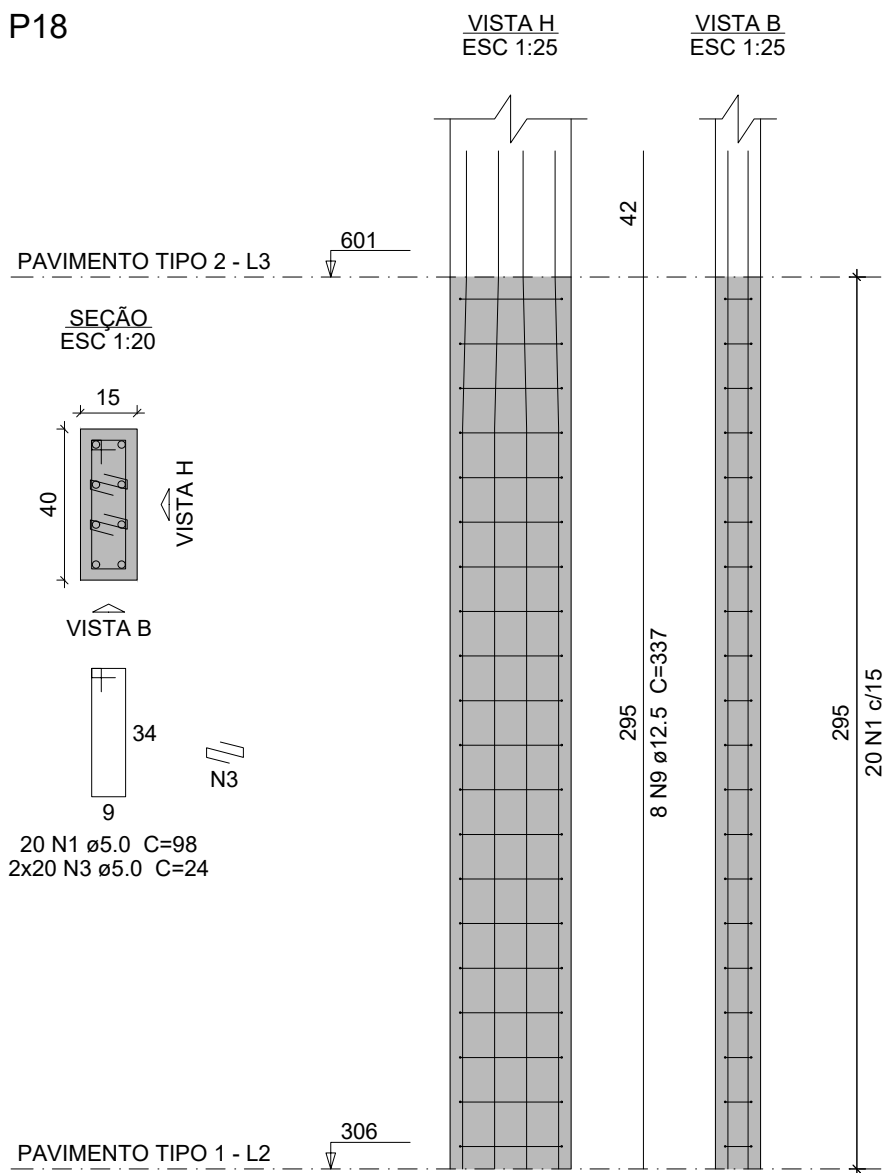
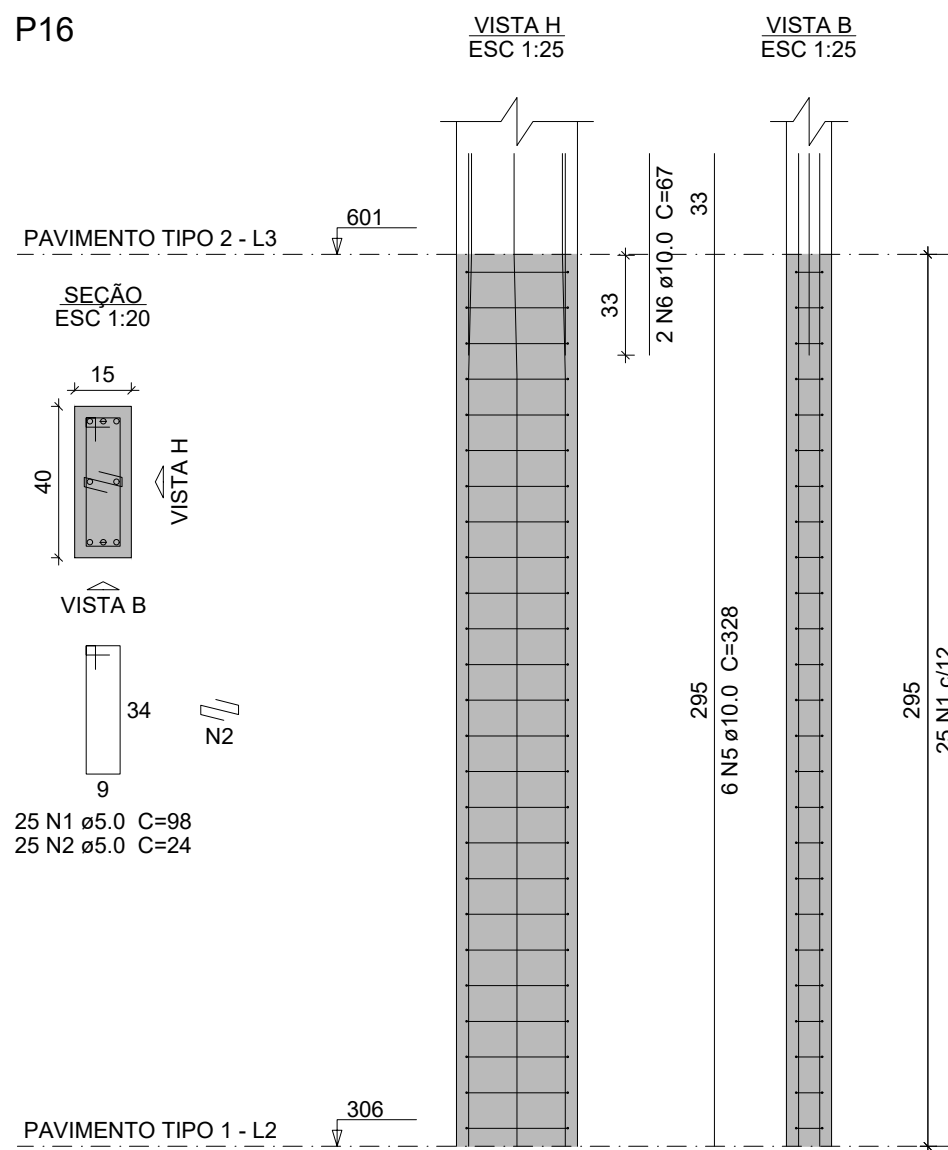
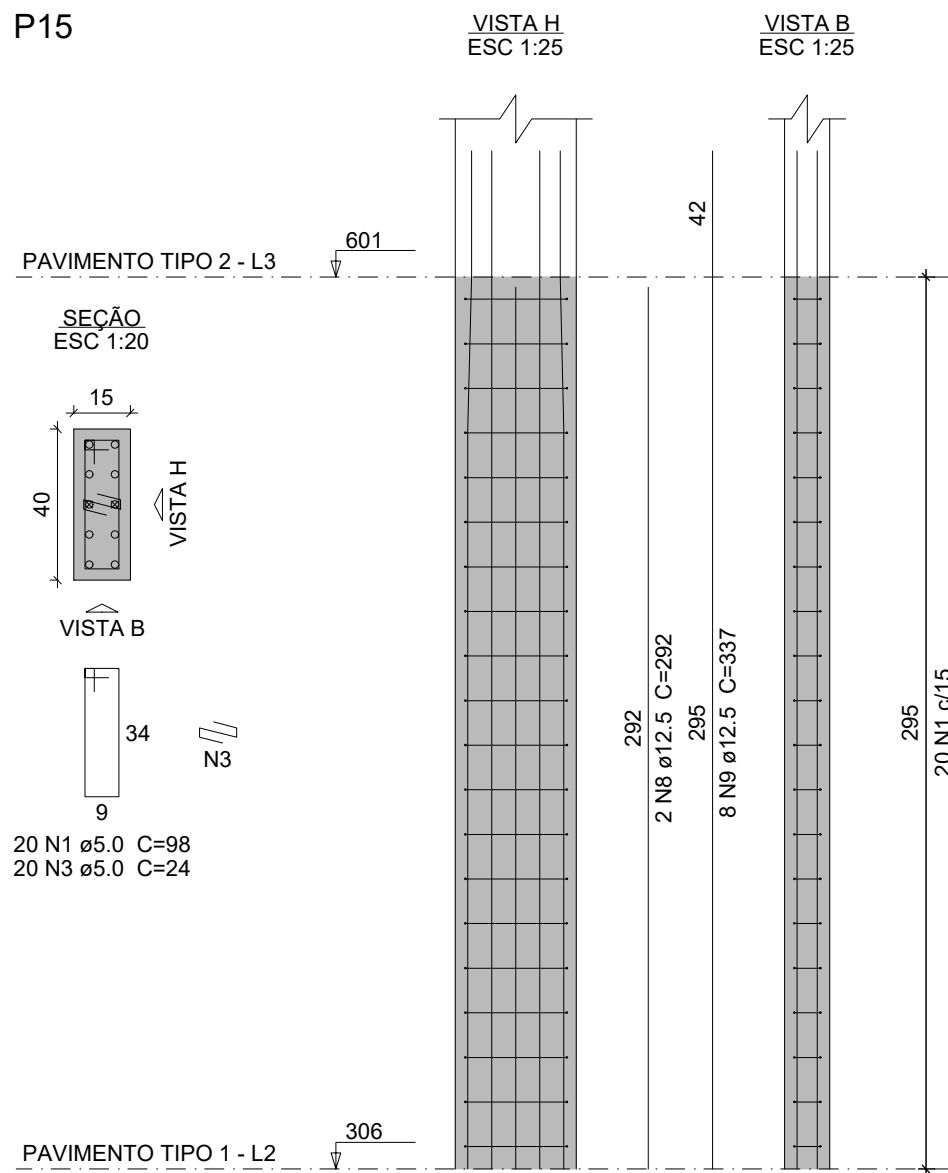


P1=P3=P4=P5=P9=P10=P13=  
=P14=P17=P19=P20=P22=P26



## Forma do pavimento Pavimento Tipo 2 (Nível 601)

escala 1:50



### Relação do aço

13xP1	P15	P16			
P18	P21	P23			
P25	2xP27				
AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	455	98	44590
	2	5.0	400	24	9600
	3	5.0	180	24	4320
CA50	4	5.0	40	118	4720
	5	10.0	90	328	29520
	6	10.0	2	67	134
	7	10.0	2	292	584
	8	12.5	6	292	1752
	9	12.5	44	337	14828

### Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	10.0	302.4	205.1
	12.5	165.8	175.7
CA60	5.0	632.3	107.2
PESO TOTAL (kg)			
CA50	380.8		
CA60	107.2		

Volume de concreto (C-30) = 3.81 m³  
Área de forma = 69.33 m²

00	Emissão inicial	Geisa	14/09/2020
NÚMERO	MODIFICAÇÃO	NOME	DATA

Obs: Caso divergência entre cota e escala, prevalece a cota.

## Edificação em alvenaria - Residencial Multifamiliar

Prancha:  
Formas / Pilares pavt. tipo 2

Responsável técnico:  
Geisa Marques

Obra:  
Edificação em alvenaria - Residencial Multifamiliar

Localização:  
Cidade/Estado: Blumenau/Santa Catarina

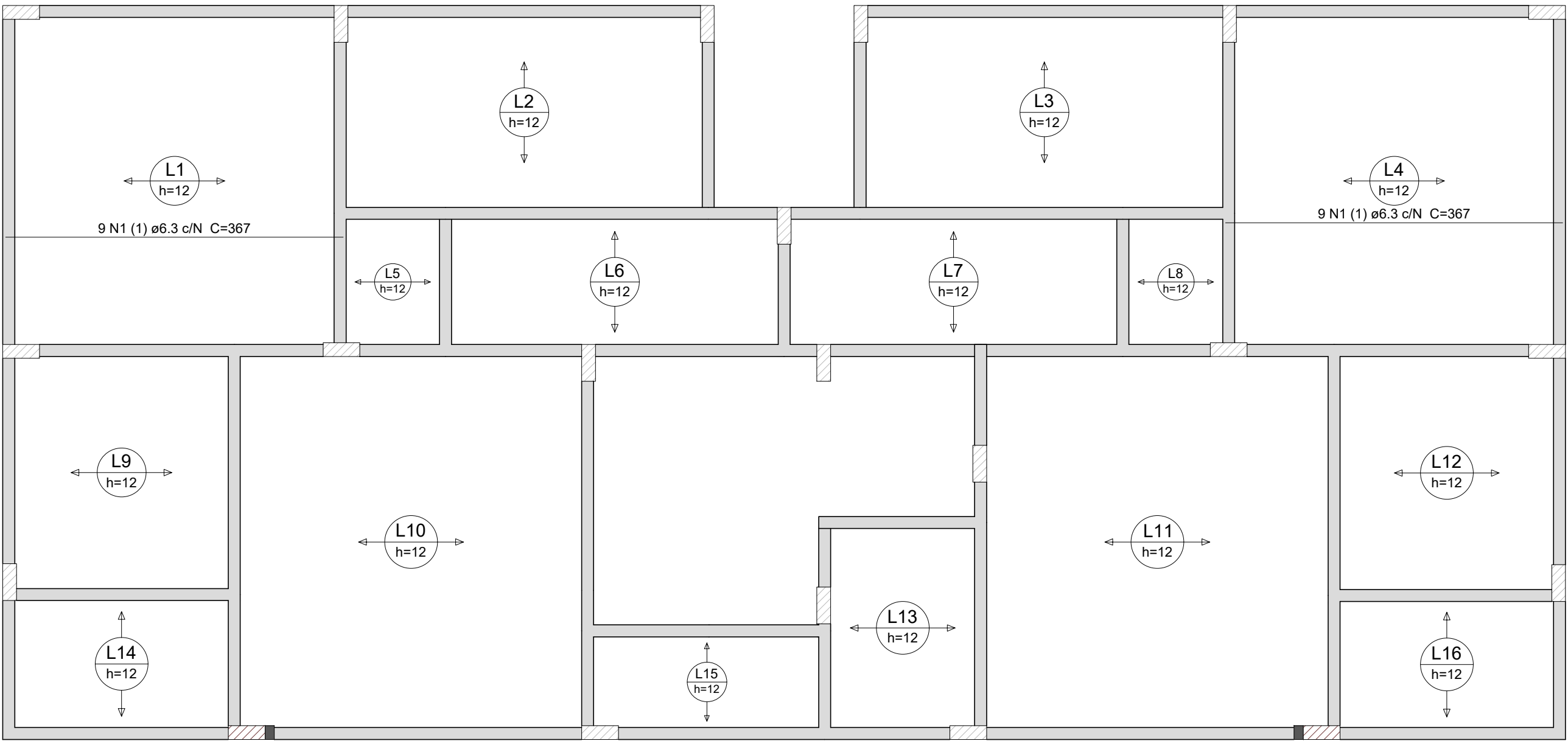
Edificação em alvenaria - Residencial Multifamiliar

Escala INDICADA Data 14/09/2020 Revisão 00 Projeto Estrutural

Desenho Geisa Marques Prancha: CA-09

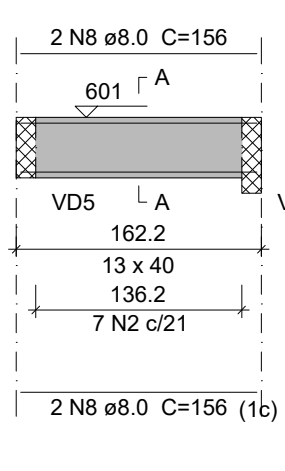
Nº Projeto:



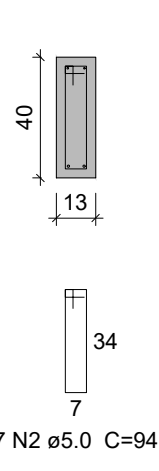


Armação positiva das lajes do pavimento Pavimento Tipo 2 (Eixo X)  
escala 1:50

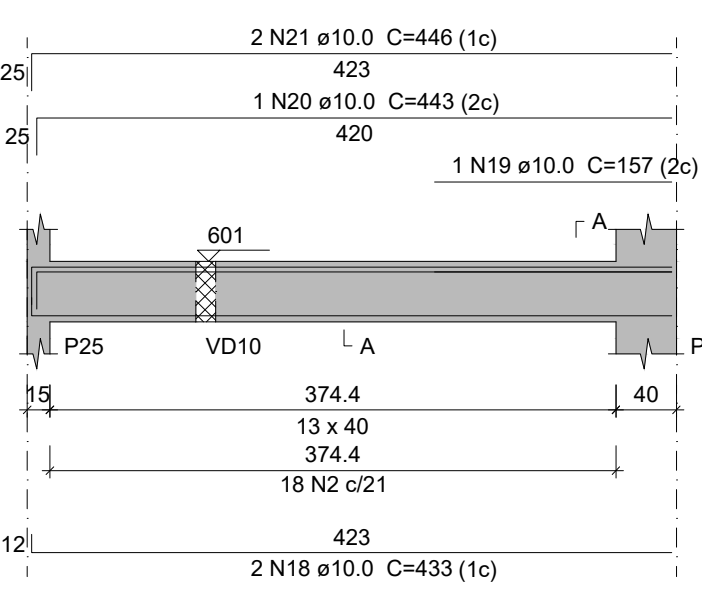
VD19  
ESC 1:50



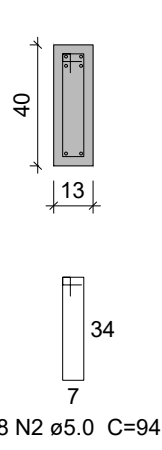
SEÇÃO A-A  
ESC 1:25



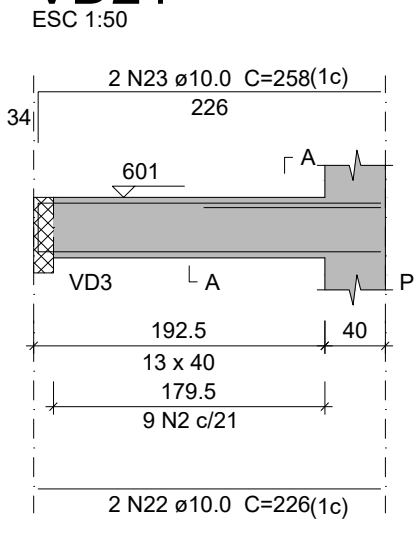
VD20  
ESC 1:50



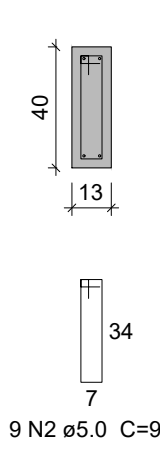
SEÇÃO A-A  
ESC 1:25



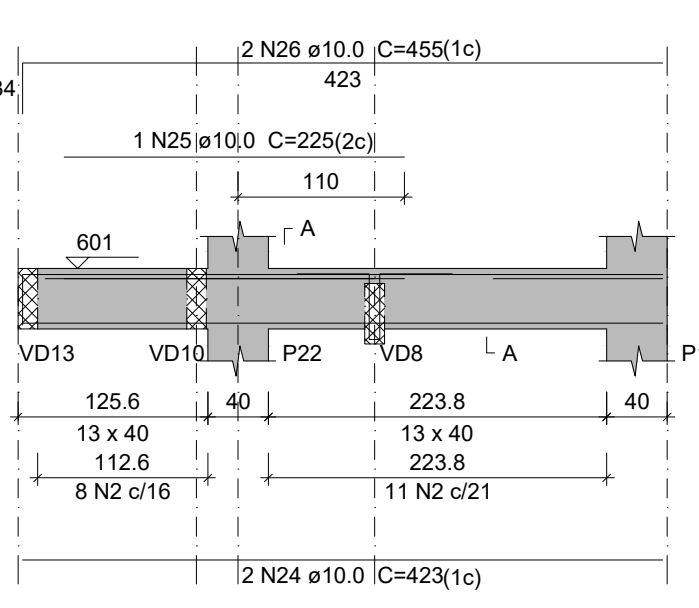
VD21  
ESC 1:50



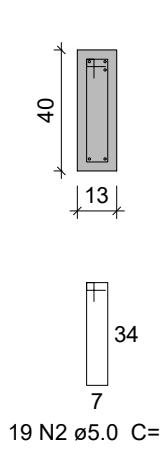
SEÇÃO A-A  
ESC 1:25



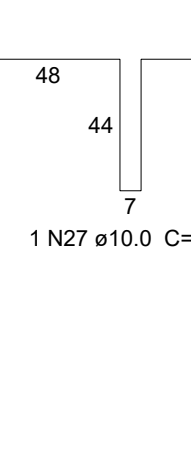
VD22  
ESC 1:50



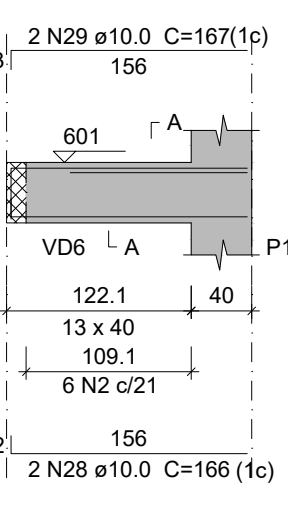
SEÇÃO A-A  
ESC 1:25



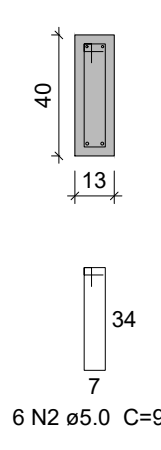
SUSPENSÃO VD8  
ESC 1:25



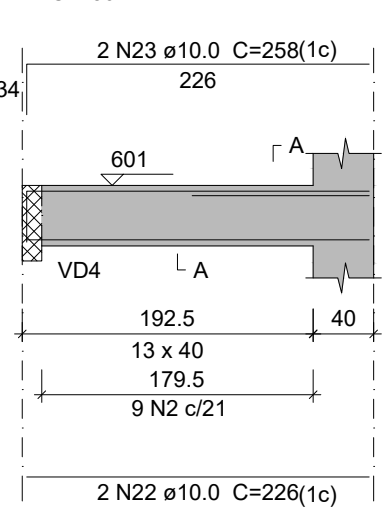
VD23  
ESC 1:50



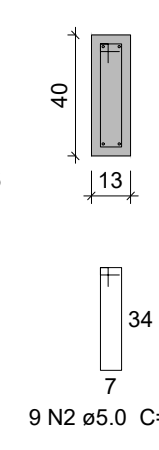
SEÇÃO A-A  
ESC 1:25



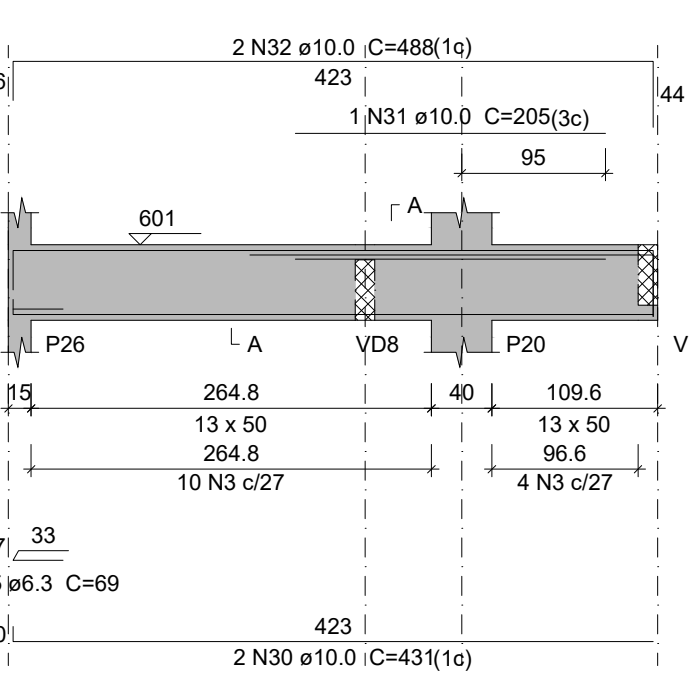
VD24  
ESC 1:50



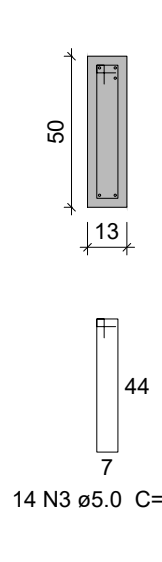
SEÇÃO A-A  
ESC 1:25



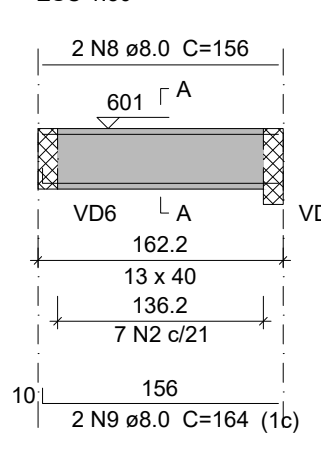
VD25  
ESC 1:50



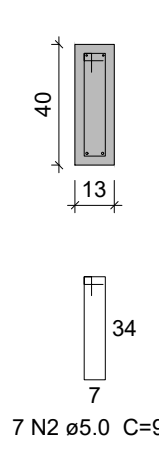
SEÇÃO A-A  
ESC 1:25



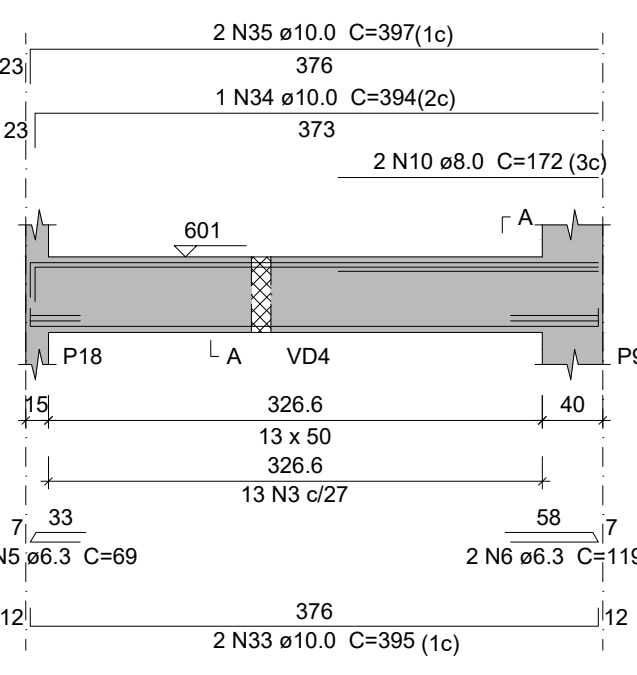
VD26  
ESC 1:50



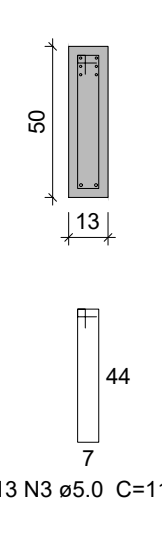
SEÇÃO A-A  
ESC 1:25



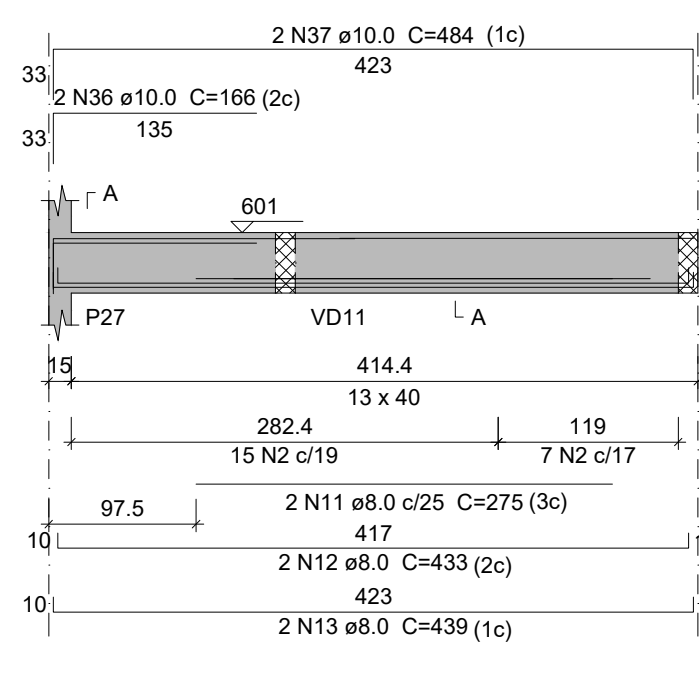
VD27  
ESC 1:50



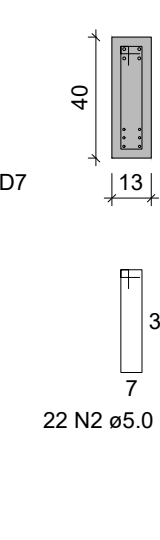
SEÇÃO A-A  
ESC 1:25



VD28  
ESC 1:50



SEÇÃO A-A  
ESC 1:25



Relação do aço

Positivos X	VD19	VD20
VD21	VD22	VD23
VD24	VD25	VD26
VD27	VD28	VD29
VD30	VD32	VD33
VD34		

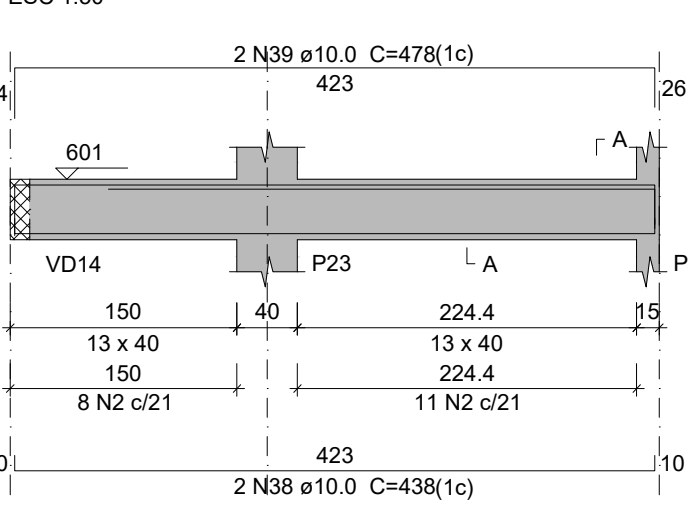
ACO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	2	5.0	144	94	13536
	3	5.0	32	114	3648
	4	5.0	6	108	648
CA50	1	6.3	18	367	6606
	5	6.3	4	69	276
	6	6.3	2	119	238
	7	6.3	1	65	65
	8	8.0	6	156	936
	9	8.0	2	164	328
	10	8.0	2	172	344
	11	8.0	2	275	550
	12	8.0	2	433	866
	13	8.0	2	439	878
	14	8.0	2	150	300
	15	8.0	2	195	390
	16	8.0	2	160	320
	17	8.0	2	210	420
	18	10.0	2	433	866
	19	10.0	1	157	157
	20	10.0	1	443	443
	21	10.0	2	446	892
	22	10.0	4	226	904
	23	10.0	4	258	1032
	24	10.0	2	423	846
	25	10.0	1	225	225
	26	10.0	2	455	910
	27	10.0	1	182	182
	28	10.0	2	166	332
	29	10.0	2	167	334
	30	10.0	2	431	862
	31	10.0	1	205	205
	32	10.0	2	488	976
	33	10.0	2	395	790
	34	10.0	1	394	394
	35	10.0	2	397	794
	36	10.0	2	166	332
	37	10.0	2	484	968
	38	10.0	2	438	876
	39	10.0	2	478	956
	40	10.0	2	397	794
	41	10.0	1	131	131
	42	10.0	2	417	834
	43	10.0	1	185	185
	44	10.0	6	298	1788

Resumo do aço

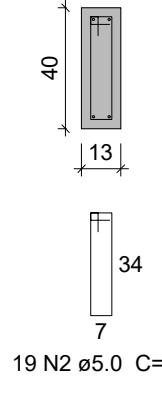
ACO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6.3	71.9	19.3
	8.0	53.4	23.1
	10.0	180.1	122.1
CA60	5.0	178.4	30.2
PESO TOTAL (kg)			
CA50	164.6		
CA60	30.2		

Volume de concreto (C-30) = 7.99 m³  
Área de forma = 43.57 m²

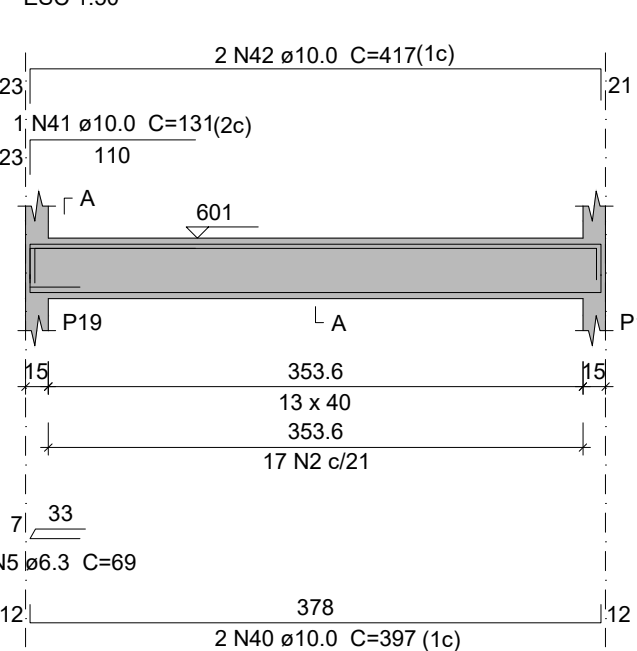
VD29  
ESC 1:50



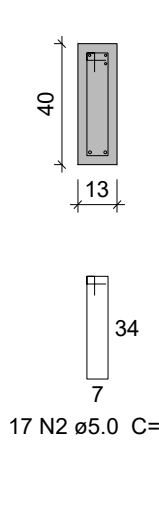
SEÇÃO A-A  
ESC 1:25



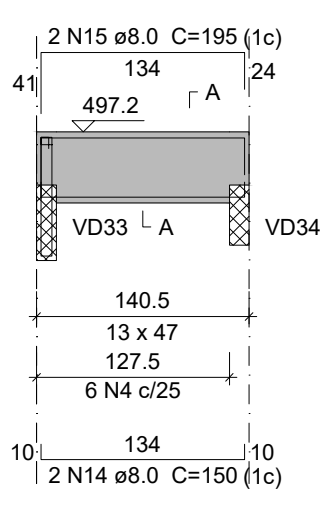
VD30  
ESC 1:50



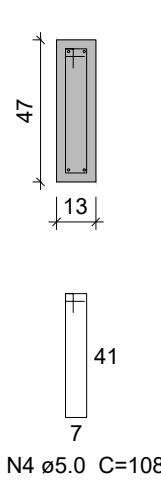
SEÇÃO A-A  
ESC 1:25



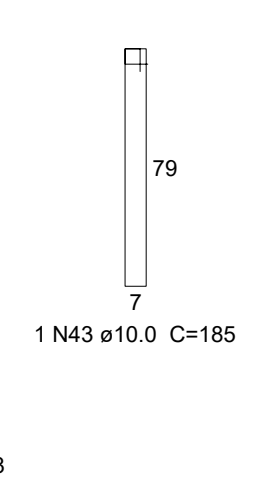
VD32  
ESC 1:50



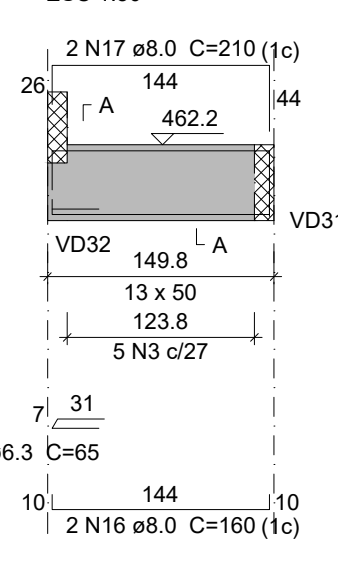
SEÇÃO A-A  
ESC 1:25



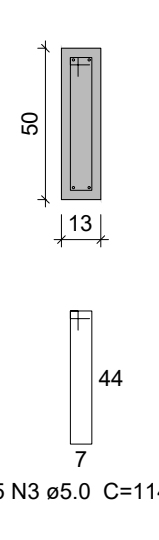
SUSPENSÃO VD33  
ESC 1:25



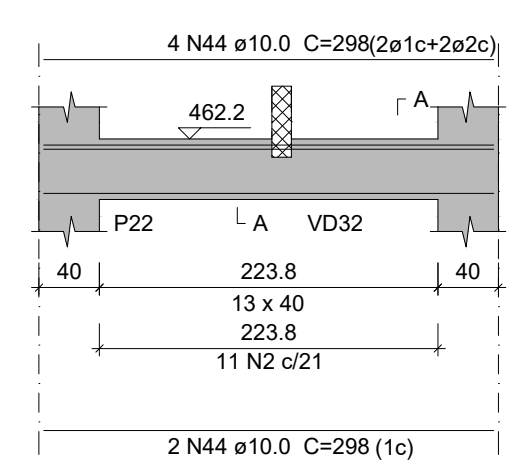
VD33  
ESC 1:50



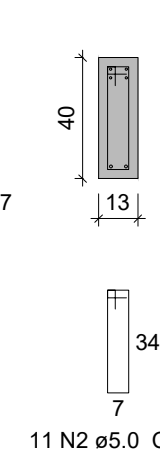
SEÇÃO A-A  
ESC 1:25



VD34  
ESC 1:50



SEÇÃO A-A  
ESC 1:25



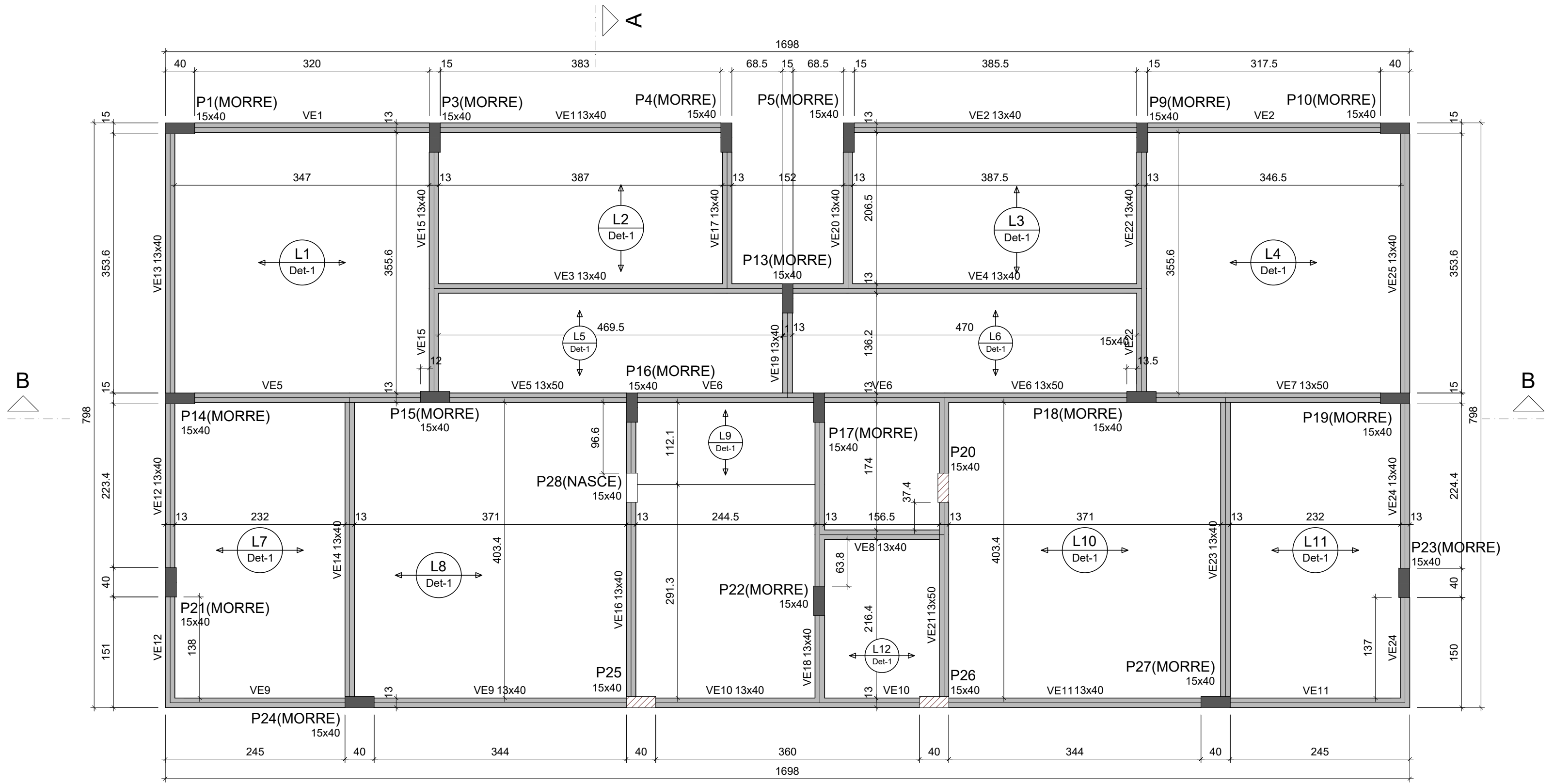
00	Emissão inicial	Geisa	14/09/2020
NÚMERO	MODIFICAÇÃO	NOME	DATA

Obs: Caso divergência entre cota e escala, prevalece a cota.

### Edificação em alvenaria - Residencial Multifamiliar

Prancha: Laje / Vigas cobertura			
Responsável técnico: Geisa Marques			
Obra: Edificação em alvenaria - Residencial Multifamiliar			
Localização: Cidade/Estado: Blumenau/Santa Catarina			
Edificação em alvenaria - Residencial Multifamiliar			
Escala INDICADA	Data 14/09/2020	Revisão 00	Projeto Estrutural
Desenho Geisa Marques	Prancha: CA-11	Nº Projeto:	





## Forma do pavimento Cobertura (Nível 896)

escala 1:50

Blocos de enchimento					
Detalhe	Tipo	Nome	Dimensões(cm)		
			hb	bx	by
1	Lajota cerâmica	B8/30/20	8	30	20
			Quantidade		
			1322		

Lajes								
Nome	Tipo	Altura (cm)	Elevação (cm)	Nível (cm)	Peso próprio (kgf/m²)	Sobrecarga (kgf/m²)		
						Adicional	Acidental	Localizada
L1	Treliçada 1D	12	0	896	257	182	50	-
L2	Treliçada 1D	12	0	896	257	182	50	-
L3	Treliçada 1D	12	0	896	257	182	50	-
L4	Treliçada 1D	12	0	896	257	182	50	-
L5	Treliçada 1D	12	0	896	257	182	50	-
L6	Treliçada 1D	12	0	896	257	182	50	-
L7	Treliçada 1D	12	0	896	257	182	50	-
L8	Treliçada 1D	12	0	896	257	182	50	-
L9	Treliçada 1D	12	0	896	257	182	50	-
L10	Treliçada 1D	12	0	896	257	182	50	-
L11	Treliçada 1D	12	0	896	257	182	50	-
L12	Treliçada 1D	12	0	896	257	182	50	-

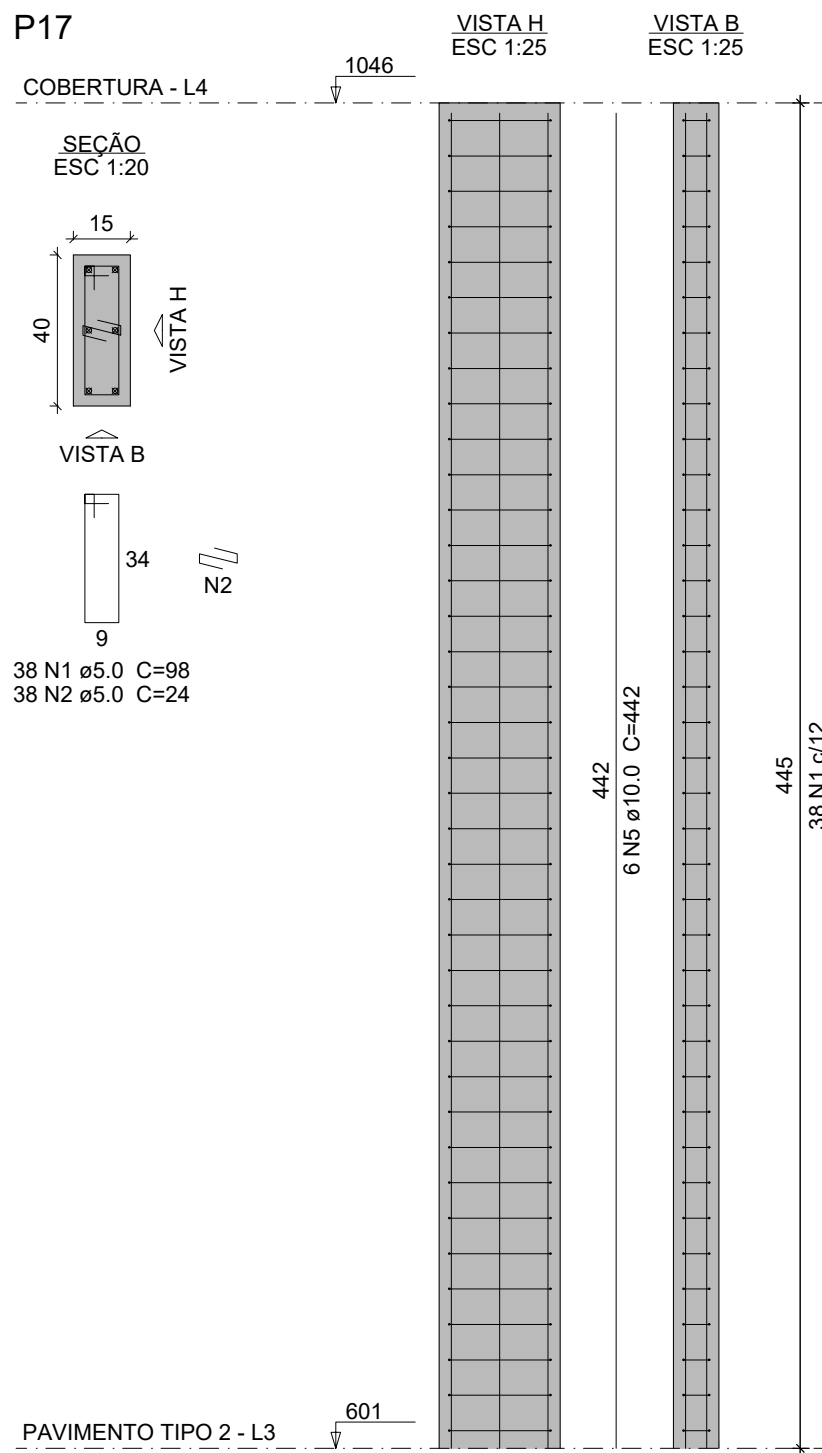
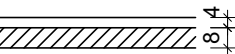
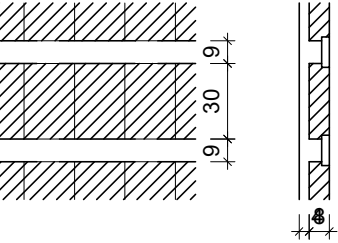
Características dos materiais	
fck (kgf/cm²)	Ecs (kgf/cm²)
300	268384

Dimensão máxima do agregado = 19 mm

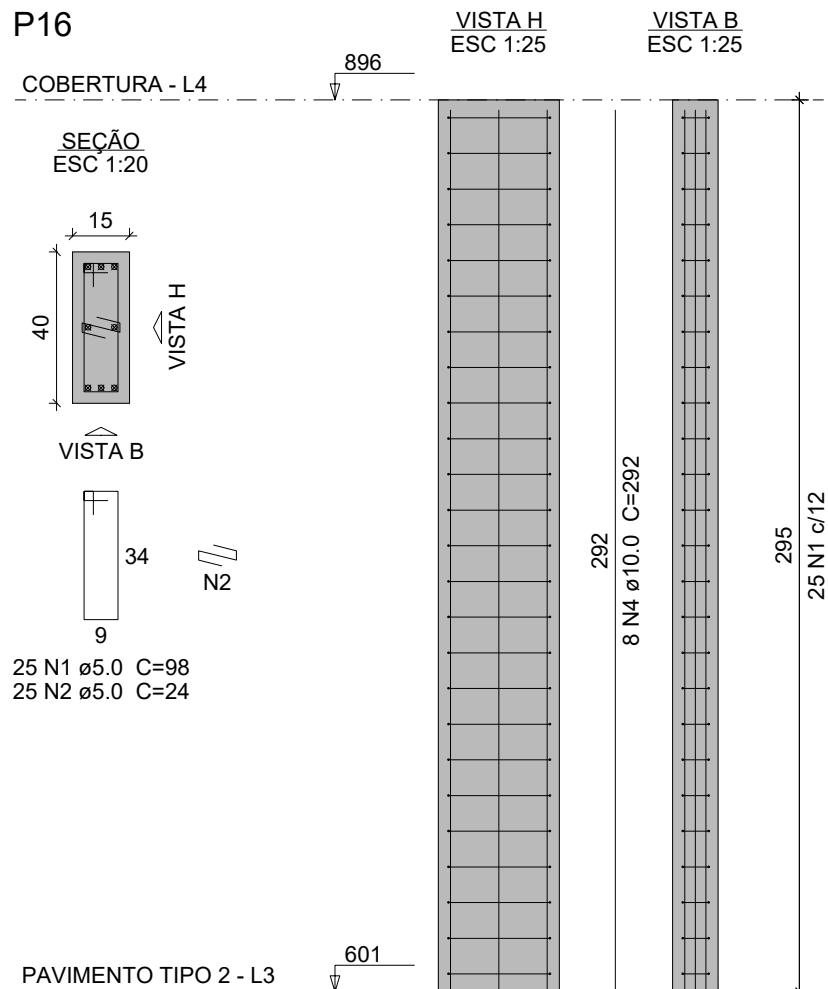
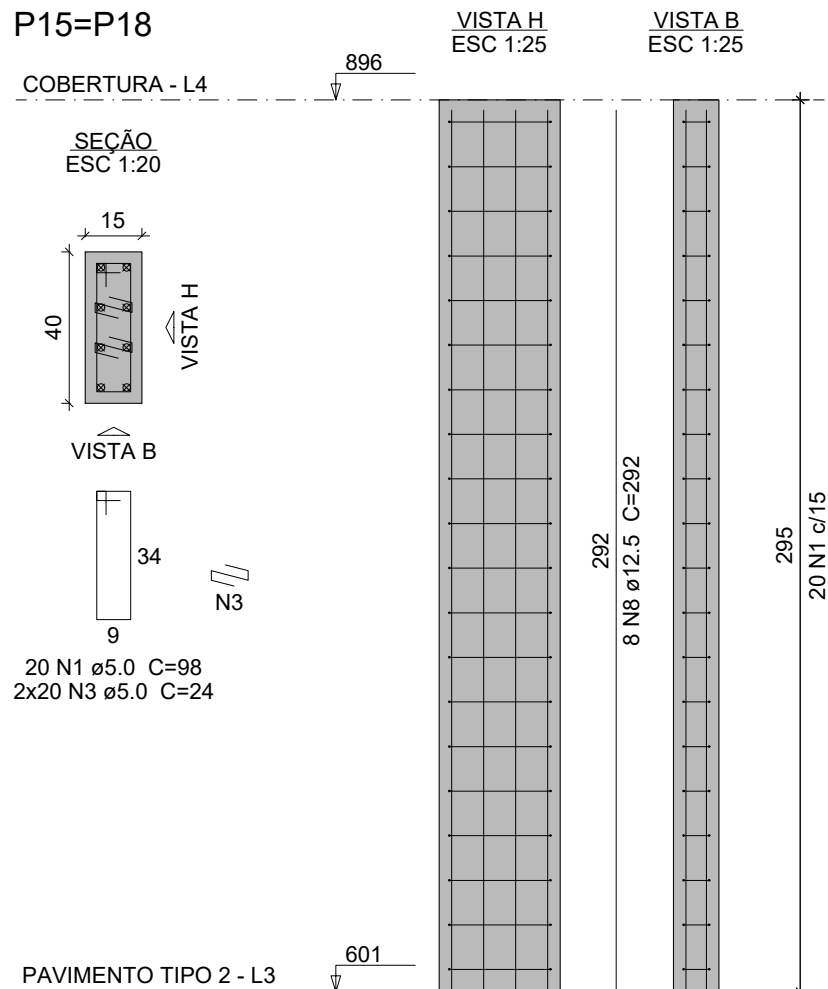
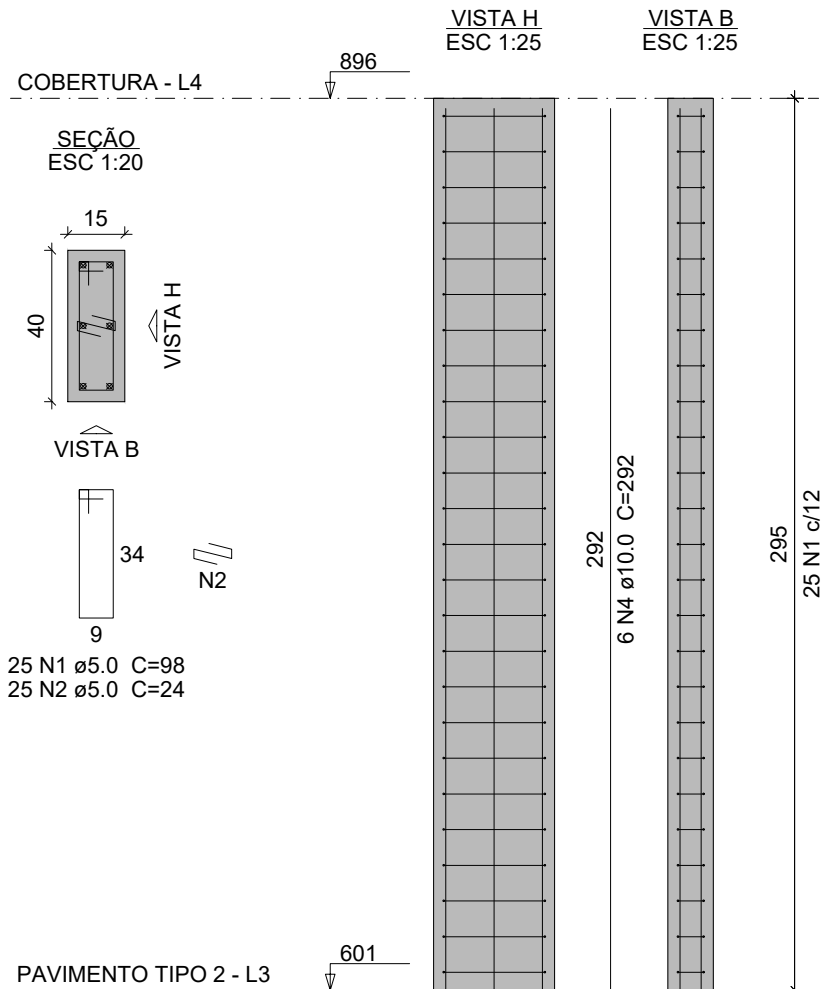
Legenda dos pilares	
	Pilar que morre
	Pilar que passa
	Pilar que nasce

Legenda das vigas e paredes	
	Viga

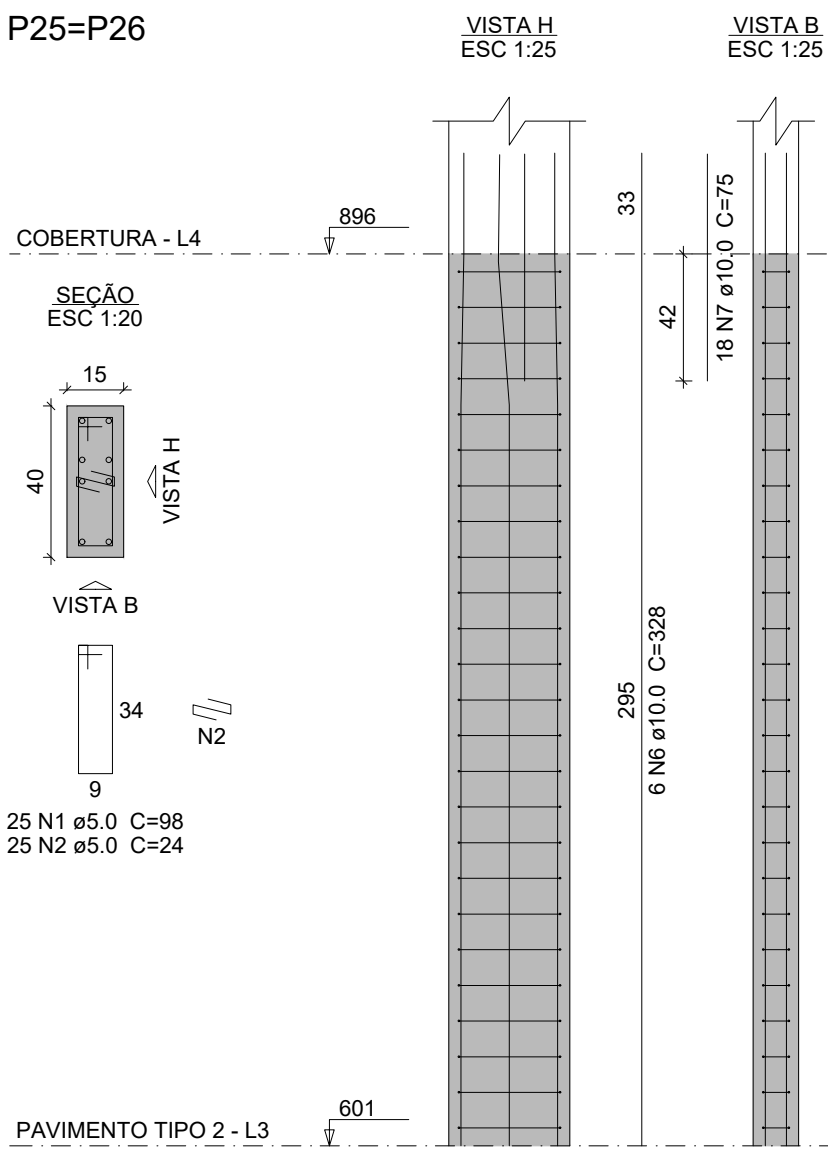
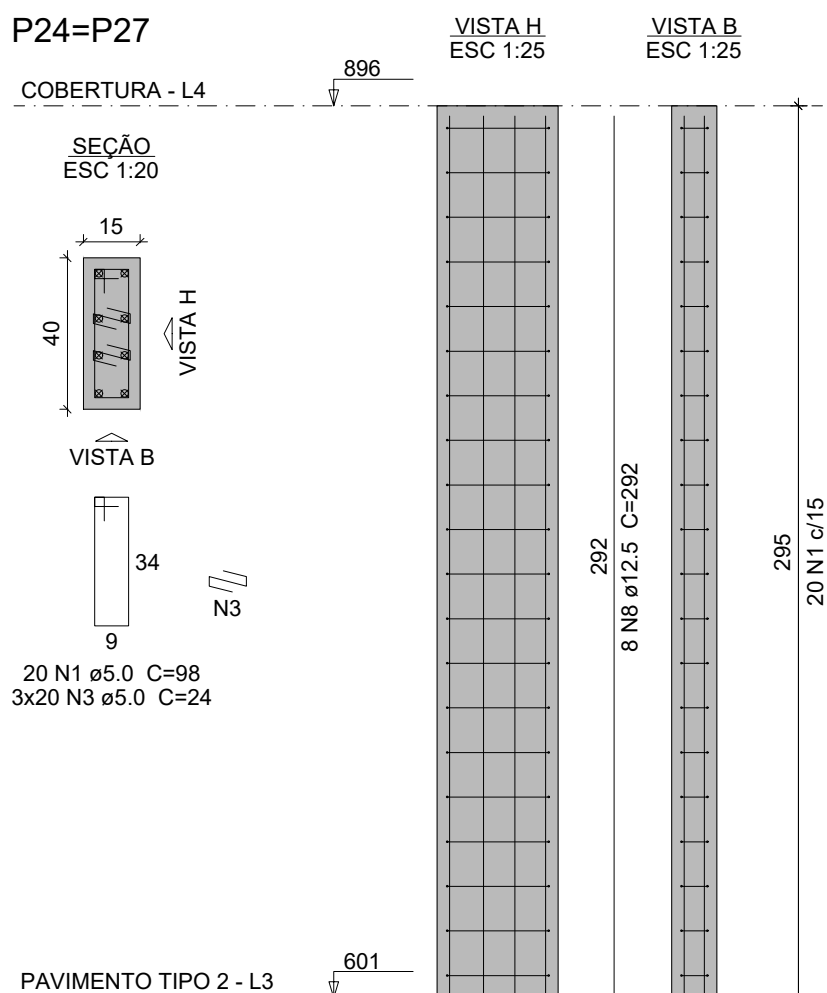
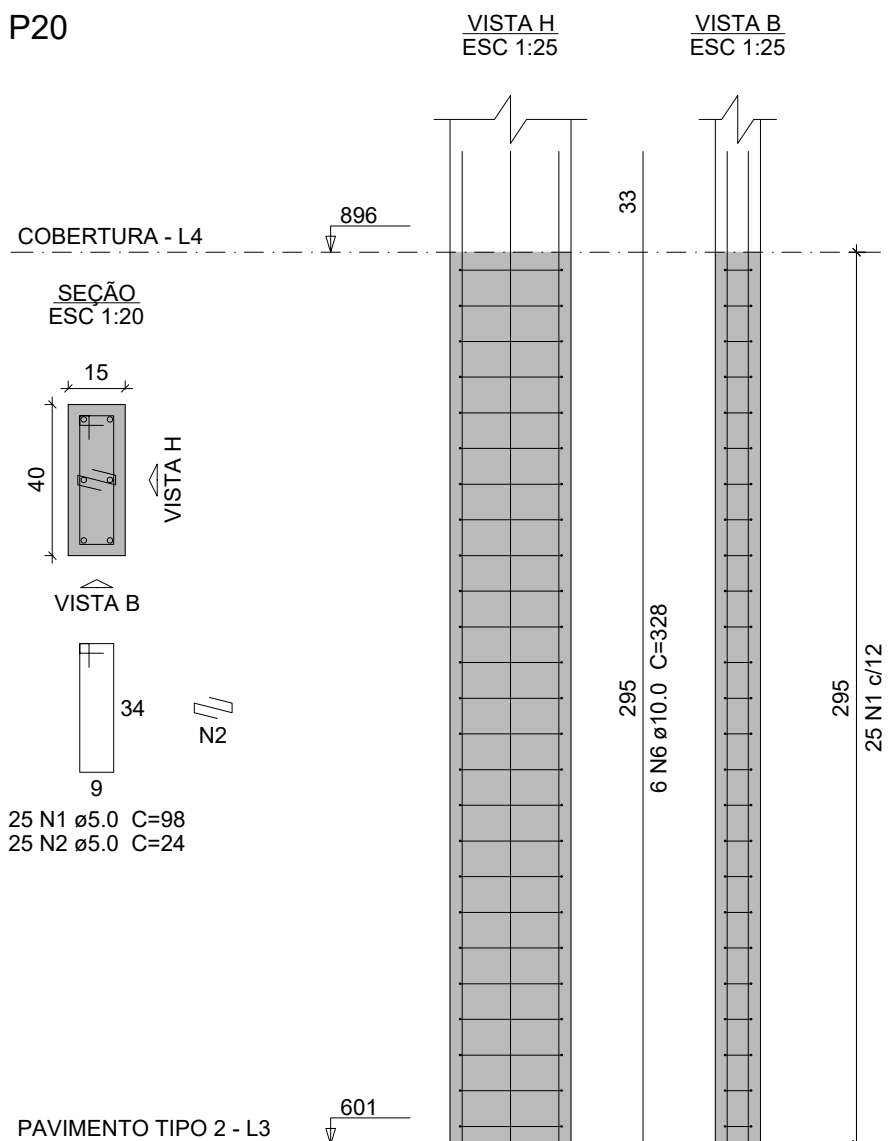
Detalhe 1 (esc. 1:30)



P1=P3=P4=P5=P9=P10=P13=  
=P14=P19=P21=P22=P23



P20



Relação do aço

12xP1 P17 2xP25		2xP15 P20		P16 2xP24	
AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	518	98	50764
	2	5.0	438	24	10512
	3	5.0	200	24	4800
CA50	4	10.0	80	292	23360
	5	10.0	6	442	2652
	6	10.0	18	328	5904
	7	10.0	36	75	2700
	8	12.5	32	292	9344

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	10.0	346.2	234.8
CA60	12.5	93.5	99
CA60	5.0	660.8	112
PESO TOTAL (kg)			
CA50	333.8		
CA60	112		

Volume de concreto (C-30) = 3.81 m³  
Área de forma = 69.8 m²

## Edificação em alvenaria - Residencial Multifamiliar

Prancha:  
Formas / Pilares cobertura

Responsável técnico:  
Geisa Marques

Obra:  
Edificação em alvenaria - Residencial Multifamiliar

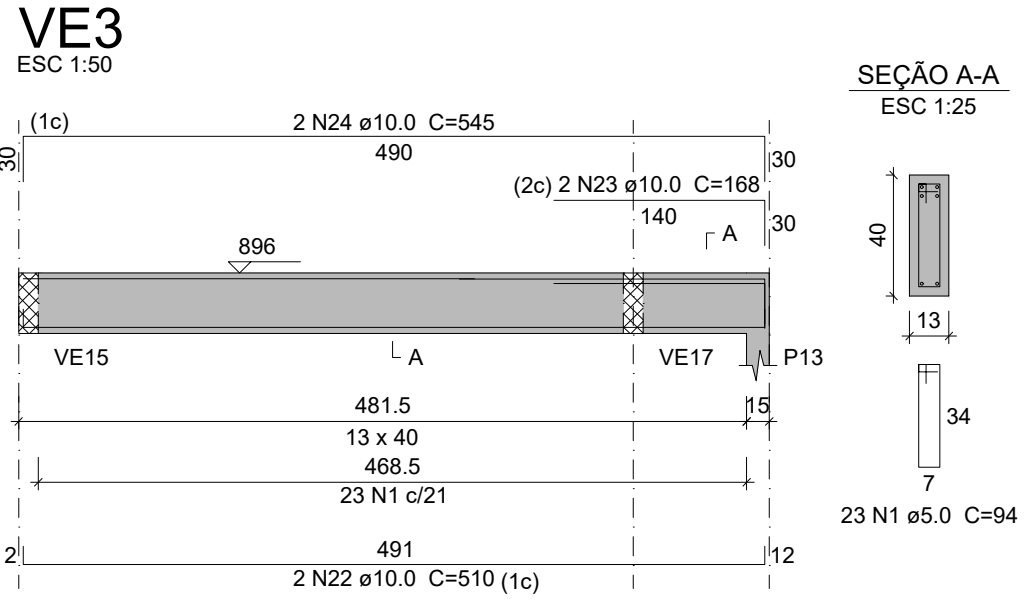
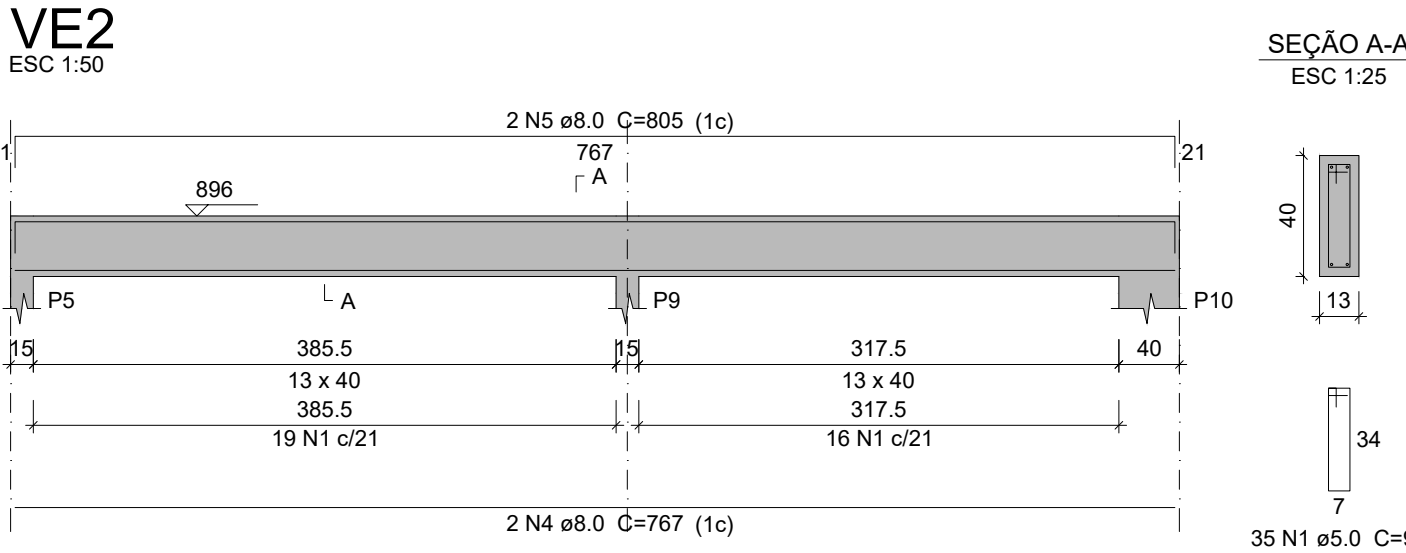
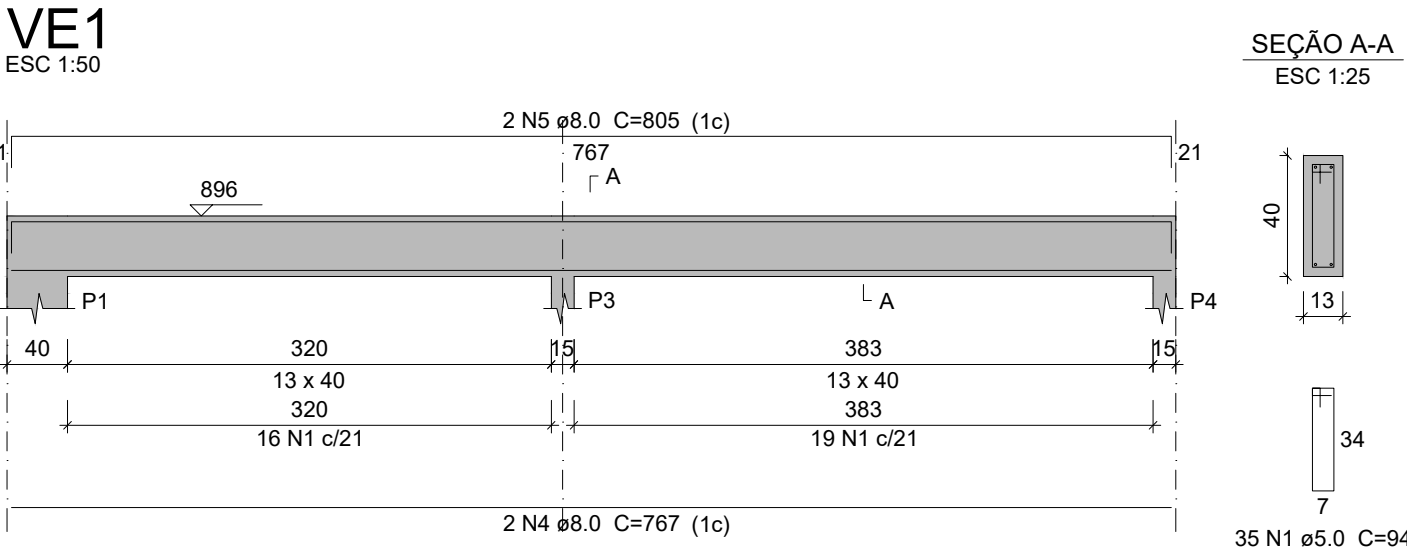
Localização:  
Cidade/Estado: Blumenau/Santa Catarina

Edificação em alvenaria - Residencial Multifamiliar

Escala INDICADA Data 14/09/2020 Revisão 00 Projeto Estrutural

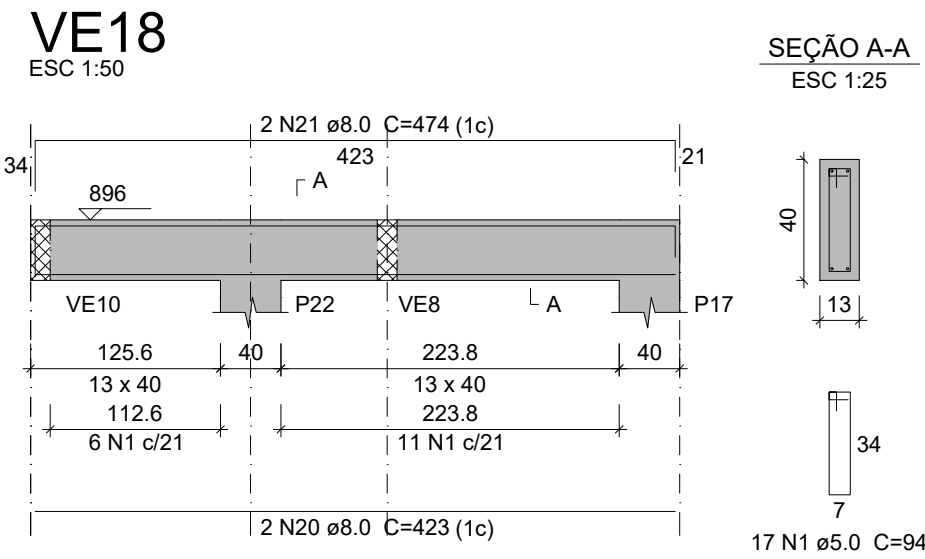
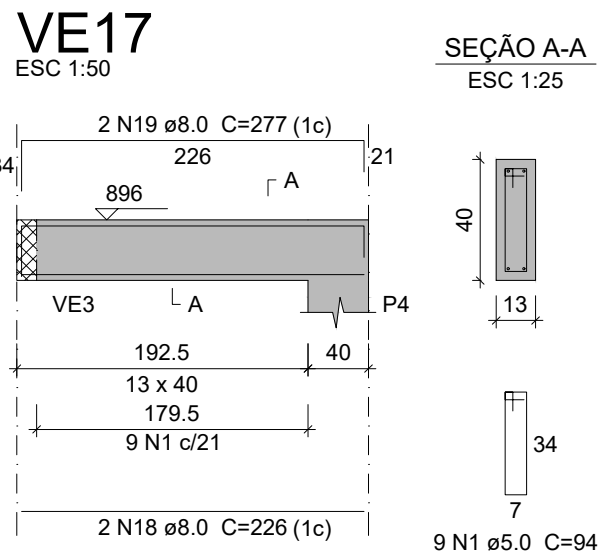
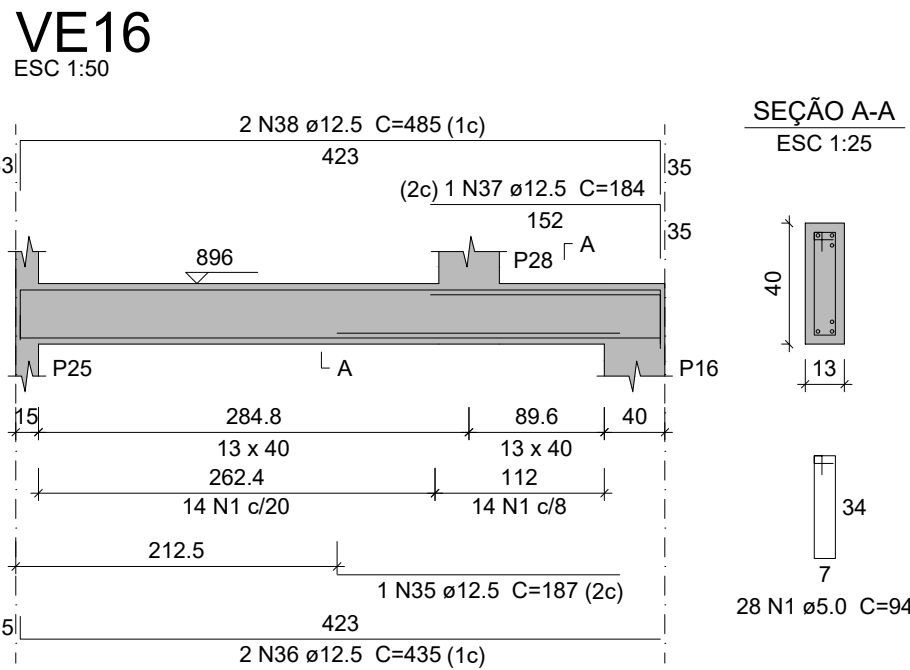
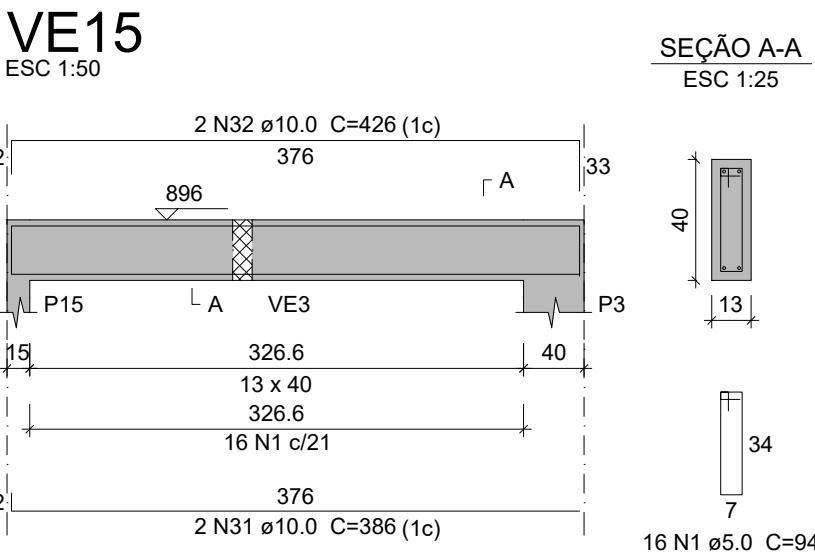
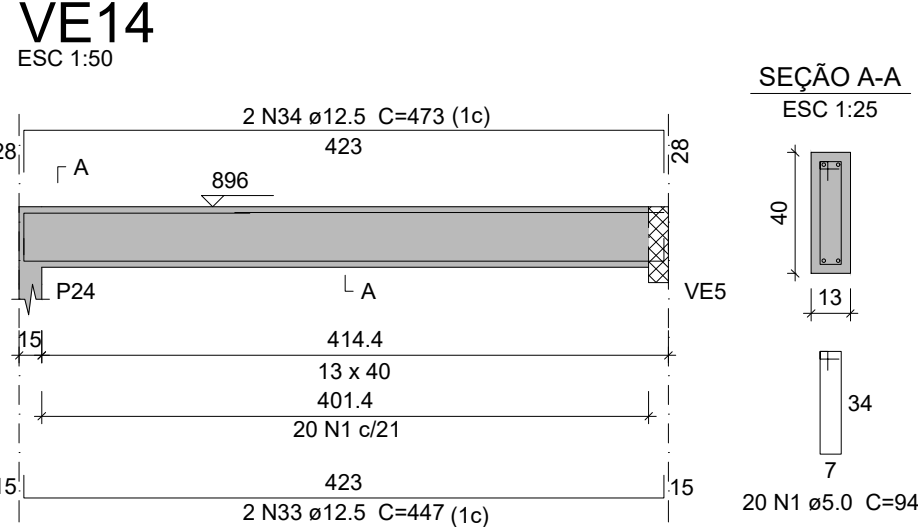
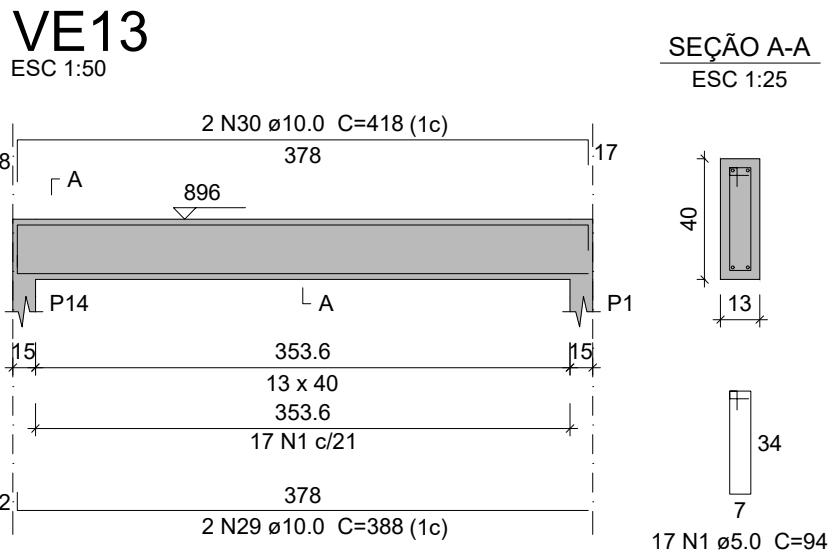
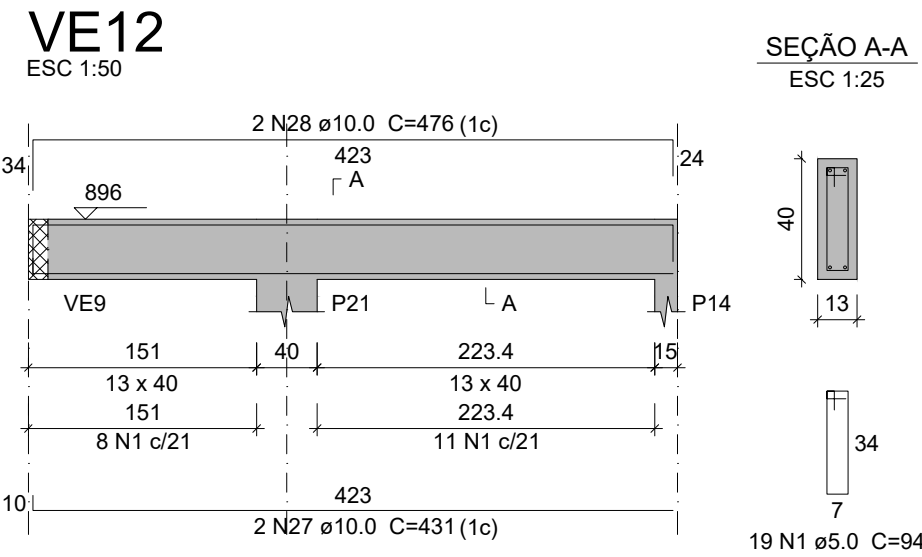
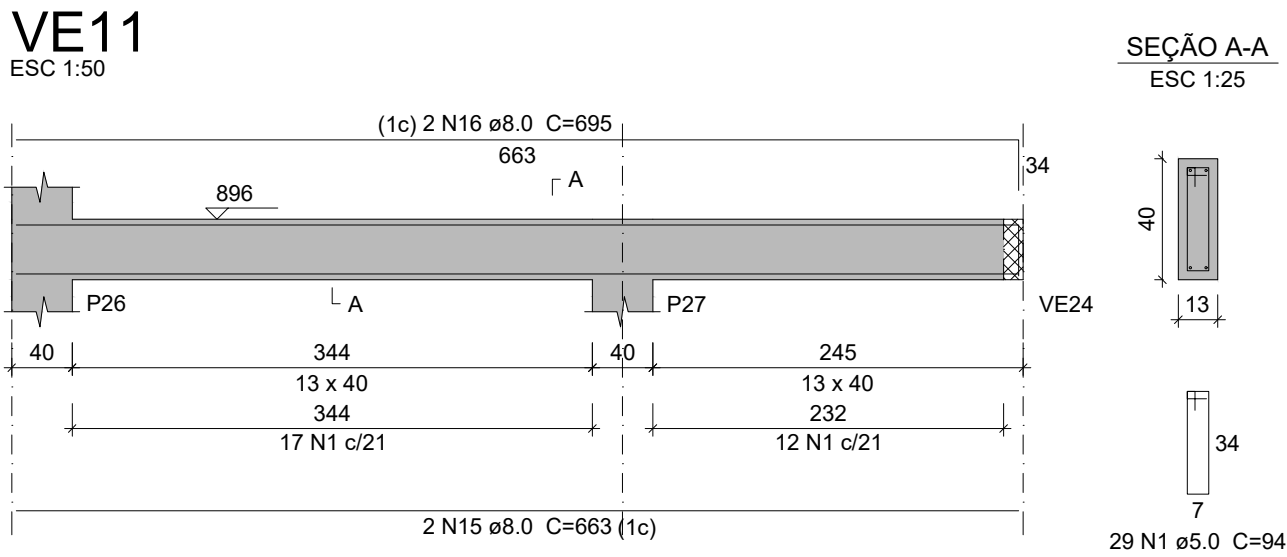
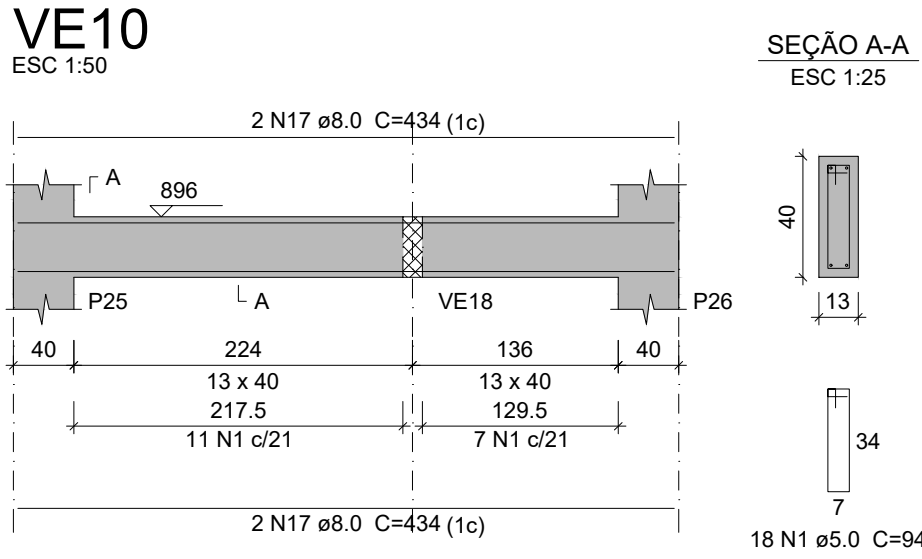
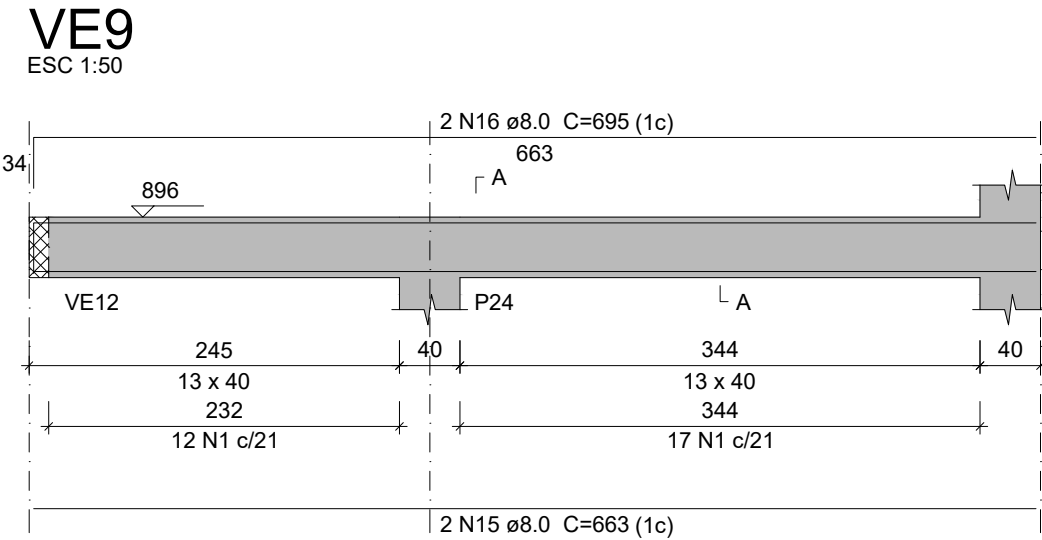
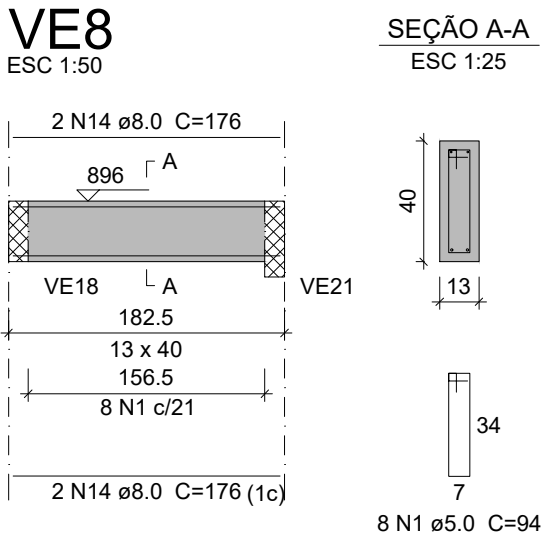
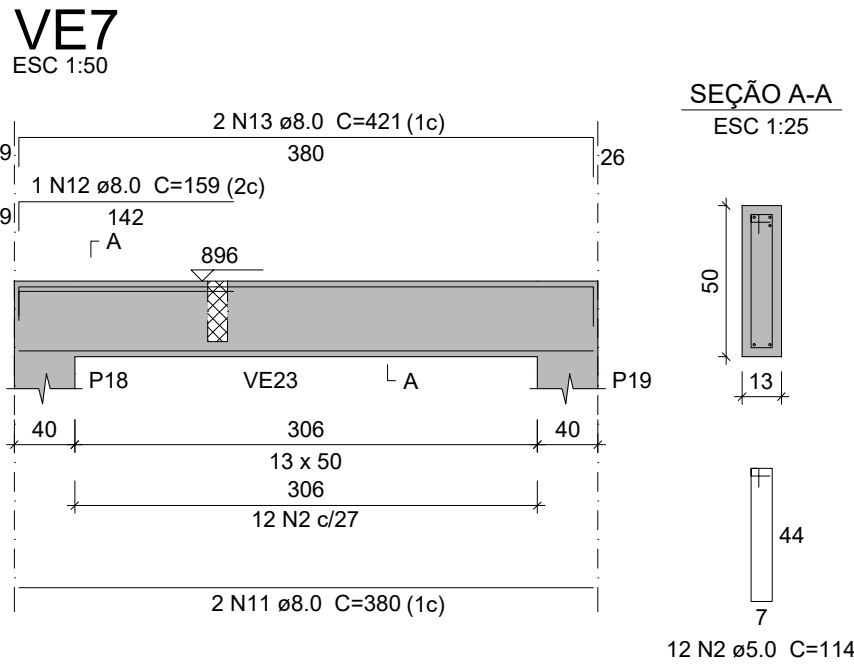
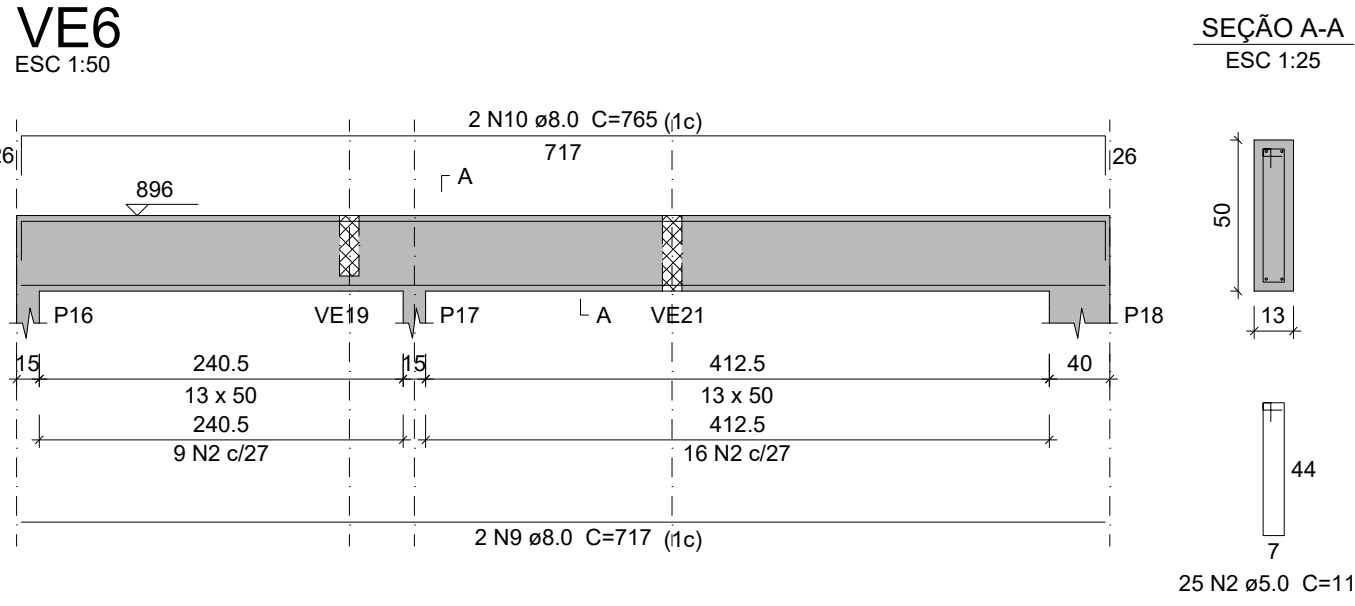
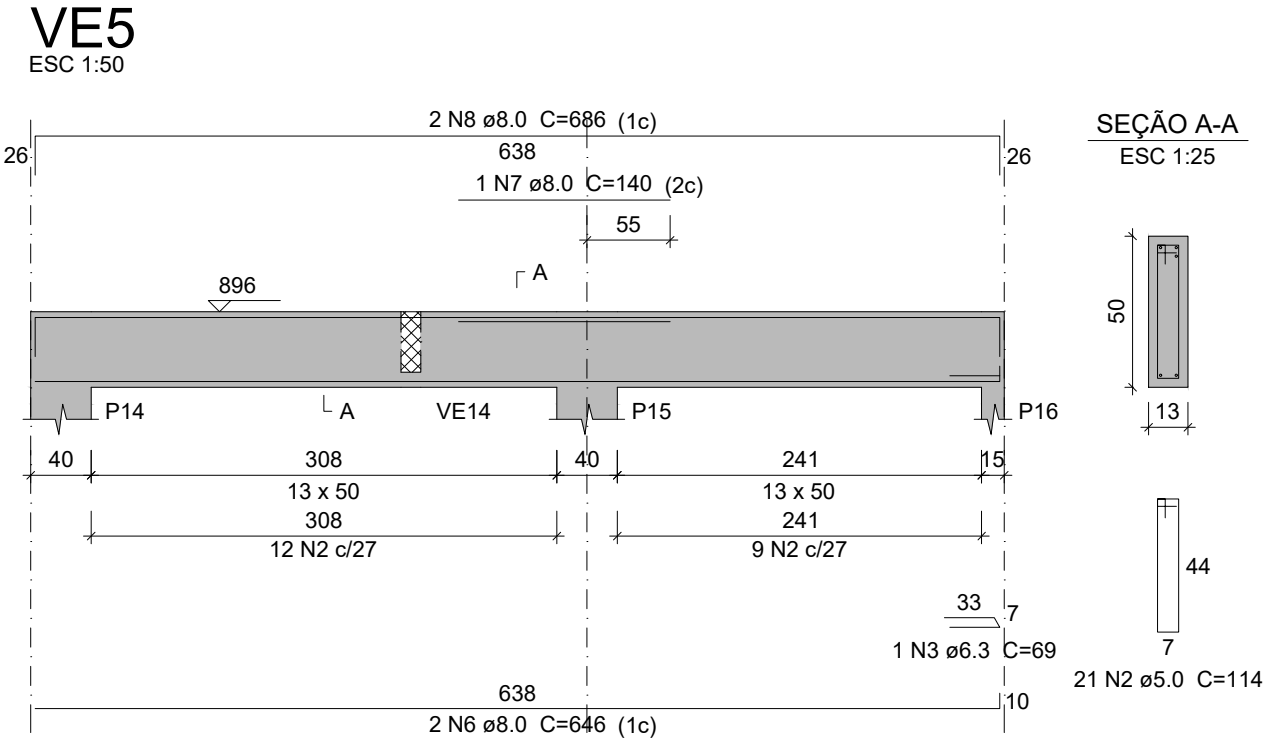
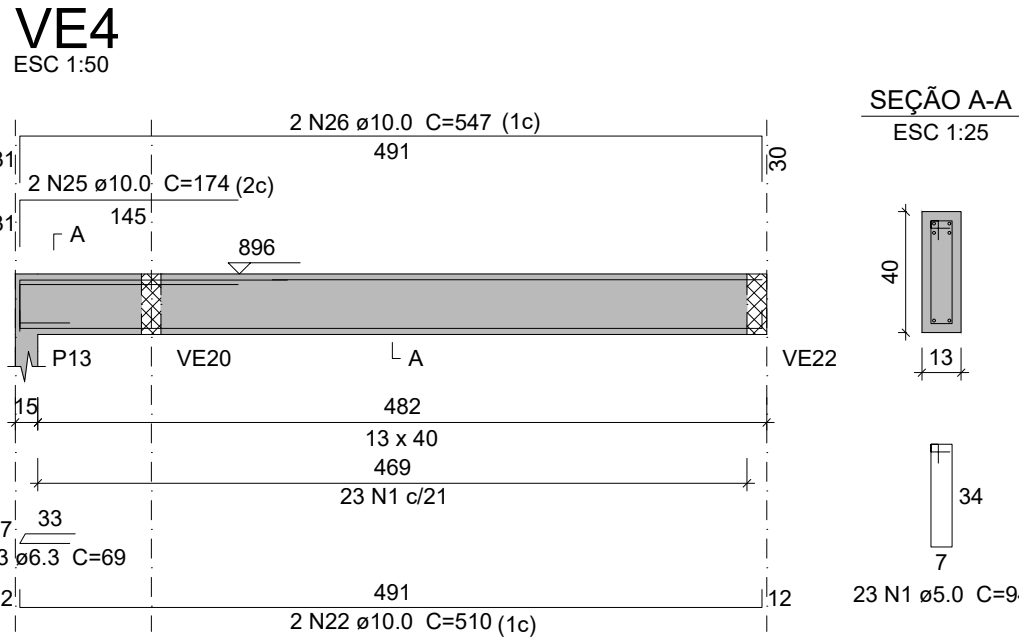
Desenho Geisa Marques Prancha: CA-12

Nº Projeto:



Relação do aço

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
VE1					
VE4					
VE5					
VE7					
VE10					
VE13					
VE16					
CA60	1	5.0	326	94	30644
CA50	2	5.0	58	114	6612
	3	6.3	2	69	138
	4	8.0	4	767	3068
	5	8.0	4	805	3220
	6	8.0	2	646	1292
	7	8.0	1	140	140
	8	8.0	2	686	1372
	9	8.0	2	717	1434
	10	8.0	2	765	1530
	11	8.0	2	380	760
	12	8.0	1	159	159
	13	8.0	2	421	842
	14	8.0	4	176	704
	15	8.0	4	663	2652
	16	8.0	4	695	2780
	17	8.0	4	434	1736
	18	8.0	2	226	452
	19	8.0	2	277	554
	20	8.0	2	423	846
	21	8.0	2	474	948
	22	10.0	4	510	2040
	23	10.0	2	168	336
	24	10.0	2	545	1090
	25	10.0	2	174	348
	26	10.0	2	547	1094
	27	10.0	2	431	862
	28	10.0	2	476	952
	29	10.0	2	388	776
	30	10.0	2	418	836
	31	10.0	2	386	772
	32	10.0	2	426	852
	33	12.5	2	447	894
	34	12.5	2	473	946
	35	12.5	1	187	187
	36	12.5	2	435	870
	37	12.5	1	184	184
	38	12.5	2	485	970



Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6.3	1.4	0.4
	8.0	244.9	106.3
	10.0	99.6	67.5
	12.5	40.6	42.9
CA60	5.0	372.6	63.2
PESO TOTAL (kg)			
CA50	217.1		
CA60	63.2		

Volume de concreto (C-30) = 4.89 m³  
Área de forma = 86.91 m²

00	Emissão inicial	Geisa	14/09/2020
NÚMERO	MODIFICAÇÃO	NOME	DATA

Obs: Caso divergência entre cota e escala, prevalece a cota.

Edificação em alvenaria - Residencial Multifamiliar

Prancha:  
Vigas cobertura

Responsável técnico:  
Geisa Marques

Obra:  
Edificação em alvenaria - Residencial Multifamiliar

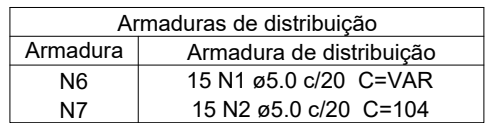
Localização:  
Cidade/Estado: Blumenau/Santa Catarina

Edificação em alvenaria - Residencial Multifamiliar

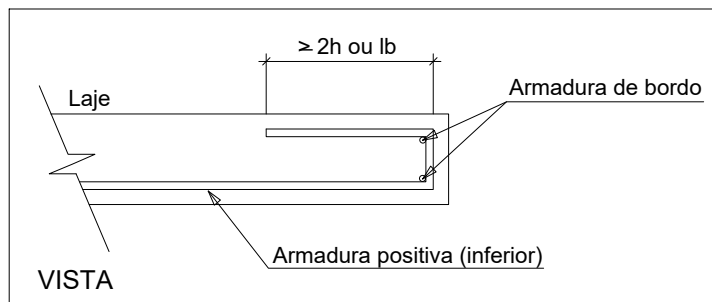
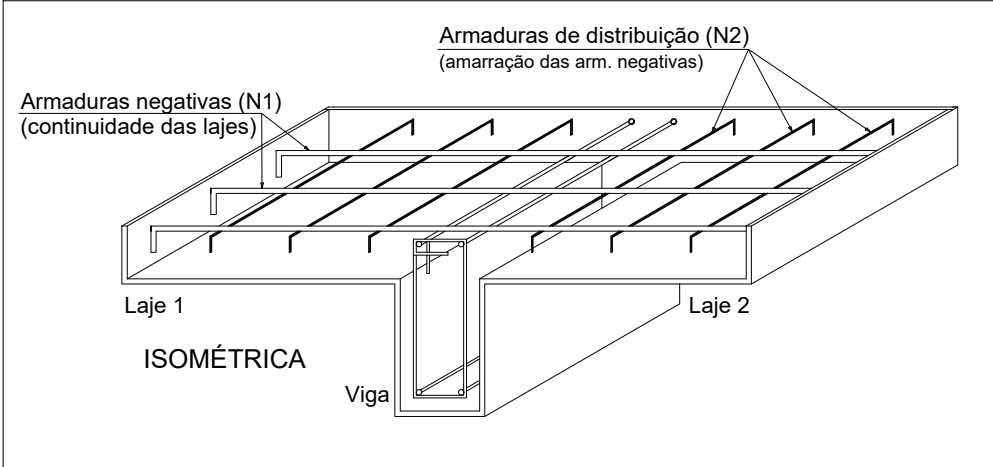
Escala INDICADA  
Data 14/09/2020  
Revisão 00  
Projeto Estrutural

Desenho Geisa Marques  
Prancha: CA-13

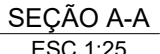
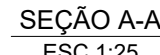
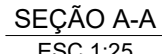
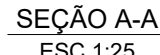
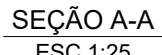
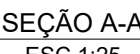
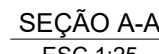
Nº Projeto:



escala 1:50



escala 1:50



Negativos Y	Positivos X	VE19
VE20	VE21	VE22
VE23	VE24	VE25

## Resumo do aço

Volume de concreto (C-30) = 6.93 m<sup>3</sup>  
Área de forma = 23.62 m<sup>2</sup>

00	Emissão Inicial	Geisa	14/09/2020
NÚMERO	MODIFICAÇÃO	NOME	DATA

Obs: Caso divergência entre cota e escala, prevalece a cota.

Obs: Caso divergência entre cota e escala, prevalece a cota.

Prancha:  
Lajes / Vigas cobertura

Responsável técnico:  
Geisa Marques

Obra:  
Edificação em alvenaria - Residencial Multifamiliar

Localização:

Cidade/Estado: Blumenau/Santa Catarina

Edificação em alvenaria - Residencial Multifamiliar

Escala **INDICADA**

Data 14/09/2020

Revisão 00

Projeto

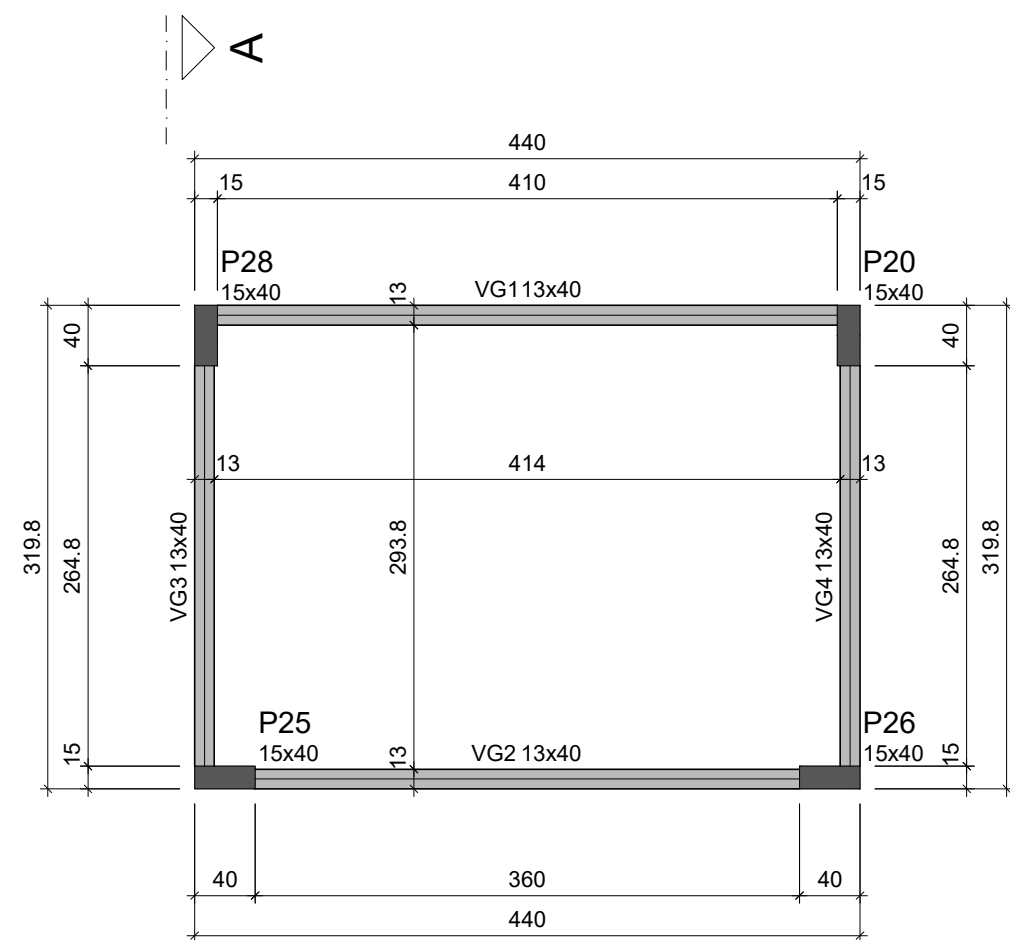
Estrutural

Desenho  
**Geisa Marques**

Prancha:  
CA-14

N° Projeto:




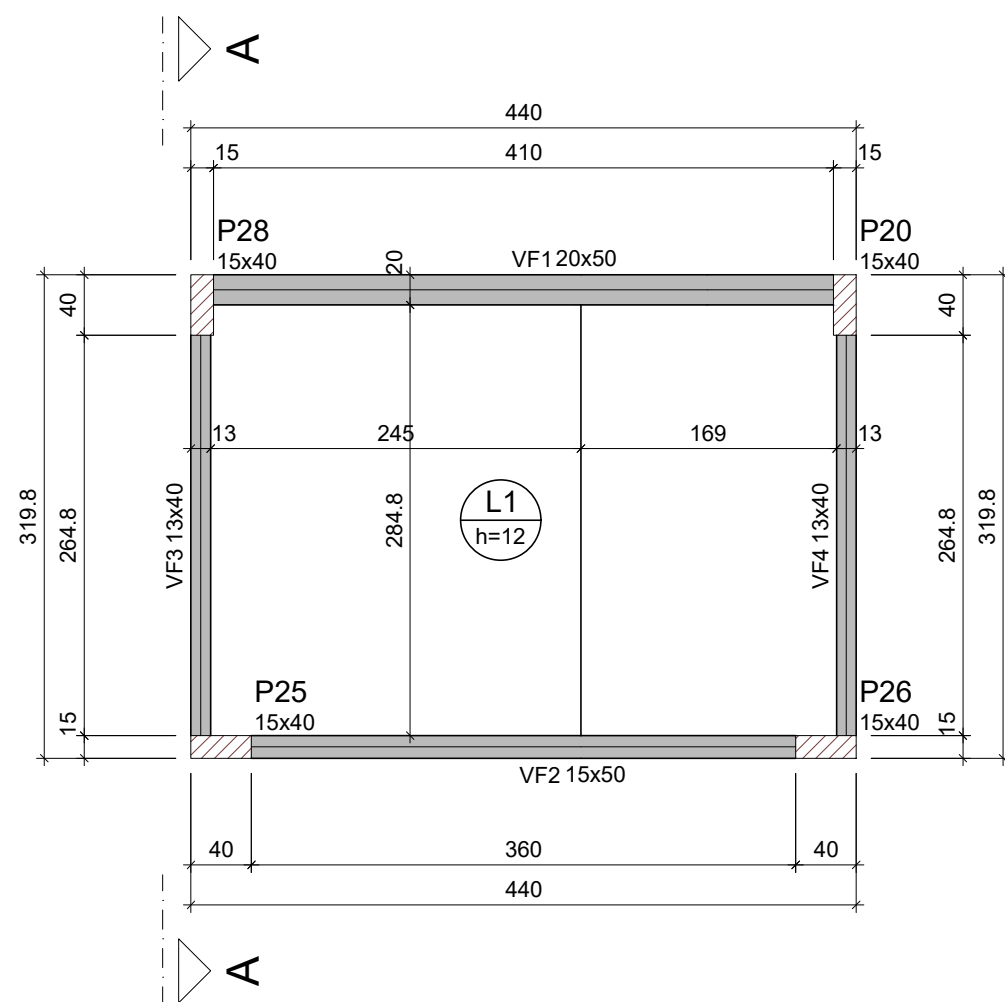


Características dos materiais	
fck (kgf/cm <sup>2</sup> )	Ecs (kgf/cm <sup>2</sup> )
300	268384

Dimensão máxima do agregado = 19 mm

Legenda dos pilares	
	Pilar que morre


Legenda das vigas e paredes	
	Viga




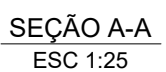
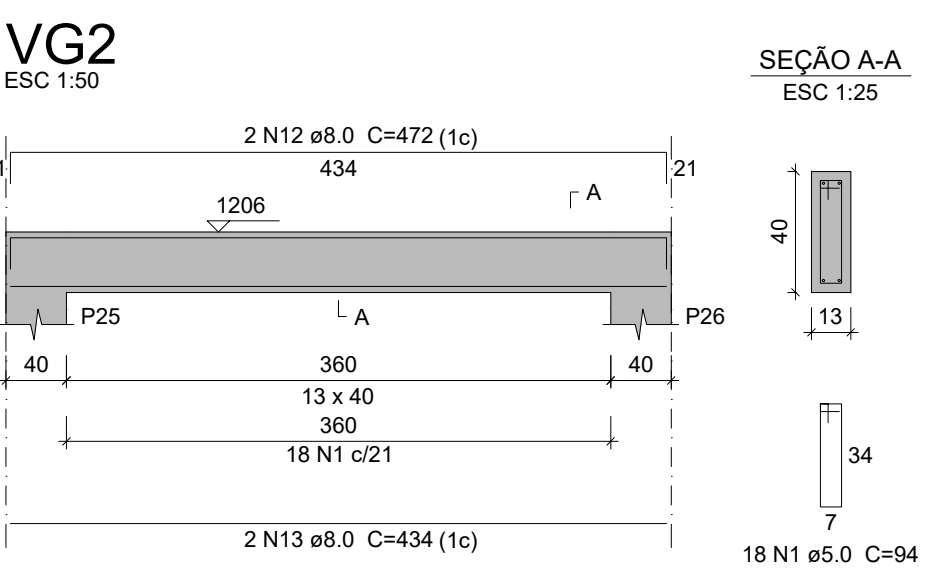
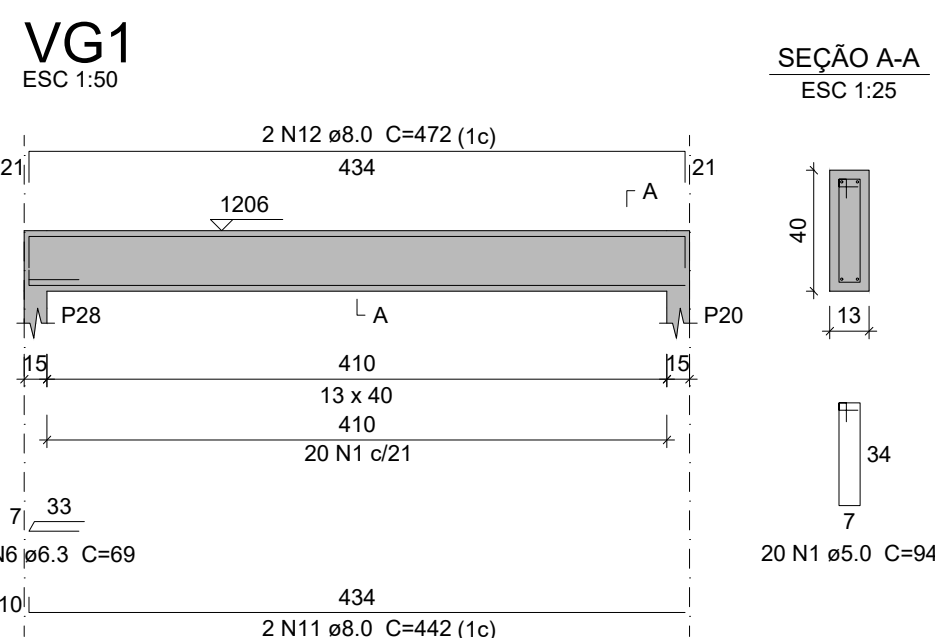
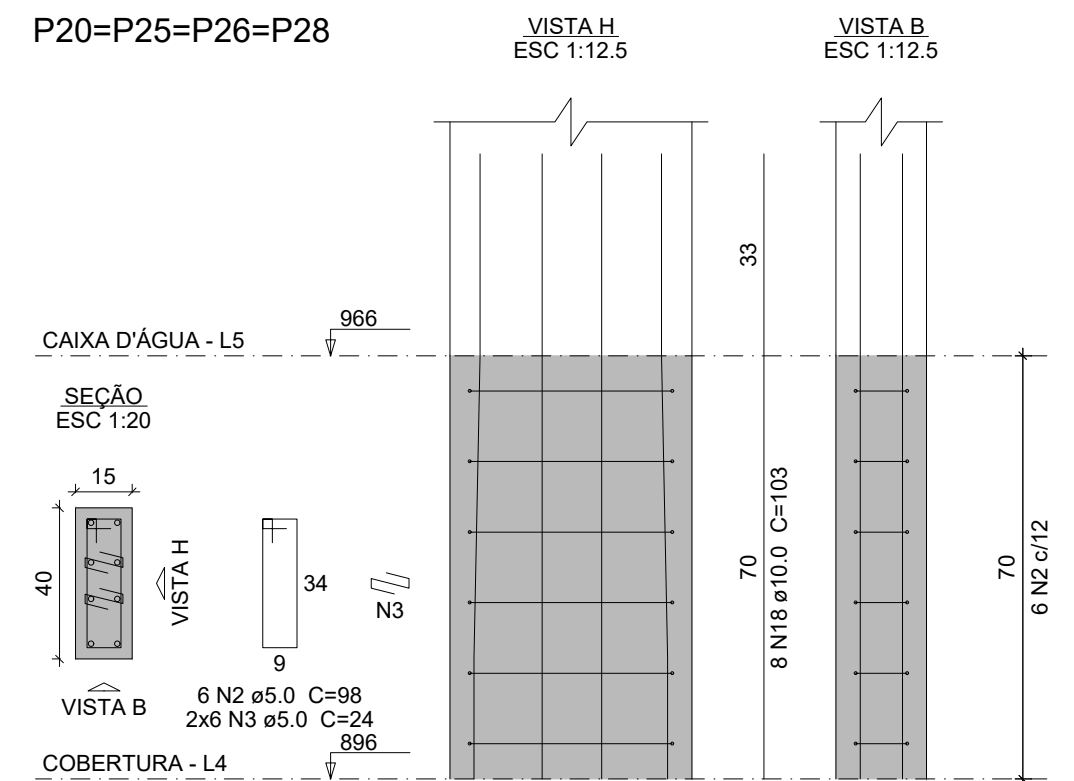
Lajes								
Dados						Sobrecarga (kgf/m²)		
Nome	Tipo	Altura (cm)	Elevação (cm)	Nível (cm)	Peso próprio (kgf/m²)	Adicional	Acidental	Localizada
L1	Maciça	12	0	966	300	182	50	sim

Características dos materiais	
fck (kgf/cm <sup>2</sup> )	Ecs (kgf/cm <sup>2</sup> )
300	268384

Dimensão máxima do agregado = 19 mm

Legenda dos pilares	
	Pilar que passa

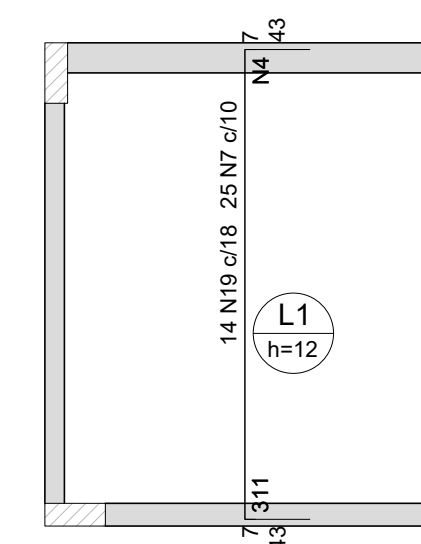
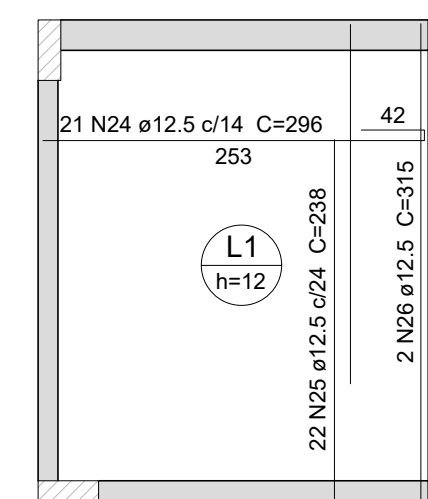
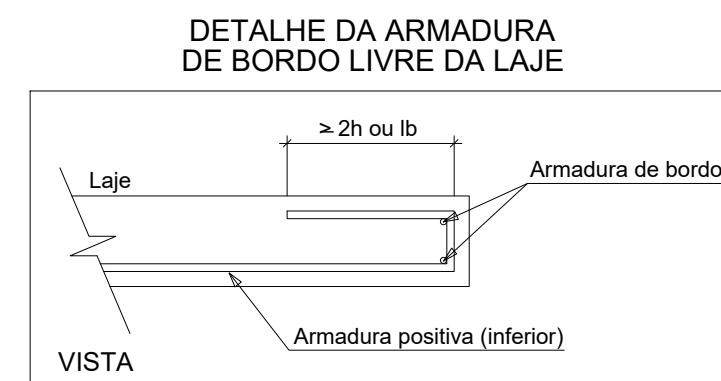
Legenda das vigas e paredes	
	Viga



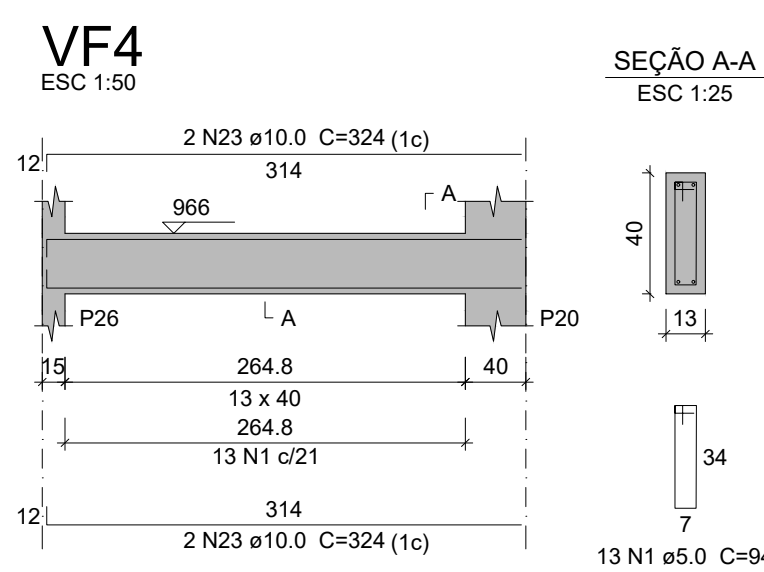
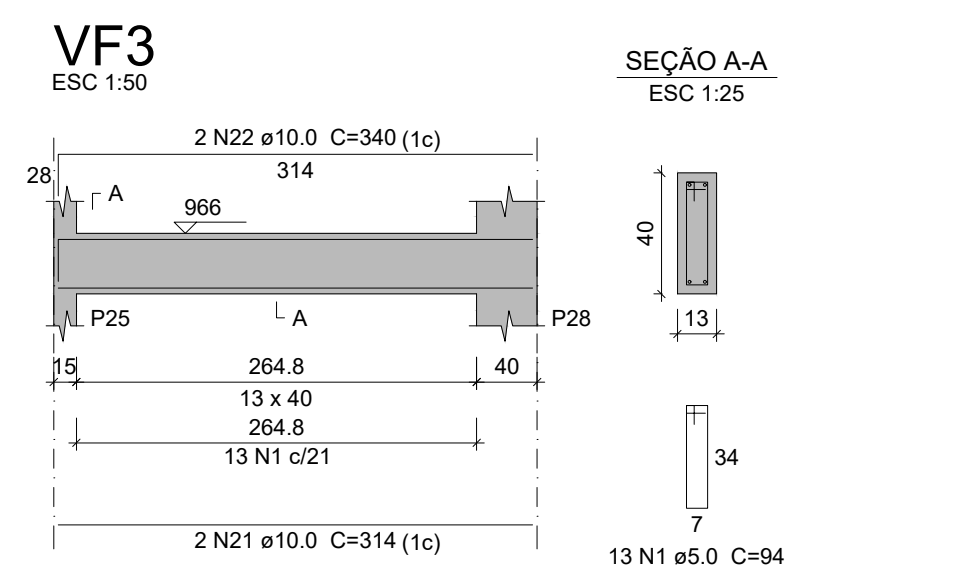
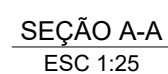
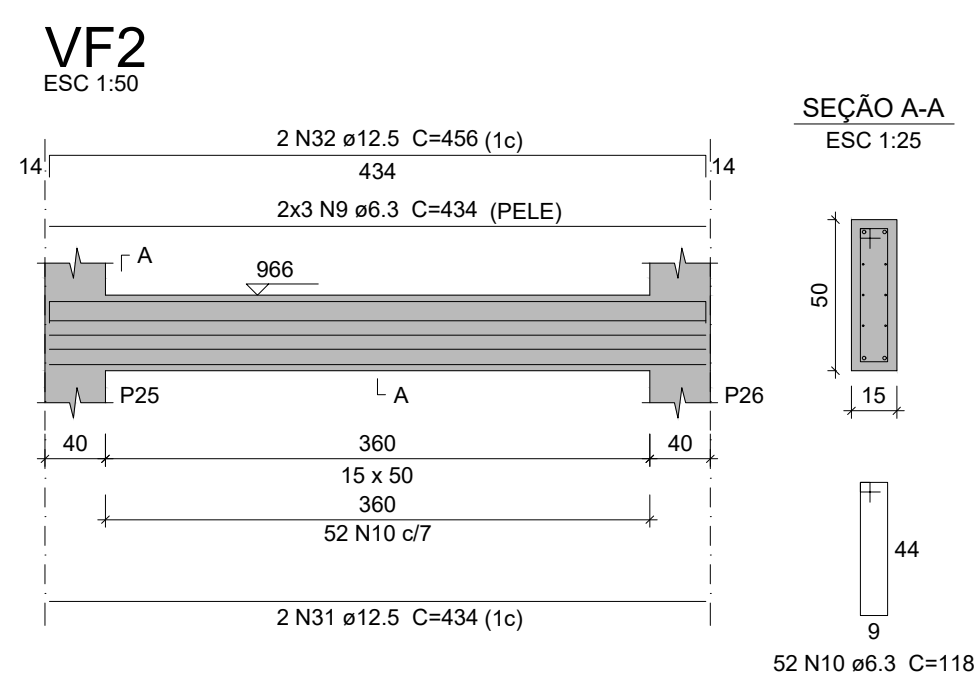
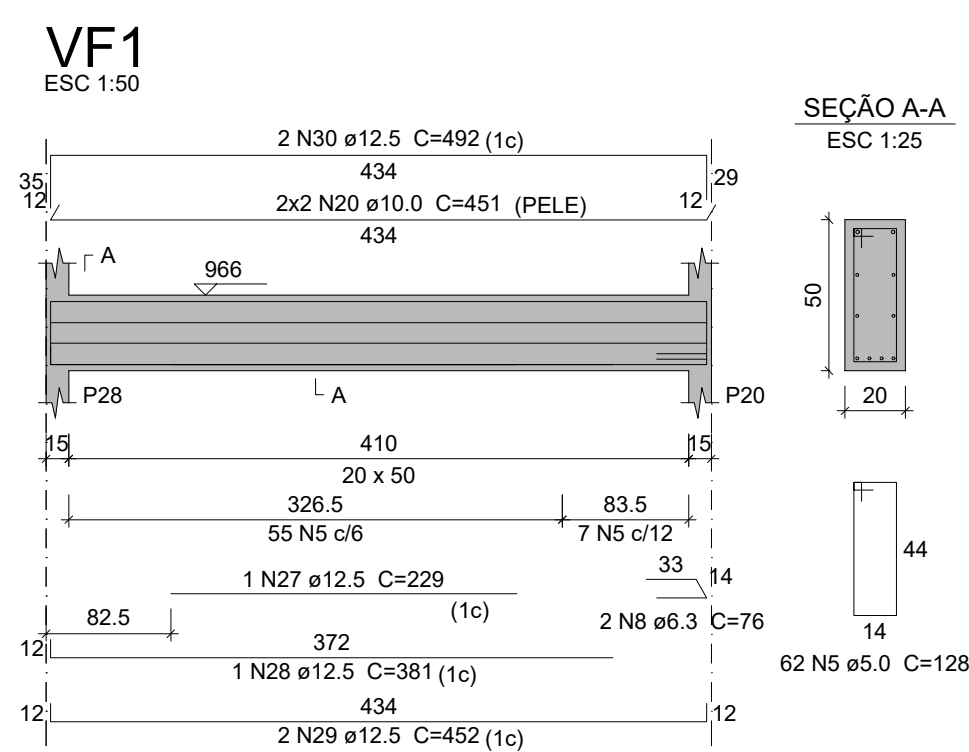
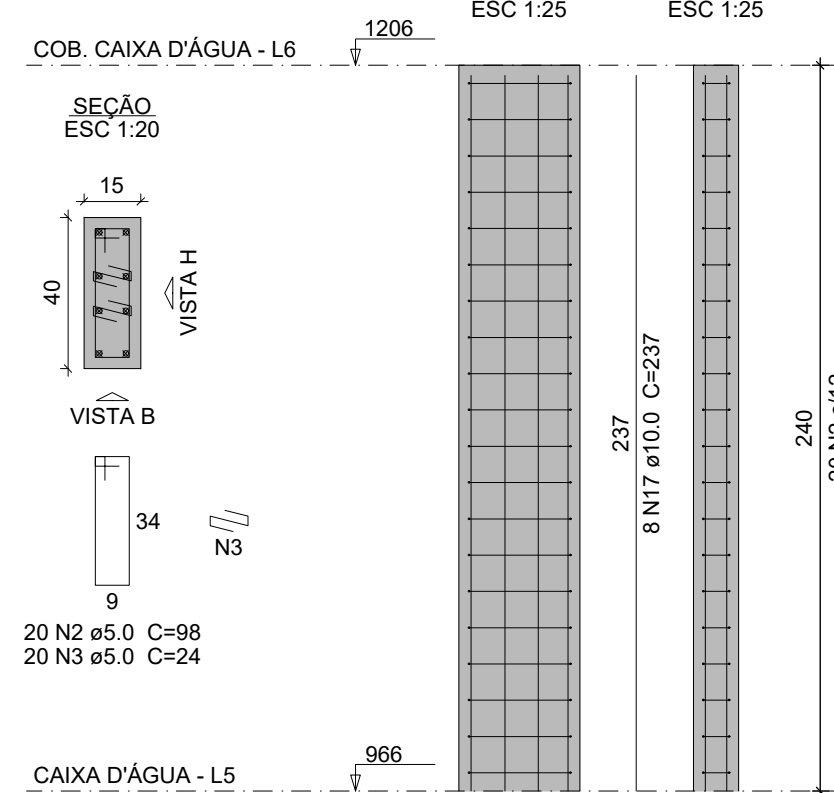
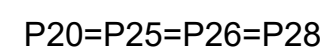
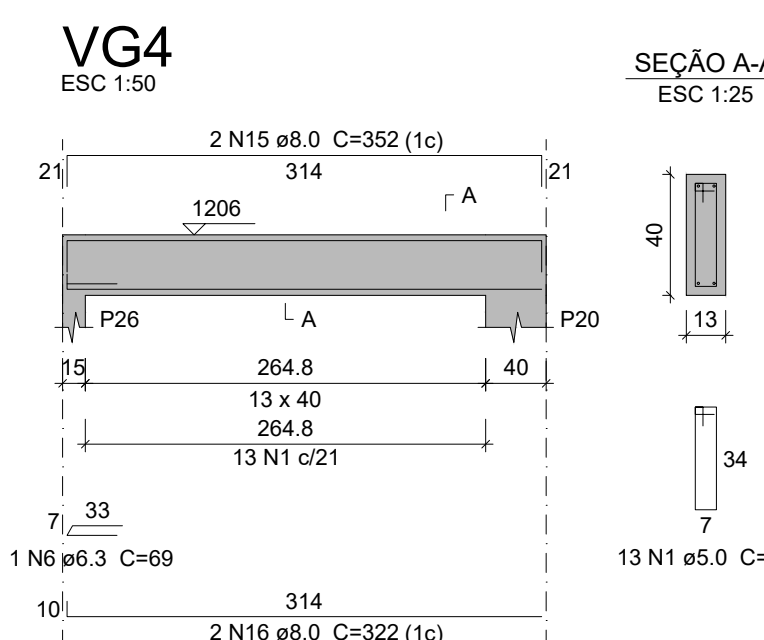
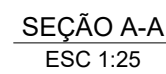
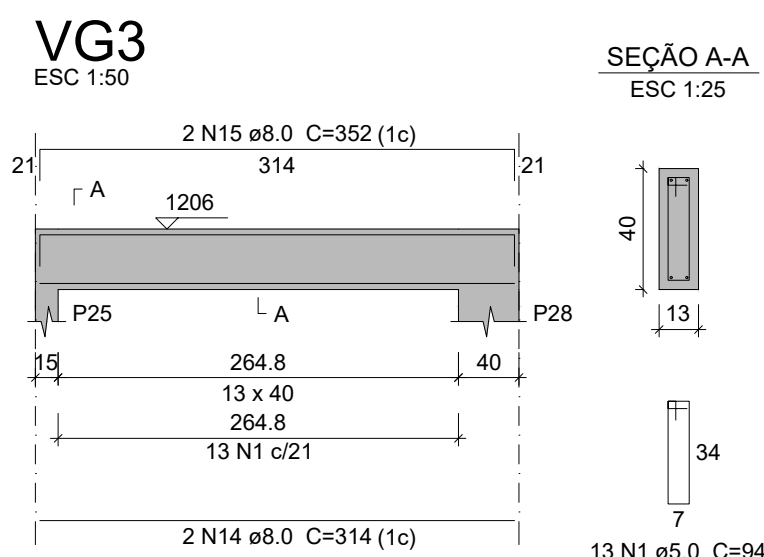
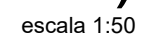
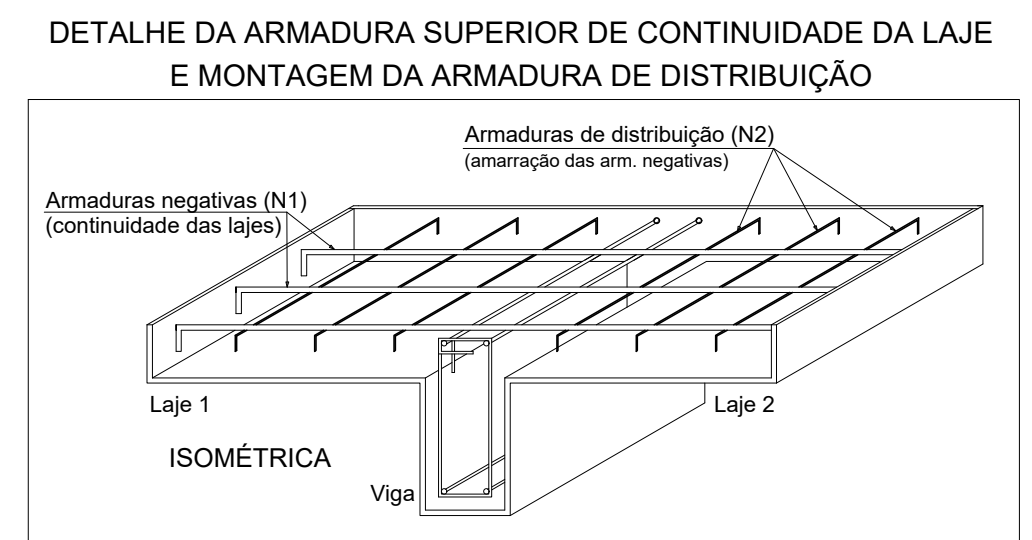
Relação do aço

Caixa d'água:	Negativos Y	FP20
	VF1	VF2
	VF3	VF4
Cob. caixa d'água:	AXP20	VG1
	VG2	VG3
	VG4	

AÇO	N	DIAM	QUANT	C.UNIT	C.TOTAL
				(m)	(c)
CA60	1	5,0	90	94	8460
	2	5,0	104	98	10192
	3	5,0	128	24	3072
CA50	4	5,0	32	VAR	VAR
	5	5,0	62	128	7936
	6	6,3	2	69	138
	7	6,3	25	358	8950
	8	6,3	2	76	152
	9	6,3	6	434	2604
	10	6,3	52	118	6136
	11	8,0	2	442	884
	12	8,0	4	472	1888
	13	8,0	2	434	868
	14	8,0	2	314	628
	15	8,0	4	352	1408
16	8,0	2	322	644	
17	10,0	32	237	7584	
18	10,0	32	103	3296	
19	10,0	14	356	4984	
20	10,0	4	451	1804	
21	10,0	2	314	628	
22	10,0	2	340	680	
23	10,0	4	324	1296	
24	12,5	21	206	6216	
25	12,5	22	338	7436	
26	12,5	2	315	630	
27	12,5	1	229	229	
28	12,5	1	381	381	
29	12,5	2	452	904	
30	12,5	2	492	984	
31	12,5	2	434	868	
32	12,5	2	456	912	



Armaduras de distribuição	
Armadura	Armadura de distribuição
N19	16 N4 Ø5.0 c/20 C=VAR
N7	16 N4 Ø5.0 c/20 C=VAR



00	Emissão Inicial	Gerar	14/09/2020
NÚMERO	MODIFICAÇÃO	NOME	DATA

Obs: Caso divergência entre cota e escala, prevalece a cota.

Edificação em alvarania - Residencial Multifamiliar

Prancha:  
Caixa d'água completa

Responsável técnico:  
Geisa Marques

Obra:  
Edificação em alvarania - Residencial Multifamiliar

Localização:  
  
Cidade/Estado: Blumenau/Santa Catarina

Edificação em alvarania - Residencial Multifamiliar

Escala  
INDICADA

Data  
14/09/2020

Revisão  
00

Projeto  
Estrutural

Desenho  
Geisa Marques

Prancha:  
CA-15

N° Projeto: