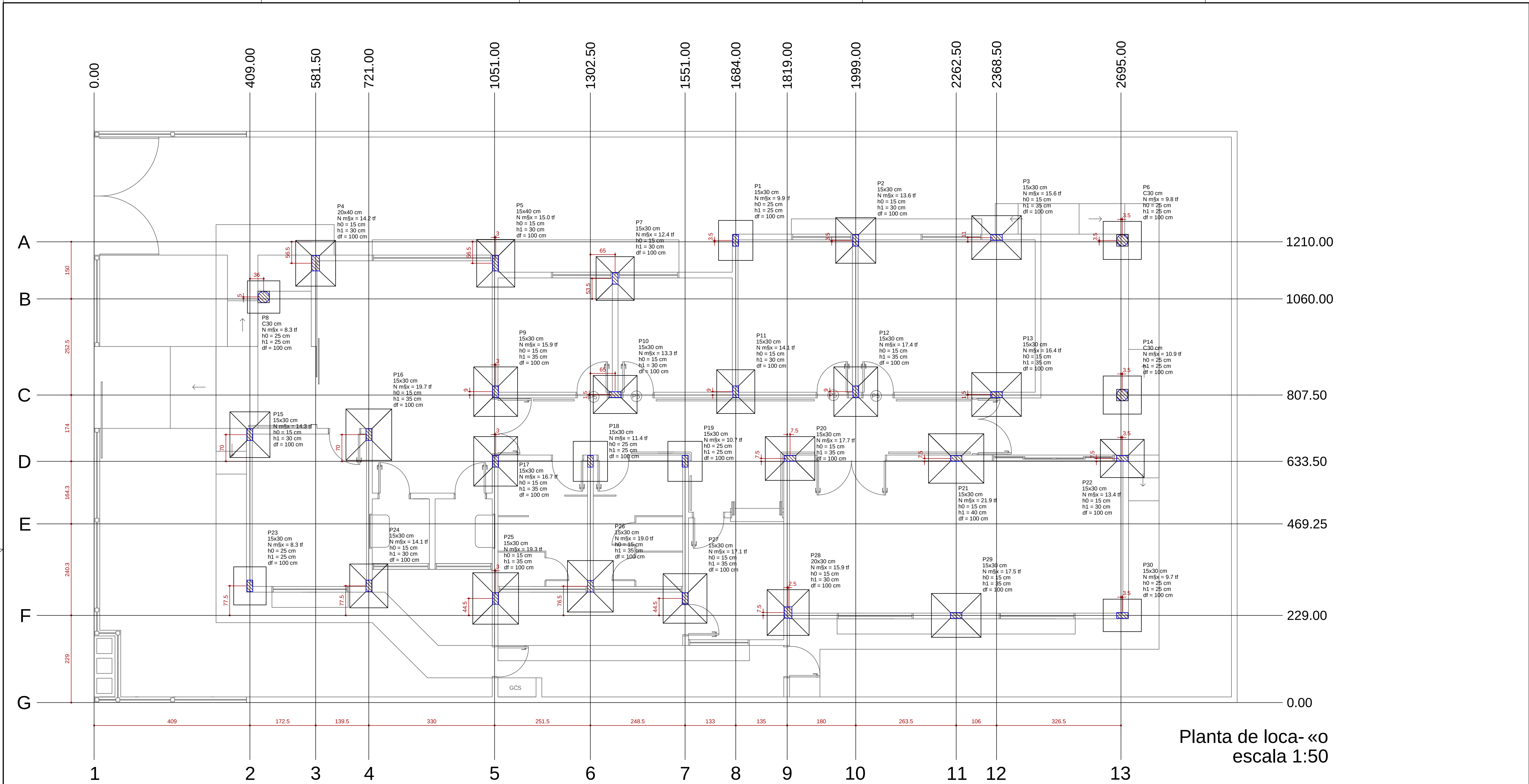
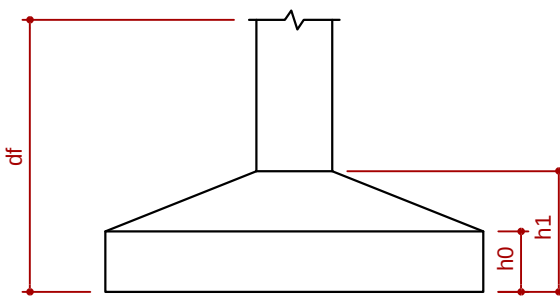




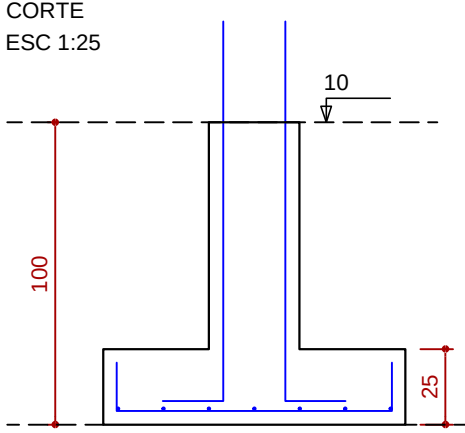
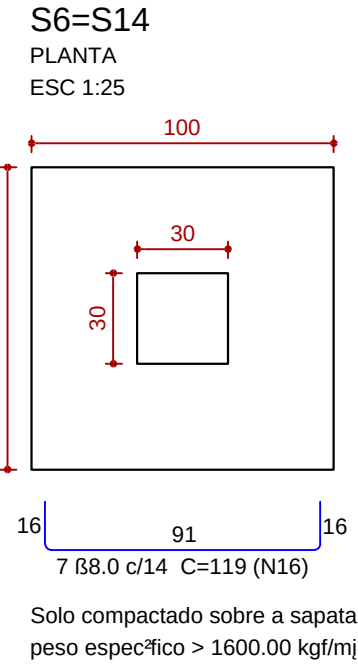
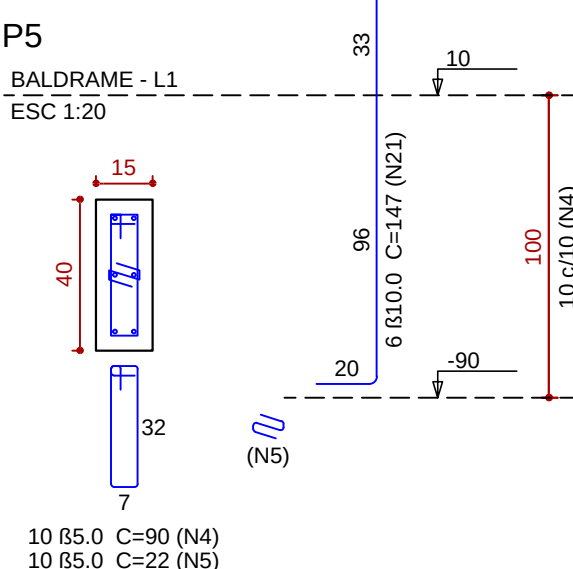
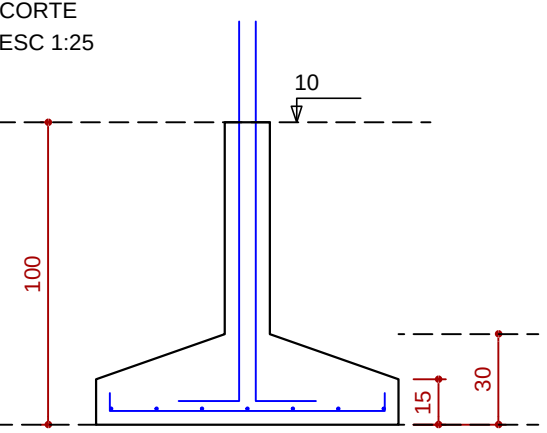
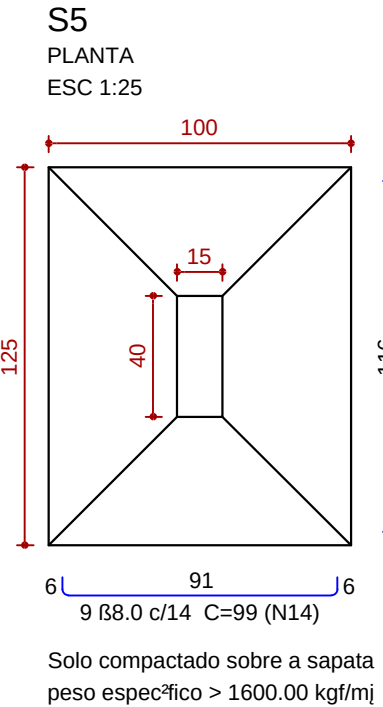
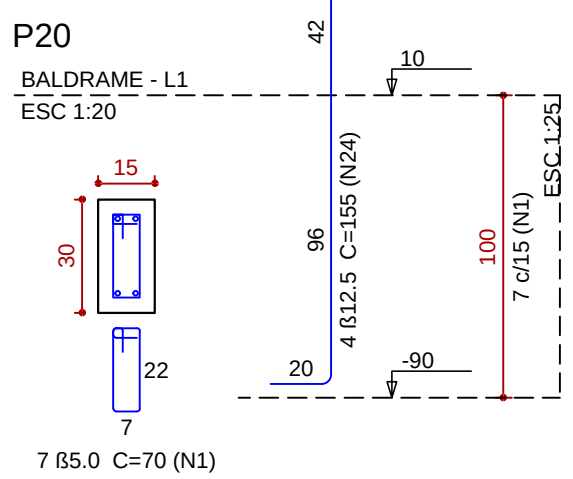
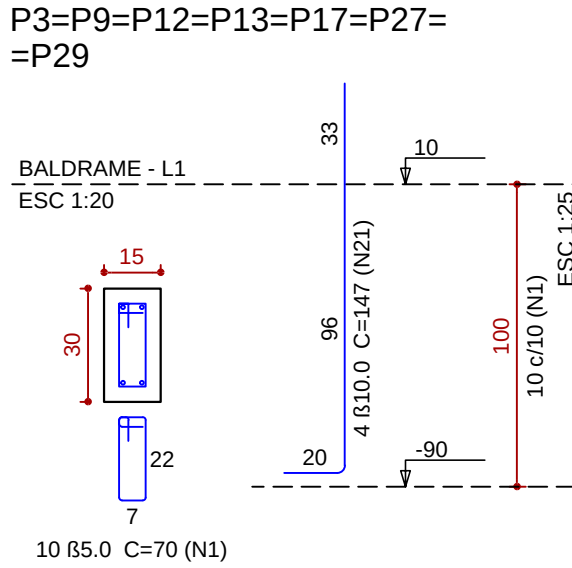
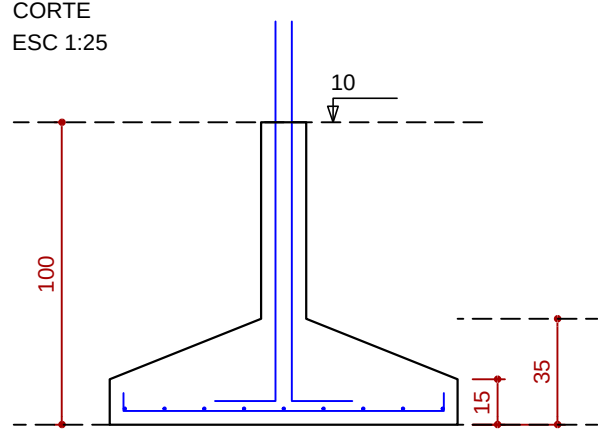
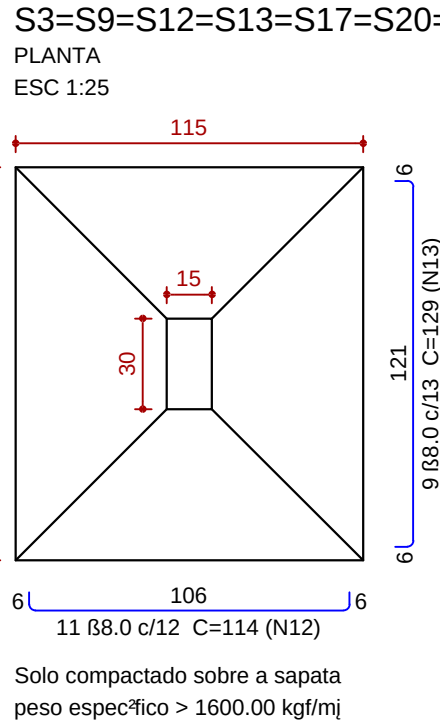
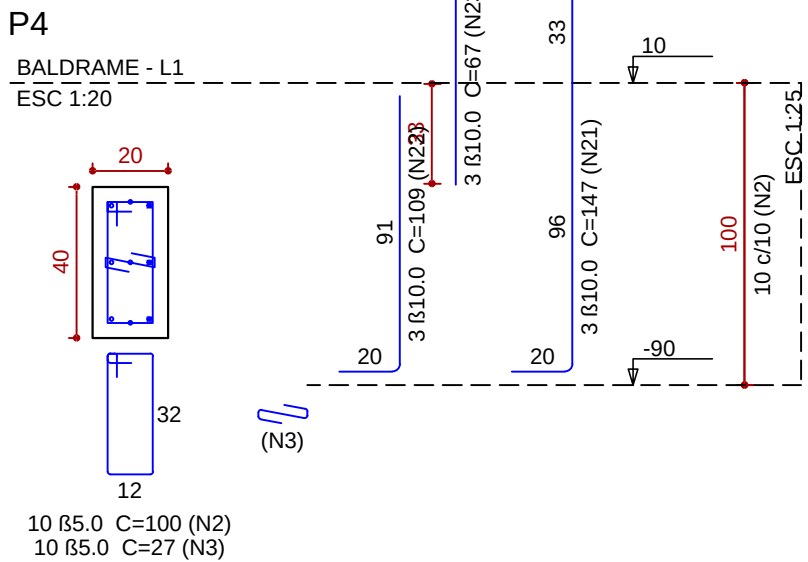
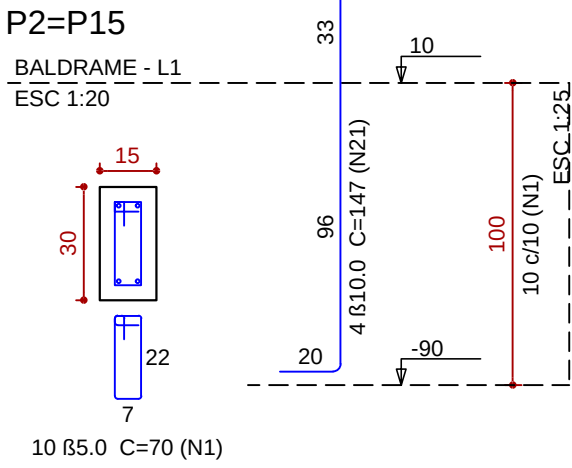
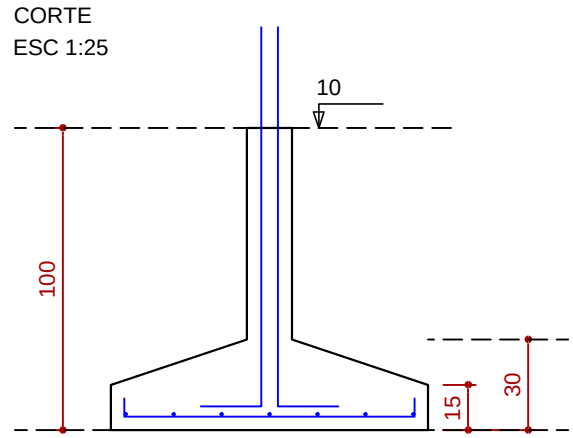
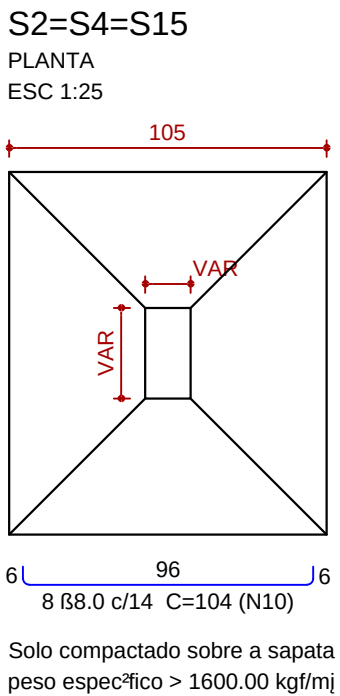
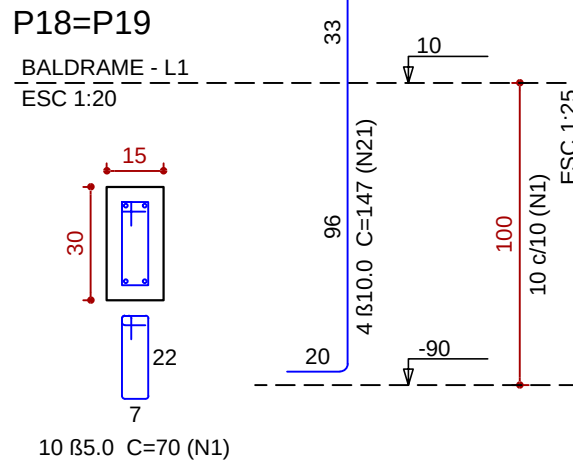
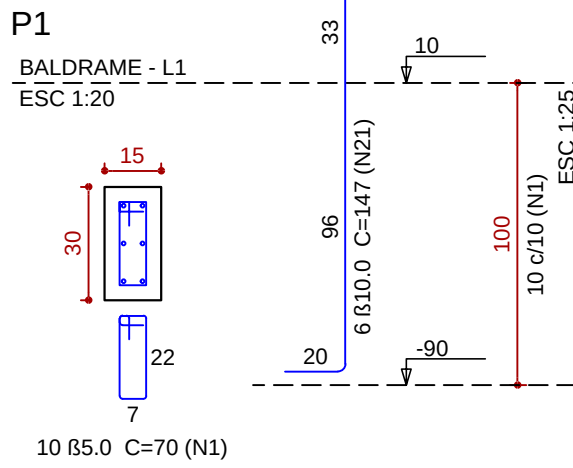
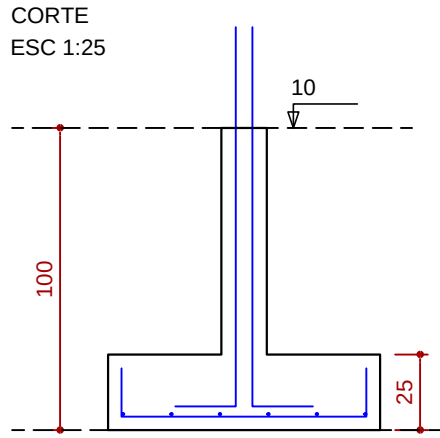
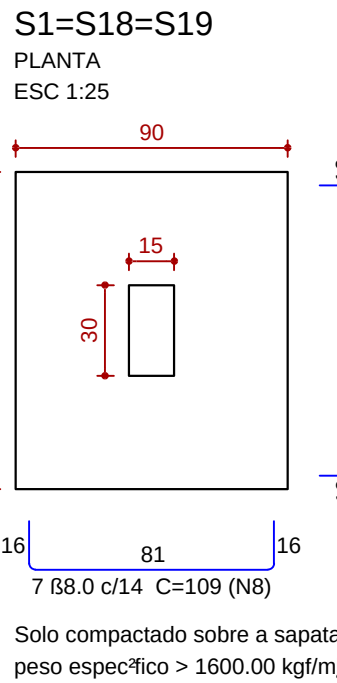
Planta de loca-«o
escala 1:50

Nome	Se-«o	X	Y	CAP	Pilar					Funda-«o						
					Carga M8x	Carga M10	Mx	My	Fx	Fy	Lado B	Lado H	h0 / ha	h1 / hb	df	
P1	15x30	1684.00	1213.50	-	9.9	7.9	0	0	0.2	1.5	90	105	25	30	100	
P2	15x30	1999.00	1213.50	-	13.6	11.1	0	0	0.4	0.8	105	120	15	30	100	
P3	15x30	2368.50	1221.00	-	15.6	13.5	0	0	0.4	0.2	115	130	15	35	100	
P4	20x40	581.50	1153.50	-	14.2	12.0	0	0	0.7	0.7	105	120	15	30	100	
P5	15x40	1054.00	1153.50	-	15.0	12.3	0	0	1.0	1.3	100	125	15	30	100	
P6	C30	2698.50	1213.50	-	9.8	8.3	0	0	0.6	0.6	100	100	25	25	100	
P7	15x30	1367.50	1113.50	-	12.4	10.2	0	0	0.2	1.1	100	115	15	30	100	
P8	C30	445.00	1065.00	-	8.3	7.1	0	0	1.4	0.6	85	85	25	25	100	
P9	15x30	1054.00	816.50	-	15.9	12.4	0	0	0.3	1.6	115	130	15	35	100	
P10	15x30	1367.50	809.00	-	13.3	10.7	0	0	0.3	0.8	100	115	15	30	100	
P11	15x30	1684.00	816.50	-	14.1	11.3	0	0	0.3	1.6	100	115	15	30	100	
P12	15x30	1999.00	816.50	-	17.4	14.2	0	0	0.6	0.7	115	130	15	35	100	
P13	15x30	2368.50	809.00	-	16.4	13.4	0	0	0.5	0.1	115	130	15	35	100	
P14	C30	2698.50	807.50	-	10.9	8.8	0	0	0.9	1.3	100	100	25	25	100	
P15	15x30	409.00	703.50	-	14.3	12.2	0	0	0.8	0.8	105	120	15	30	100	
P16	15x30	721.00	703.50	-	19.7	16.3	0	0	0.4	1.8	120	135	15	35	100	
P17	15x30	1054.00	633.50	-	16.7	13.7	0	0	0.2	1.4	115	130	15	35	100	
P18	15x30	1302.50	633.50	-	11.4	8.7	0	0	0.2	0.9	90	105	25	25	100	
P19	15x30	1551.00	633.50	-	10.7	8.3	0	0	0.2	1.1	90	105	25	25	100	
P20	15x30	1826.50	641.00	-	17.7	14.4	0	0	1.2	0.9	115	130	15	35	100	
P21	15x30	2262.50	641.00	-	21.9	18.3	0	0	0.2	0.6	130	145	15	40	100	
P22	15x30	2698.50	641.00	-	13.4	11.2	0	0	1.9	0.5	100	115	15	30	100	
P23	15x30	409.00	306.50	-	8.3	6.7	0	0	0.3	1.2	85	100	25	25	100	
P24	15x30	721.00	306.50	-	14.1	11.9	0	0	0.3	2.3	100	115	15	30	100	
P25	15x30	1054.00	273.50	-	19.3	15.1	0	0	0.1	1.7	120	135	15	35	100	
P26	15x30	1302.50	305.50	-	19.0	15.0	0	0	0.2	1.4	120	135	15	35	100	
P27	15x30	1551.00	273.50	-	17.1	13.6	0	0	0.1	0.5	115	130	15	35	100	
P28	20x30	1821.50	236.50	-	15.9	13.2	0	0	1.4	1.5	110	120	15	30	100	
P29	15x30	2262.50	229.00	-	17.5	14.6	0	0	0.3	0.7	115	130	15	35	100	
P30	15x30	2698.50	229.00	-	9.7	8.1	0	0	1.5	0.6	85	100	25	25	100	



IMPORTANTE.: A funda-«o foi dimensionada considerando um solo arenoso com uma press-«o admissªvel de 1,5Kgf/cm², peso especifico de 1600Kgf/mj e redutor do atrito de 0,67. Essa considera-«o foi efetuada devido a ser um projeto padr-«o.
Nesse caso, antes de iniciar a constru-«o, deve-se realizar a sondagem do solo a ser edificado, e no caso de n-«o apresentar os valores de resistªncia apresentados acima, a funda-«o deve ser redimensionada.

Características dos materiais			
Elemento	fck (kgf/cm²)	Ecs (kgf/cm²)	Abatimento (mm)
Vigas	300	260716	80
Pilares	300	260716	80
Lajes	300	260716	80
Sapatas/blocos	200	212874	80



Rela- «o do a- o

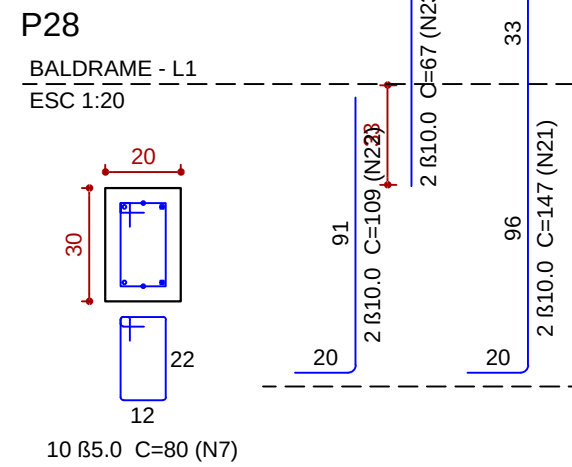
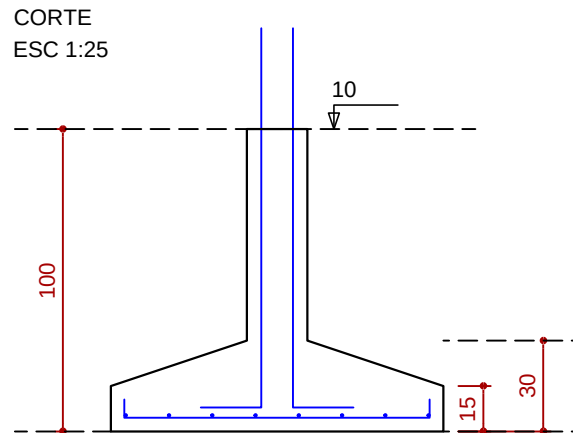
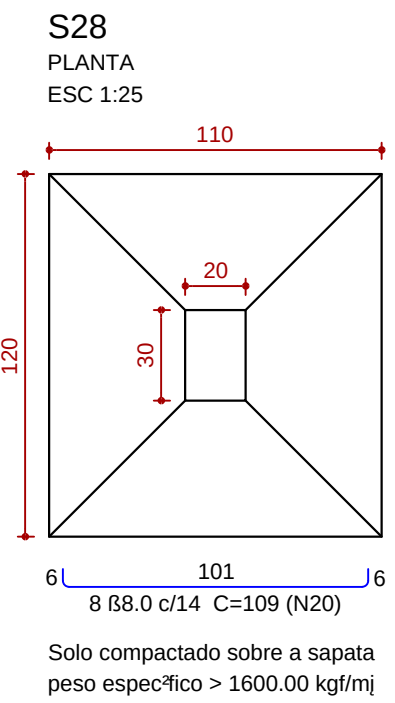
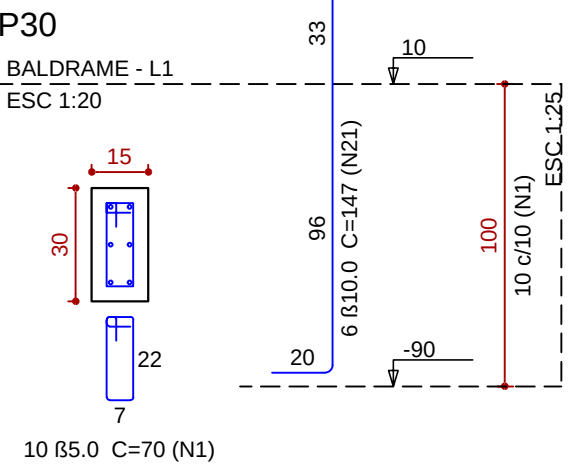
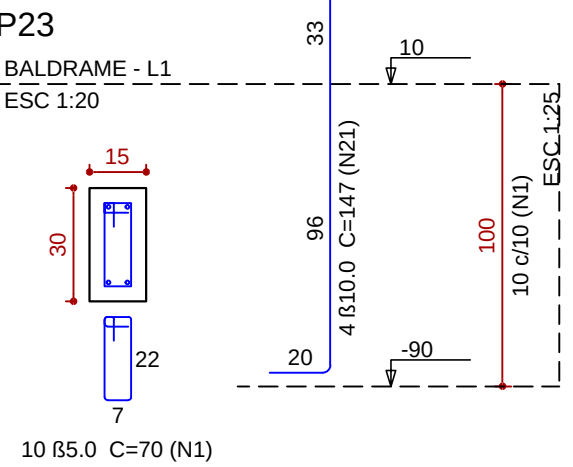
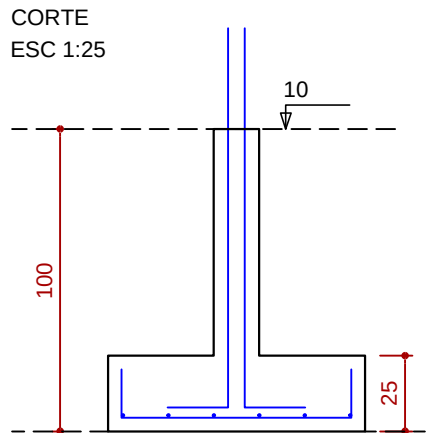
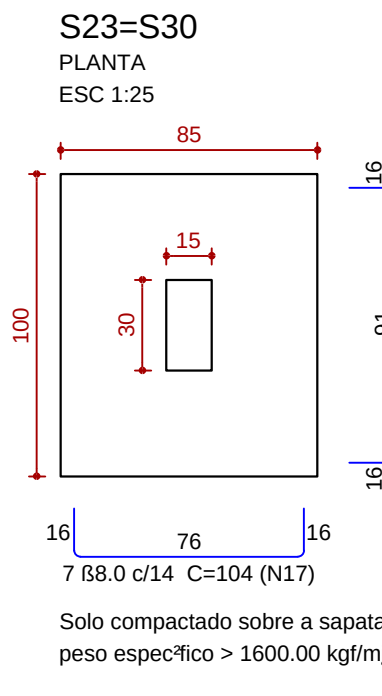
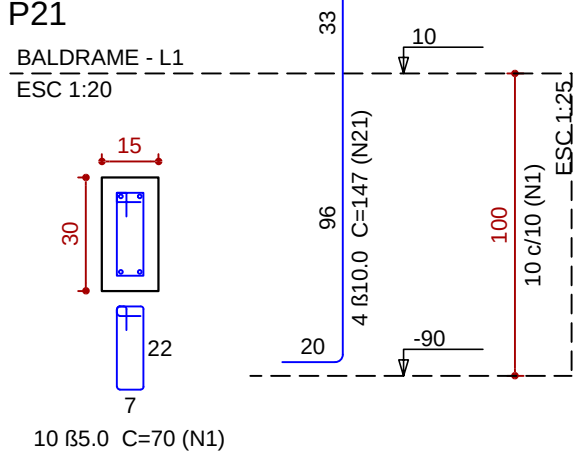
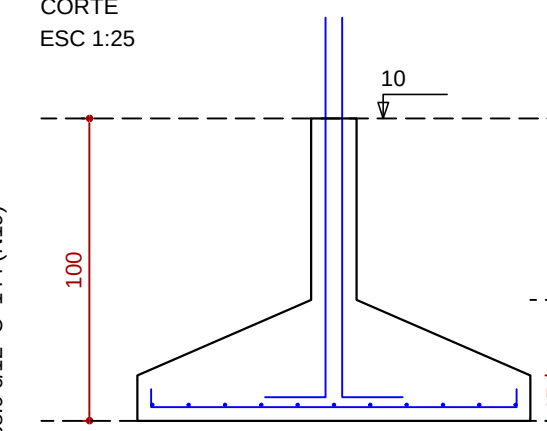
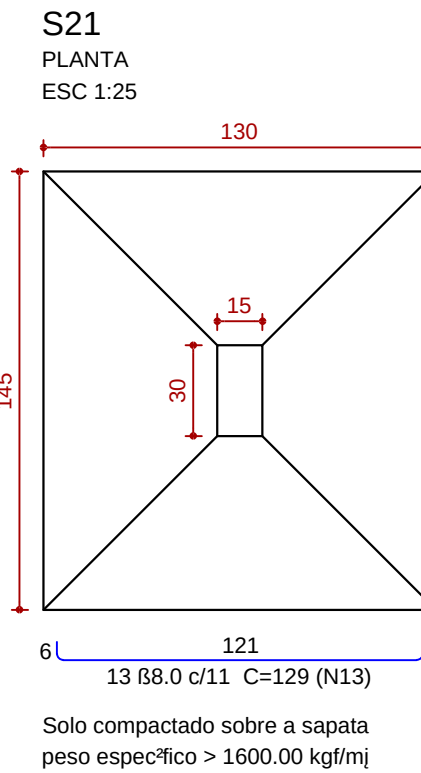
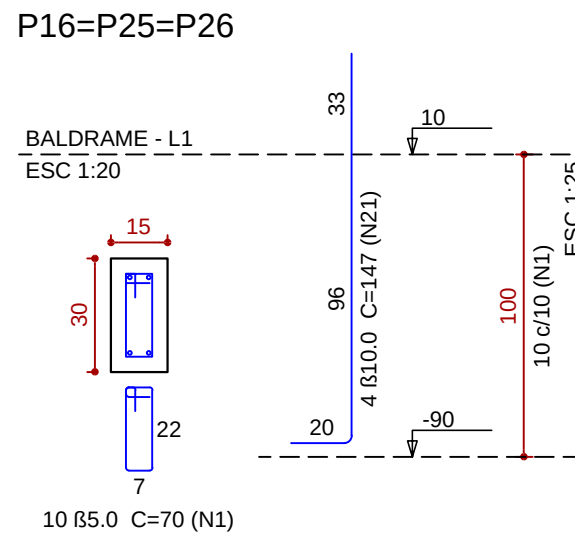
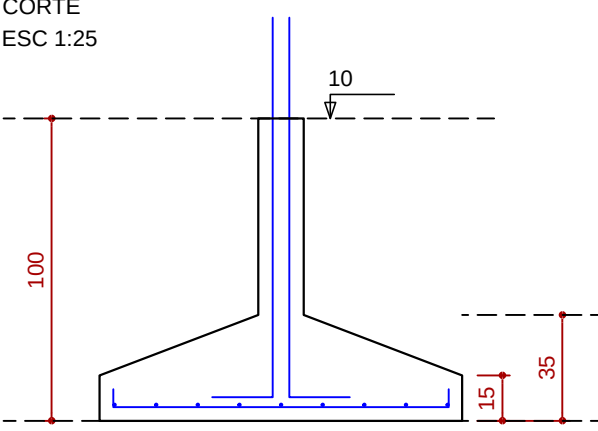
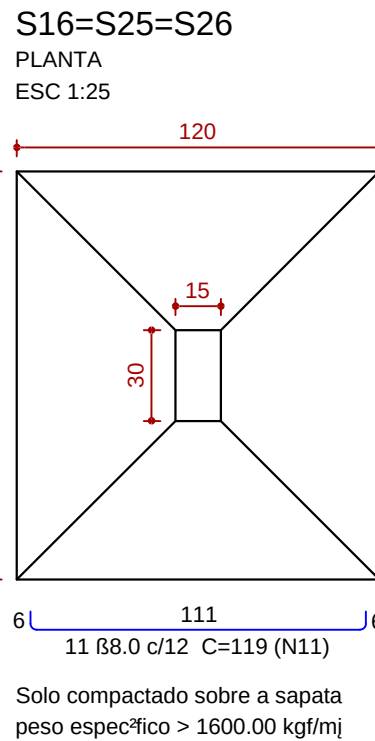
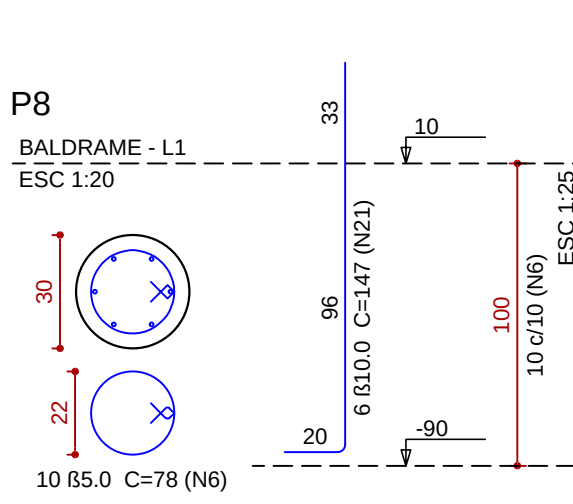
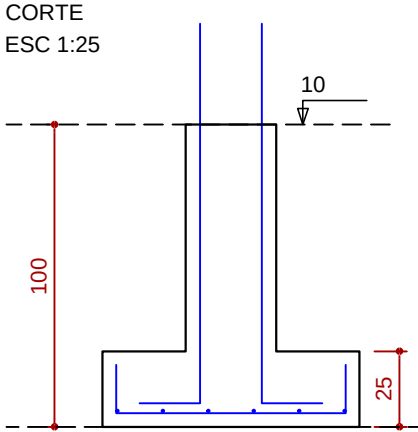
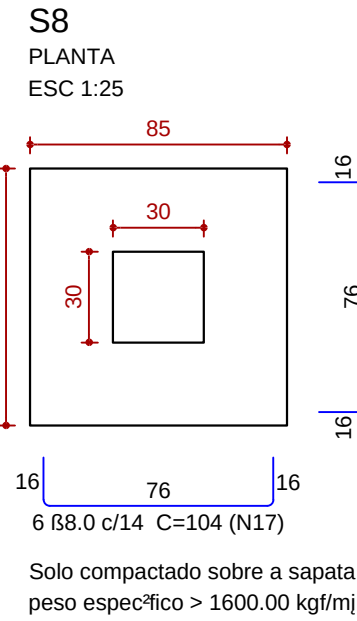
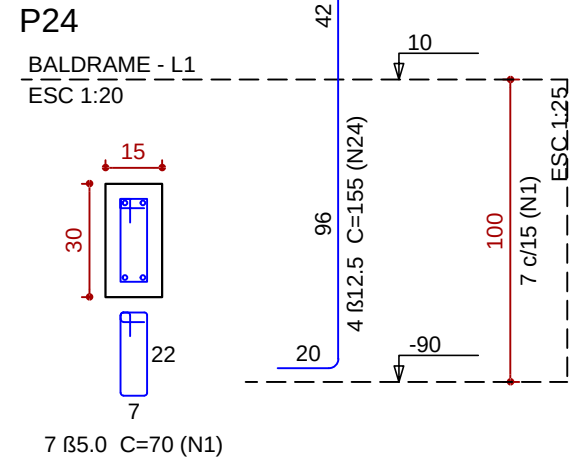
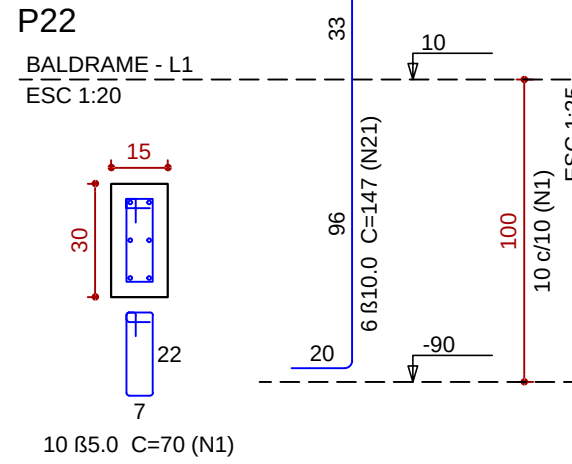
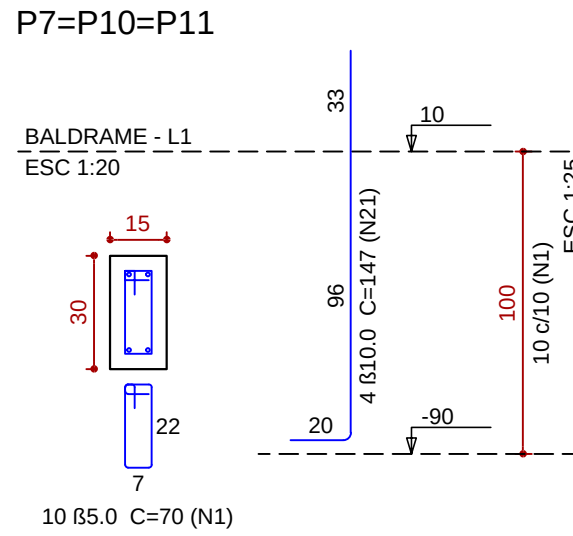
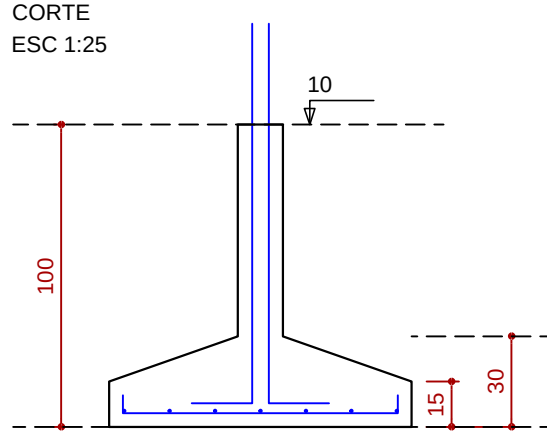
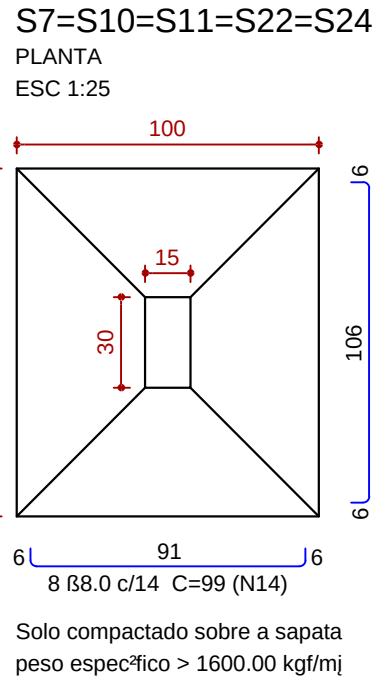
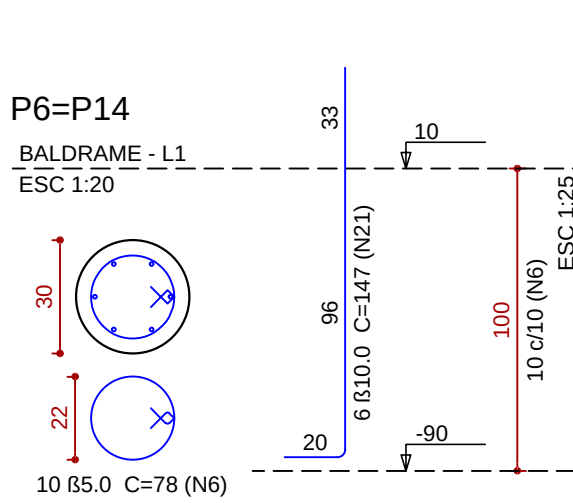
P1	2xP2	7xP3
P4	P5	2xP6
2xP18	P8	3xP16
P22	P20	P21
P28	P23	P24
S5	P30	S5
S8	5xS10	8xS12
2xS14	3xS15	3xS16
3xS18	S21	S28
2xS30		

At O	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	234	70	16380
	2	5.0	10	100	1000
	3	5.0	10	27	270
	4	5.0	10	90	900
	5	5.0	10	22	220
	6	5.0	30	78	2340
	7	5.0	10	80	800
CA50	8	8.0	21	109	2289
	9	8.0	18	124	2232
	10	8.0	24	104	2496
	11	8.0	62	119	7378
	12	8.0	123	114	14022
	13	8.0	85	129	10965
	14	8.0	49	99	4851
	15	8.0	7	124	868
	16	8.0	40	119	4760
	17	8.0	26	104	2704
	18	8.0	27	134	3618
	19	8.0	11	144	1584
	20	8.0	8	109	872
	21	10.0	123	147	18081
	22	10.0	5	109	545
	23	10.0	5	67	335
	24	12.5	8	155	1240

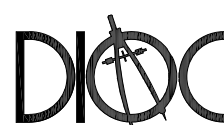
Resumo do a- o

At O	DIAM (mm)	C.TOTAL (m)	QUANT + 10 % (Barras)	PESO + 10 % (kg)
CA50	8.0	586.4	54	254.5
	10.0	189.7	18	128.6
	12.5	12.4	2	13.1
CA60	5.0	219.1	21	37.1
PESO TOTAL (kg)				
CA50	396.2			
CA60	37.1			

Volume de concreto (C-20) = 8.72 m3
Volume de concreto (C-30) = 1.49 m3
Crea de forma = 50.97 m2



ESTADO DE SANTA CATARINA
SECRETARIA DE ESTADO DA INFRA ESTRUTURA
DEPARTAMENTO ESTADUAL DE INFRA ESTRUTURA
DIRETORIA DE OBRAS CIVIS - DIOC



NOME DO PROJETO : SST - SECRETARIA DE ESTADO DA ASSISTANCIA SOCIAL, TRABALHO E HABITACAO

REF.:

LOCAL: DIVERSAS LOCALIDADES DO ESTADO

TIPO DE PROJETO: ESTRUTURAL

CARACTERISTICAS: PROJETO PADRÃO - CREAS

ARMADURAS DAS SAPATAS

PAVIMENTO: BALDRAME

AUTOR DO PROJETO: ENG. CIVIL ROBERTO DANIEL GEVAERD CREA/SC 041750-9

AVALIUS ENGENHARIA E AVALIAT: ES LTDA

CREA: 220.04 m2

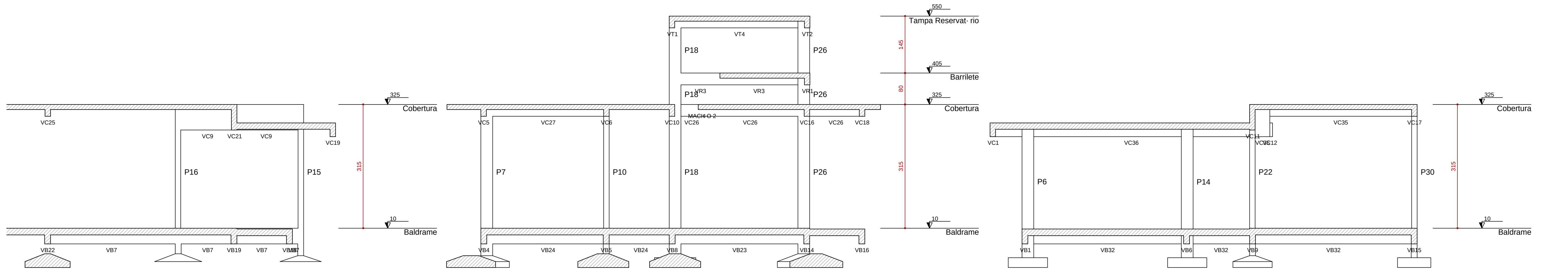
ESCALA: INDICADA

DATA: ABRIL/2017

DES. EDVÂNIO PACHECO

2

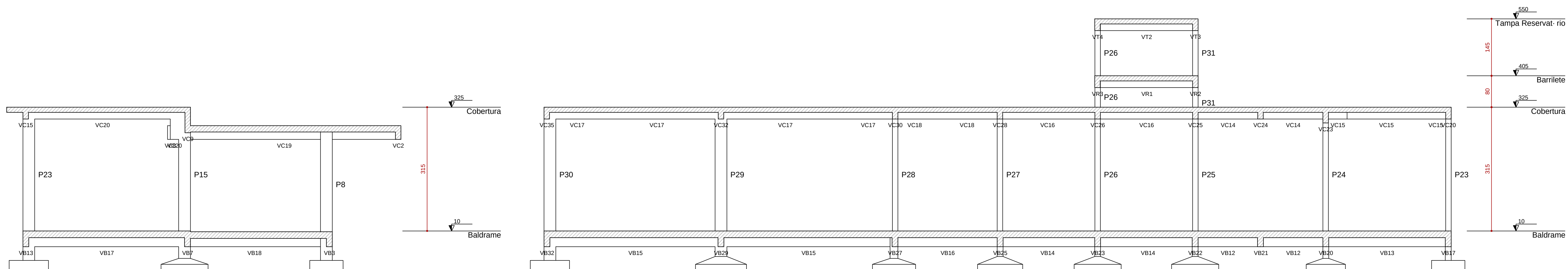
18



Corte B-B
escala 1:50

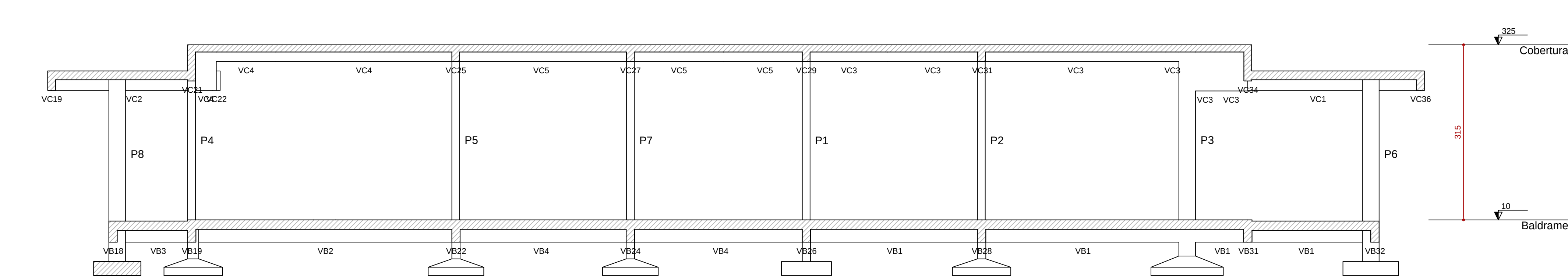
Corte E-E
escala 1:50

Corte F-F
escala 1:50



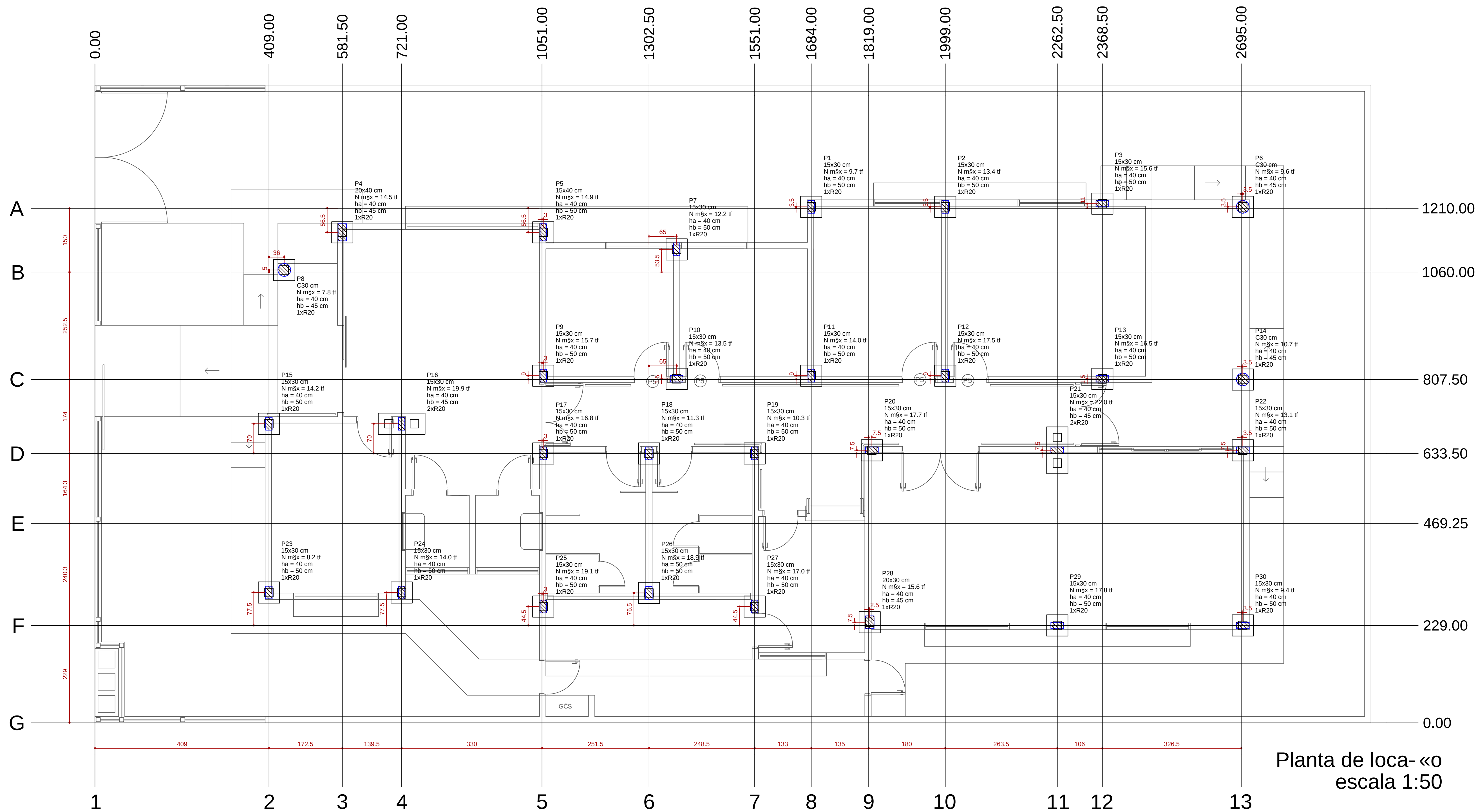
Corte D-D
escala 1:50

Corte C-C
escala 1:50



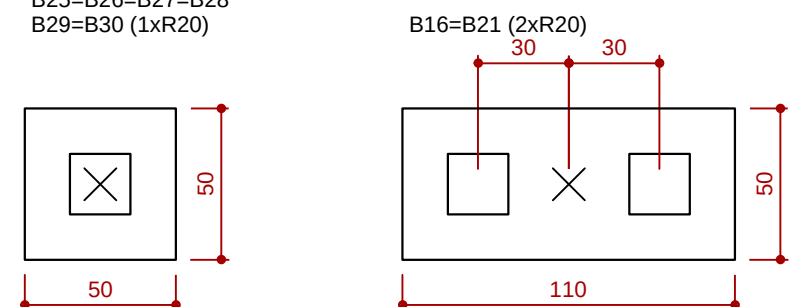
Corte A-A
escala 1:50

 ESTADO DE SANTA CATARINA SECRETARIA DE ESTADO DA INFRA ESTRUTURA DEPARTAMENTO ESTADUAL DE INFRA ESTRUTURA DEINFRA DIRETORIA DE OBRAS CIVIS - DIOC			
NOME DO PROJETO : SST - SECRETARIA DE ESTADO DA ASSISTANCIA SOCIAL, TRABALHO E HABITACAO			
LOCAL : DIVERSAS LOCALIDADES DO ESTADO			
TIPO DE PROJETO : ESTRUTURAL			
CARACTERISTICAS : PROJETO PADRÃO - CREAS			
CORTES - PROJ COM SAPATAS			
PAVIMENTO : TODOS			3
AUTOR DO PROJETO : ENG. CIVIL ROBERTO DANIEL GEVAERD CREA/SC 041750-9			
AVALIUS ENGENHARIA E AVALIAÇÃO E S LTDA			
CREA: 220.04 mJ			18
ESCALA: INDICADA	DATA: ABRIL/2017	DES. EDVÂNIO PACHECO	



Planta de loca-«o
escala 1:50

B1=B2=B3=B4=B5
B6=B7=B8=B9=B10
B11=B12=B13=B14
B15=B17=B18=B19
B20=B22=B23=B24
B25=B26=B27=B28
B29=B30 (1xR20)

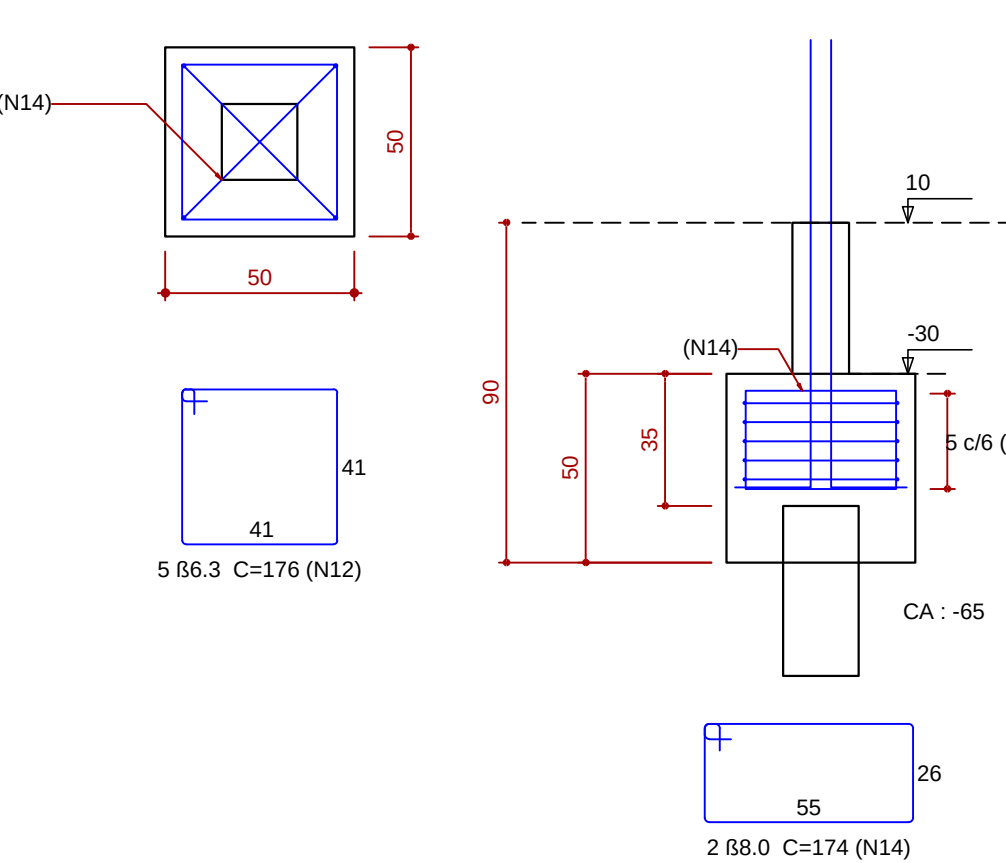


Legenda dos blocos
escala 1:25

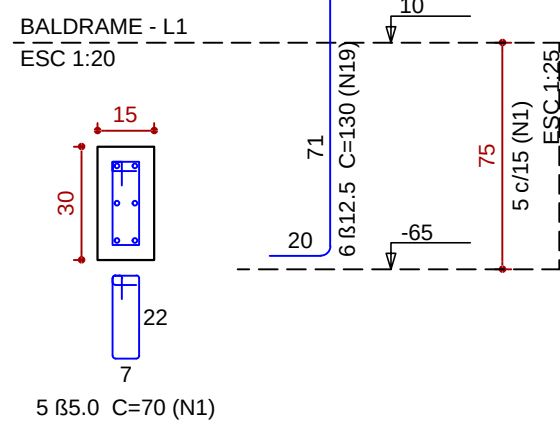
Nome	Se-«o	X	Y	CAP	Pilar						Funda-«o						Bloco				
					Carga M8x.	Carga M8h.	Mx	My	Fx	Fy	Lado B	Lado H	h0 / ha	h1 / hb	ne	Estaca	ca	Base tub.			
P1	15x30	1684.00	1213.50	-	9.7	7.9	0	0	0.2	0.6	50	50	40	50	1	R20	-65				
P2	15x30	1999.00	1213.50	-	13.4	11.1	0	0	0.3	0.4	50	50	40	50	1	R20	-65				
P3	15x30	2368.50	1221.00	-	15.6	13.5	0	0	0.2	0.2	50	50	40	50	1	R20	-65				
P4	20x40	581.50	1153.50	-	14.5	12.3	0	0	0.6	0.6	50	50	40	45	1	R20	-60				
P5	15x40	1054.00	1153.50	-	14.9	12.3	0	0	0.6	0.4	50	50	40	50	1	R20	-65				
P6	C30	2698.50	1213.50	-	9.6	8.3	0	0	0.2	0.3	50	50	40	45	1	R20	-60				
P7	15x30	1367.50	1113.50	-	12.2	10.2	0	0	0.2	0.5	50	50	40	50	1	R20	-65				
P8	C30	445.00	1065.00	-	7.8	6.8	0	0	0.4	0.3	50	50	40	45	1	R20	-60				
P9	15x30	1054.00	816.50	-	15.7	12.5	0	0	0.2	0.5	50	50	40	50	1	R20	-65				
P10	15x30	1367.50	809.00	-	13.5	10.9	0	0	0.2	0.6	50	50	40	50	1	R20	-65				
P11	15x30	1684.00	816.50	-	14.0	11.3	0	0	0.2	0.6	50	50	40	50	1	R20	-65				
P12	15x30	1999.00	816.50	-	17.5	14.2	0	0	0.4	0.3	50	50	40	50	1	R20	-65				
P13	15x30	2368.50	809.00	-	16.5	13.5	0	0	0.2	0.2	50	50	40	50	1	R20	-65				
P14	C30	2698.50	807.50	-	10.7	8.9	0	0	0.3	0.4	50	50	40	45	1	R20	-60				
P15	15x30	409.00	703.50	-	14.2	12.3	0	0	0.5	0.4	50	50	40	50	1	R20	-65				
P16	15x30	721.00	703.50	-	19.9	16.5	0	0	0.3	0.7	110	50	40	45	2	R20	-60				
P17	15x30	1054.00	633.50	-	16.8	13.8	0	0	0.2	0.5	50	50	40	50	1	R20	-65				
P18	15x30	1302.50	633.50	-	11.3	8.7	0	0	0.2	0.4	50	50	40	50	1	R20	-65				
P19	15x30	1551.00	633.50	-	10.3	8.2	0	0	0.2	0.4	50	50	40	50	1	R20	-65				
P20	15x30	1826.50	641.00	-	17.7	14.4	0	0	0.3	0.7	50	50	40	50	1	R20	-65				
P21	15x30	2262.50	641.00	-	22.0	18.4	0	0	0.1	0.5	110	50	40	45	2	R20	-60				
P22	15x30	2698.50	641.00	-	13.1	11.1	0	0	0.6	0.4	50	50	40	50	1	R20	-65				
P23	15x30	409.00	306.50	-	8.2	6.7	0	0	0.2	0.5	50	50	40	50	1	R20	-65				
P24	15x30	721.00	306.50	-	14.0	11.9	0	0	0.3	0.6	50	50	40	50	1	R20	-65				
P25	15x30	1054.00	273.50	-	19.1	15.1	0	0	0.1	0.6	50	50	40	50	1	R20	-65				
P26	15x30	1302.50	306.50	-	18.9	15.0	0	0	0.2	0.5	50	50	40	50	1	R20	-75				
P27	15x30	1551.00	273.50	-	17.0	13.7	0	0	0.2	0.3	50	50	40	50	1	R20	-65				
P28	20x30	1821.50	236.50	-	15.6	13.1	0	0	0.6	0.5	50	50	40	45	1	R20	-60				
P29	15x30	2262.50	229.00	-	17.8	14.9	0	0	0.2	0.6	50	50	40	50	1	R20	-65				
P30	15x30	2698.50	229.00	-	9.4	7.9	0	0	0.5	0.5	50	50	40	50	1	R20	-65				

Estacas			Quantidade
Nome	d (cm)	b (cm)	
R20	20.00	20.00	32

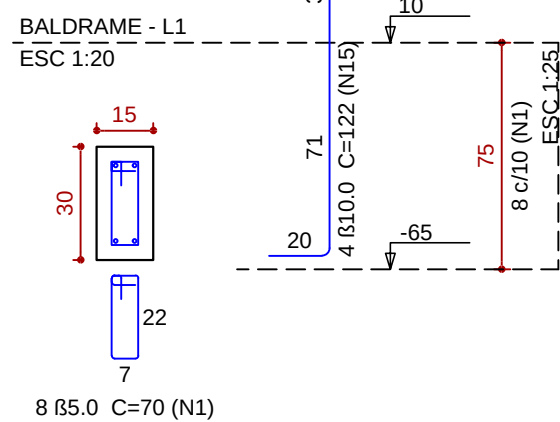
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=B17=B18=B19=B20=B22=B23=B24=B25=B27
=B29=B30
1xR20
PLANTA
ESC 1:20



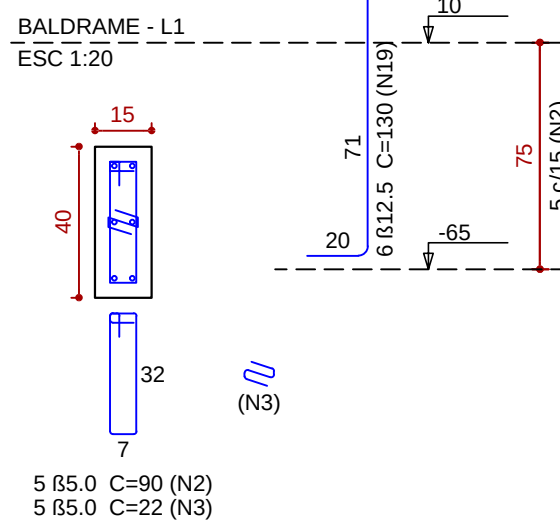
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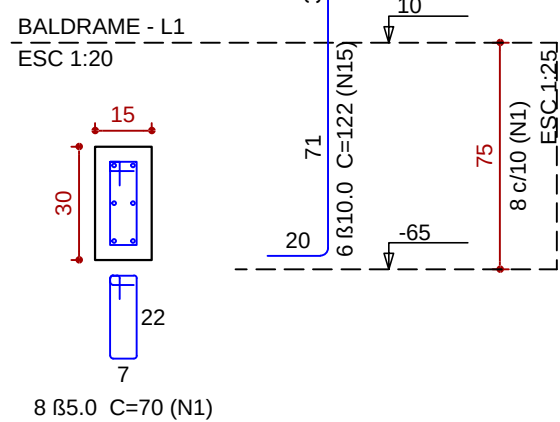
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=P15=P17=P18=P19=P27=
=P29



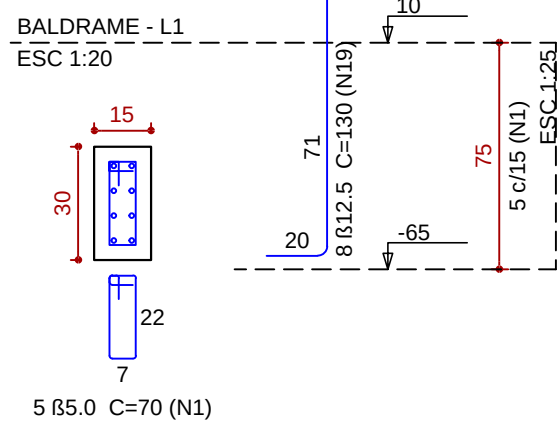
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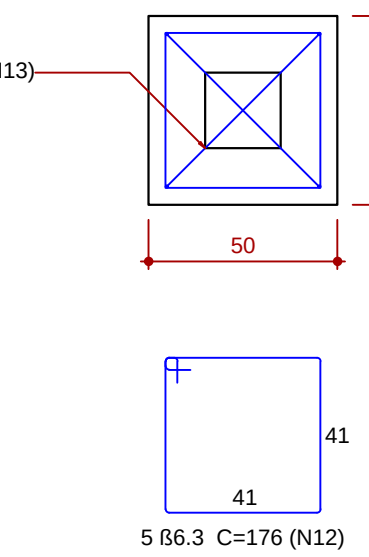
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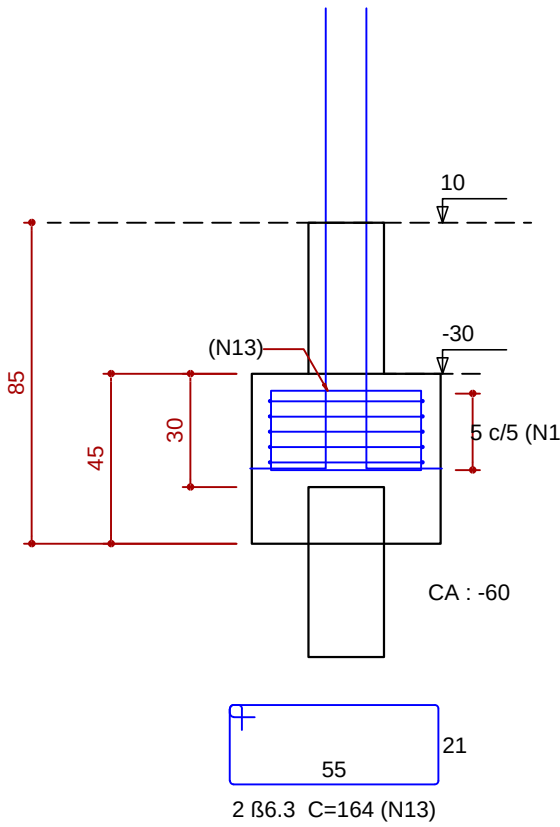
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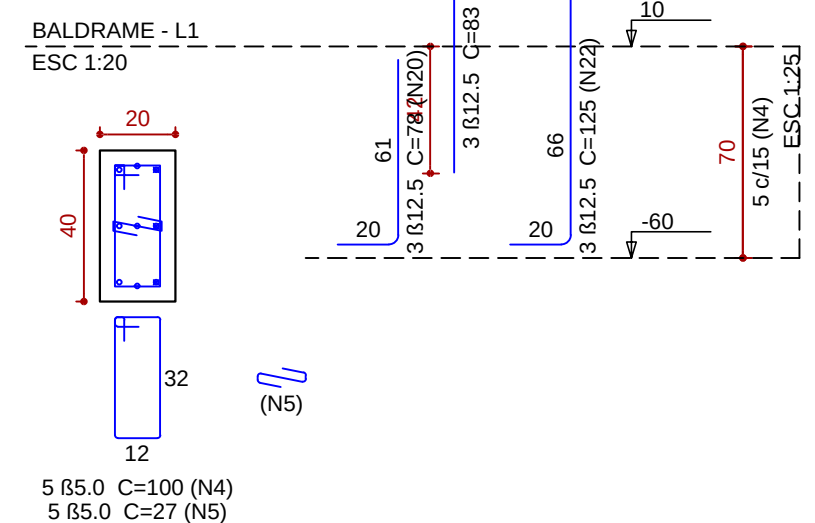
B4=B6=B8=B14=B28
1xR20
PLANTA
ESC 1:20



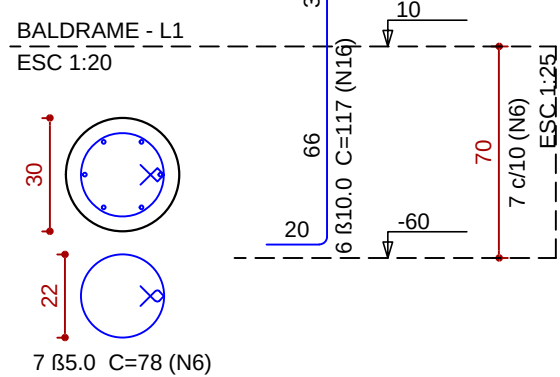
CORTE
ESC 1:20



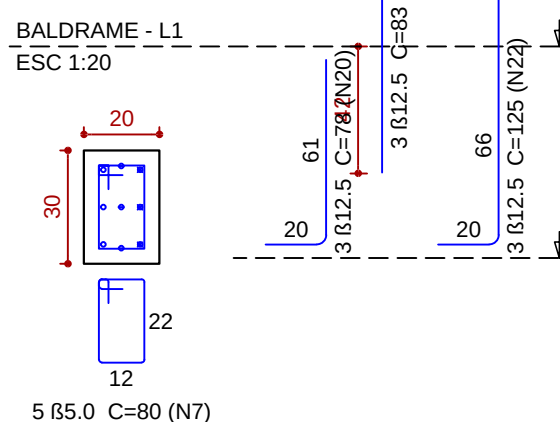
P4



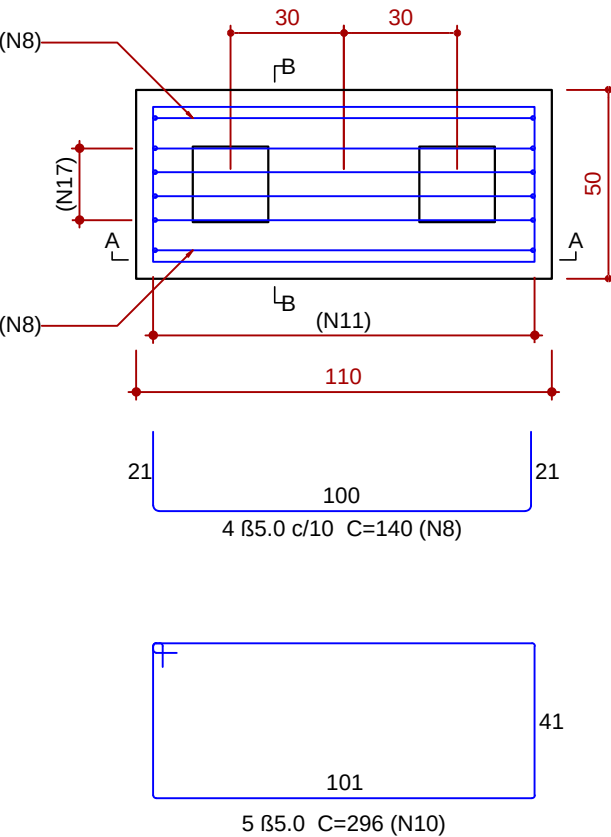
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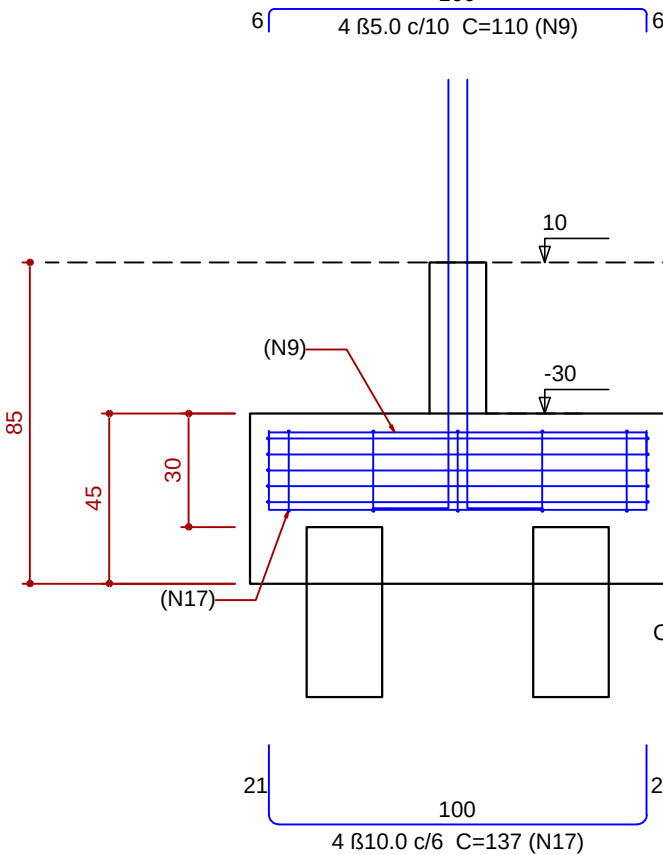
P28



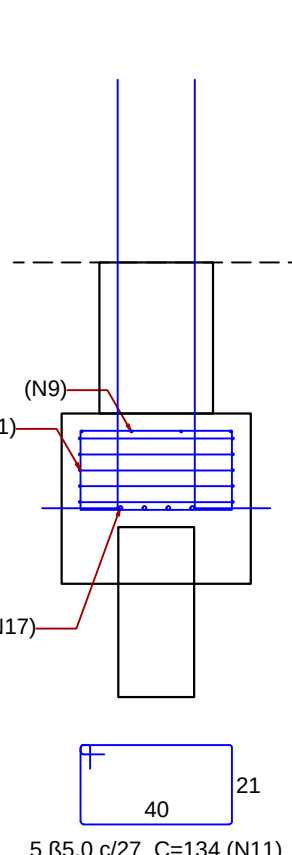
B16=B21
2xR20
PLANTA
ESC 1:20



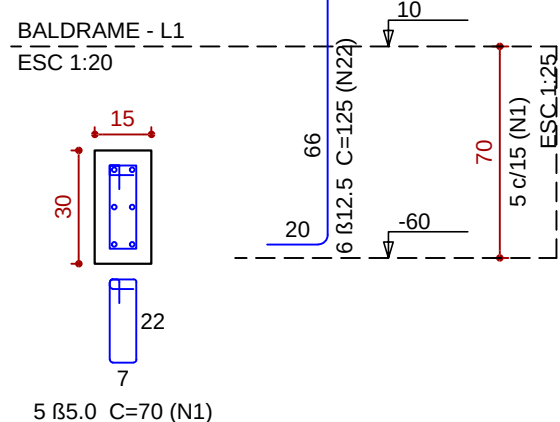
CORTE A-A
ESC 1:20



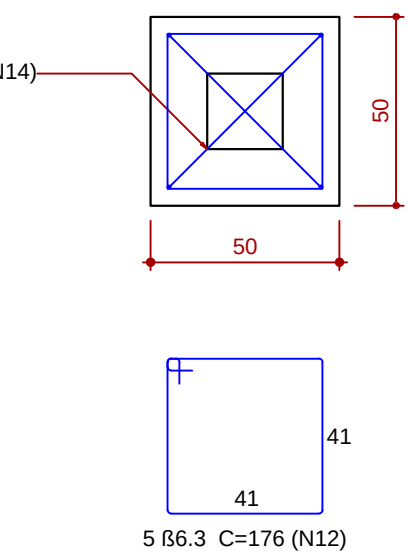
CORTE B-B
ESC 1:20



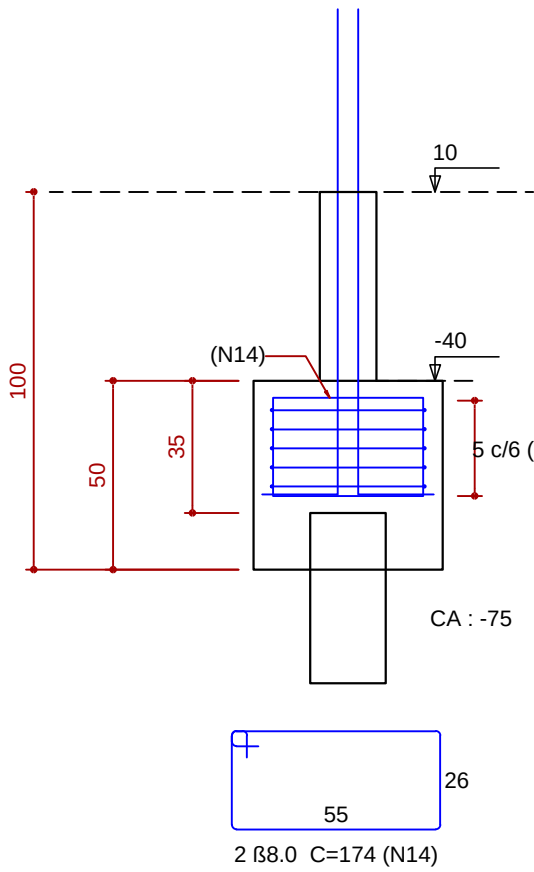
P16



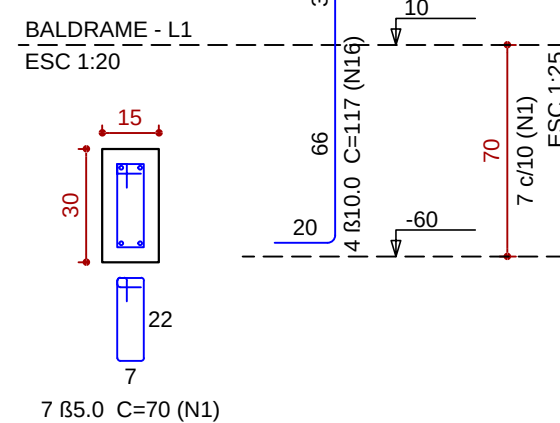
B26
1xR20
PLANTA
ESC 1:20



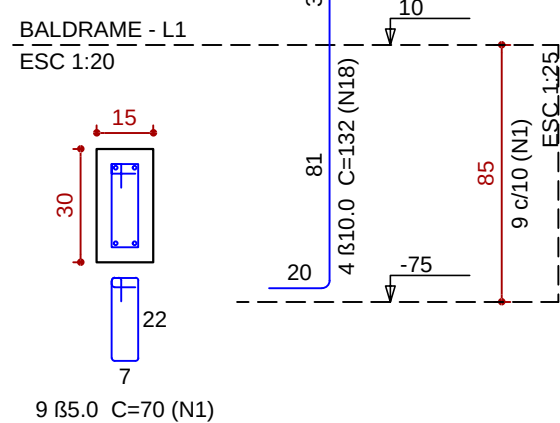
CORTE
ESC 1:20



P21



P26



Rela- «o do a- o

A# O	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	171	70	11970
	2	5.0	5	90	450
	3	5.0	5	22	110
	4	5.0	5	100	500
	5	5.0	5	27	135
	6	5.0	21	78	1638
	7	5.0	5	80	400
	8	5.0	8	140	1120
	9	5.0	8	110	880
	10	5.0	10	296	2960
	11	5.0	10	134	1340
CA50	12	6.3	140	176	24640
	13	6.3	10	164	1640
	14	8.0	46	174	8004
	15	10.0	66	122	8052
	16	10.0	22	117	2374
	17	10.0	8	137	1096
	18	10.0	4	132	528
	19	12.5	44	130	5720
	20	12.5	6	78	468
	21	12.5	6	83	498
	22	12.5	12	125	1500

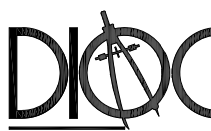
Resumo do a- o

A# O	DIAM (mm)	C.TOTAL (m)	QUANT + 10 % (Barras)	PESO + 10 % (kg)
CA50	6.3	262.8	25	70.7
	8.0	80.1	8	34.7
	10.0	122.5	12	83.1
	12.5	81.9	8	86.7
CA60	5.0	215.1	20	36.5
PESO TOTAL (kg)				
CA50		275.3		
CA60		36.5		

Volume de concreto (C-20) = 3.74 m³
Volume de concreto (C-30) = 1.1 m³
Crea de forma = 50.92 m²



ESTADO DE SANTA CATARINA
SECRETARIA DE ESTADO DA INFRA ESTRUTURA
DEPARTAMENTO ESTADUAL DE INFRA ESTRUTURA
DIRETORIA DE OBRAS CIVIS - DIOC



NOME DO PROJETO : SST - SECRETARIA DE ESTADO
DA ASSISTªNCIA SOCIAL, TRABALHO E HABITªçªO

REF.:

LOCAL: DIVERSAS LOCALIDADES DO ESTADO

TIPO DE PROJETO: ESTRUTURAL

CARACTERÍSTICAS: PROJETO PADRªO - CREAS

ARMADURAS DOS BLOCOS

PAVIMENTO: BALDRAME

AUTOR DO PROJETO: ENG. CIVIL ROBERTO DANIEL GEVAERD
CREA/SC 041750-9

AVALIUS ENGENHARIA E AVALIªE: ES LTDA

CREA: 220.04 m²

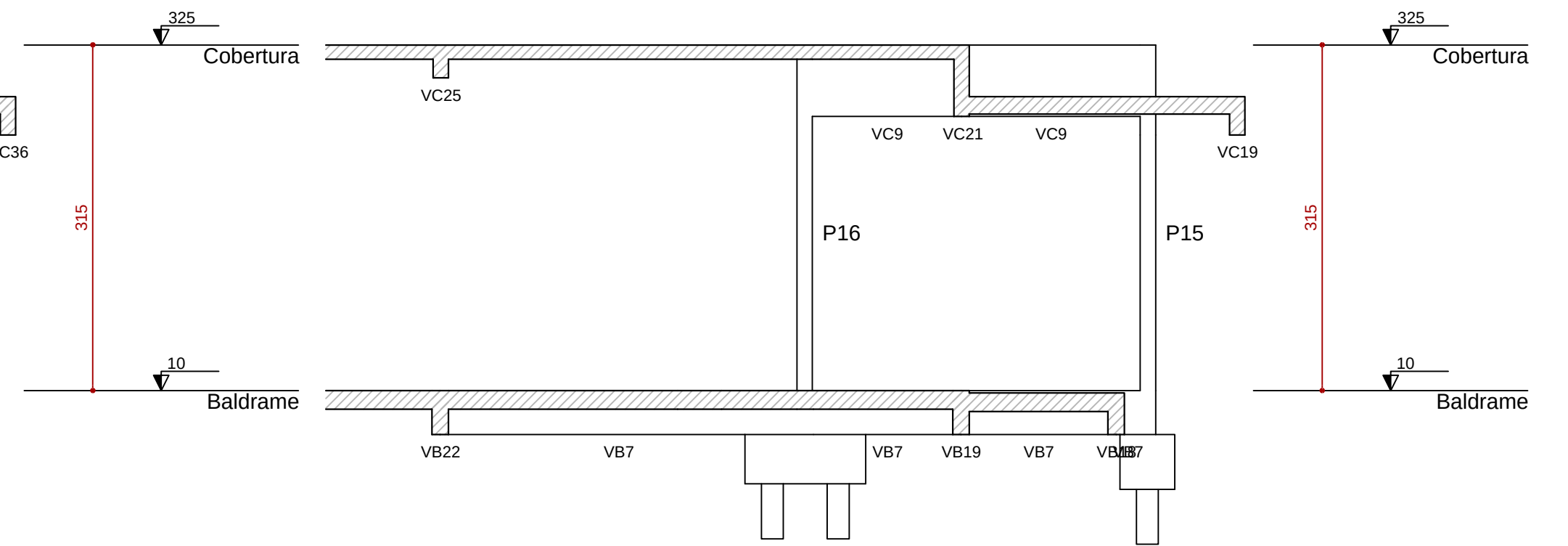
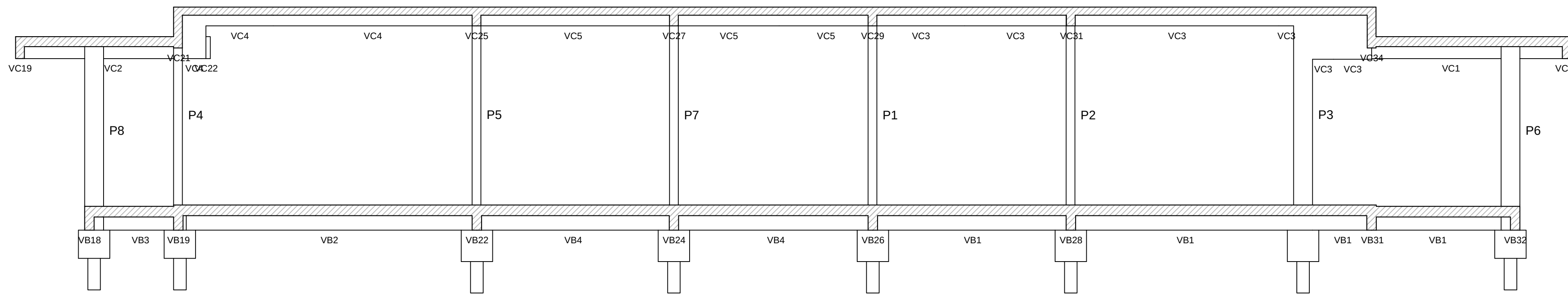
ESCALA: INDICADA

DATA: ABRIL/2017

DES. EDVÂNIO PACHECO

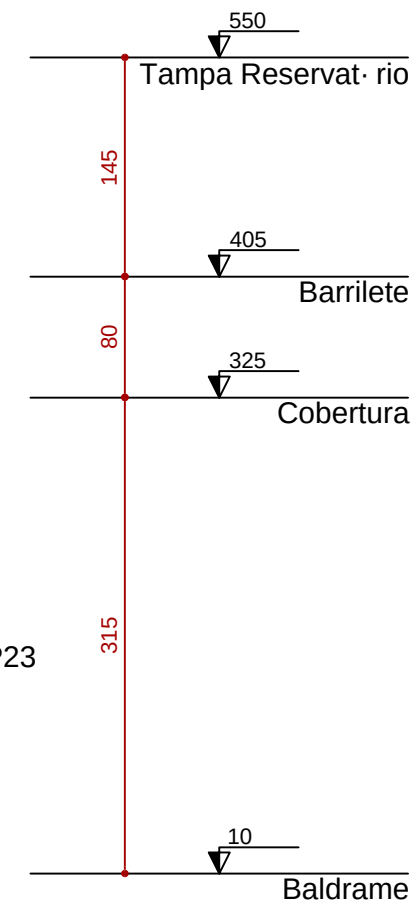
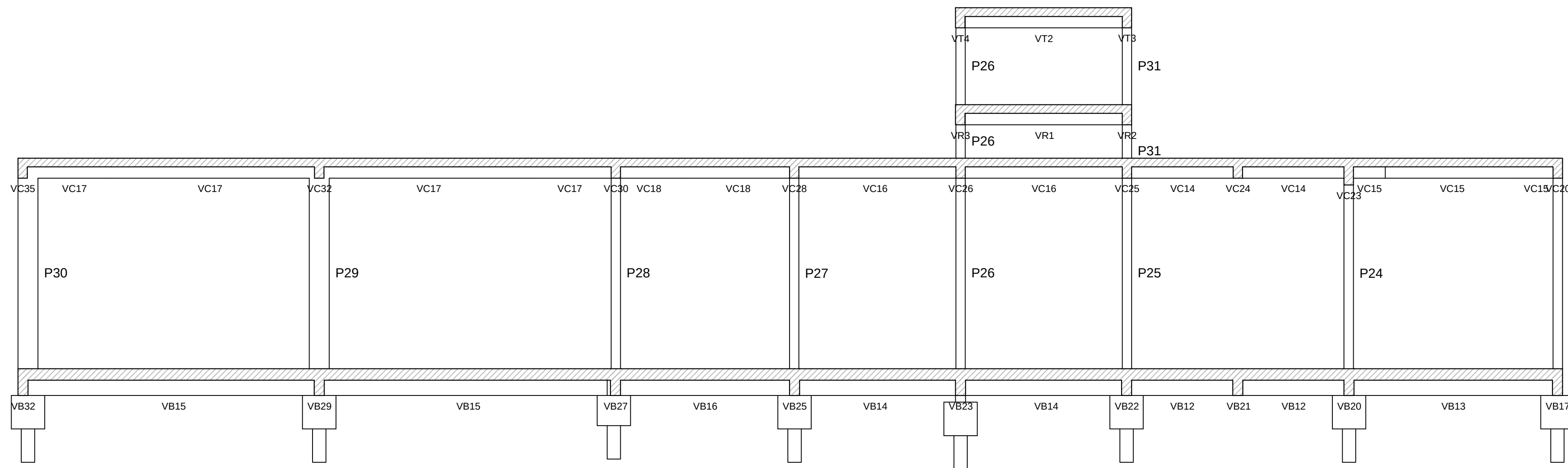
5

18



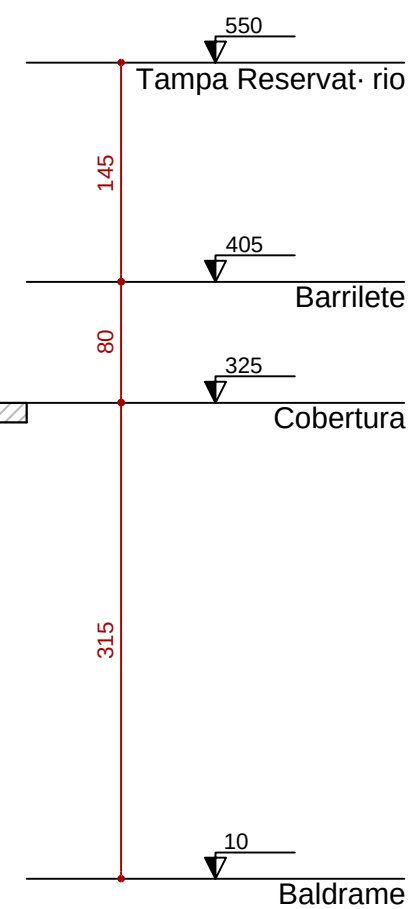
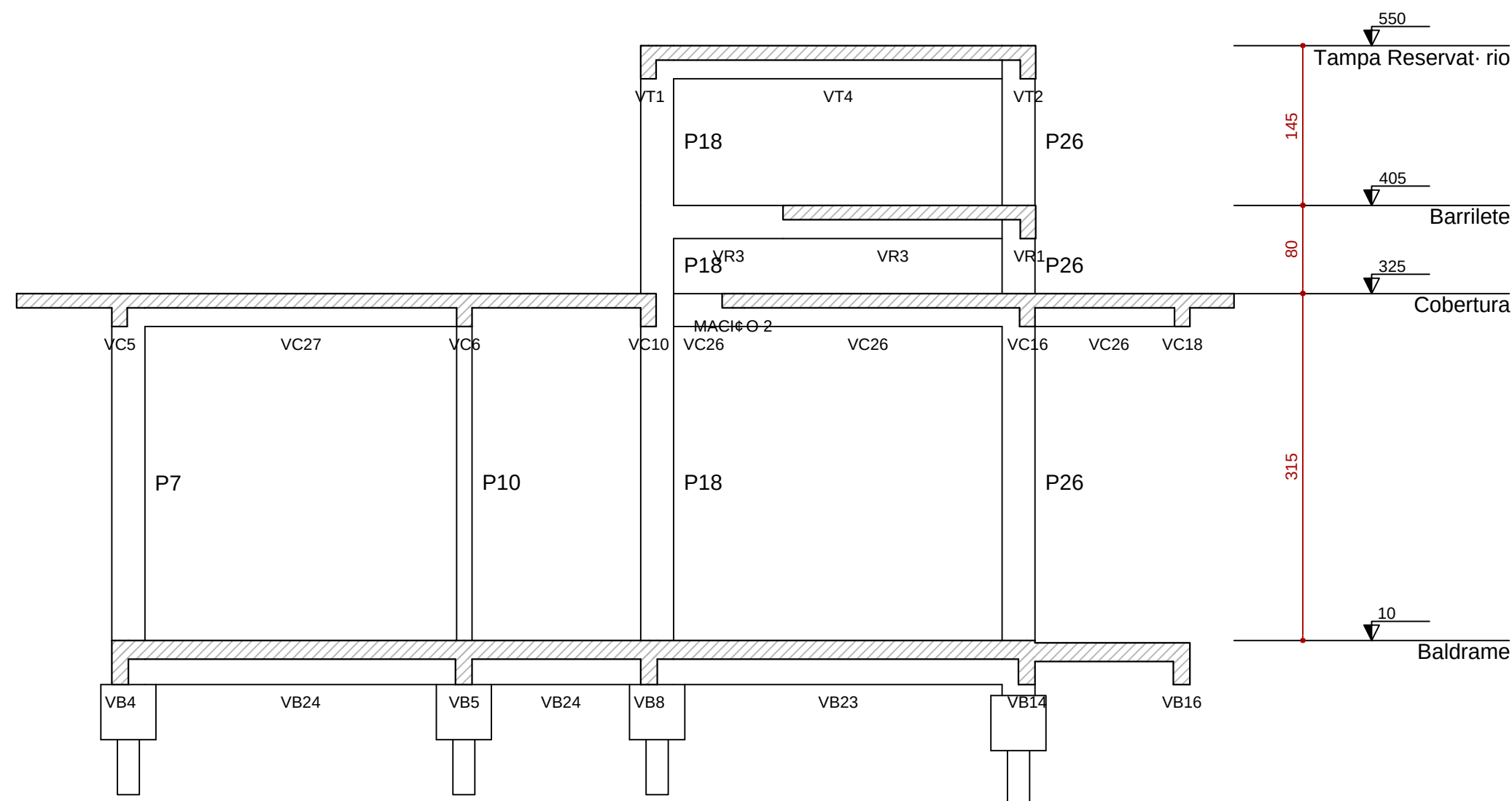
Corte A-A
escala 1:50

Corte B-B
escala 1:50



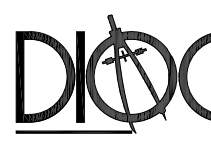
Corte C-C
escala 1:50

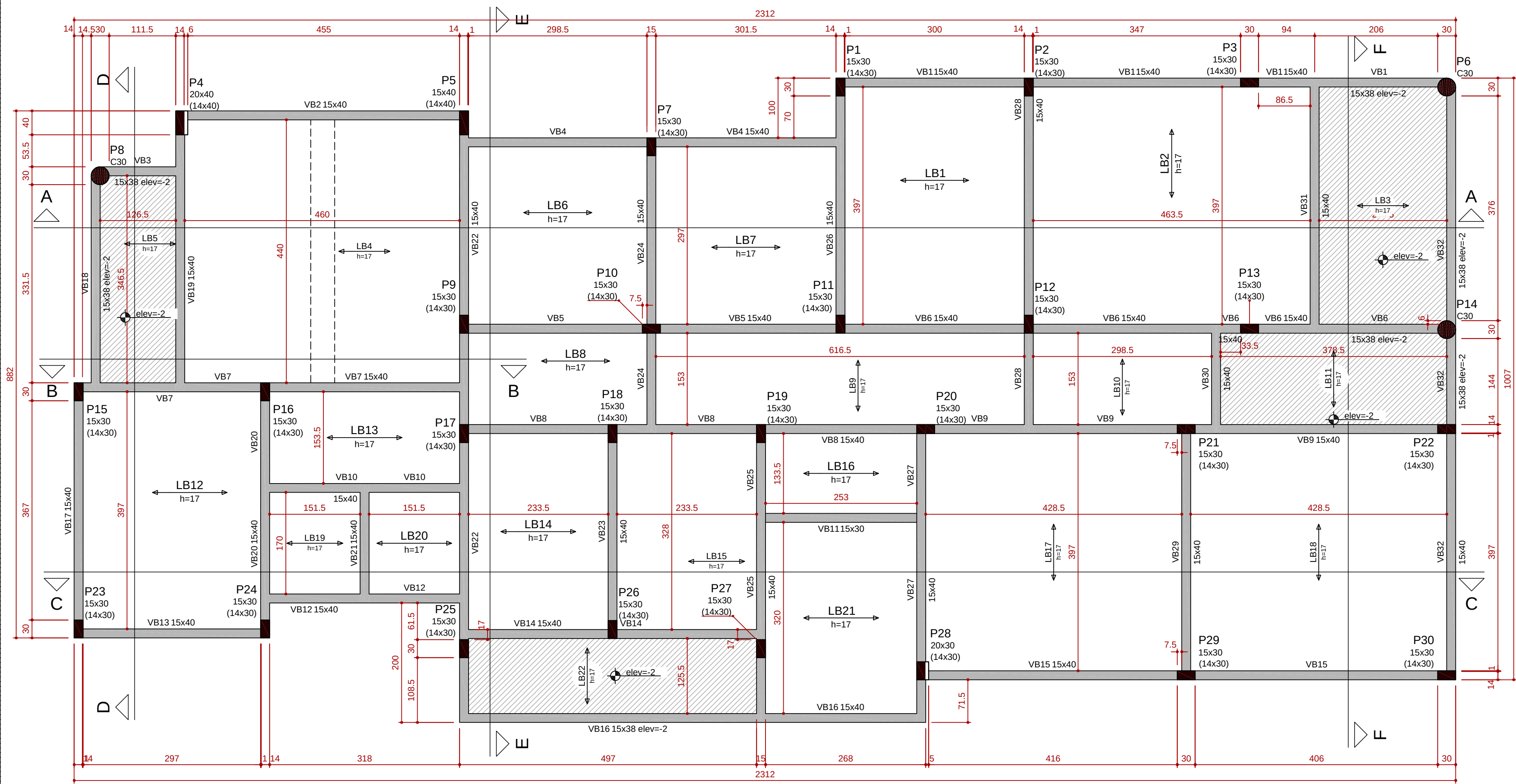
Corte D-D
escala 1:50



Corte E-E
escala 1:50

Corte F-F
escala 1:50

 ESTADO DE SANTA CATARINA SECRETARIA DE ESTADO DA INFRA ESTRUTURA DEPARTAMENTO ESTADUAL DE INFRA ESTRUTURA DIRETORIA DE OBRAS CIVIS - DIOC			
NOME DO PROJETO : SST - SECRETARIA DE ESTADO DA ASSISTÊNCIA SOCIAL, TRABALHO E HABITAÇÃO			
LOCAL : DIVERSAS LOCALIDADES DO ESTADO			6 18
TIPO DE PROJETO : ESTRUTURAL			
CARACTERÍSTICAS : PROJETO PADRÃO - CREAS			
CORTES - PROJ COM BLOCOS			
PAVIMENTO : TODOS			
AUTOR DO PROJETO : ENG. CIVIL ROBERTO DANIEL GEVAERD CREA/SC 041750-9 AVALIUS ENGENHARIA E AVALIAÇÃO LTDA			DES. EDVÂNIO PACHECO
CREA: 220.04 mj	ESCALA: INDICADA	DATA: ABRIL/2017	



Vigas			
Nome	Se-ção (cm)	Elev. (cm)	NºVel (cm)
VB1	15x40	0	10
VB2	15x40	-2	8
VB3	15x40	0	10
VB4	15x40	-2	8
VB5	15x40	0	10
VB6	15x40	-2	8
VB7	15x40	0	10
VB8	15x40	0	10
VB9	15x40	0	10
VB10	15x40	0	10
VB11	15x40	0	10
VB12	15x40	0	10
VB13	15x40	0	10
VB14	15x40	0	10
VB15	15x40	0	10
VB16	15x40	-2	8
VB17	15x40	0	10
VB18	15x40	-2	8
VB19	15x40	0	10
VB20	15x40	0	10
VB21	15x40	0	10
VB22	15x40	0	10
VB23	15x40	0	10
VB24	15x40	0	10
VB25	15x40	0	10
VB26	15x40	0	10
VB27	15x40	0	10
VB28	15x40	0	10
VB29	15x40	0	10
VB30	15x40	0	10
VB31	15x40	0	10
VB32	15x40	0	10
VB33	15x40	-2	8

Lajes					
Dados				Sobrecarga (kgf/m²)	
Nome	Tipo	Altura (cm)	Elevação (cm)	Peso próprio (kgf/m²)	Total Localizada
LB1	Pré-moldada	17	0	360	300
LB2	Pré-moldada	17	0	360	300
LB3	Pré-moldada	17	-2	360	300
LB4	Pré-moldada	17	0	360	300
LB5	Pré-moldada	17	-2	360	300
LB6	Pré-moldada	17	0	360	300
LB7	Pré-moldada	17	0	360	300
LB8	Pré-moldada	17	0	360	300
LB9	Pré-moldada	17	0	360	300
LB10	Pré-moldada	17	0	360	300
LB11	Pré-moldada	17	-2	360	300
LB12	Pré-moldada	17	0	360	300
LB13	Pré-moldada	17	0	360	300
LB14	Pré-moldada	17	0	360	300
LB15	Pré-moldada	17	0	360	300
LB16	Pré-moldada	17	0	360	300
LB17	Pré-moldada	17	0	360	300
LB18	Pré-moldada	17	0	360	300
LB19	Pré-moldada	17	0	360	300
LB20	Pré-moldada	17	0	360	300
LB21	Pré-moldada	17	0	360	300
LB22	Pré-moldada	17	-2	360	300

Pilares			
Nome	Se-ção (cm)	Elevação (cm)	NºVel (cm)
P1	15 x 30	0	10
P2	15 x 30	0	10
P3	15 x 30	0	10
P4	20 x 40	0	10
P5	15 x 40	0	10
P6	Circ 30	0	10
P7	15 x 30	0	10
P8	Circ 30	0	10
P9	15 x 30	0	10
P10	15 x 30	0	10
P11	15 x 30	0	10
P12	15 x 30	0	10
P13	15 x 30	0	10
P14	Circ 30	0	10
P15	15 x 30	0	10
P16	15 x 30	0	10
P17	15 x 30	0	10
P18	15 x 30	0	10
P19	15 x 30	0	10
P20	15 x 30	0	10
P21	15 x 30	0	10
P22	15 x 30	0	10
P23	15 x 30	0	10
P24	15 x 30	0	10
P25	15 x 30	0	10
P26	15 x 30	0	10
P27	15 x 30	0	10
P28	20 x 30	0	10
P29	15 x 30	0	10
P30	15 x 30	0	10

Crea de lajes			
Tipo	Altura (cm)	Bloco de Enchimento	Crea (m)
Pré-moldada	17	B12/30/20	194.27

Características dos materiais		
Elemento	fck (kgf/cm²)	Ecs (kgf/cm²)
Vigas	300	268384
Pilares	300	268384
Lajes	300	268384
Sapatas	200	212874

Legenda dos Pilares			
	Pilar que morre		
	Pilar que passa		
	Pilar que nasce		
	Pilar com mudança de seção		

Forma do pavimento Baldrame (Nível 10) escala 1:50



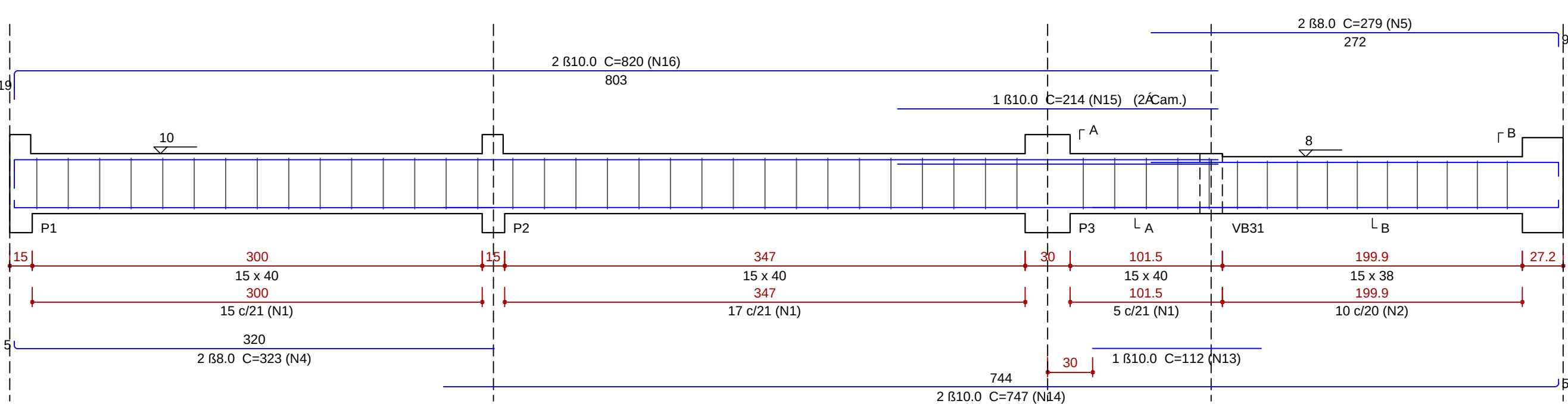
ESTADO DE SANTA CATARINA
SECRETARIA DE ESTADO DA INFRA-ESTRUTURA
DEPARTAMENTO ESTADUAL DE INFRA-ESTRUTURA
DEINFRA DIRETORIA DE OBRAS CIVIS - DIOC



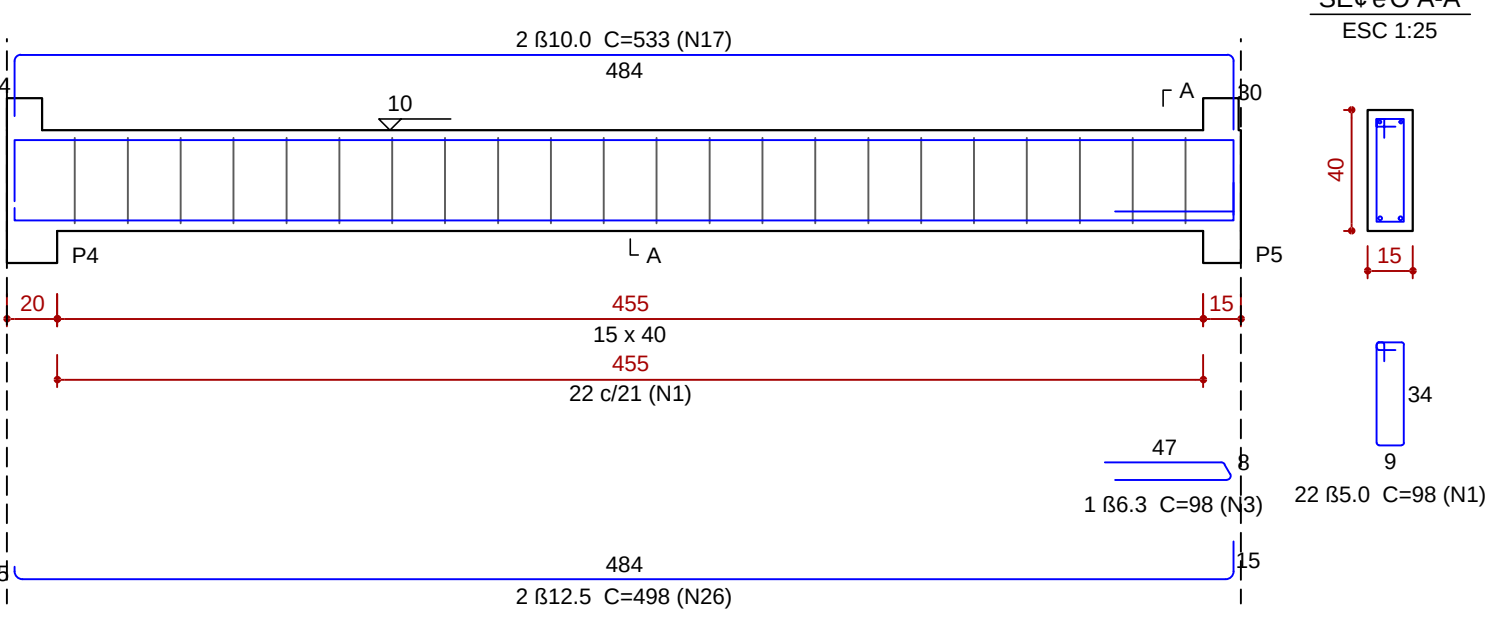
NOME DO PROJETO: SST - SECRETARIA DE ESTADO DA ASSISTÊNCIA SOCIAL, TRABALHO E HABITAÇÃO E O			REF.:
LOCAL: DIVERSAS LOCALIDADES DO ESTADO			
TIPO DE PROJETO: ESTRUTURAL			
CARACTERÍSTICAS: PROJETO PADRÃO - CREAS			
PLANTA DE FORMA			
PAVIMENTO: BALDRAME			
AUTOR DO PROJETO: ENG. CIVIL ROBERTO DANIEL GEVAERD CREA/SC 041750-9			
AVALIAÇÃO ENGENHARIA E AVALIAÇÃO ES LTDA			
CREA: 220,04 m	ESCALA: INDICADA	DATA: ABRIL/2017	DES. EDVÂNIO PACHECO

FORMATO A2 - INTERNO: 554 x 400 mm.
EXTERNO: 594 x 420 mm.

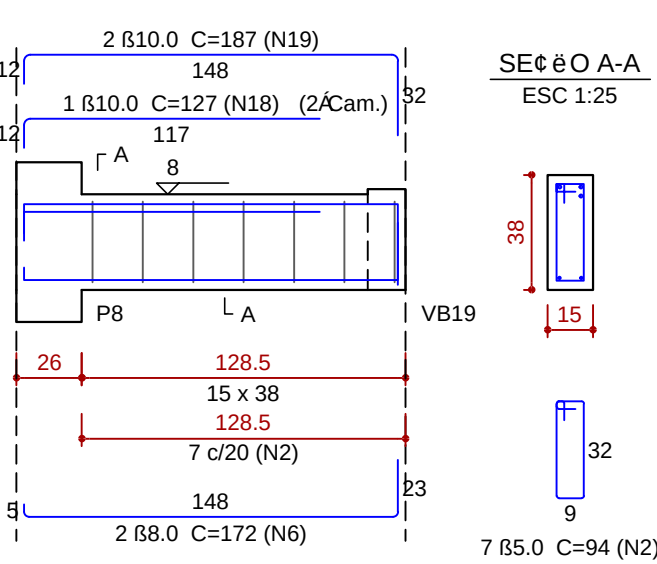
VB1



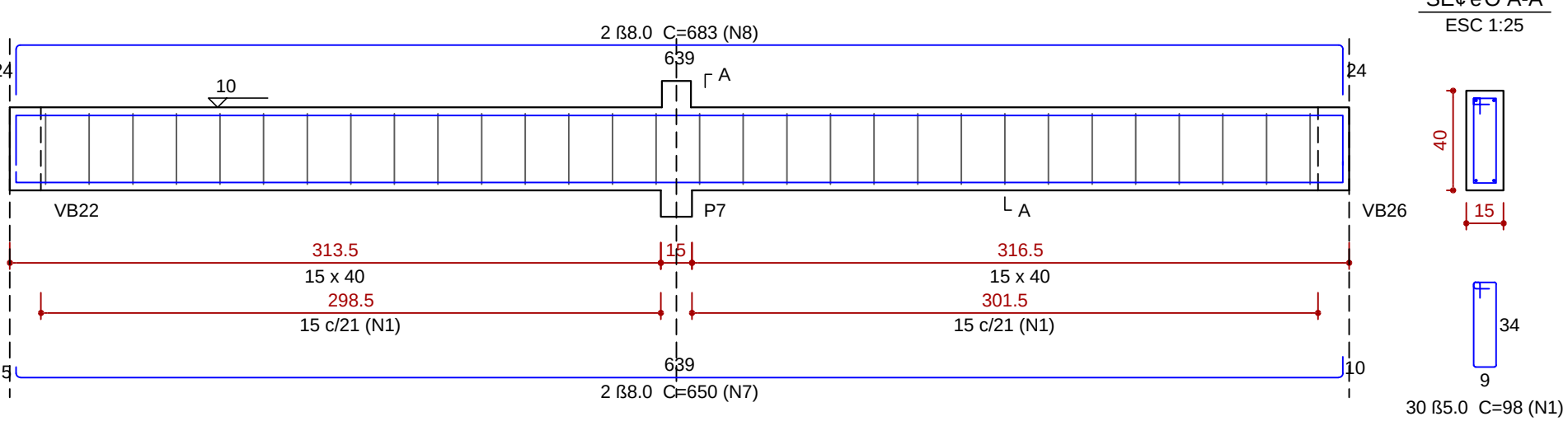
VB2



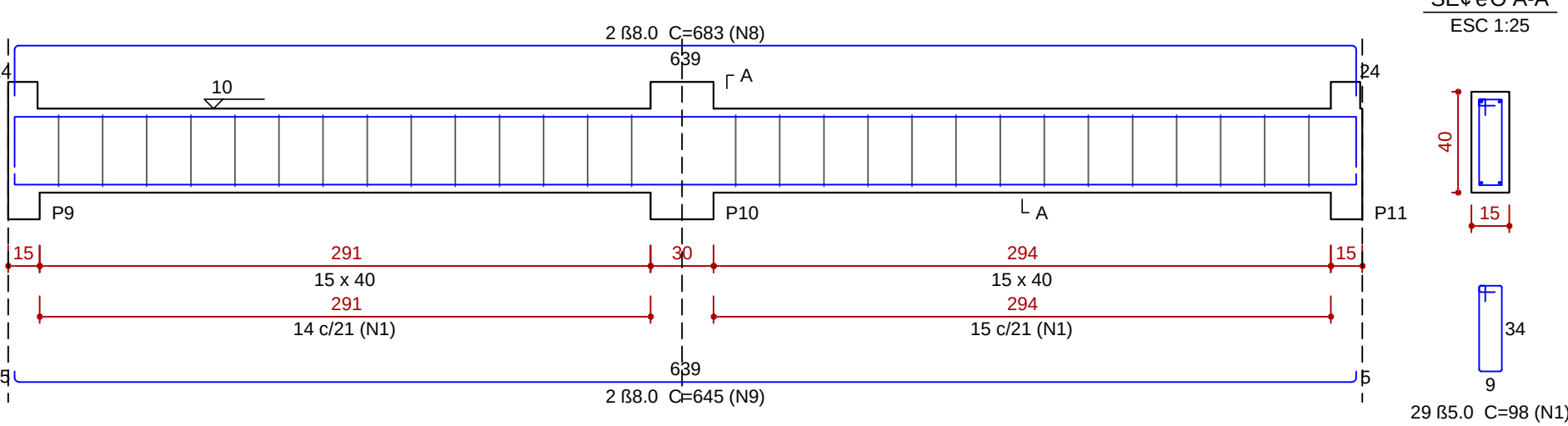
VB3



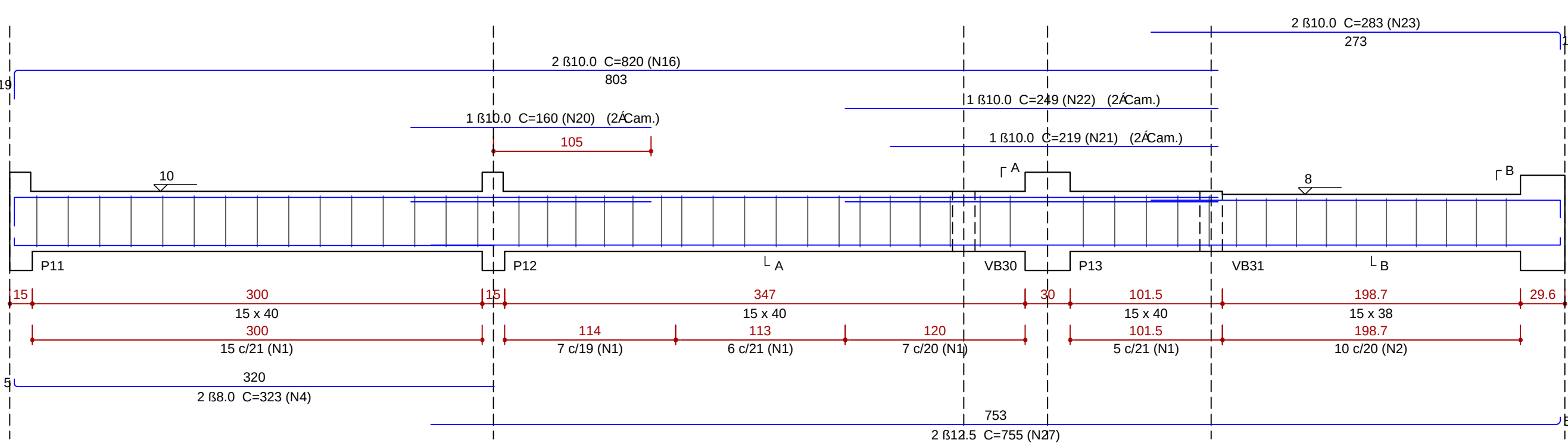
VB4



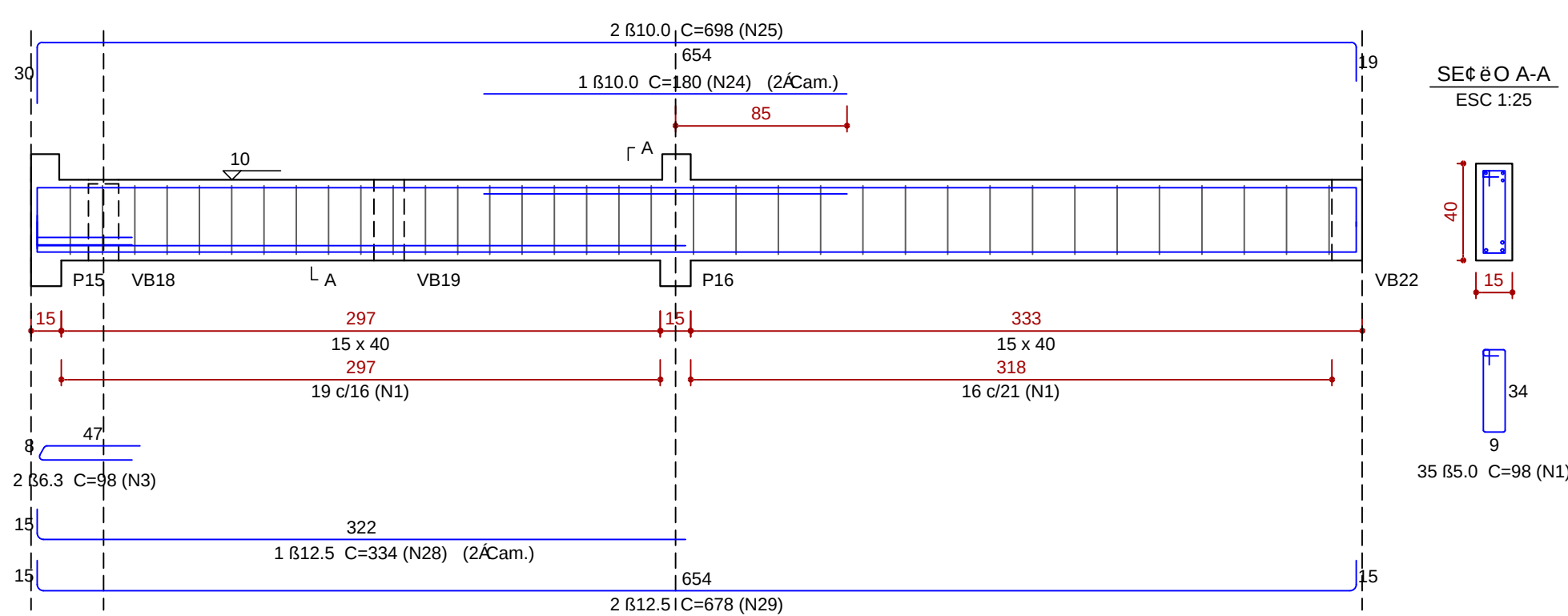
VB5



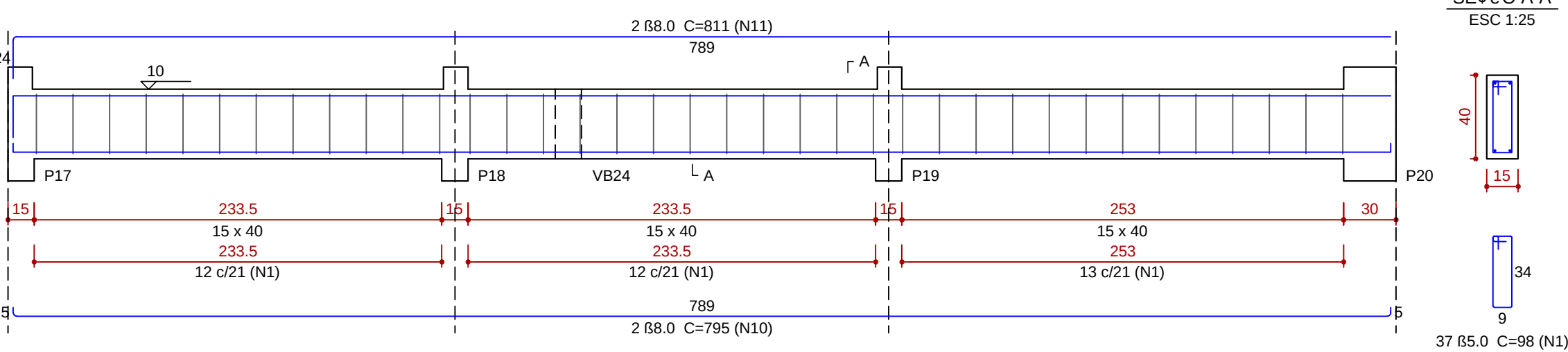
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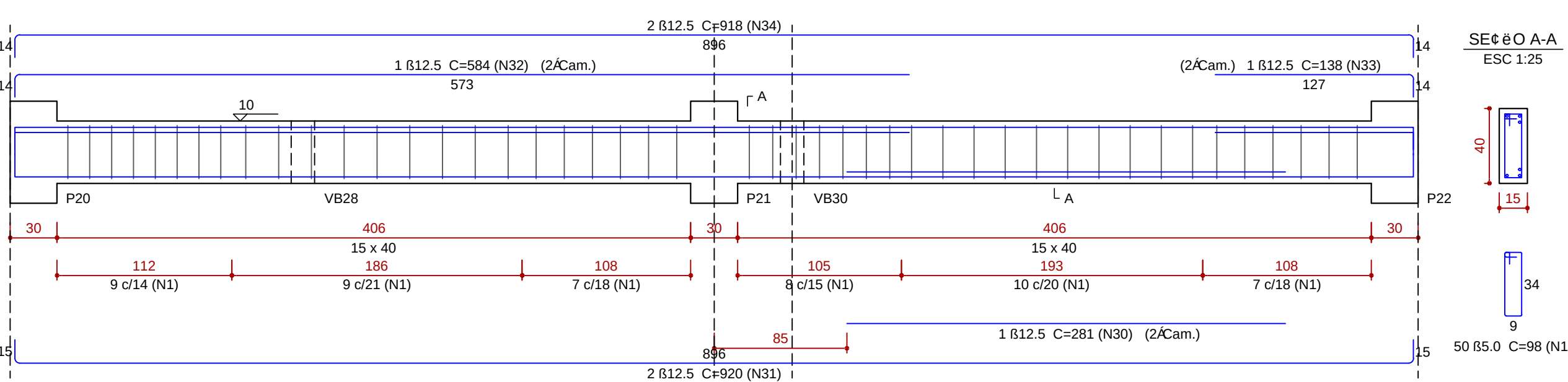
VB7



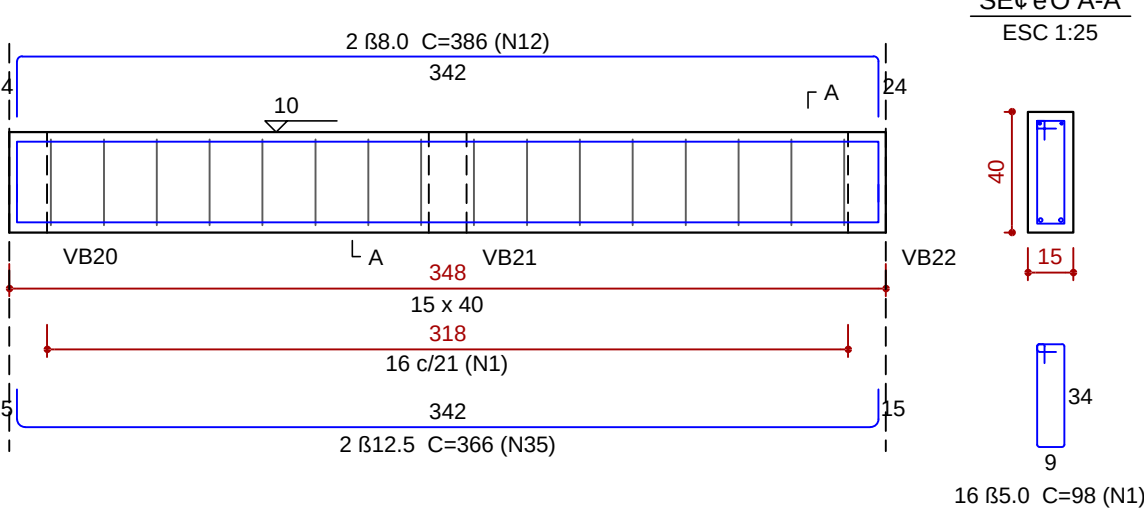
VB8



VB9



VB10



Rela- «o do a- o

VB1	VB2	VB3			
VB4	VB5	VB6			
VB7	VB8				
VB10					
Aç O	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	296	98	29008
	2	5.0	27	94	2538
CA50	3	6.3	3	98	294
	4	8.0	4	323	1292
	5	8.0	2	279	558
	6	8.0	2	172	344
	7	8.0	2	650	1300
	8	8.0	4	683	2732
	9	8.0	2	645	1290
	10	8.0	2	795	1590
	11	8.0	2	811	1622
	12	8.0	2	386	772
	13	10.0	1	112	112
	14	10.0	2	747	1494
	15	10.0	1	214	214
	16	10.0	4	820	3280
	17	10.0	2	533	1066
	18	10.0	1	127	127
	19	10.0	2	187	374
	20	10.0	1	160	160
	21	10.0	1	219	219
	22	10.0	1	249	249
	23	10.0	2	283	566
24	10.0	1	180	180	
25	10.0	2	698	1396	
26	12.5	2	498	996	
27	12.5	2	755	1510	
28	12.5	1	334	334	
29	12.5	2	678	1356	
30	12.5	1	281	281	
31	12.5	2	920	1840	
32	12.5	1	584	584	
33	12.5	1	138	138	
34	12.5	2	918	1836	
35	12.5	2	366	732	

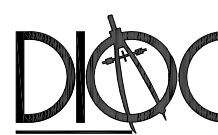
Resumo do a- o

AçO	DIAM (mm)	C.TOTAL (m)	QUANT + 10 % (Barras)	PESO + 10 % (kg)
CA50	6.3	3	1	0.8
	9.0	115	11	49.9
	10.0	94.4	9	64
	12.5	96.1	9	101.8
CA60	5.0	315.5	29	53.5
PESO TOTAL (kg)				
CA50	216.5			
CA60	53.5			

Volume de concreto (C-30) = 4.01 m³
Crea de forma = 63.51 m²



ESTADO DE SANTA CATARINA
SECRETARIA DE ESTADO DA INFRA ESTRUTURA
DEPARTAMENTO ESTADUAL DE INFRA ESTRUTURA
DIRETORIA DE OBRAS CIVIS - DIOC



NOME DO PROJETO : SST - SECRETARIA DE ESTADO DA ASSISTANCIA SOCIAL, TRABALHO E HABITACAO

REF.:

LOCAL: DIVERSAS LOCALIDADES DO ESTADO

TIPO DE PROJETO: ESTRUTURAL

CARACTERÍSTICAS: PROJETO PADRÃO - CREAS

ARMADURAS DAS VIGAS

PAVIMENTO: BALDRAME

AUTOR DO PROJETO: ENG. CIVIL ROBERTO DANIEL GEVAERD
CREA/SC 041750-9

AVALIUS ENGENHARIA E AVALIAES LTDA

CREA: 220.04 m²

ESCALA: INDICADA

DATA: ABRIL/2017

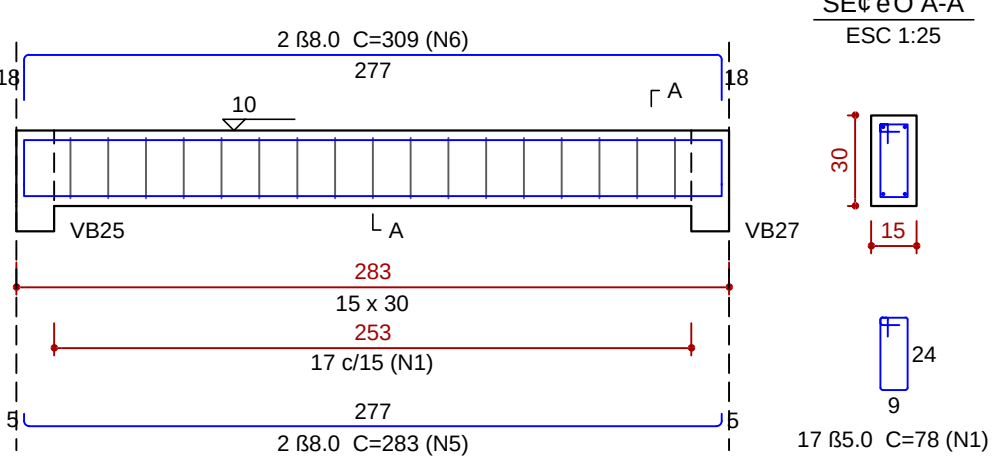
DES. EDVÂNIO PACHECO

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18

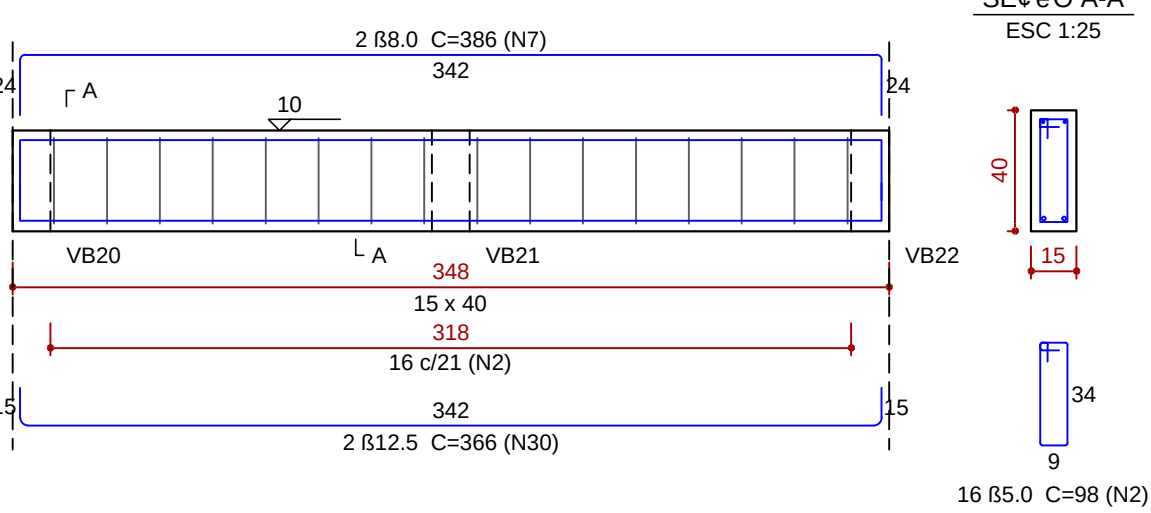
VB11

ESC 1:30



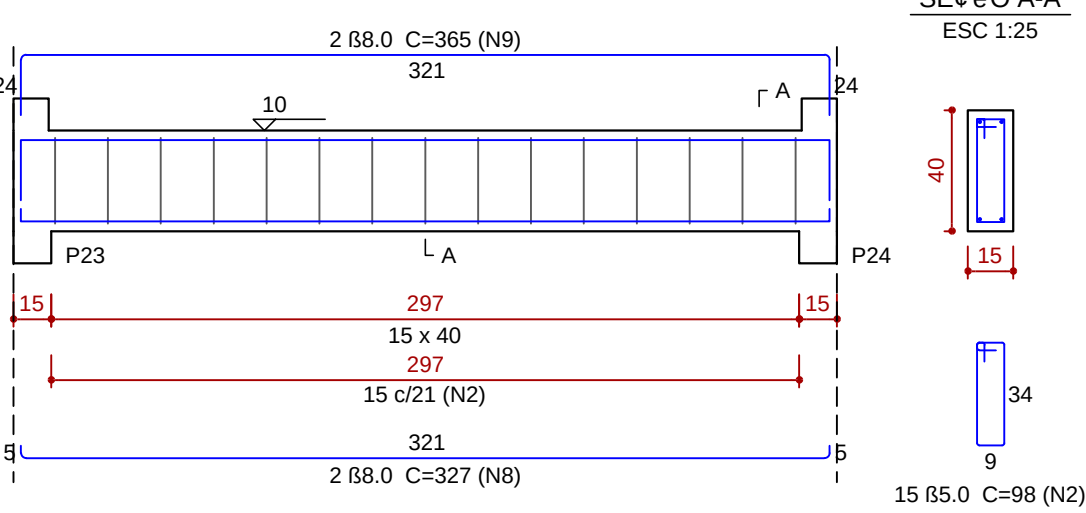
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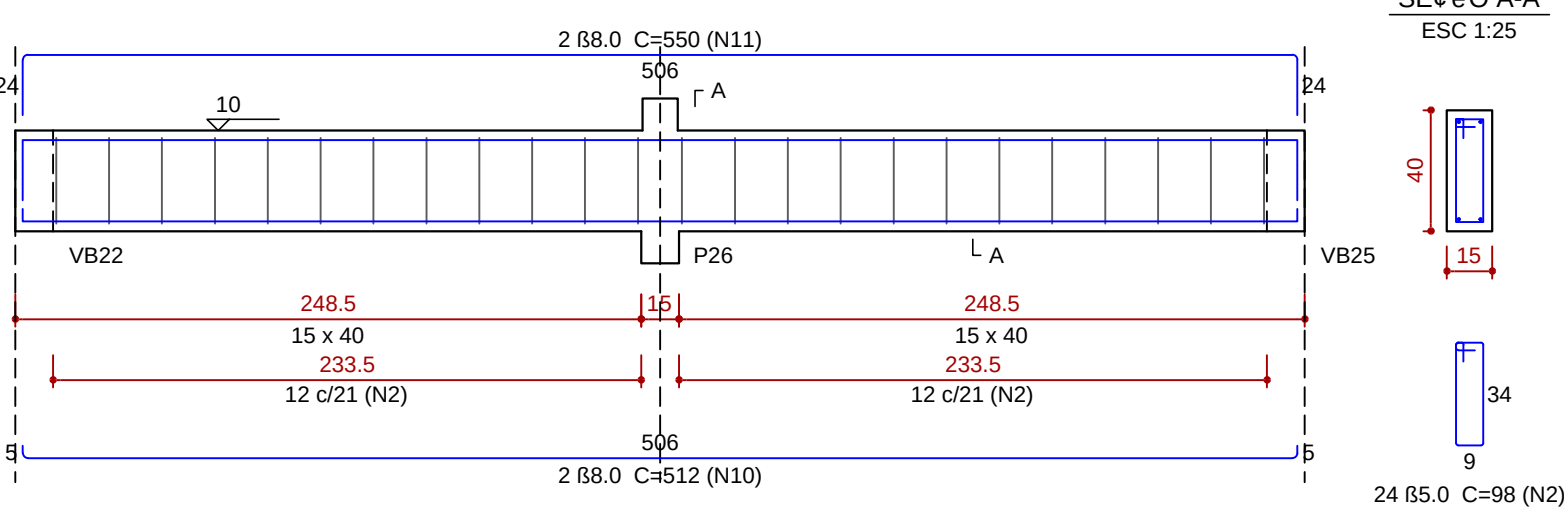
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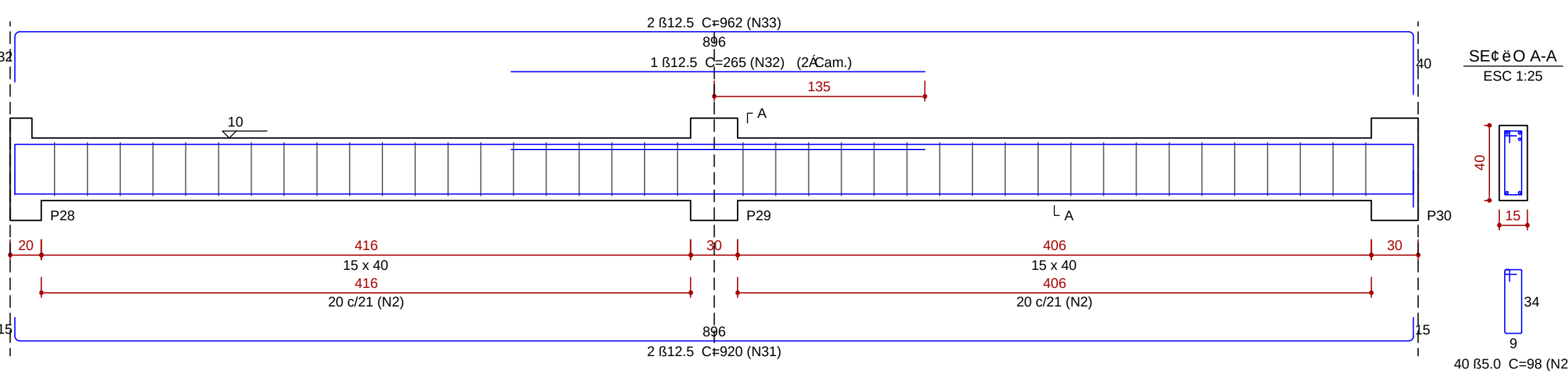
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ESC 1:30



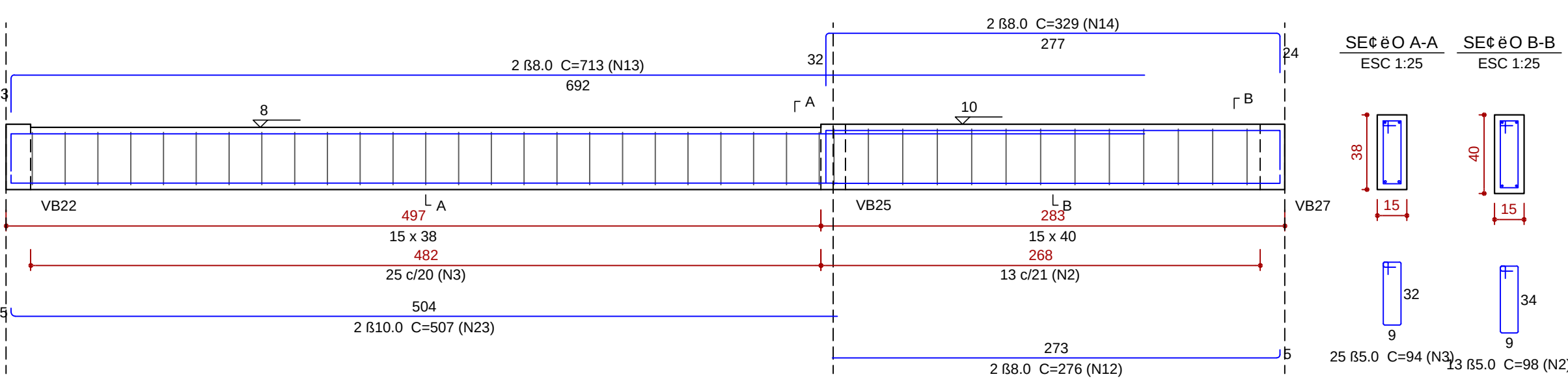
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ESC 1:30



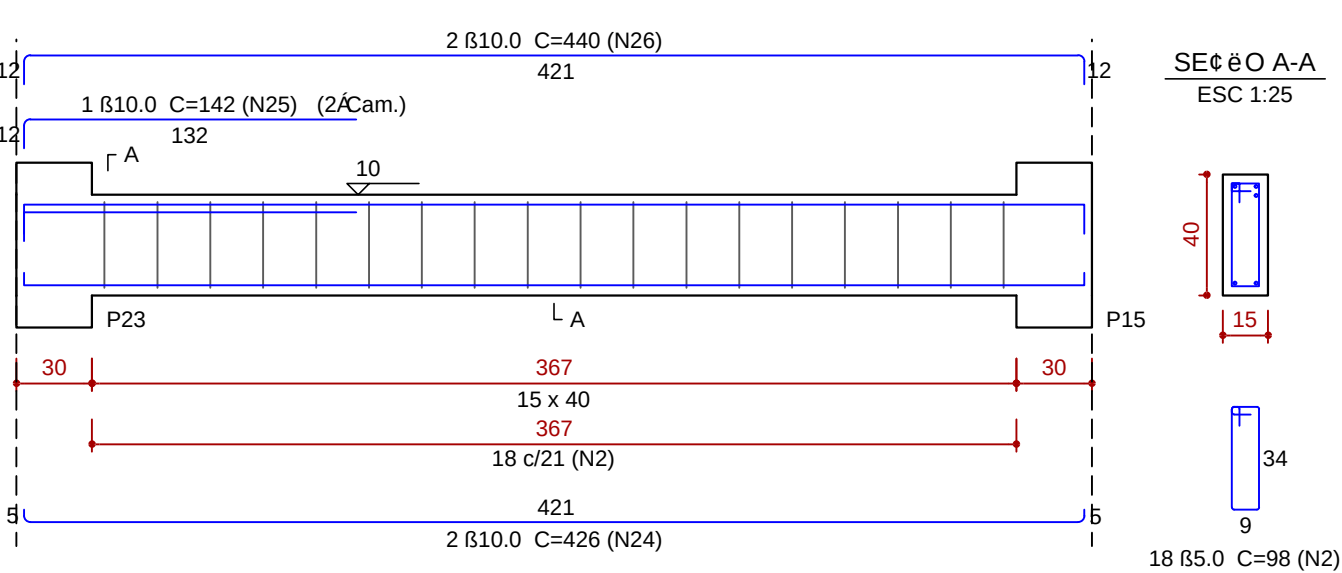
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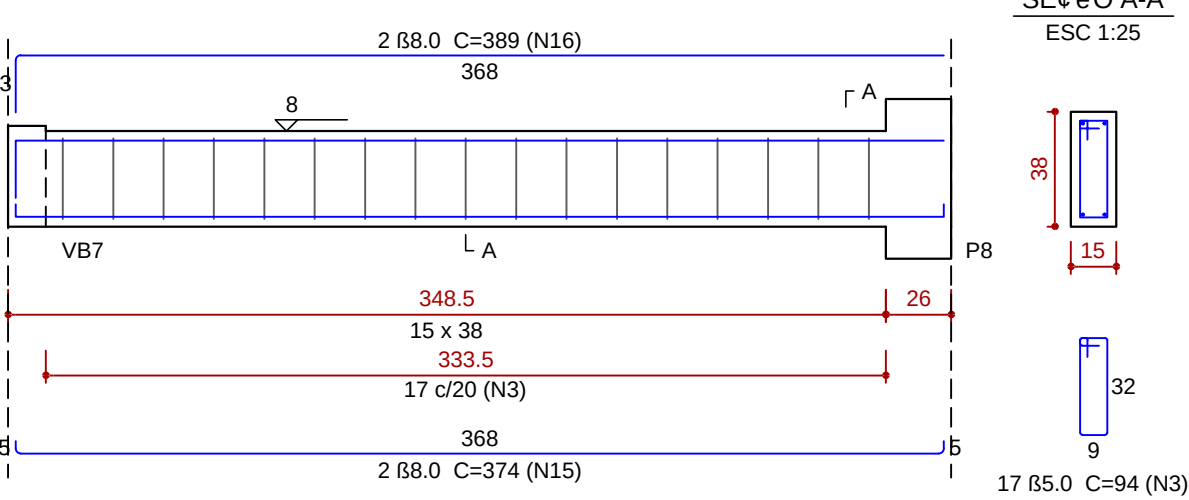
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ESC 1:30



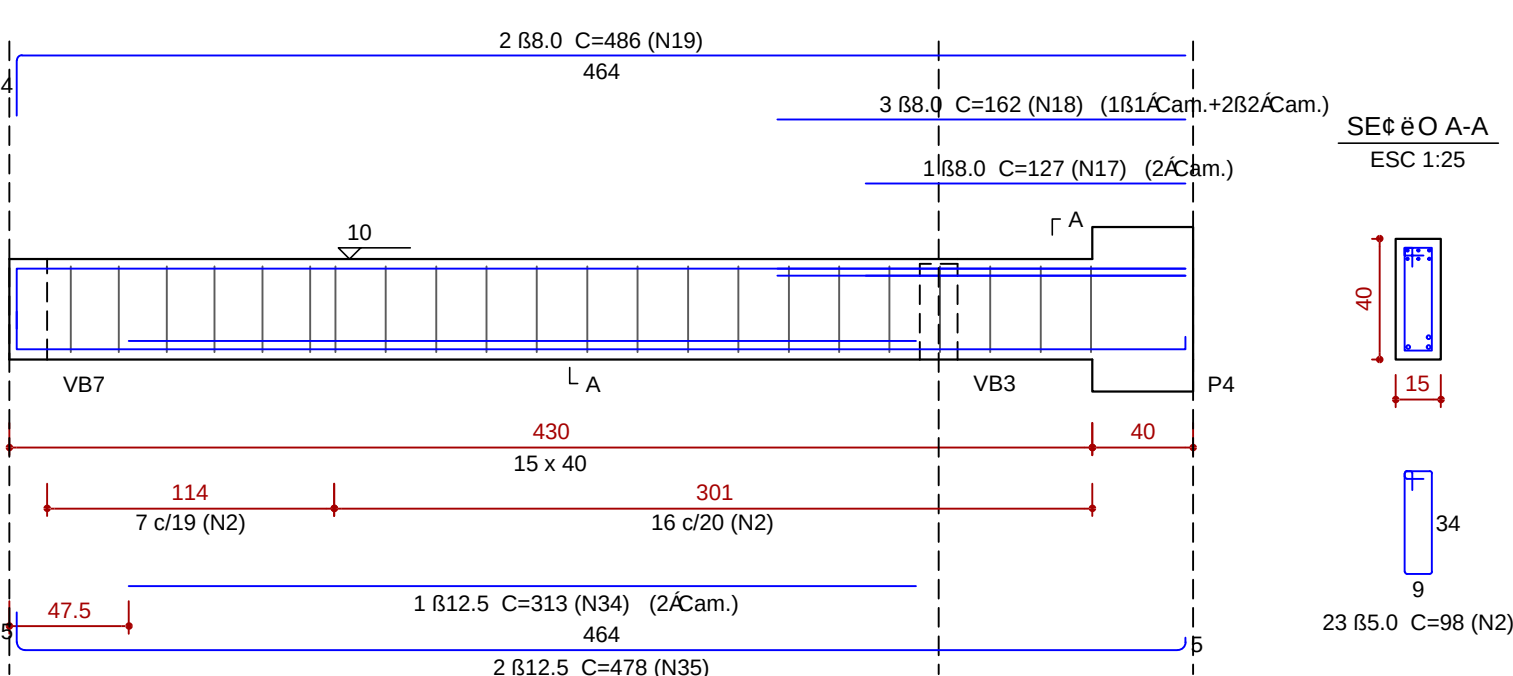
VB18

ESC 1:30



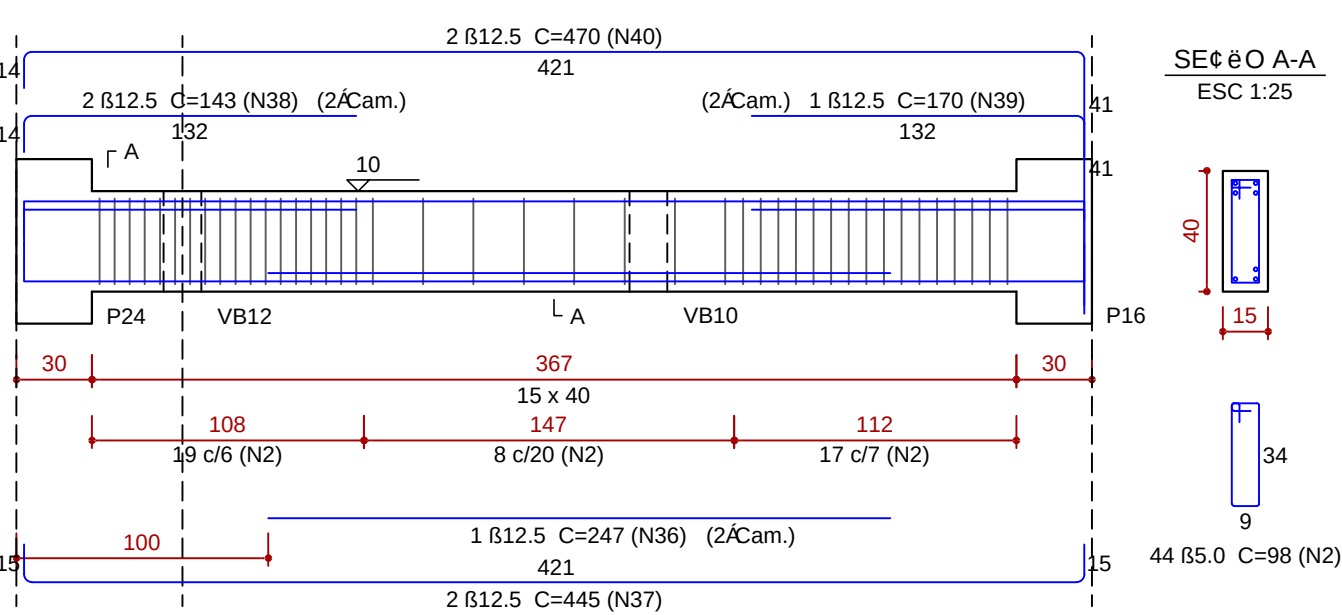
VB19

ESC 1:30



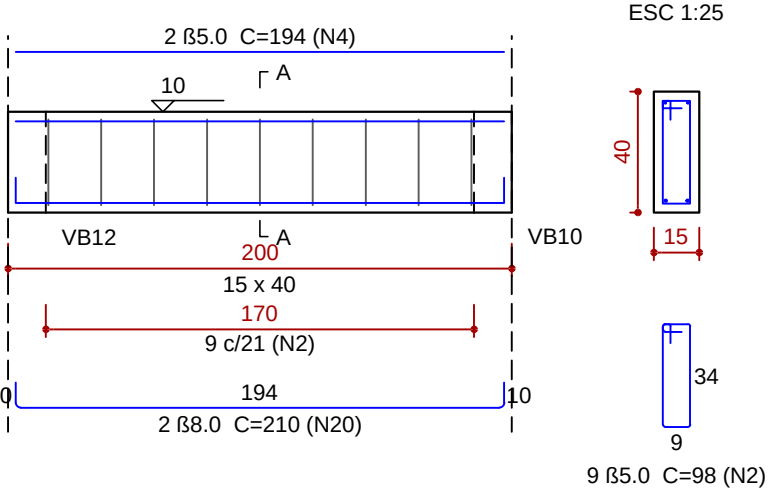
VB20

ESC 1:30



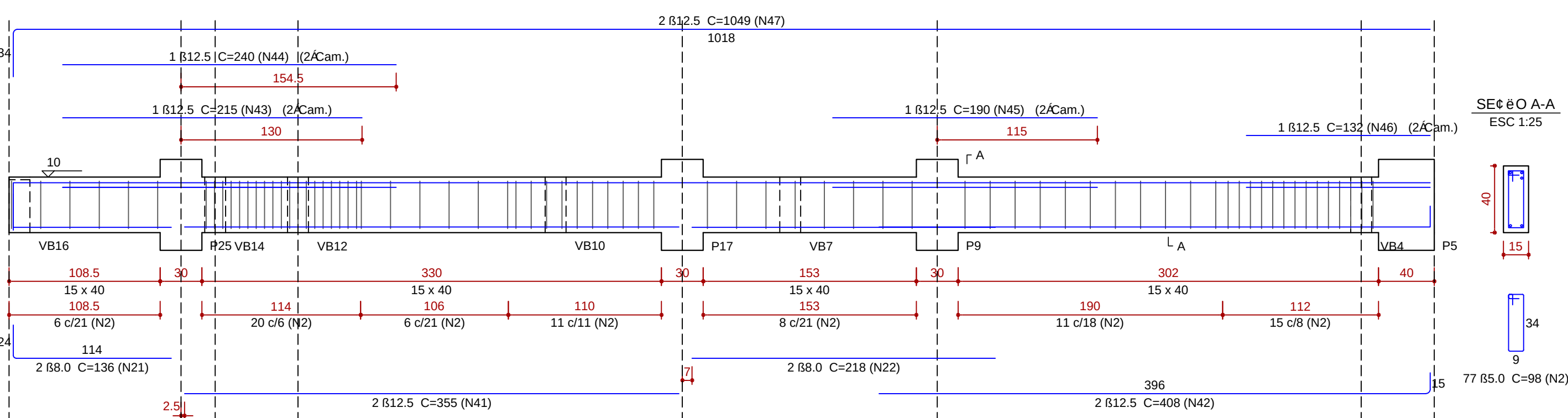
VB21

ESC 1:30



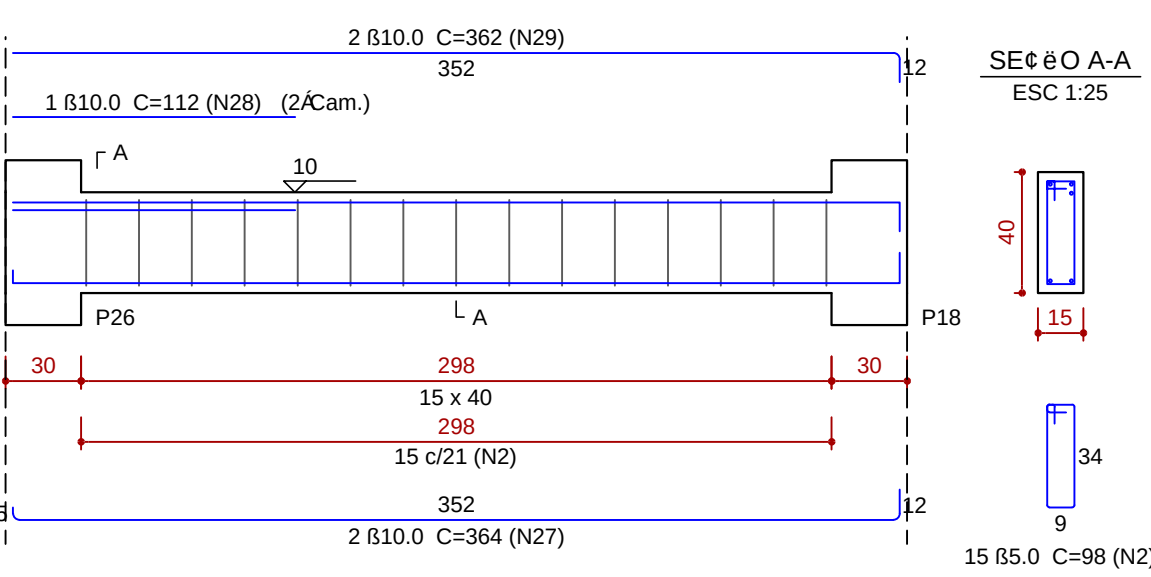
VB22

ESC 1:30



VB23

ESC 1:30



Rela-«o do a-o

A#O	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	17	78	1326
	2	5.0	294	98	28812
	3	5.0	42	94	3948
CA50	4	5.0	2	194	388
	5	8.0	2	283	566
	6	8.0	2	309	618
	7	8.0	2	306	772
	8	8.0	2	327	654
	9	8.0	2	365	730
	10	8.0	2	512	1024
	11	8.0	2	550	1100
	12	8.0	2	276	552
	13	8.0	2	713	1426
	14	9.0	2	329	658
	15	8.0	2	374	748
	16	8.0	2	389	778
	17	8.0	1	127	127
	18	8.0	3	162	486
	19	8.0	2	486	972
	20	8.0	2	210	420
	21	8.0	2	136	272
	22	8.0	2	218	436
	23	10.0	2	507	1014
	24	10.0	2	426	852
	25	10.0	1	142	142
	26	10.0	2	440	880
	27	10.0	2	364	728
	28	10.0	1	112	112
	29	10.0	2	362	724
	30	12.5	2	366	732
	31	12.5	2	920	1840
	32	12.5	1	265	265
	33	12.5	2	962	1924
	34	12.5	1	313	313
	35	12.5	2	478	956
	36	12.5	1	247	247
	37	12.5	2	445	890
	38	12.5	2	143	286
	39	12.5	1	170	170
	40	12.5	2	470	940
	41	12.5	2	355	710
	42	12.5	2	408	816
	43	12.5	1	215	215
	44	12.5	1	240	240
	45	12.5	1	190	190
	46	12.5	1	132	132
	47	12.5	2	1049	2098

Resumo do a-o

A#O	DIAM (mm)	C.TOTAL (m)	QUANT + 10 % (Barras)	PESO + 10 % (kg)
CA50	8.0	123.4	12	53.6
	10.0	44.6	5	30.2
	12.5	129.7	12	137.4
CA60	5.0	344.8	32	58.4
PESO TOTAL (kg)				
CA50		221.1		
CA60		58.4		

Volume de concreto (C-30) = 3.79 m³
Crea de forma = 60.19 m²



ESTADO DE SANTA CATARINA
SECRETARIA DE ESTADO DA INFRA ESTRUTURA
DEPARTAMENTO ESTADUAL DE INFRA ESTRUTURA
DIRETORIA DE OBRAS CIVIS - DIOC



NOME DO PROJETO : SST - SECRETARIA DE ESTADO DA ASSISTªNCIA SOCIAL, TRABALHO E HABITªçªO

REF.:

LOCAL : DIVERSAS LOCALIDADES DO ESTADO

TIPO DE PROJETO : ESTRUTURAL

CARACTERÍSTICAS : PROJETO PADRªO - CREAS

ARMADURAS DAS VIGAS

PAVIMENTO : BALDRAME

AUTOR DO PROJETO : ENG. CIVIL ROBERTO DANIEL GEVAERD

CREA/SC 041750-9

AVALIUS ENGENHARIA E AVALIAçªO ES LTDA

çREA: 220.04 m²

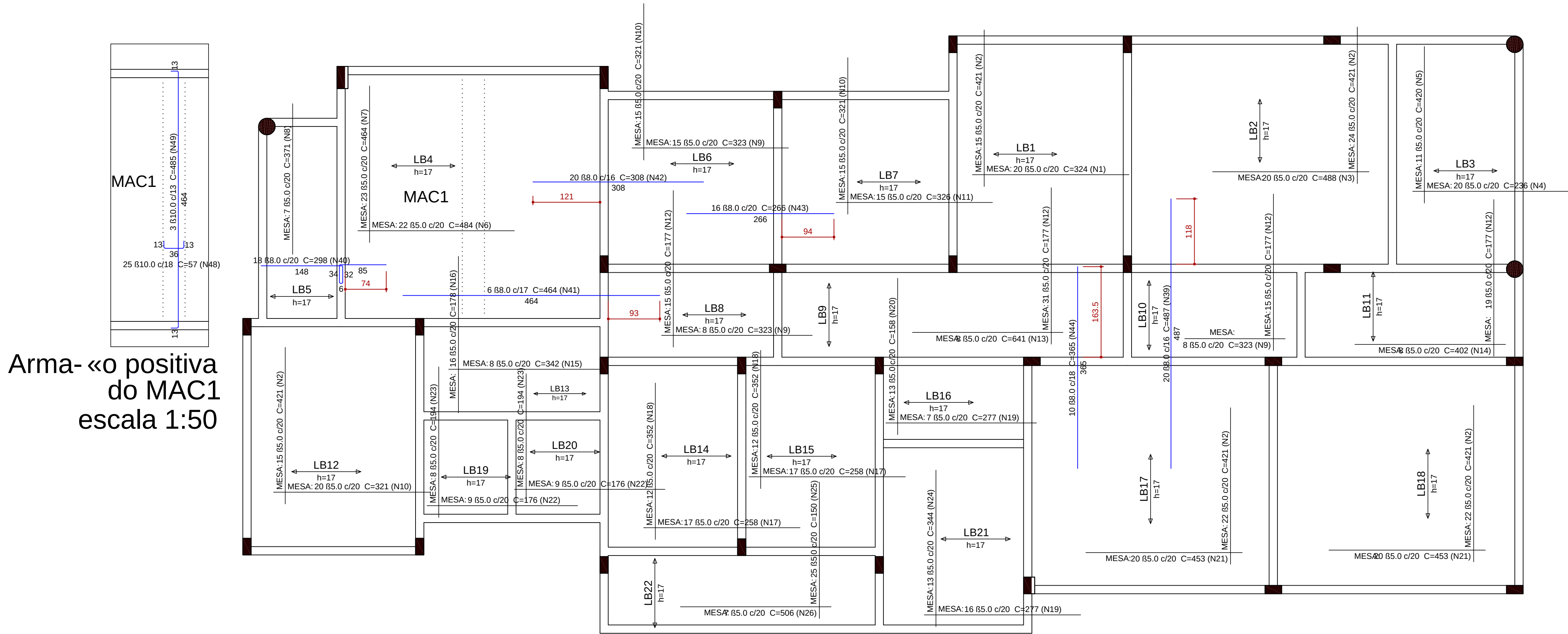
ESCALA: INDICADA

DATA: ABRIL/2017

DES: EDVÂNIO PACHECO

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Rela-«o do a-o

Negativos

A# O	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	20	324	6480
	2	5.0	98	421	41258
	3	5.0	20	488	9760
	4	5.0	20	236	4720
	5	5.0	11	420	4620
	6	5.0	22	484	10648
	7	5.0	23	464	10672
	8	5.0	7	371	2597
	9	5.0	31	323	10013
	10	5.0	50	321	16050
	11	5.0	15	326	4890
	12	5.0	80	177	14160
	13	5.0	8	641	5128
	14	5.0	8	402	3216
	15	5.0	8	342	2736
	16	5.0	16	178	2848
	17	5.0	34	258	8772
	18	5.0	24	352	8448
	19	5.0	23	277	6371
	20	5.0	13	158	2054
	21	5.0	40	453	18120
	22	5.0	18	176	3168
	23	5.0	16	194	3104
	24	5.0	13	344	4472
	25	5.0	25	150	3750
	26	5.0	7	506	3542
CA50	39	8.0	20	487	9740
	40	8.0	18	298	5364
	41	8.0	6	464	2784
	42	8.0	20	308	6160
	43	8.0	16	266	4256
	44	8.0	10	365	3650
	48	10.0	25	57	1425
	49	10.0	3	485	1455

Rela-«o do a-o

A# O	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA50	27	6.3	20	331	6620
	28	6.3	20	243	4860
	29	6.3	16	158	2528
	30	6.3	20	330	6600
	31	6.3	14	333	4662
	32	6.3	62	184	11408
	33	6.3	20	328	6560
	34	6.3	12	349	4188
	35	6.3	32	265	8480
	36	6.3	22	284	6248
	37	6.3	16	183	2928
	38	6.3	24	157	3768
	45	8.0	20	494	9880
	46	8.0	2	489	978
	47	8.0	22	431	9482
	50	10.0	44	436	19184

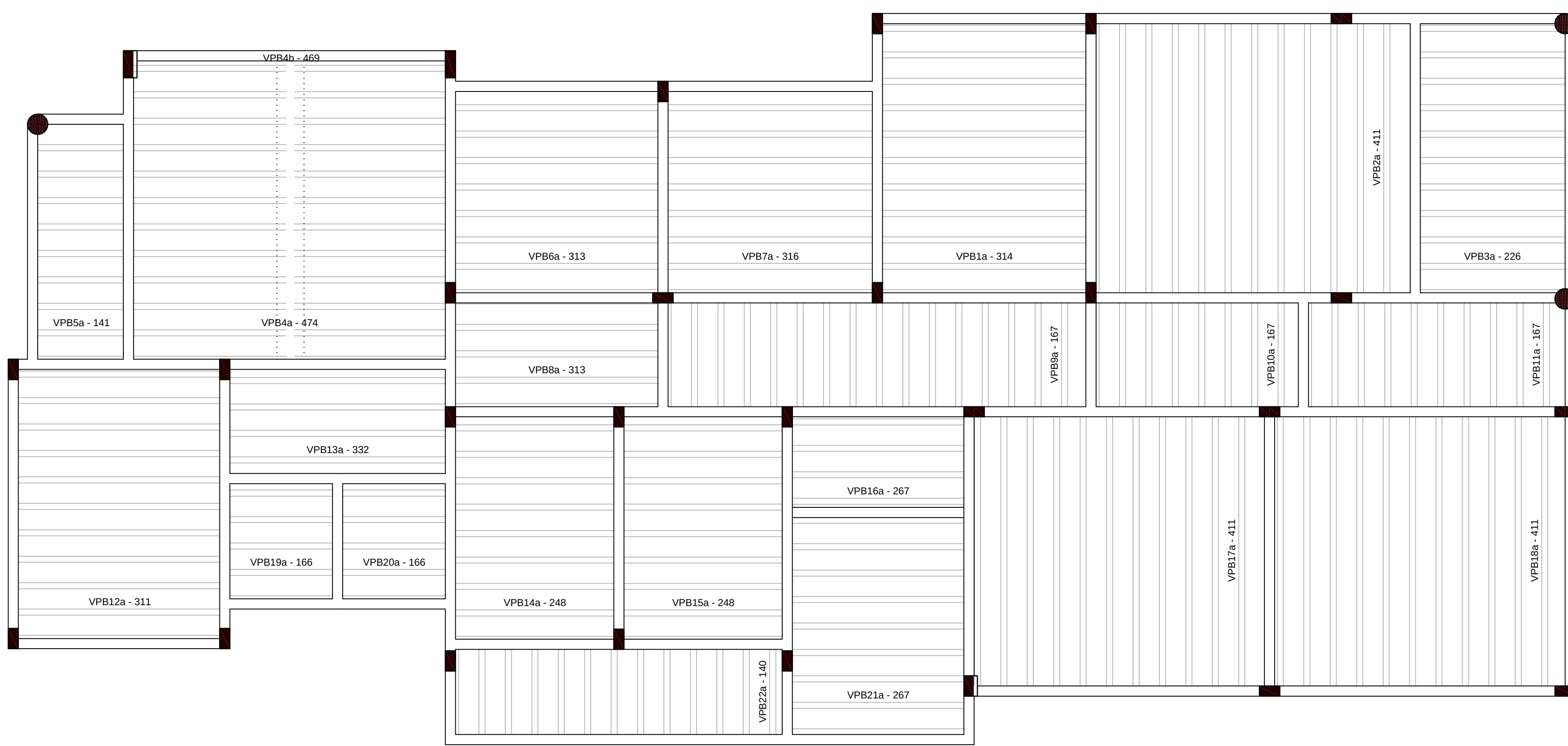
Resumo do a-o

A# O	DIAM (mm)	C.TOTAL (m)	QUANT + 10 % (Barras)	PESO + 10 % (kg)
CA50	6.3	688.5	64	185.3
	8.0	203.4	19	88.3
	10.0	191.9	18	130.1
PESO TOTAL (kg)				
CA50				403.7

Resumo do a-o

A# O	DIAM (mm)	C.TOTAL (m)	QUANT + 10 % (Barras)	PESO + 10 % (kg)
CA50	8.0	319.6	30	138.7
	10.0	28.8	3	19.5
CA60	5.0	2116	194	358.8
PESO TOTAL (kg)				
CA50				158.2
CA60				358.8

Arma-«o negativa e mesa das lajes do pavimento Baldrame escala 1:50



VPB8a (3 unidades) (LB8) ESC 1:50

VPB2a (11 unidades) (LB2) ESC 1:50

VPB10a (7 unidades) (LB10) ESC 1:50

VPB11a (9 unidades) (LB11) ESC 1:50

VPB6a (7 unidades) (LB6) ESC 1:50

VPB3a (10 unidades) (LB3) ESC 1:50

VPB7a (7 unidades) (LB7) ESC 1:50

VPB4a (10 unidades) (LB4) ESC 1:50

VPB22a (12 unidades) (LB22) ESC 1:50

VPB12a (10 unidades) (LB12) ESC 1:50

VPB9a (15 unidades) (LB9) ESC 1:50

VPB4b (1 unidades) (LB4) ESC 1:50

VPB21a (7 unidades) (LB21) ESC 1:50

VPB5a (8 unidades) (LB5) ESC 1:50

Planta de vigotas pr®moldadas escala 1:50

VPB14a (8 unidades) (LB14) ESC 1:50

VPB15a (8 unidades) (LB15) ESC 1:50

VPB16a (4 unidades) (LB16) ESC 1:50

VPB17a (11 unidades) (LB17) ESC 1:50

VPB18a (11 unidades) (LB18) ESC 1:50

VPB19a (4 unidades) (LB19) ESC 1:50

VPB1a (10 unidades) (LB1) ESC 1:50

VPB20a (4 unidades) (LB20) ESC 1:50

ESTADO DE SANTA CATARINA
SECRETARIA DE ESTADO DA INFRA ESTRUTURA
DEPARTAMENTO ESTADUAL DE INFRA ESTRUTURA
DIRETORIA DE OBRAS CIVIS - DIOC

NOME DO PROJETO : SST - SECRETARIA DE ESTADO DA ASSISTANCIA SOCIAL, TRABALHO E HABITACAO

LOCAL : DIVERSAS LOCALIDADES DO ESTADO

TIPO DE PROJETO : ESTRUTURAL

CARACTERSTICAS : PROJETO PADRÃO O - CREAS

PAVIMENTO : BALDRAME

AUTOR DO PROJETO : ENG. CIVIL ROBERTO DANIEL GEVAERD
CREA/SC 041750-9

ÁREA : 220.04 m²

ESCALA : INDICADA

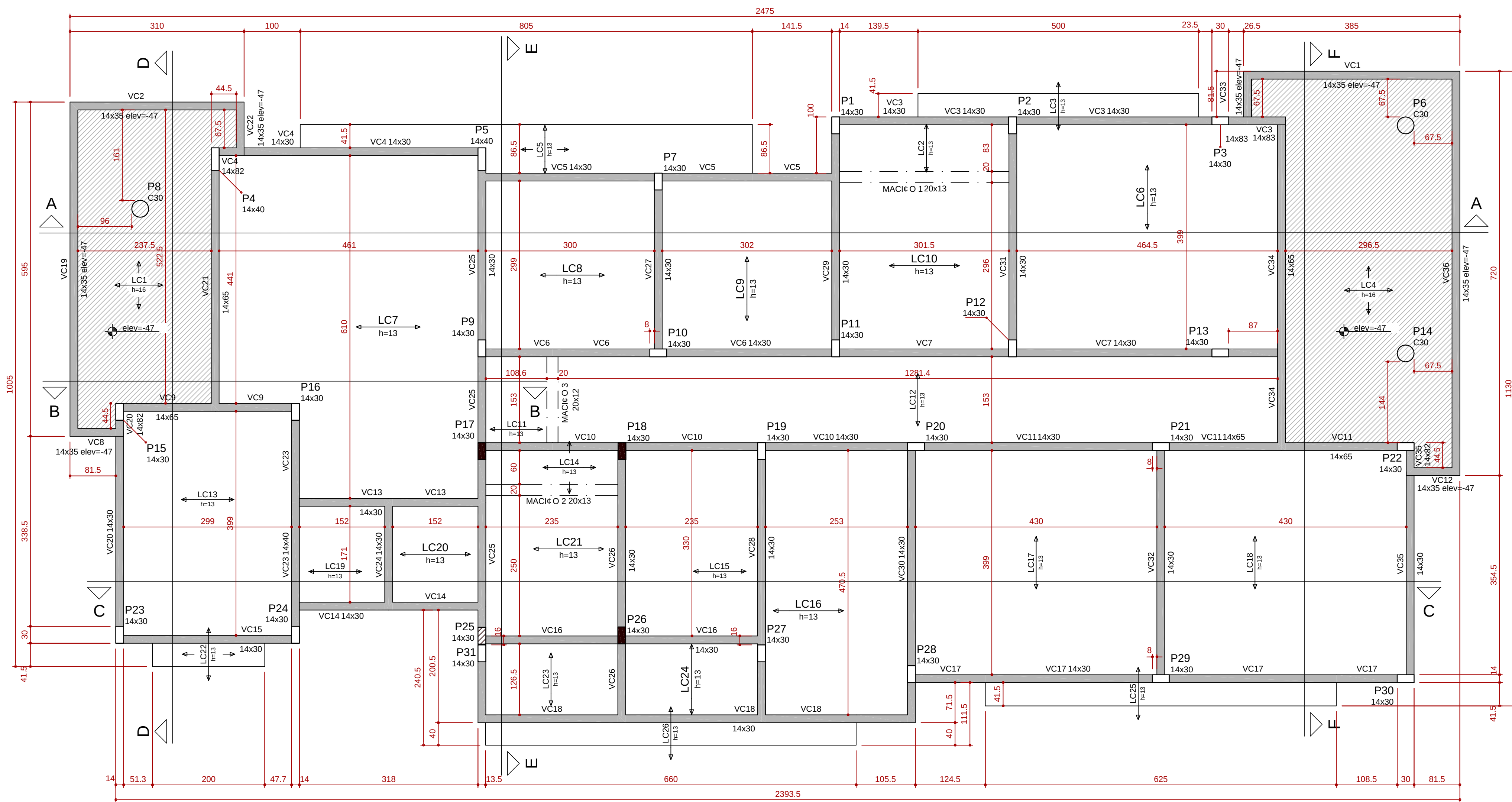
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DES. EDVÂNIO PACHECO

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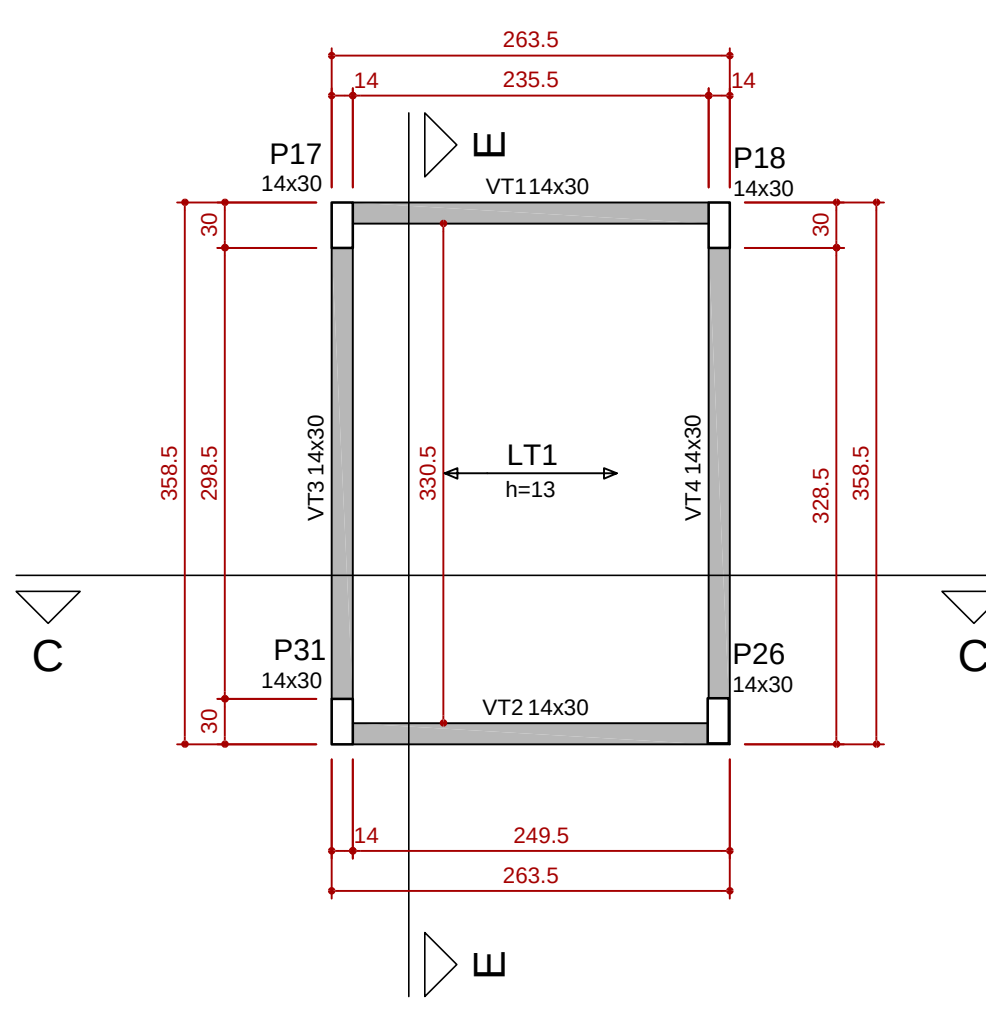


Vigas			
Nome	Se-«o (cm)	Eleva-«o (cm)	Nºvel (cm)
MACI# O 1	20x13	0	325
MACI# O 2	20x13	0	325
MACI# O 3	20x12	0	325
VC1	14x35	-47	278
VC2	14x35	-47	278
VC3	14x30	0	325
VC4	14x83	0	325
VC5	14x82	0	325
VC6	14x30	0	325
VC7	14x30	0	325
VC8	14x35	-47	278
VC9	14x65	0	325
VC10	14x30	0	325
VC11	14x30	0	325
VC12	14x35	-47	278
VC13	14x30	0	325
VC14	14x30	0	325
VC15	14x30	0	325
VC16	14x30	0	325
VC17	14x30	0	325
VC18	14x35	-47	278
VC19	14x35	-47	278
VC20	14x30	0	325
VC21	14x65	0	325
VC22	14x35	-47	278
VC23	14x40	0	325
VC24	14x30	0	325
VC25	14x30	0	325
VC26	14x30	0	325
VC27	14x30	0	325
VC28	14x30	0	325
VC29	14x30	0	325
VC30	14x30	0	325
VC31	14x30	0	325
VC32	14x30	0	325
VC33	14x35	-47	278
VC34	14x65	0	325
VC35	14x30	0	325
VC36	14x82	0	325

Lajes					Sobrecarga (kgf/m²)	
Nome	Tipo	Altura (cm)	Eleva-«o (cm)	Nºvel (cm)	Peso pr- prio (kgf/m²)	Total Localizada
LC1	Maci-a	16	-47	278	400	150 -
LC2	Pr#-moldada	13	0	325	284	150 -
LC3	Pr#-moldada	13	0	325	284	100 -
LC4	Maci-a	16	-47	278	400	150 sim
LC5	Maci-a	13	0	325	325	100 -
LC6	Pr#-moldada	13	0	325	284	150 -
LC7	Pr#-moldada	13	0	325	284	150 -
LC8	Pr#-moldada	13	0	325	284	150 -
LC9	Pr#-moldada	13	0	325	284	150 -
LC10	Pr#-moldada	13	0	325	284	150 -
LC11	Pr#-moldada	13	0	325	284	150 -
LC12	Pr#-moldada	13	0	325	284	150 -
LC13	Pr#-moldada	13	0	325	284	150 -
LC14	Maci-a	13	0	325	325	150 -
LC15	Pr#-moldada	13	0	325	284	150 -
LC16	Pr#-moldada	13	0	325	284	150 -
LC17	Pr#-moldada	13	0	325	284	150 -
LC18	Pr#-moldada	13	0	325	284	150 -
LC19	Pr#-moldada	13	0	325	284	150 -
LC20	Pr#-moldada	13	0	325	284	150 -
LC21	Pr#-moldada	13	0	325	284	150 sim
LC22	Maci-a	13	0	325	325	100 -
LC23	Pr#-moldada	13	0	325	284	150 -
LC24	Pr#-moldada	13	0	325	284	150 -
LC25	Pr#-moldada	13	0	325	284	100 -
LC26	Pr#-moldada	13	0	325	284	100 -

Crea de lajes				Pilares			
Tipo	Altura (cm)	Bloco de Enchimento	Crea (m²)	Nome	Se-«o (cm)	Eleva-«o (cm)	Nºvel (cm)
Pr#-moldada	13	B8/25/20	185.16	P1	14 x 30	0	325
Maci-a	13	-	7.36	P2	14 x 30	0	325
Maci-a	16	-	32.92	P3	14 x 30	0	325
				P4	14 x 40	0	325
				P5	14 x 40	0	325
				P6	Circ 30	-50	275
				P7	14 x 30	0	325
				P8	Circ 30	-50	275
				P9	14 x 30	0	325
				P10	14 x 30	0	325
				P11	14 x 30	0	325
				P12	14 x 30	0	325
				P13	14 x 30	0	325
				P14	Circ 30	-50	275
				P15	14 x 30	0	325
				P16	14 x 30	0	325
				P17	14 x 30	0	325
				P18	14 x 30	0	325
				P19	14 x 30	0	325
				P20	14 x 30	0	325
				P21	14 x 30	0	325
				P22	14 x 30	0	325
				P23	14 x 30	0	325
				P24	14 x 30	0	325
				P25	14 x 30	0	325
				P26	14 x 30	0	325
				P27	14 x 30	0	325
				P28	14 x 30	0	325
				P29	14 x 30	0	325
				P30	14 x 30	0	325
				P31	14 x 30	0	325

Forma do pavimento Cobertura (Nºvel 325)
escala 1:50



Vigas			
Nome	Se-«o (cm)	Eleva-«o (cm)	Nºvel (cm)
VT1	14x30	0	550
VT2	14x30	0	550
VT3	14x30	0	550
VT4	14x30	0	550

Lajes					Sobrecarga (kgf/m²)	
Nome	Tipo	Altura (cm)	Eleva-«o (cm)	Nºvel (cm)	Peso pr- prio (kgf/m²)	Total Localizada
LT1	Pr#-moldada	13	0	550	284	150 -

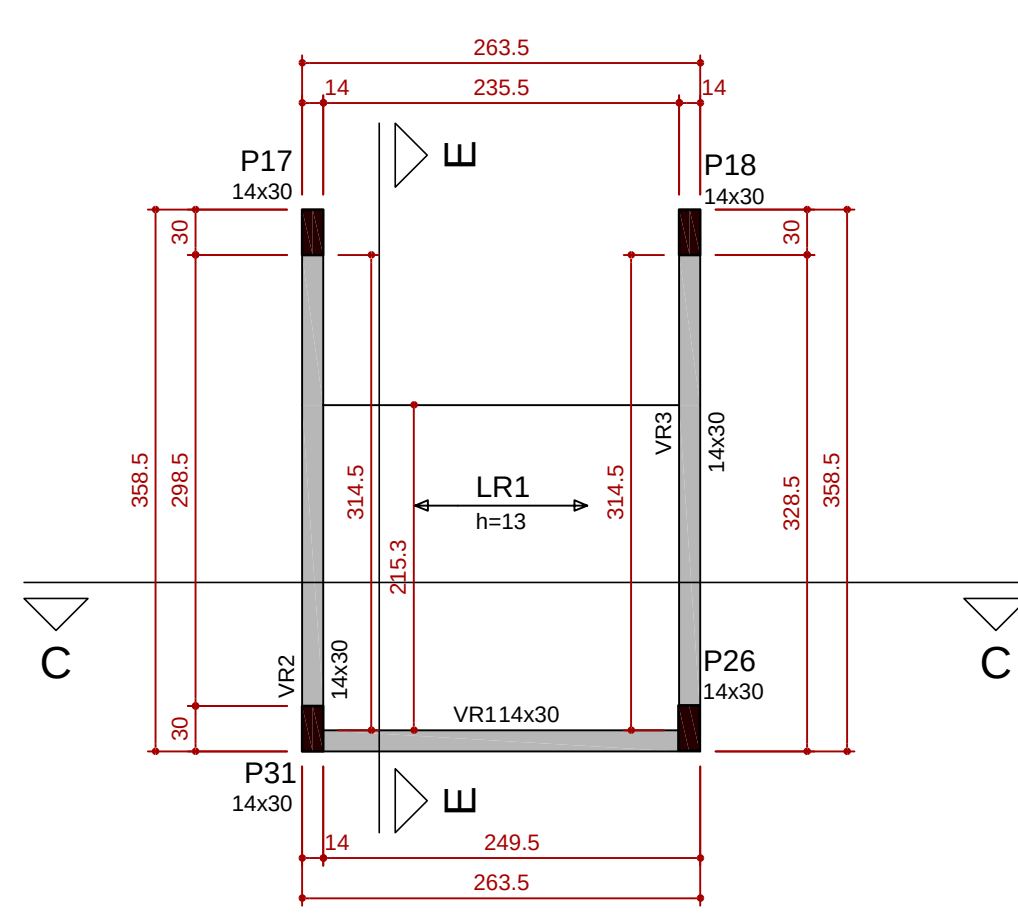
Crea de lajes			
Tipo	Altura (cm)	Bloco de Enchimento	Crea (m²)
Pr#-moldada	13	B8/25/20	7.78

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

Pilares			
Nome	Se-«o (cm)	Eleva-«o (cm)	Nºvel (cm)
P17	14 x 30	0	550
P18	14 x 30	0	550
P26	14 x 30	0	550
P31	14 x 30	0	550

Legenda dos Pilares			
□	Pilar que morre		
■	Pilar que passa		
▨	Pilar que nasce		
■	Pilar com mudan-a de se-«o		

Forma do pavimento Tampa Reservat-rio (Nºvel 550)
escala 1:50



Vigas			
Nome	Se-«o (cm)	Eleva-«o (cm)	Nºvel (cm)
VR1	14x30	0	405
VR2	14x30	0	405
VR3	14x30	0	405

Lajes					Sobrecarga (kgf/m²)	
Nome	Tipo	Altura (cm)	Eleva-«o (cm)	Nºvel (cm)	Peso pr- prio (kgf/m²)	Total Localizada
LR1	Pr#-moldada	13	0	405	284	650 -

Crea de lajes			
Tipo	Altura (cm)	Bloco de Enchimento	Crea (m²)
Pr#-moldada	13	B8/25/20	5.07

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

Pilares			
Nome	Se-«o (cm)	Eleva-«o (cm)	Nºvel (cm)
P17	14 x 30	0	405
P18	14 x 30	0	405
P26	14 x 30	0	405
P31	14 x 30	0	405

Legenda dos Pilares			
□	Pilar que morre		
■	Pilar que passa		
▨	Pilar que nasce		
■	Pilar com mudan-a de se-«o		

Forma do pavimento Barrilete (Nºvel 405)
escala 1:50

ESTADO DE SANTA CATARINA
SECRETARIA DE ESTADO DA INFRA ESTRUTURA
DEPARTAMENTO ESTADUAL DE INFRA ESTRUTURA
DIRETORIA DE OBRAS CIVIS - DIOC

NOME DO PROJETO: SST - SECRETARIA DE ESTADO DA ASSISTªNCIA SOCIAL, TRABALHO E HABITªçªo

LOCAL: DIVERSAS LOCALIDADES DO ESTADO

TIPO DE PROJETO: ESTRUCTURAL

CARACTERÍSTICAS: PROJETO PADRªo - CREAS

PAVIMENTO: COBERTURA E RESERVATªRIO

AUTOR DO PROJETO: ENG. CIVIL ROBERTO DANIEL GEVAERD
CREA/SC 041750-9

AVALIUS ENGENHARIA E AVALIªE: ES LTDA

CREA: 220.04 m²

ESCALA: INDICADA

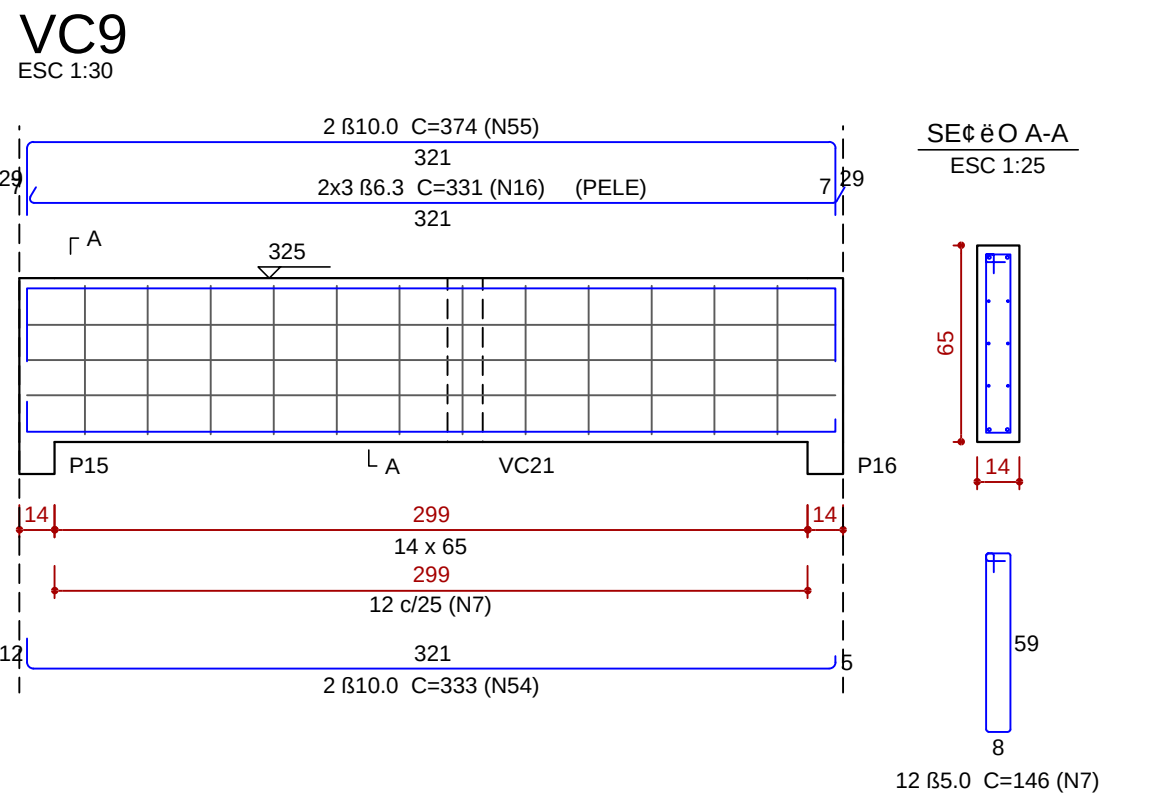
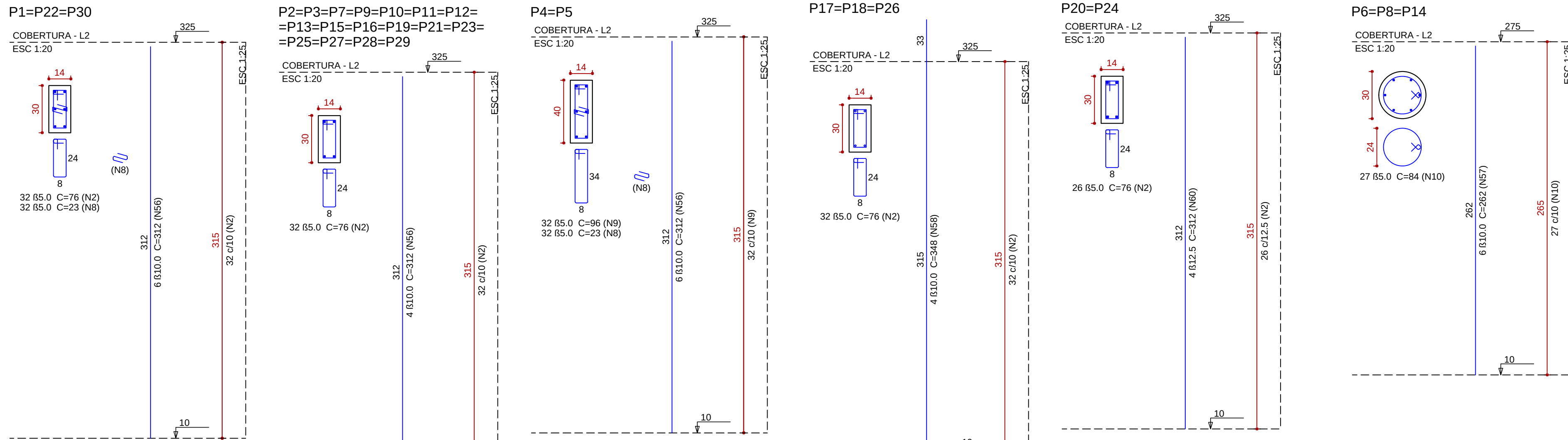
DATA: ABRIL/2017

DES. EDVÂNIO PACHECO

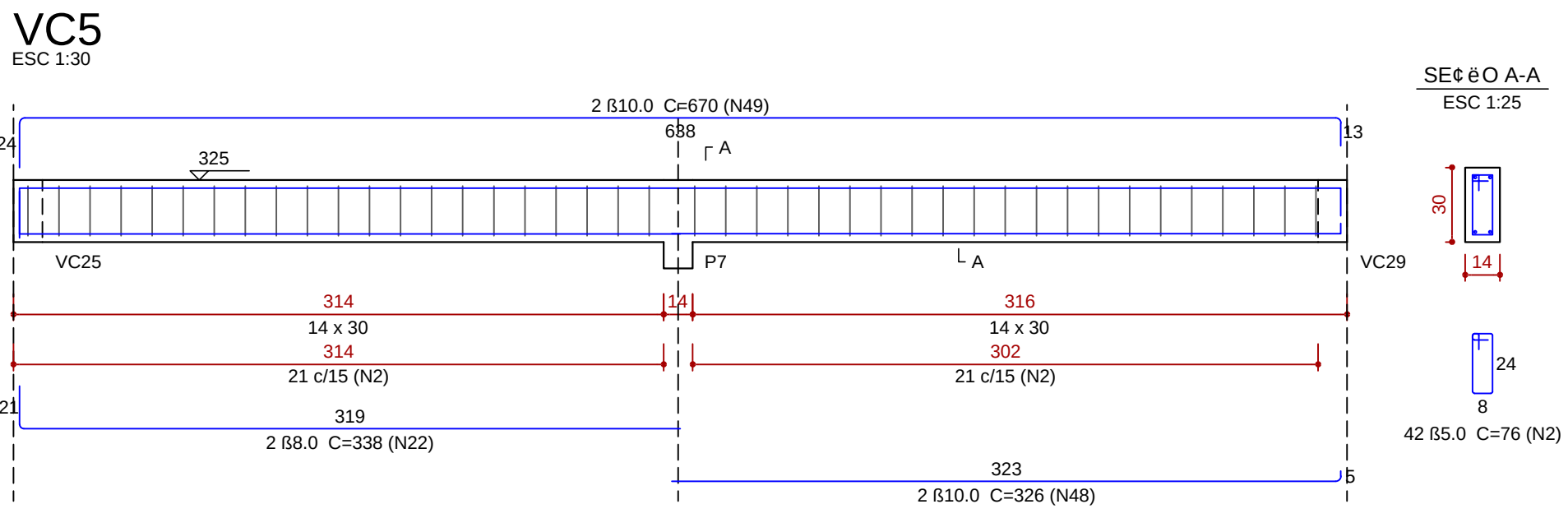
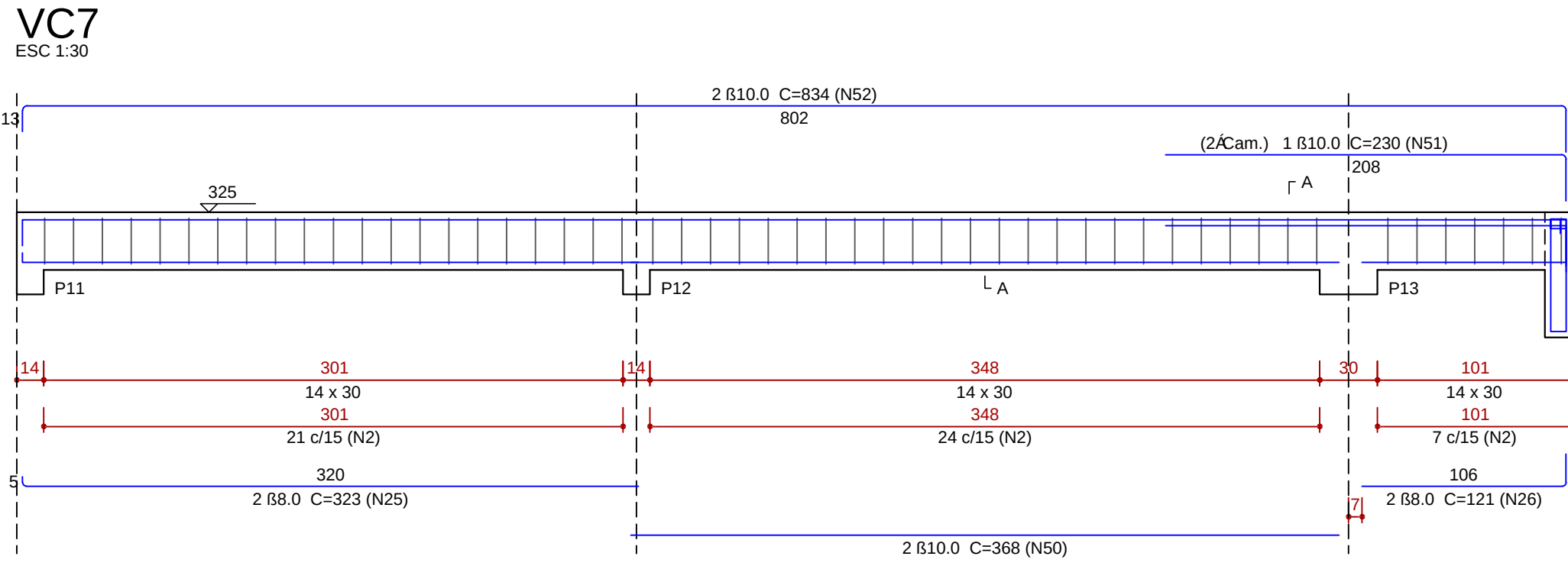
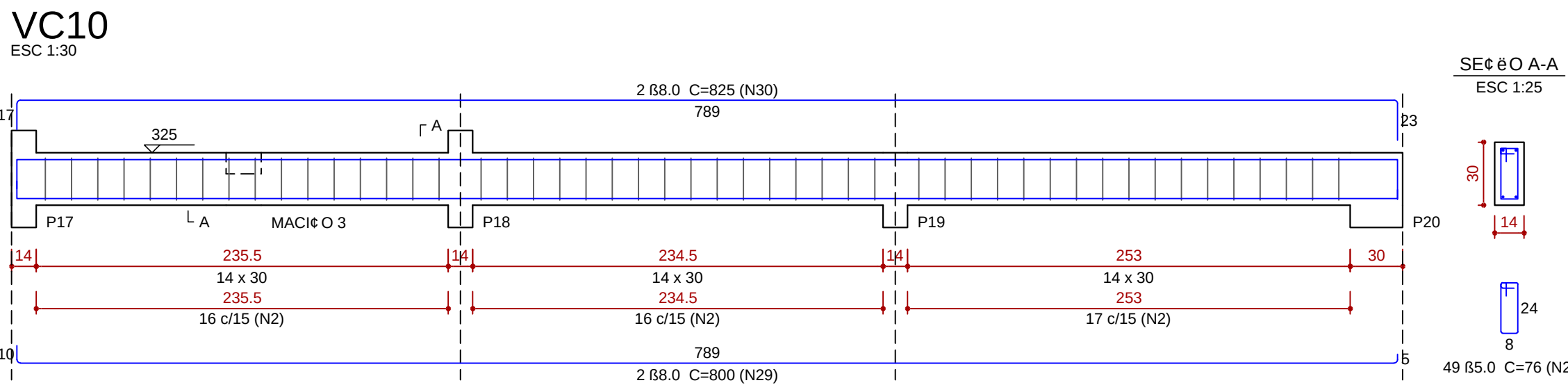
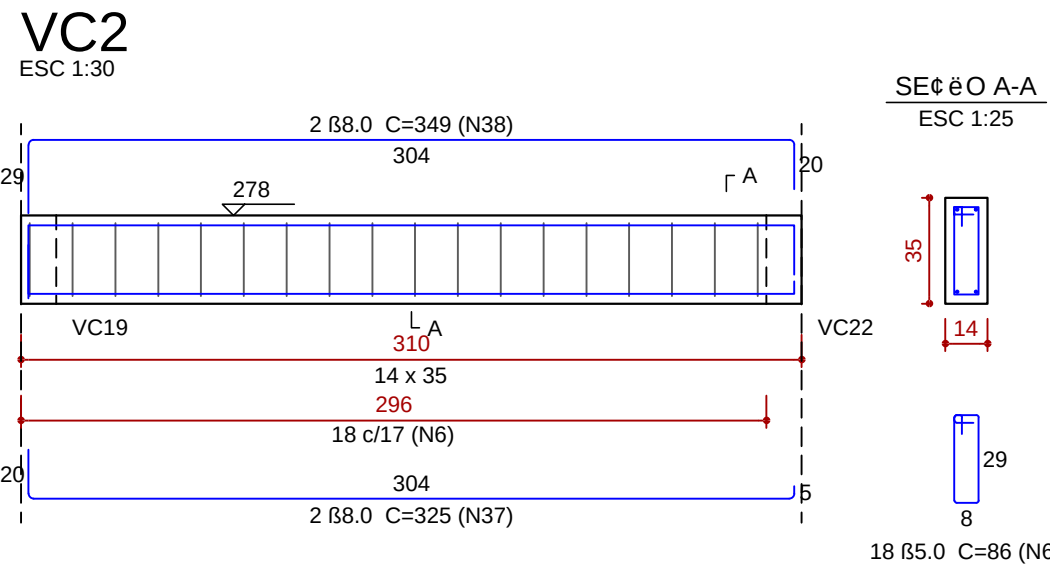
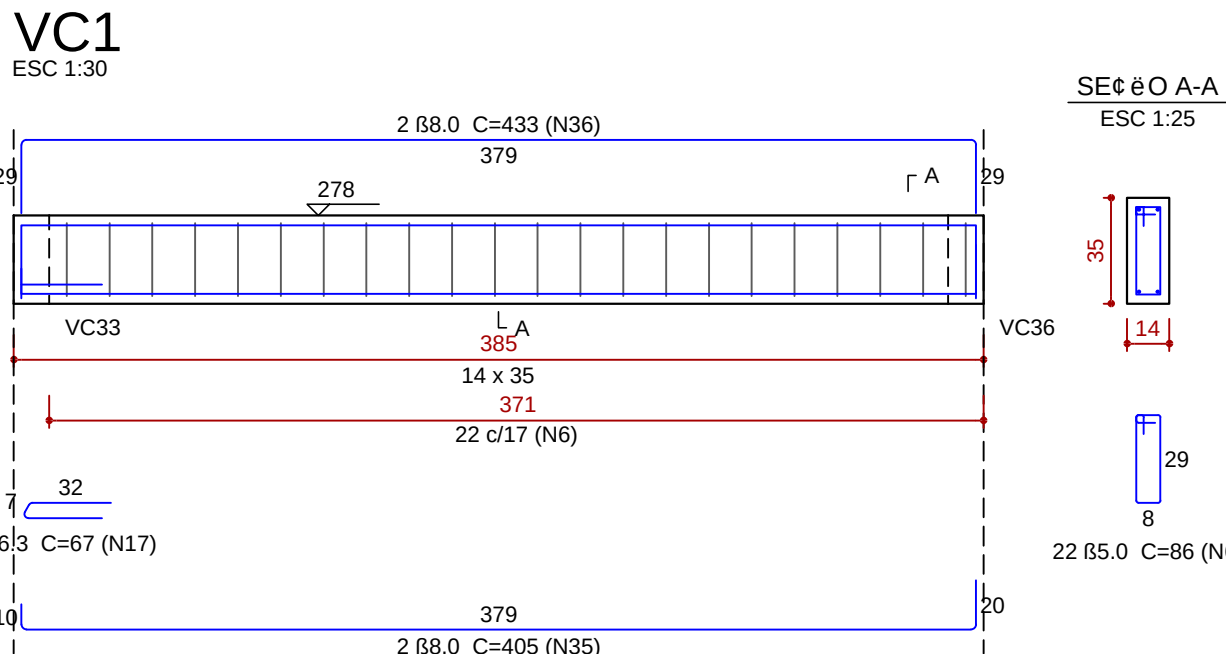
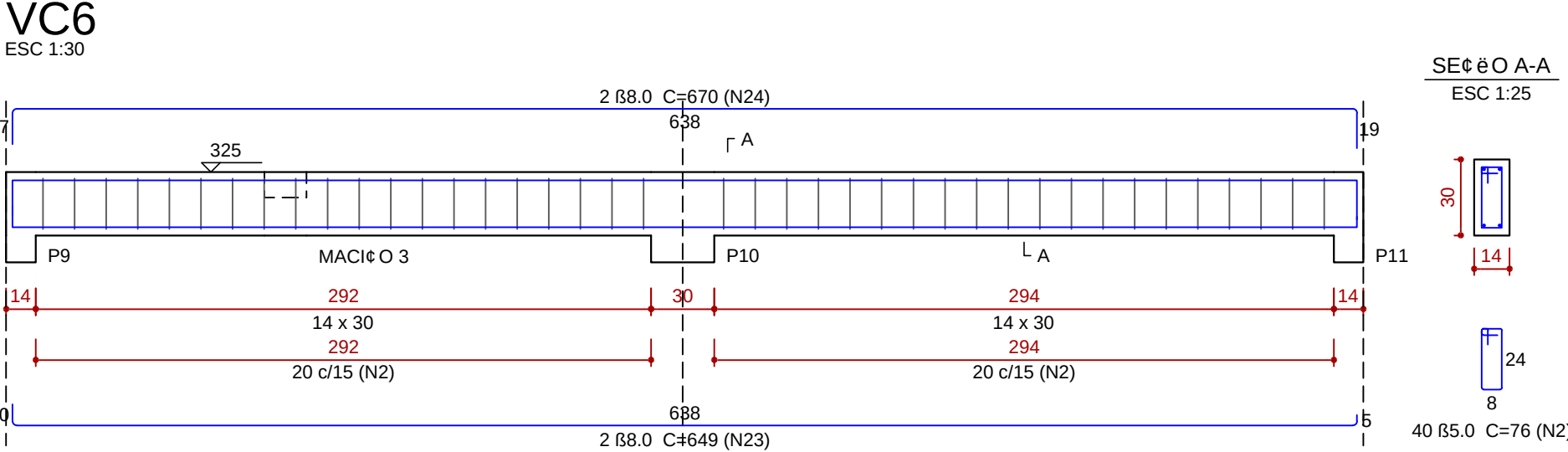
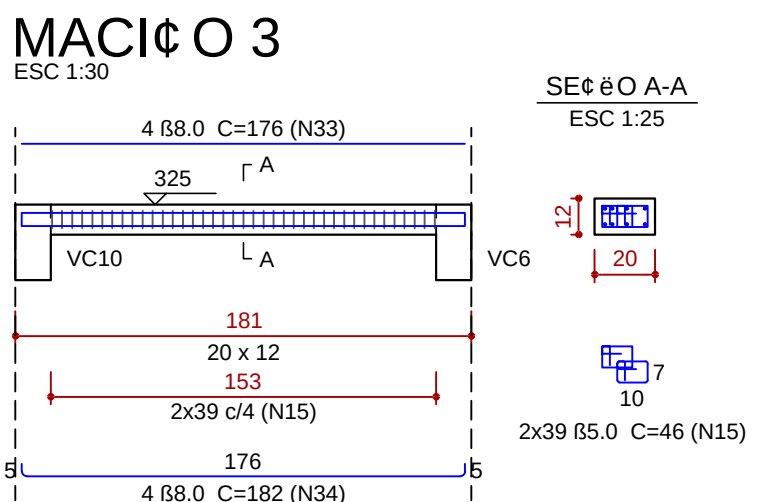
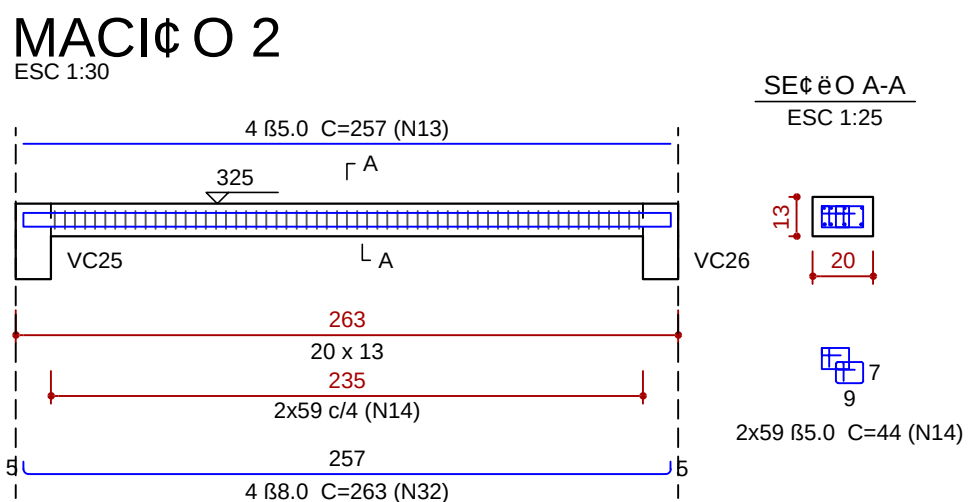
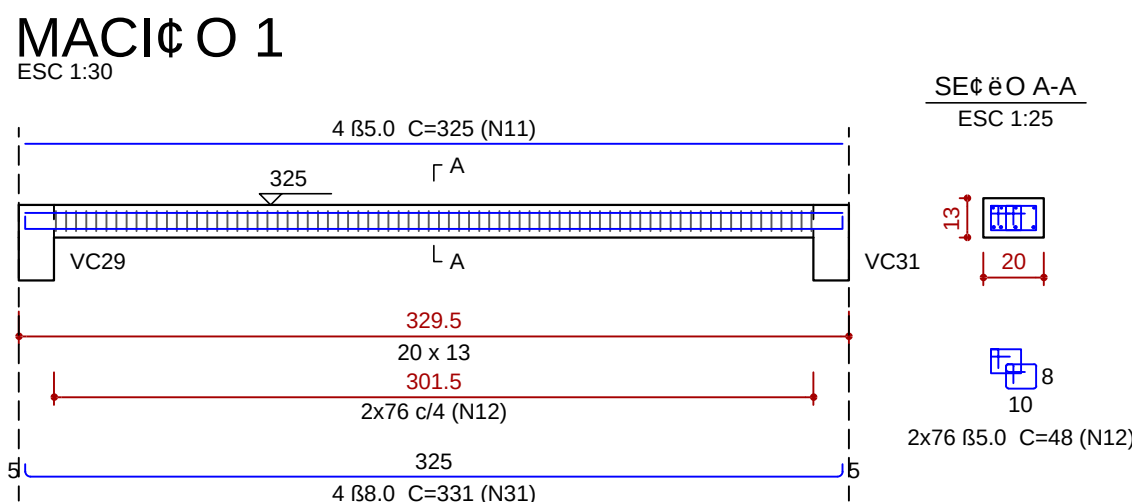
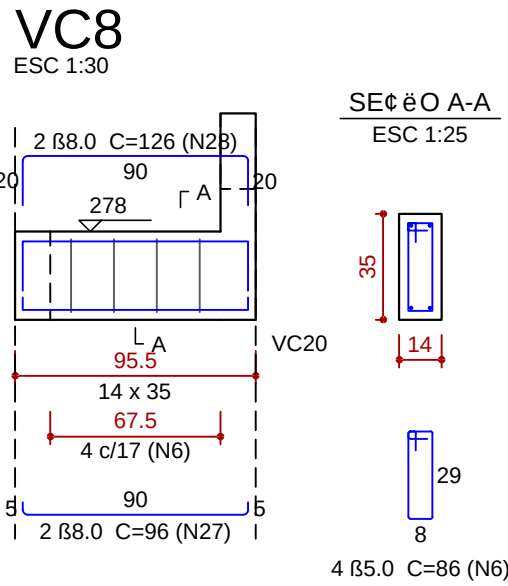
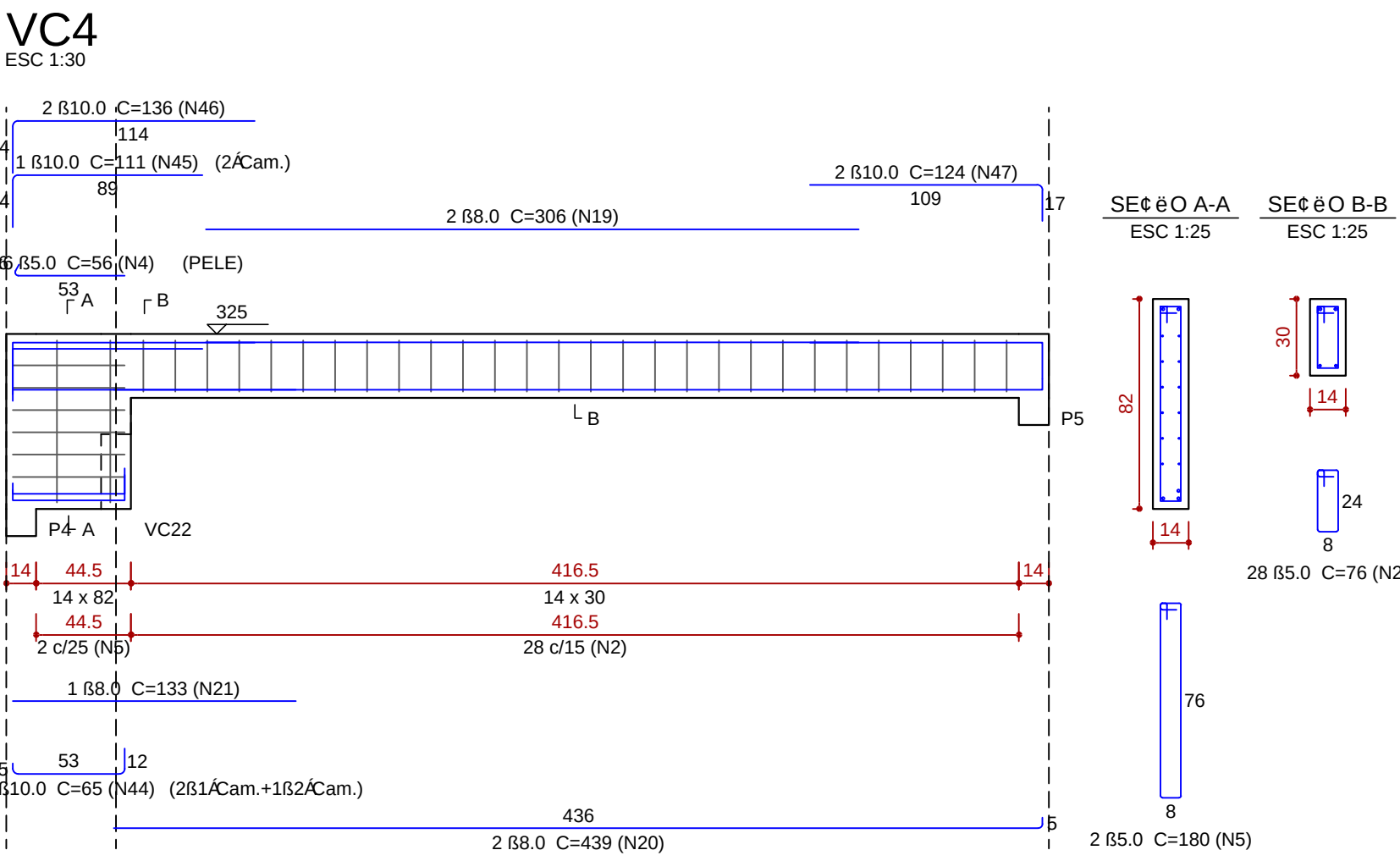
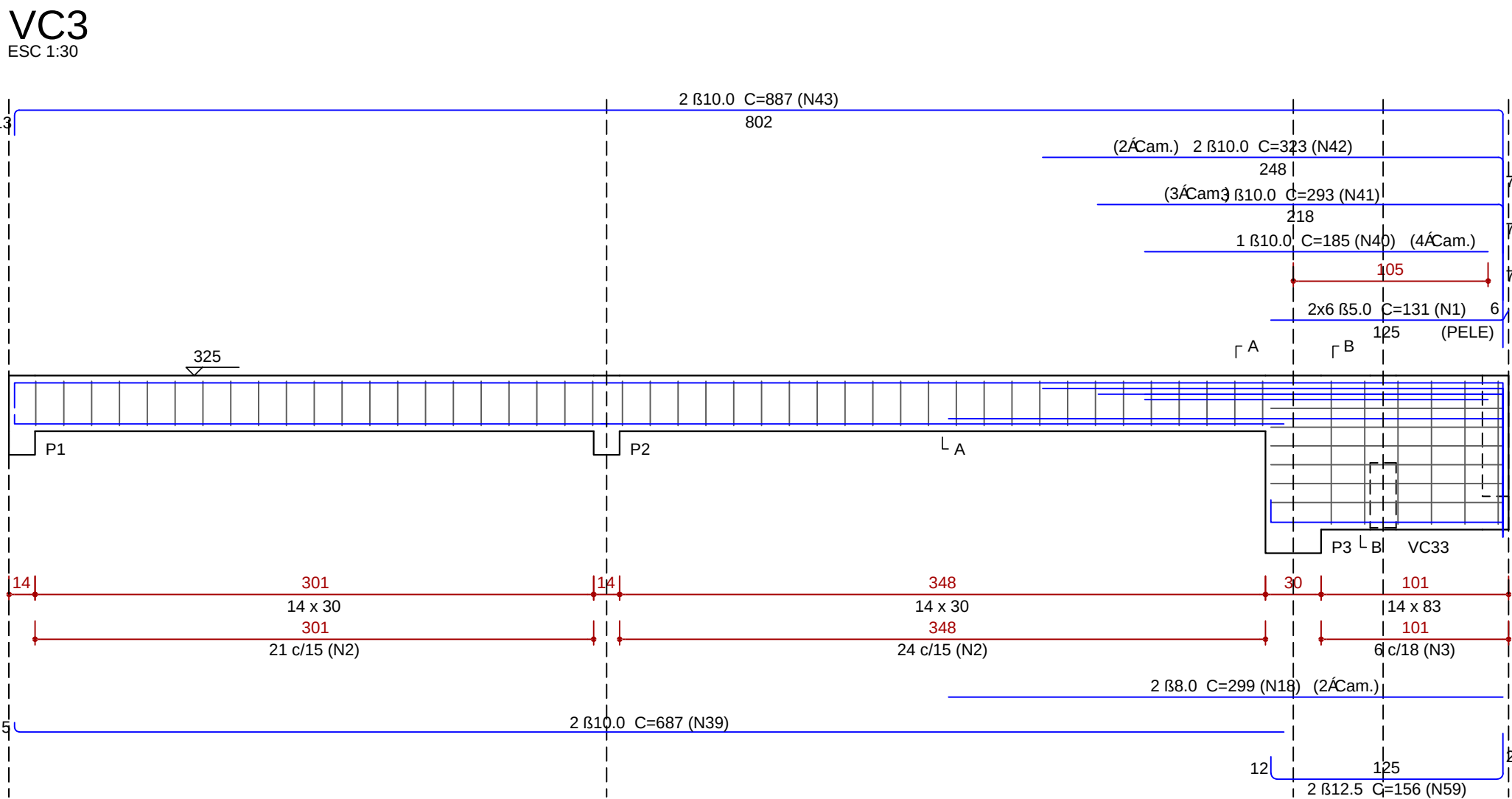
REF:

12

18



Rela- «o do a- o					
MACI O 1	MACI O 2	MACI O 3			
3xP1	17xP2	2xP4			
3xP6	3xP17	2xP20			
VC1	VC3	VC5			
VC4	VC5	VC6			
VC7	VC8	VC9			
VC10					
Ae O	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	12	131	1572
	2	5.0	1044	76	79344
	3	5.0	6	182	1092
	4	5.0	12	56	672
	5	5.0	2	180	360
	6	5.0	44	86	3784
	7	5.0	12	146	1752
	8	5.0	160	23	3680
	9	5.0	64	96	6144
	10	5.0	81	84	6804
	11	5.0	4	325	1300
	12	5.0	152	48	7296
	13	5.0	4	257	1028
	14	5.0	118	44	5192
	15	5.0	78	46	3588
	16	6.3	6	331	1986
	17	6.3	1	67	67
	18	8.0	2	299	598
	19	8.0	2	305	612
	20	8.0	2	439	878
	21	8.0	1	133	133
	22	8.0	2	338	676
	23	8.0	2	649	1298
	24	8.0	2	670	1340
	25	8.0	2	323	646
	26	8.0	2	121	242
	27	8.0	2	95	192
	28	8.0	2	126	252
	29	8.0	2	800	1600
	30	8.0	2	825	1650
	31	8.0	4	331	1324
	32	8.0	4	263	1052
	33	8.0	4	176	704
	34	8.0	4	182	728
CA50	35	8.0	2	405	810
	36	8.0	2	433	866
	37	8.0	2	325	650
	38	8.0	2	349	698
	39	10.0	2	687	1374
	40	10.0	1	185	185
	41	10.0	3	293	879
	42	10.0	2	323	646
	43	10.0	2	887	1774
	44	10.0	3	65	195
	45	10.0	1	111	111
	46	10.0	2	136	272
	47	10.0	2	124	248
	48	10.0	2	326	652
	49	10.0	2	670	1340
	50	10.0	2	368	736
	51	10.0	1	230	230
	52	10.0	2	834	1668
	53	10.0	1	147	147
	54	10.0	2	333	666
	55	10.0	2	374	748
	56	10.0	98	312	30576
	57	10.0	18	262	4716
	58	10.0	12	348	4176
	59	12.5	2	156	312
	60	12.5	8	312	2496



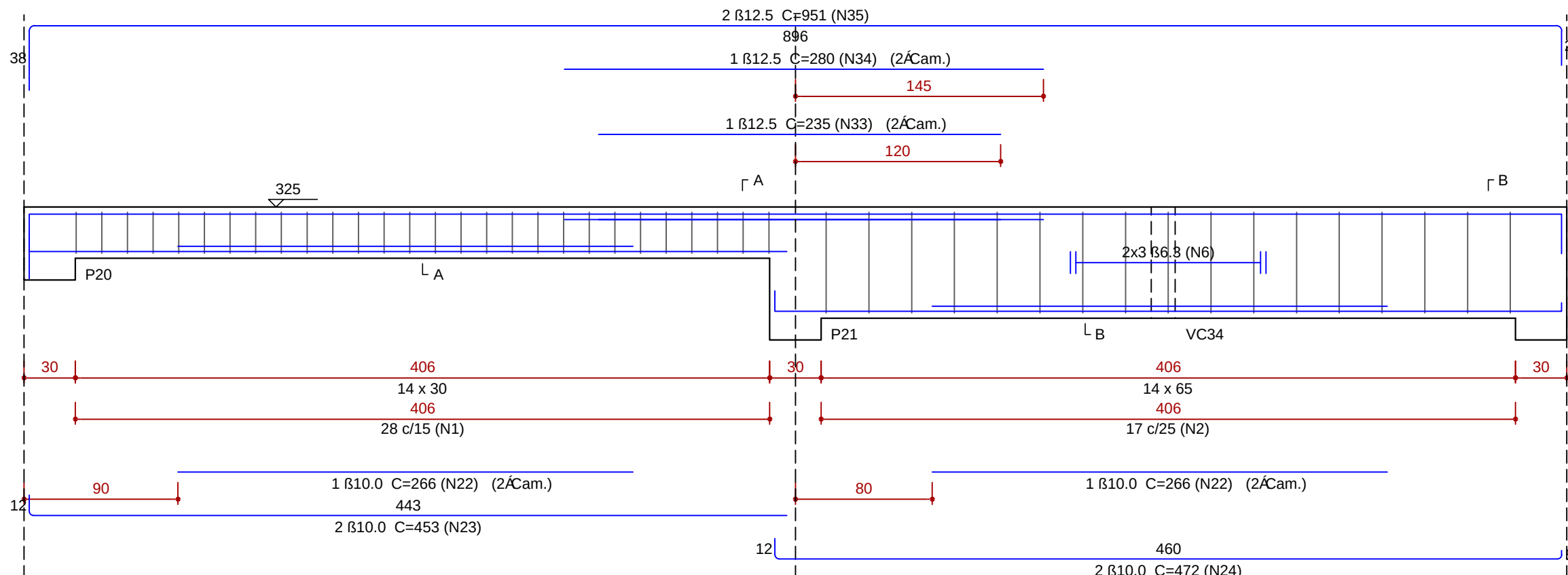
**ESTADO DE SANTA CATARINA**
SECRETARIA DE ESTADO DA INFRA ESTRUTURA
DEPARTAMENTO ESTADUAL DE INFRA ESTRUTURA
DIRETORIA DE OBRAS CIVIS - DIOC

DEINFRA

NOME DO PROJETO : SST - SECRETARIA DE ESTADO DA ASSISTANCIA SOCIAL, TRABALHO E HABITACAO	REF.:
LOCAL : DIVERSAS LOCALIDADES DO ESTADO	
TIPO DE PROJETO : ESTRUTURAL	
CARACTERISTICAS : PROJETO PADRAO O - CREAS	
PAVIMENTO : COBERTURA	
AUTOR DO PROJETO : ENG. CIVIL ROBERTO DANIEL GEVAERD CREA/SC 041750-9	
AVALIUS ENGENHARIA E AVALIAE ES LTDA	
CREA: 220.04 mJ	ESCALA: INDICADA
DATA: ABRIL/2017	DES: EDVANIO PACHECO

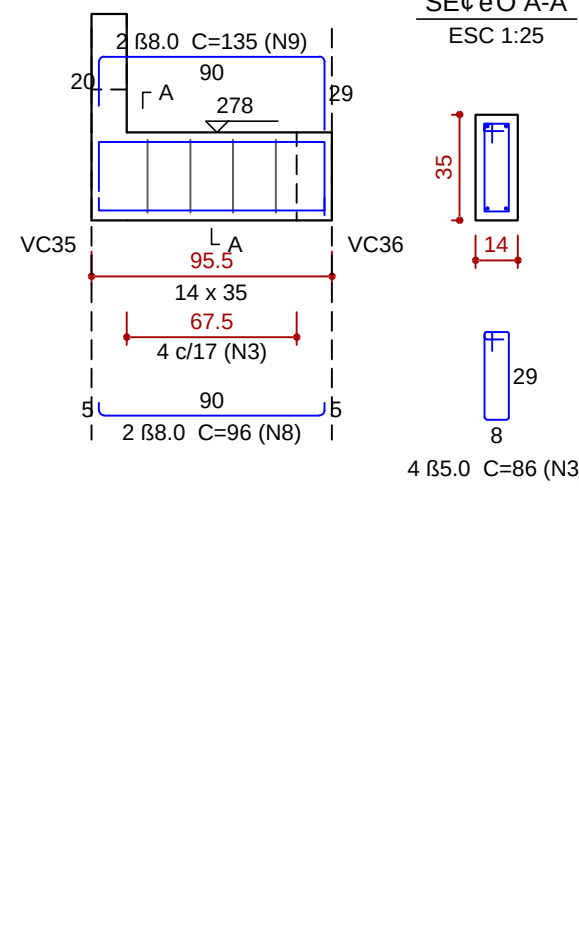
VC11

ESC 1:30



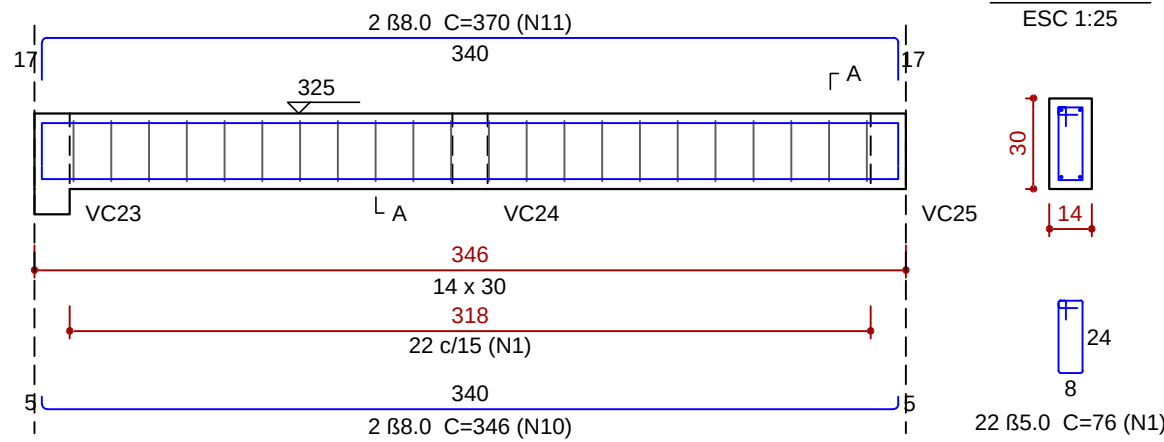
VC12

ESC 1:30



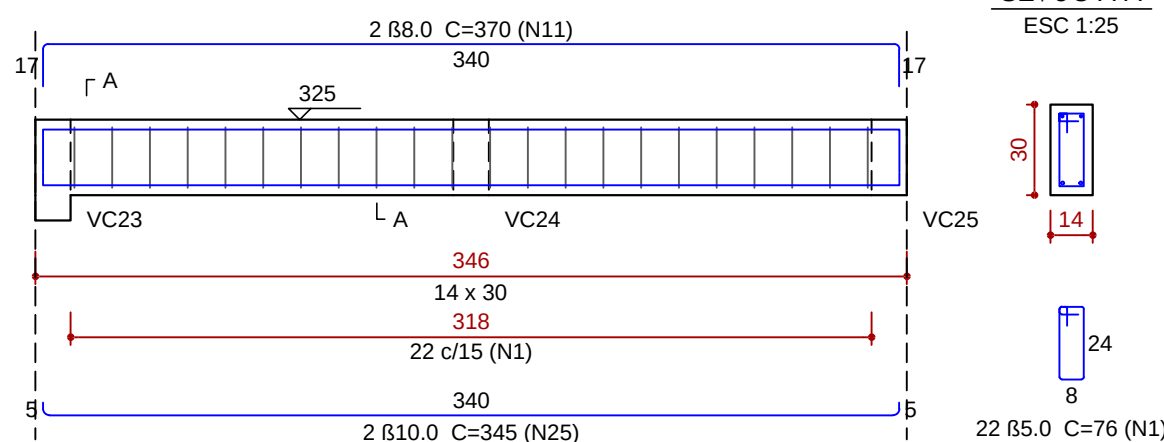
VC13

ESC 1:30



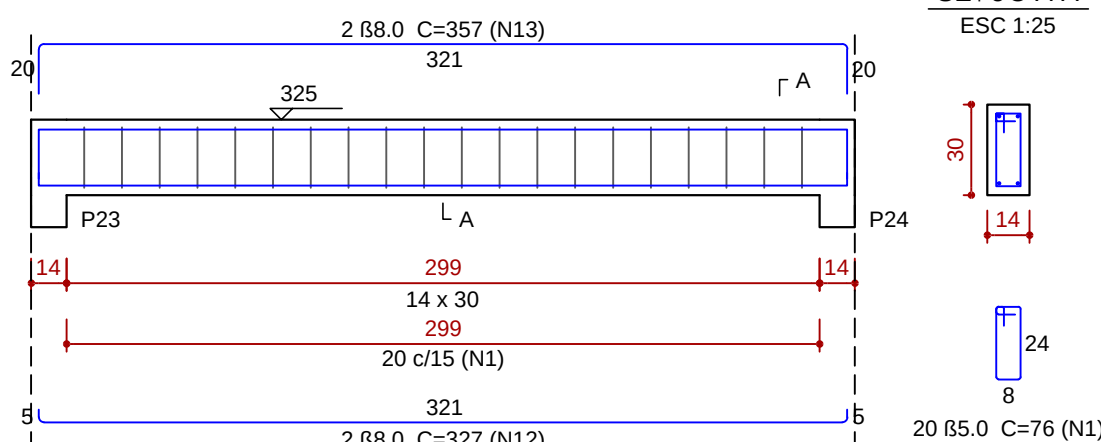
VC14

ESC 1:30



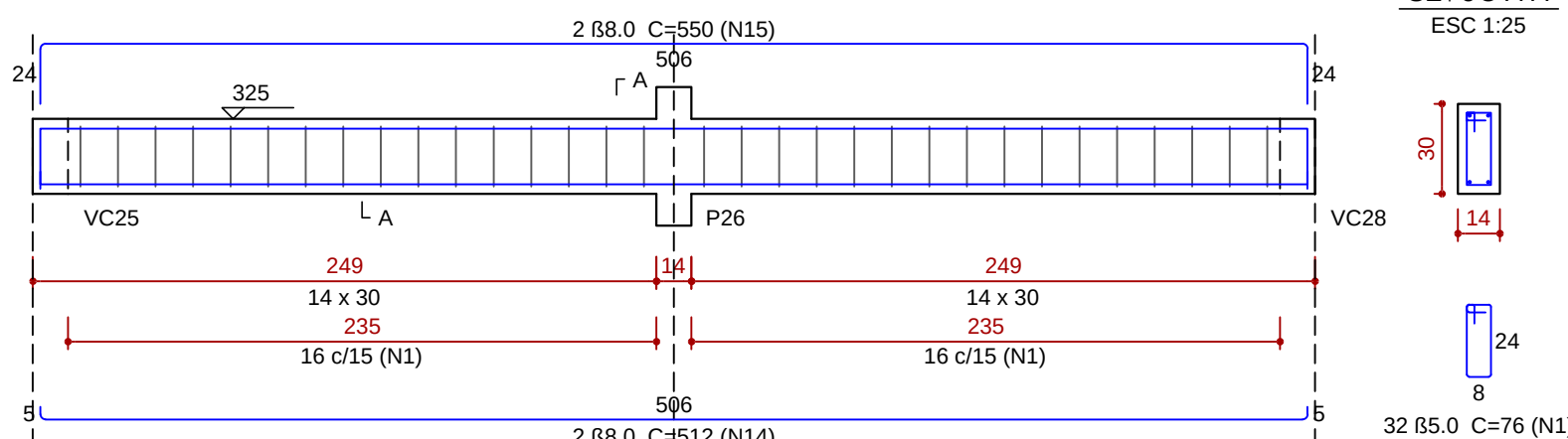
VC15

ESC 1:30



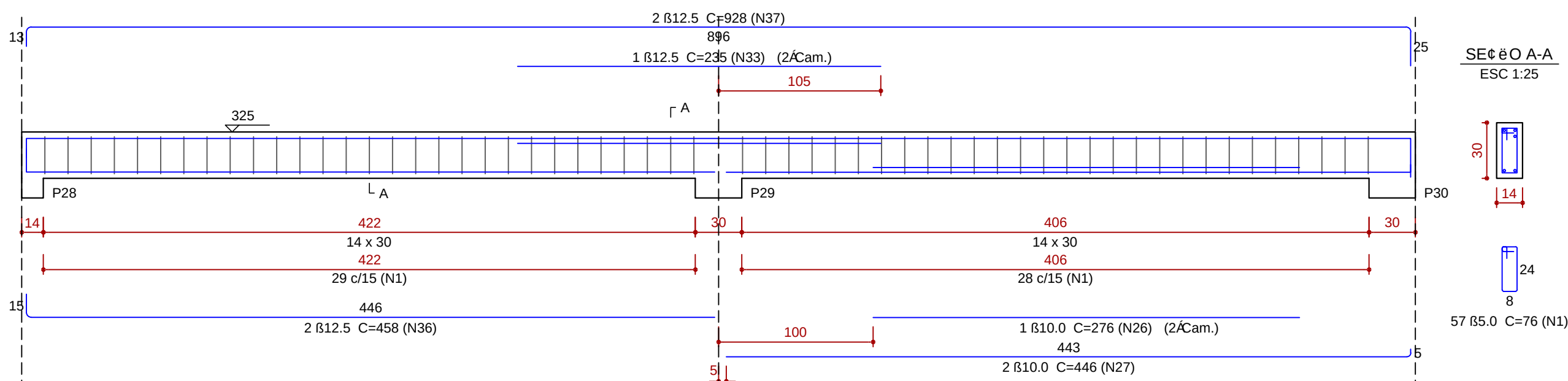
VC16

ESC 1:30



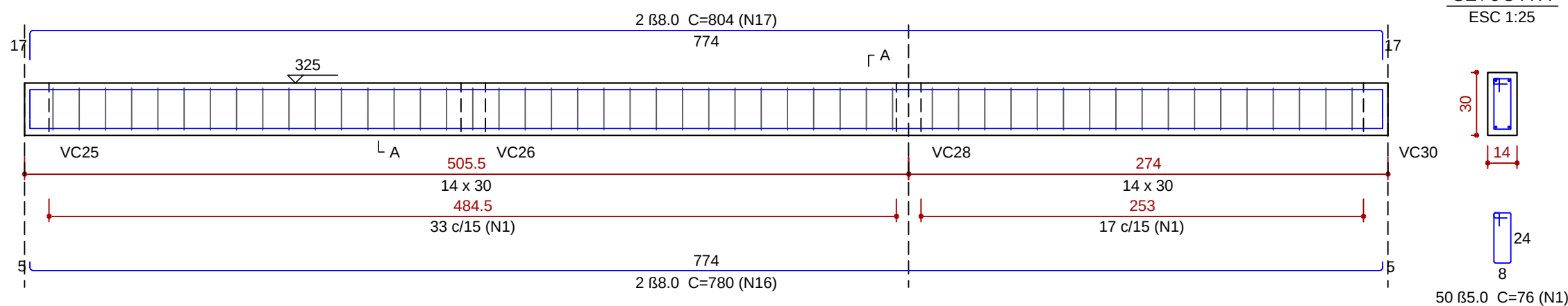
VC17

ESC 1:30



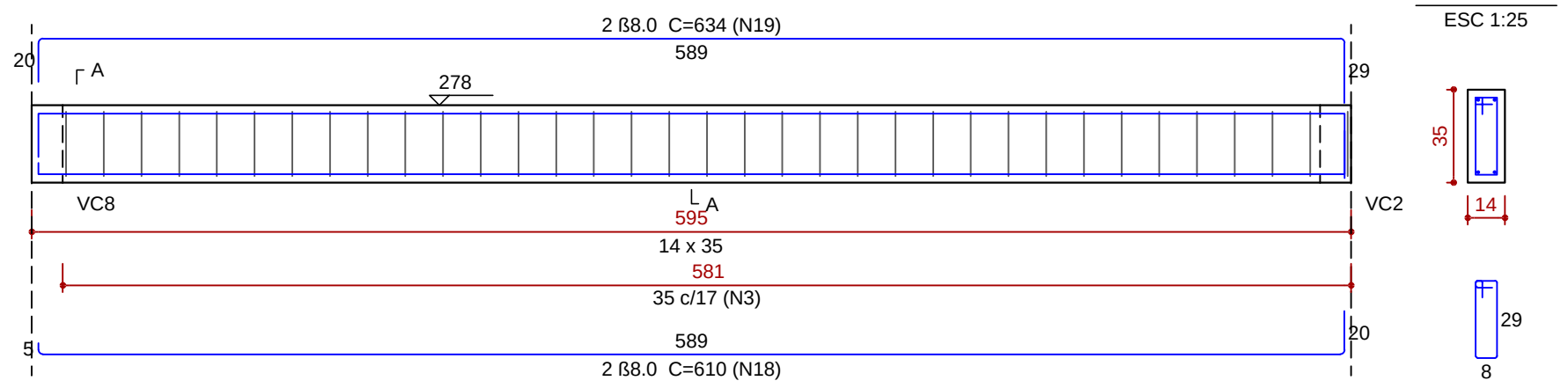
VC18

ESC 1:30



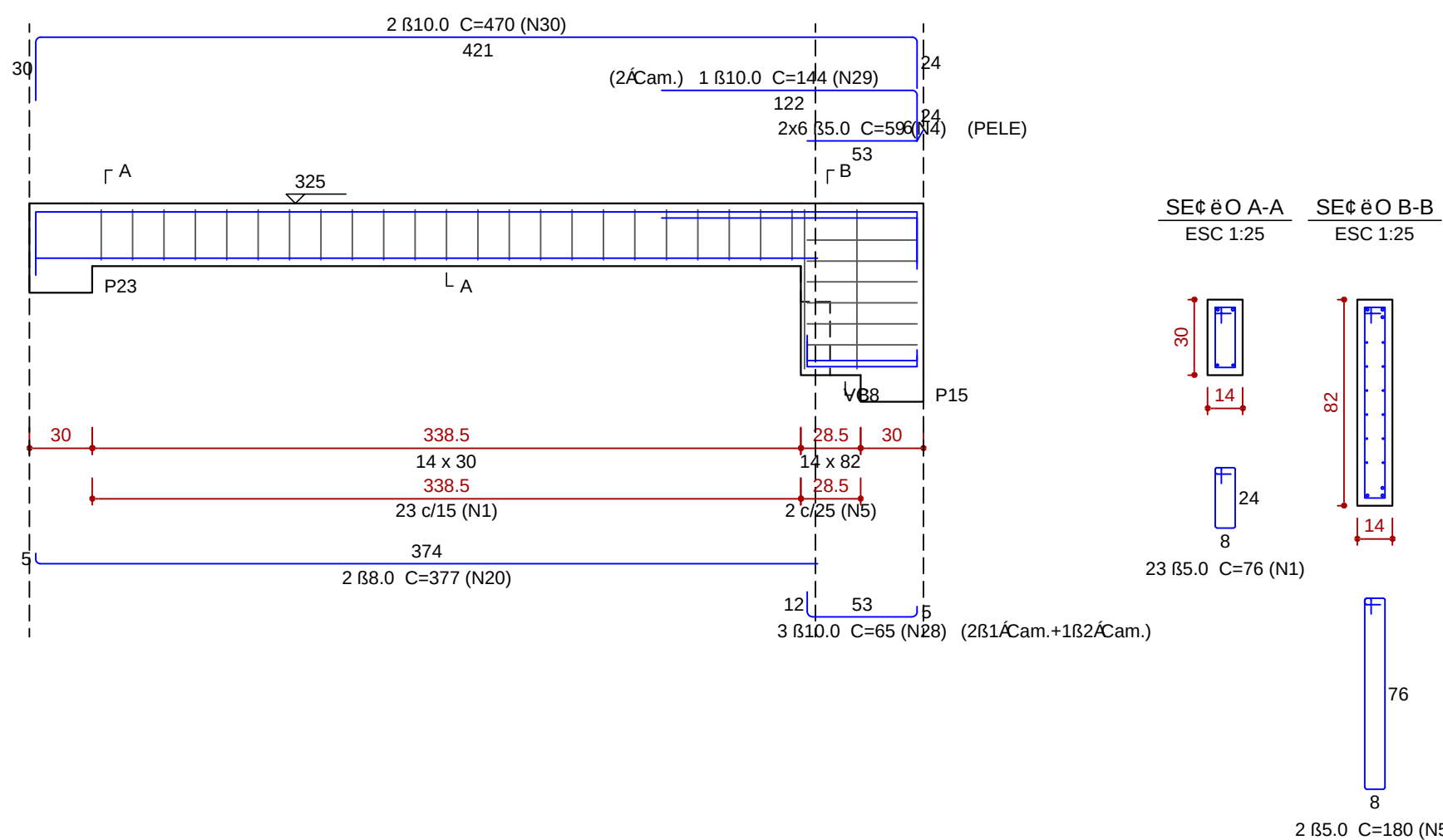
VC19

ESC 1:30



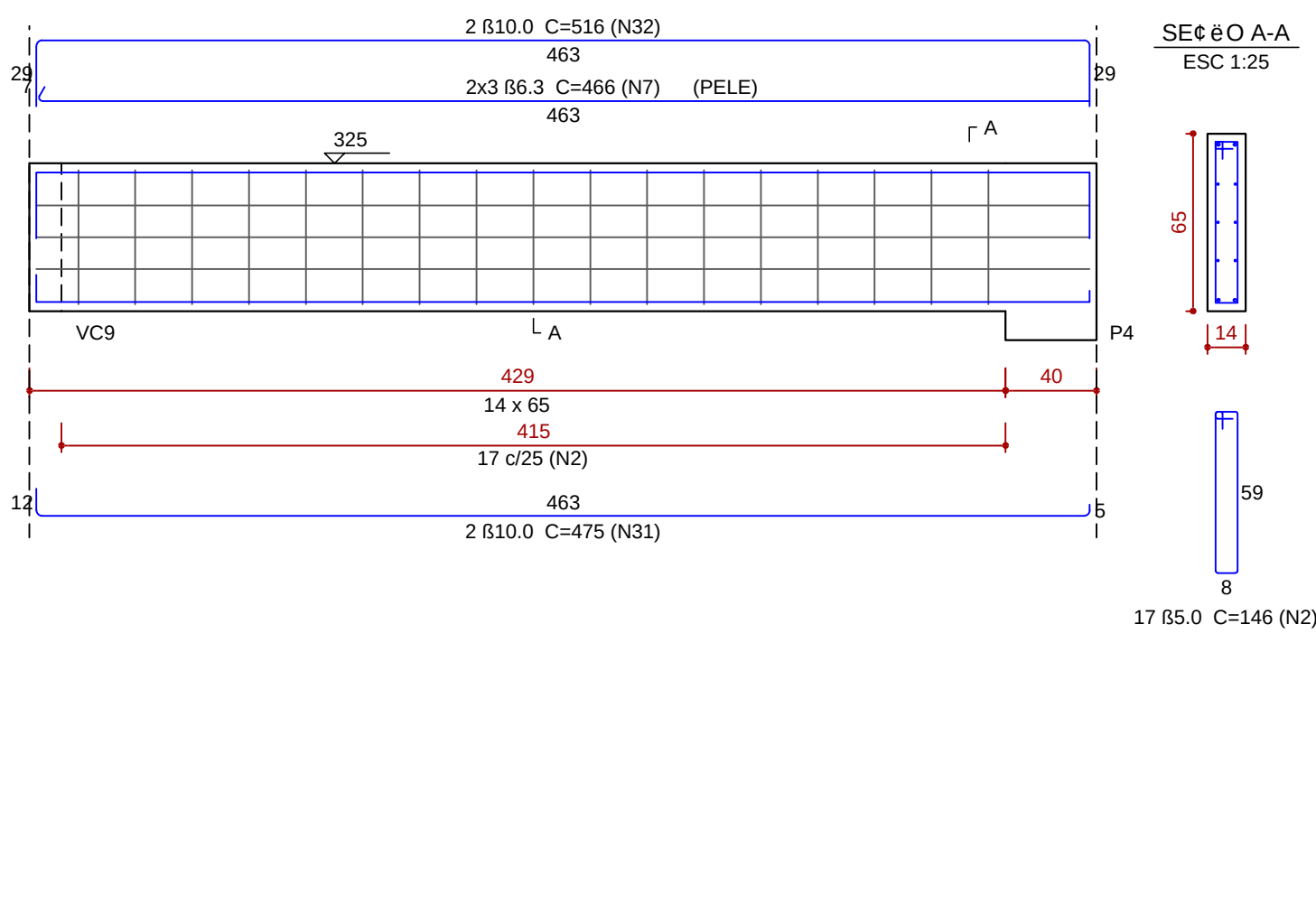
VC20

ESC 1:30



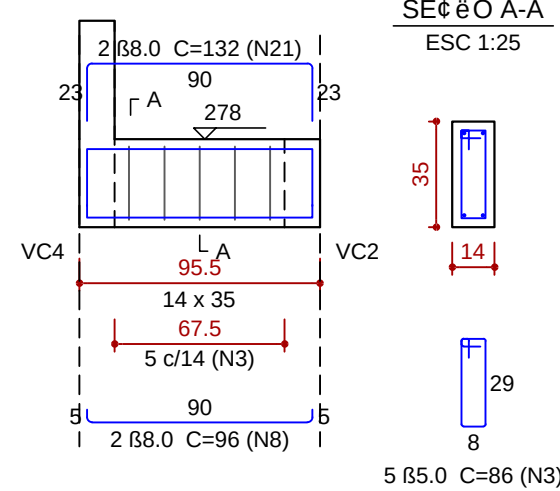
VC21

ESC 1:30



VC22

ESC 1:30



Rela- «o do a- o

	VC11	VC12	VC13		
	VC14	VC15	VC16		
	VC17	VC18	VC19		
	VC20	VC21	VC22		
Ae O	N	DIA (mm)	QUANT	C.UNIT	C.TOTAL
CA60	1	5.0	254	76	19304
	2	5.0	34	146	4964
	3	5.0	44	86	3784
	4	5.0	12	59	708
CA50	5	5.0	2	180	360
	6	6.3	6	CORR	2760
	7	6.3	6	466	2796
	8	8.0	4	96	384
	9	8.0	2	135	270
	10	8.0	2	346	692
	11	8.0	4	370	1480
	12	8.0	2	327	654
	13	8.0	2	357	714
	14	8.0	2	512	1024
	15	8.0	2	550	1100
	16	8.0	2	780	1560
	17	8.0	2	804	1608
	18	8.0	2	610	1220
	19	8.0	2	634	1268
	20	8.0	2	377	754
	21	8.0	2	132	264
	22	10.0	2	266	532
23	10.0	2	453	906	
24	10.0	2	472	944	
25	10.0	2	345	690	
26	10.0	1	276	276	
27	10.0	2	446	892	
28	10.0	3	65	195	
29	10.0	1	144	144	
30	10.0	2	470	940	
31	10.0	2	475	950	
32	10.0	2	516	1032	
33	12.5	2	235	470	
34	12.5	1	280	280	
35	12.5	2	951	1902	
36	12.5	2	458	916	
37	12.5	2	928	1856	

Resumo do a- o

AçO	DIAM (mm)	C.TOTAL (m)	QUANT + 10 % (Barras)	PESO + 10 % (kg)
CA50	6.3	55.6	6	15
	8.0	130	12	56.4
	10.0	75.1	7	50.9
	12.5	54.3	5	57.5
CA60	5.0	291.2	27	49.4
PESO TOTAL (kg)				
CA50		179.7		
CA60		49.4		

Volume de concreto (C-30) = 2.98 m³
Crea de forma = 50.66 m²



ESTADO DE SANTA CATARINA
SECRETARIA DE ESTADO DA INFRA ESTRUTURA
DEPARTAMENTO ESTADUAL DE INFRA ESTRUTURA
DIRETORIA DE OBRAS CIVIS - DIOC



NOME DO PROJETO : SST - SECRETARIA DE ESTADO
DA ASSISTÊNCIA SOCIAL, TRABALHO E HABITAÇÃO

REF.:

LOCAL: DIVERSAS LOCALIDADES DO ESTADO

TIPO DE PROJETO: ESTRUTURAL

CARACTERÍSTICAS: PROJETO PADRÃO - CREAS

ARMADURAS DAS VIGAS

PAVIMENTO: COBERTURA

AUTOR DO PROJETO: ENG. CIVIL ROBERTO DANIEL GEVAERD
CREA/SC 041750-9

AVALIUS ENGENHARIA E AVALIAÇÃO LTDA

CREA: 220.04 m²

ESCALA: INDICADA

DATA: ABRIL/2017

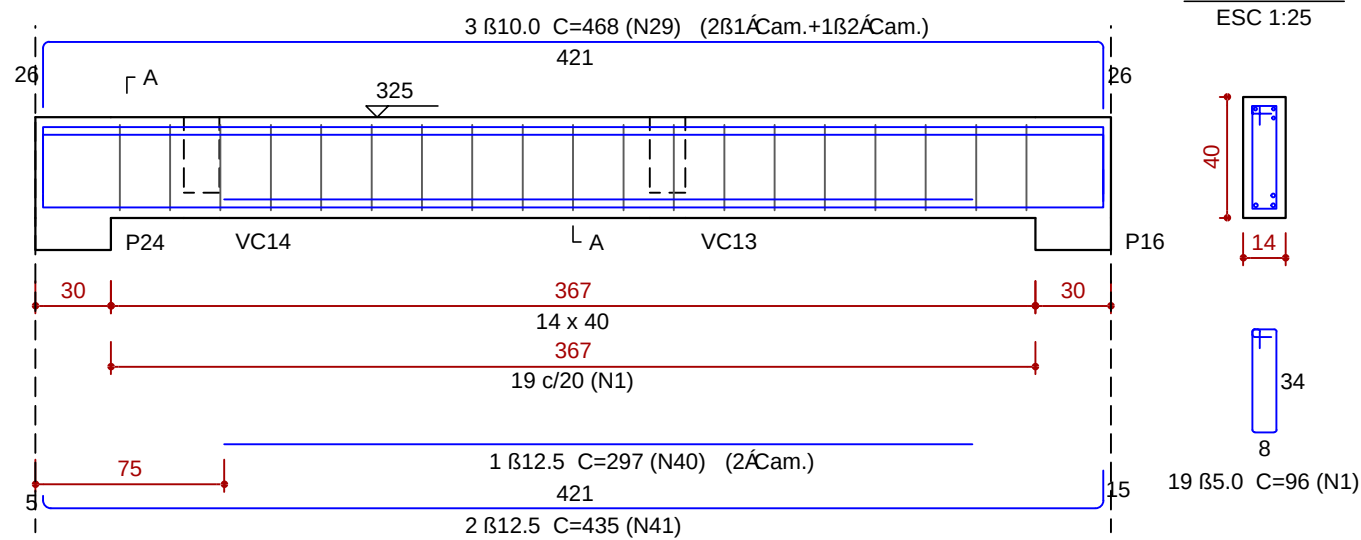
DES. EDVÂNIO PACHECO

14

18

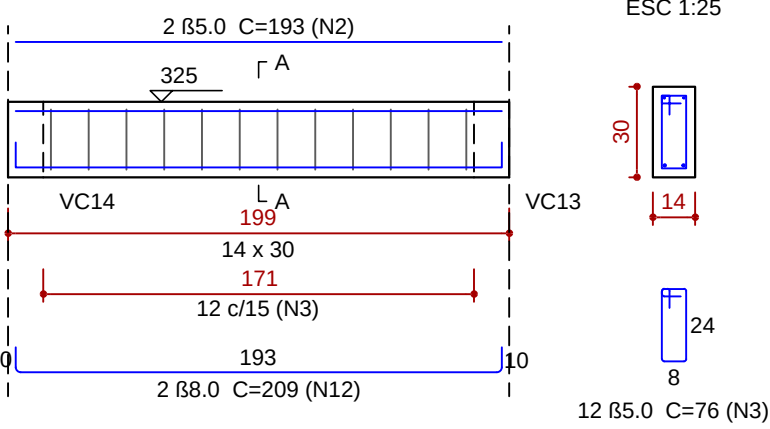
VC23

ESC 1:30



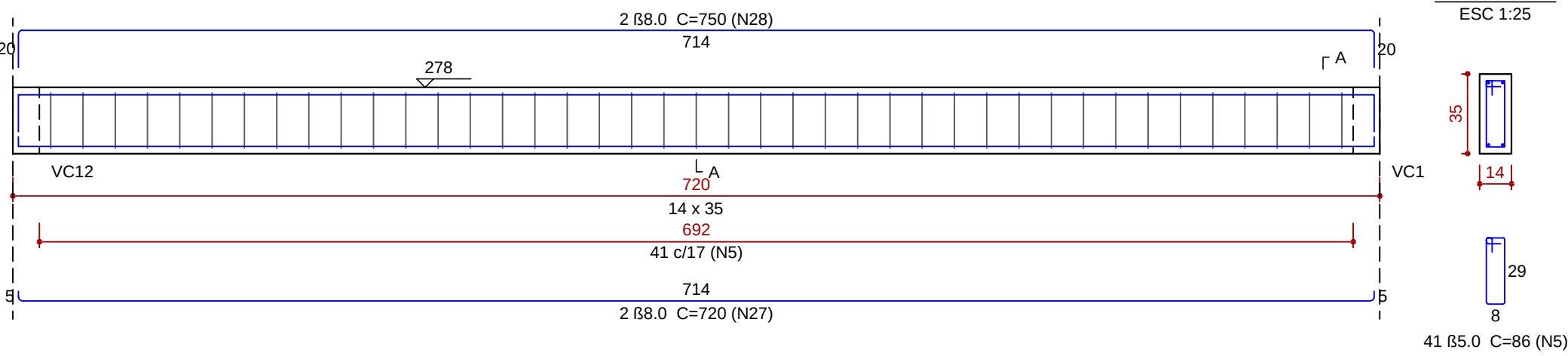
VC24

ESC 1:30



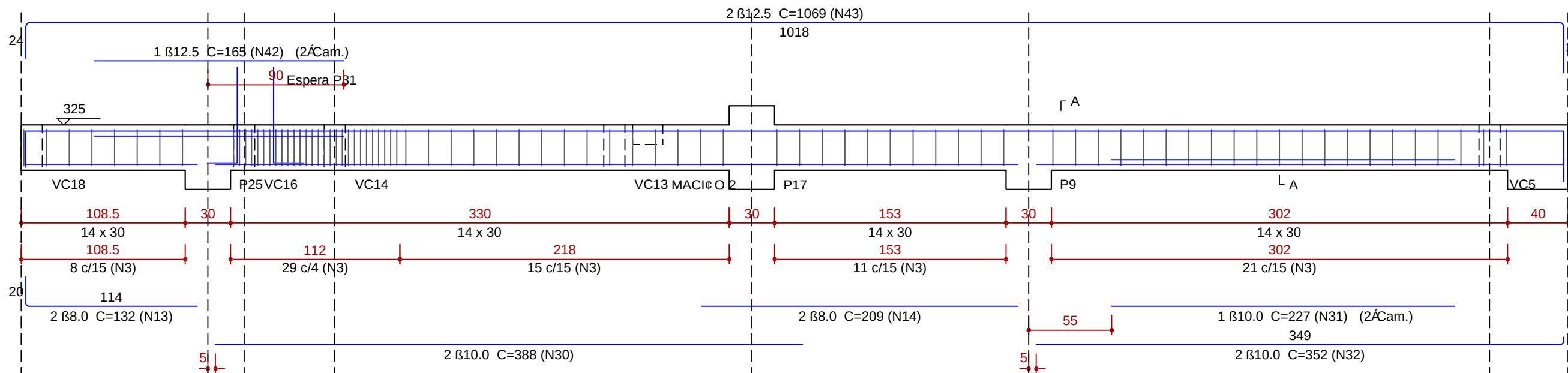
VC36

ESC 1:30



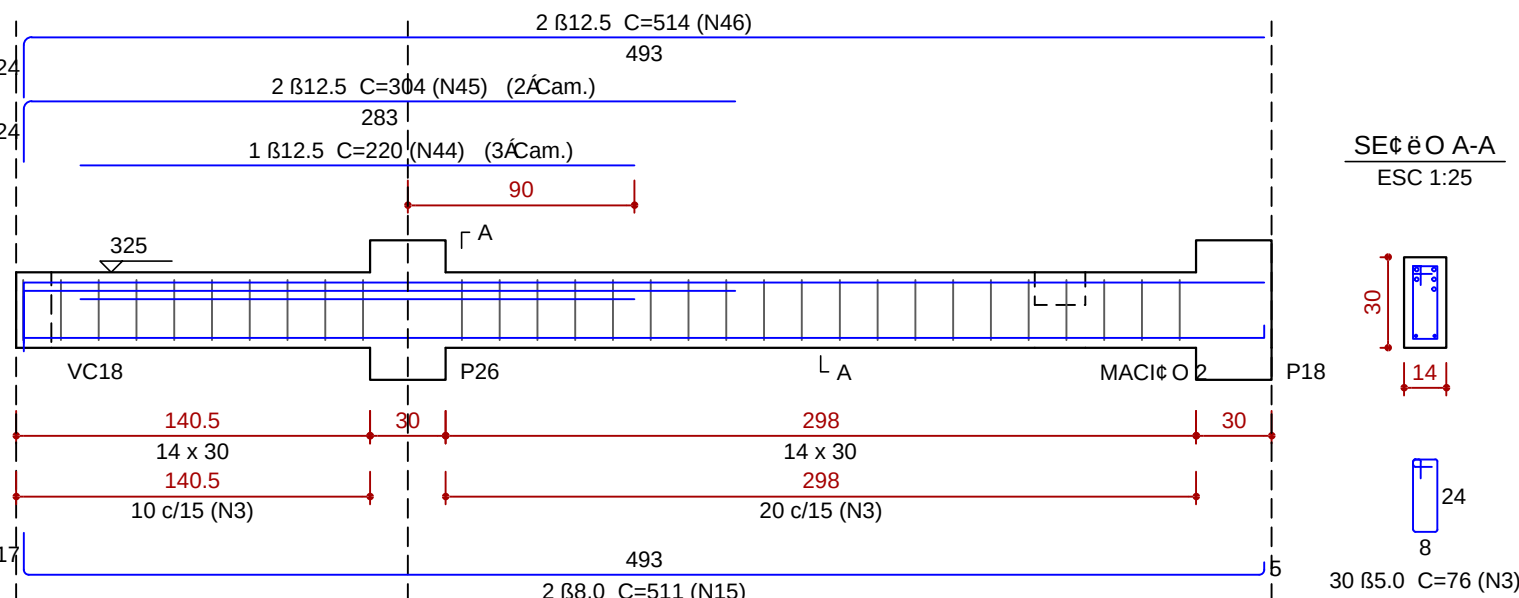
VC25

ESC 1:30



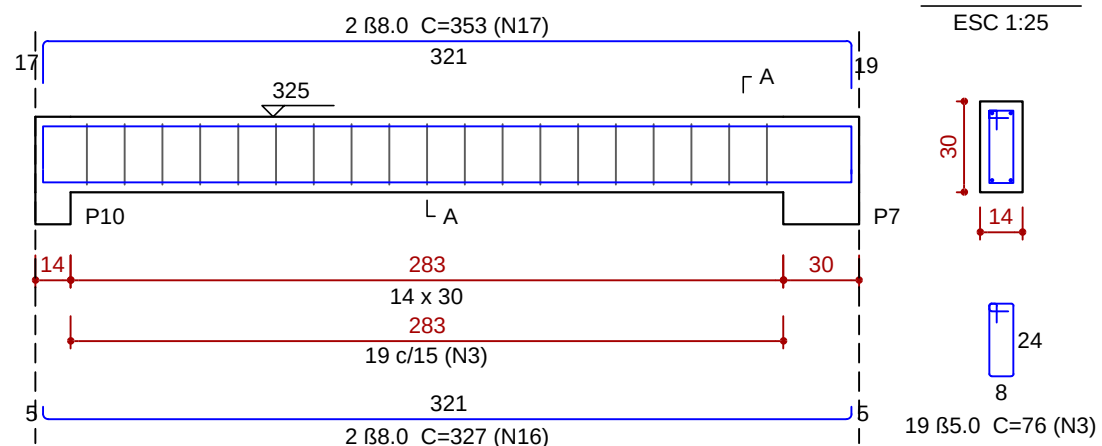
VC26

ESC 1:30



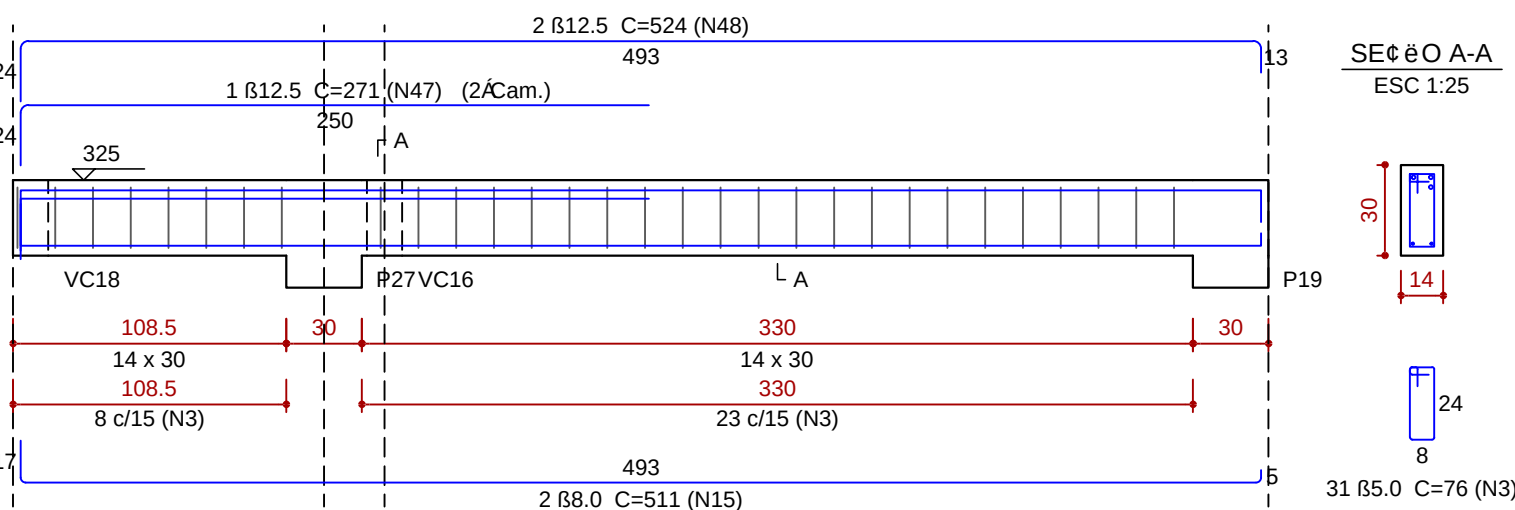
VC27

ESC 1:30



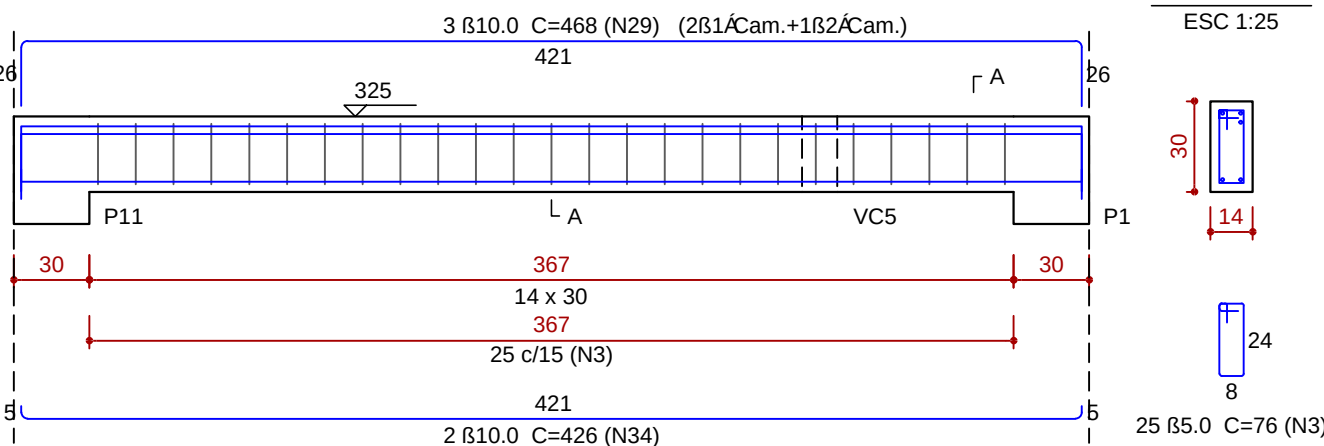
VC28

ESC 1:30



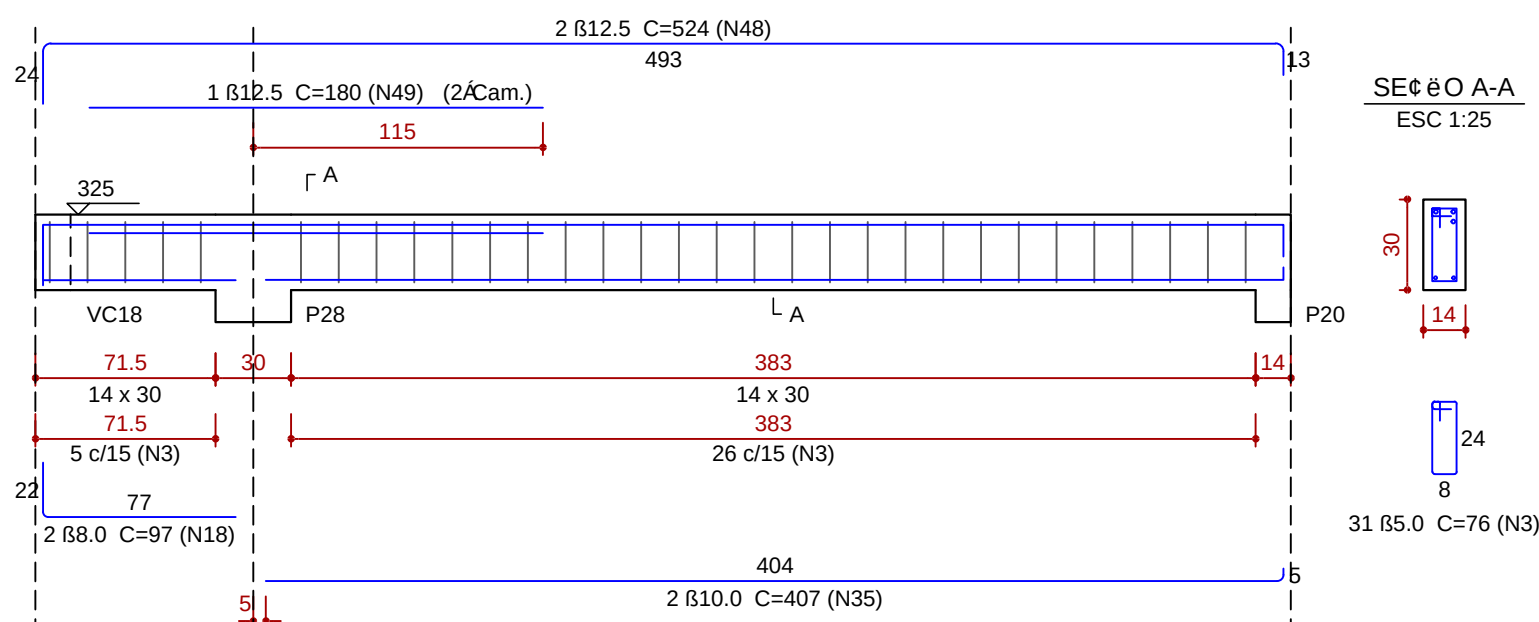
VC29

ESC 1:30



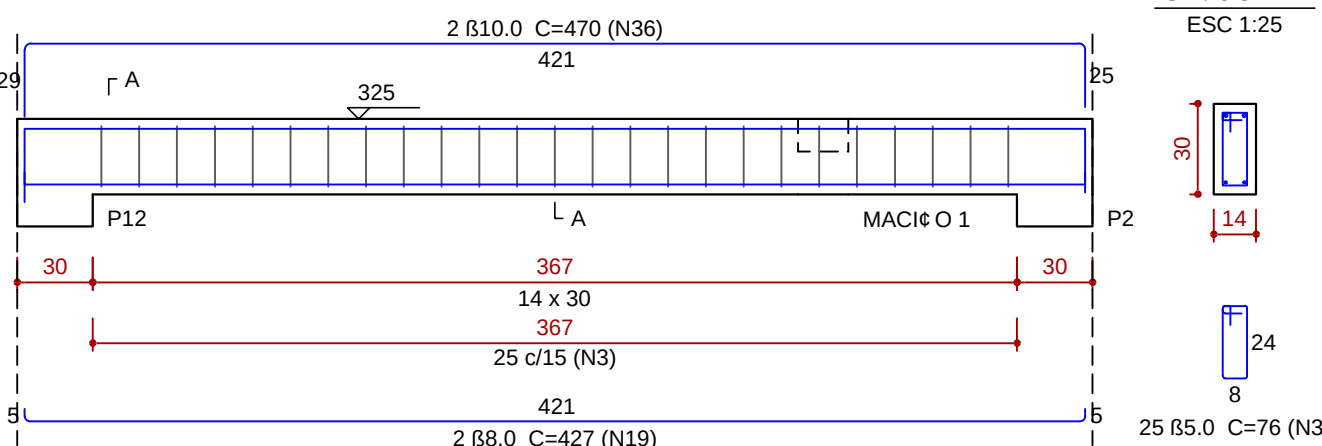
VC30

ESC 1:30



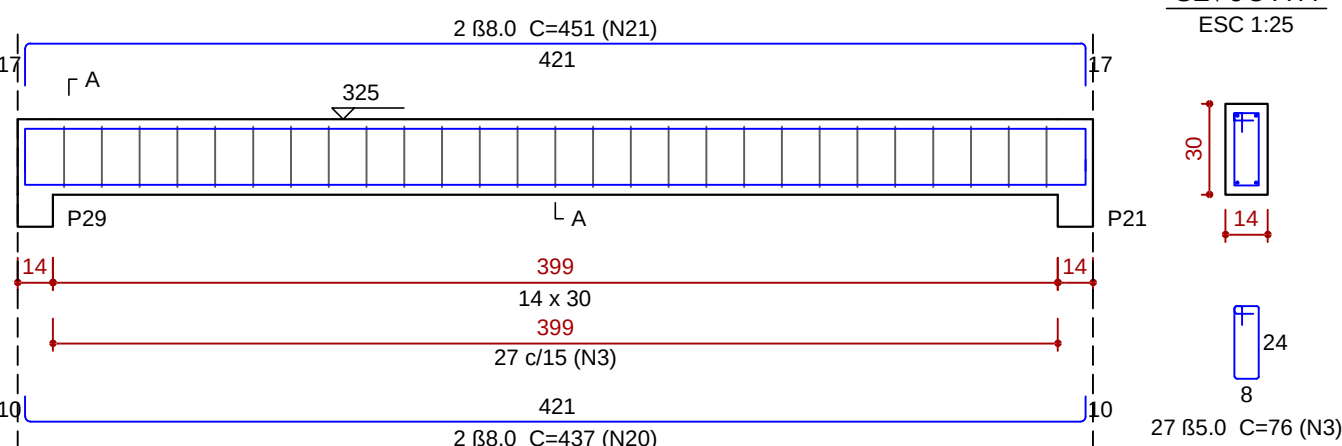
VC31

ESC 1:30



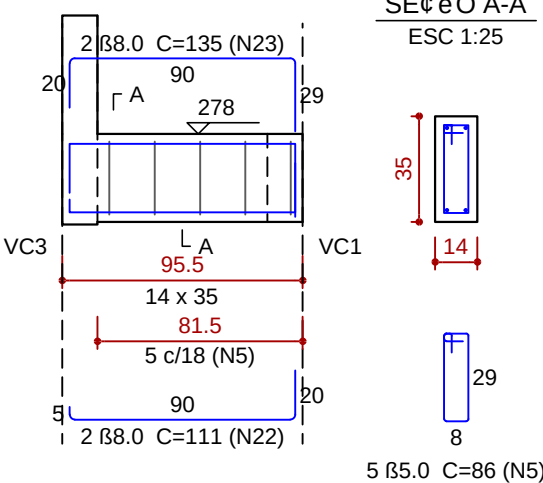
VC32

ESC 1:30



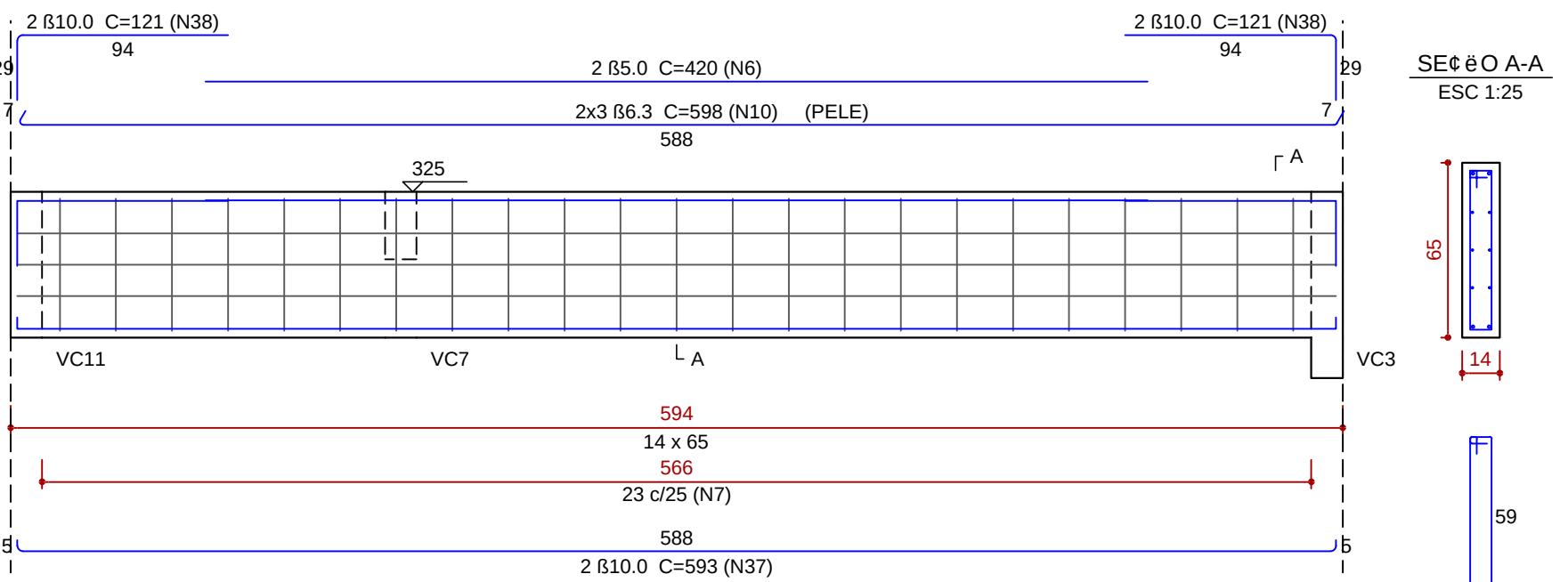
VC33

ESC 1:30



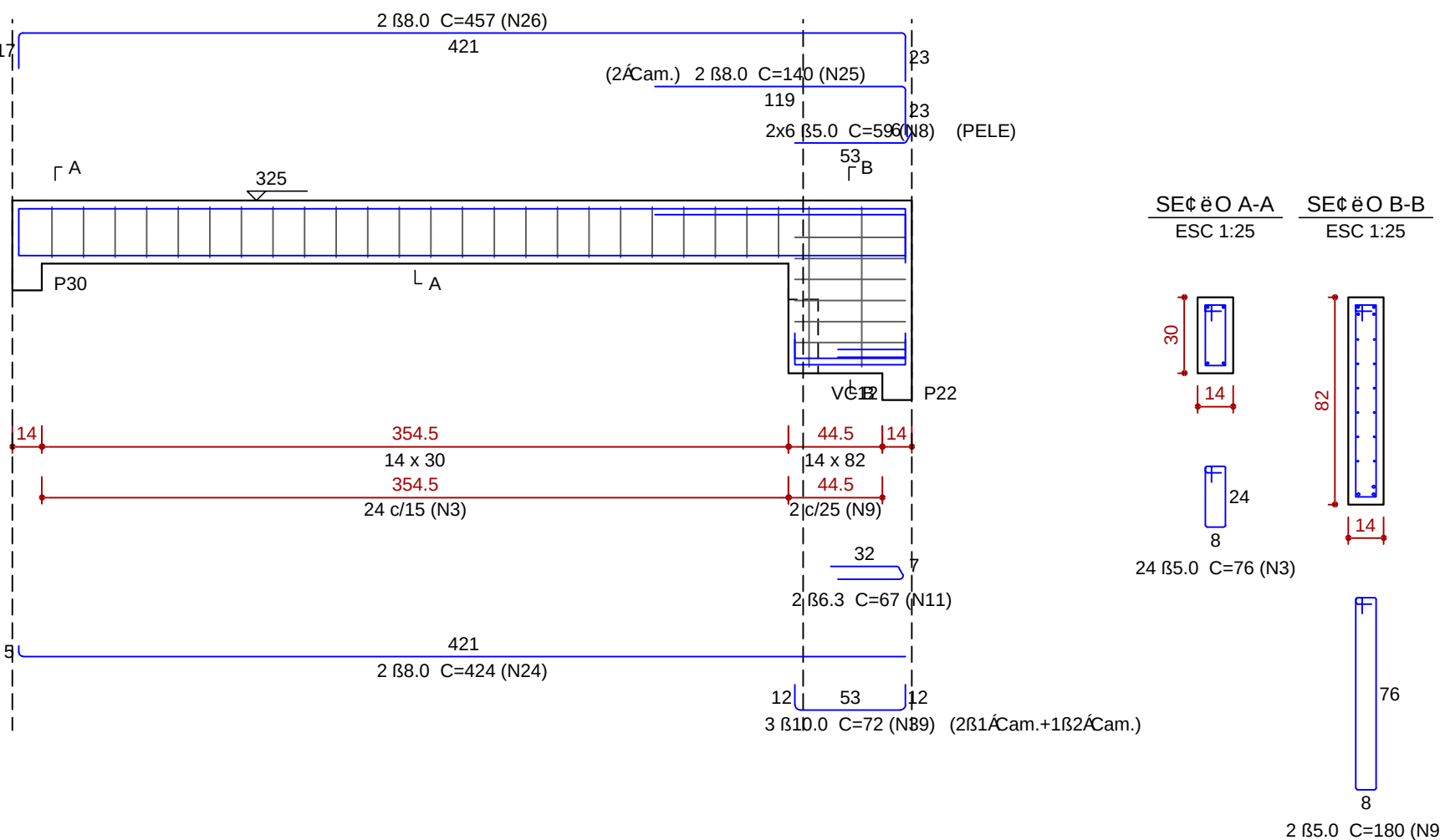
VC34

ESC 1:30



VC35

ESC 1:30



Rela- «o do a- o

VC23	VC24	VC25
VC26	VC27	VC28
VC29	VC30	VC31
VC32	VC33	VC34
VC35	VC36	

Aç O	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	19	96	1824
	2	5.0	2	193	386
	3	5.0	2	311	2366
	4	5.0	3	23	69
	5	5.0	46	86	3956
	6	5.0	2	420	840
	7	5.0	23	146	3358
	8	5.0	12	59	708
	9	5.0	2	190	380
	10	6.3	6	598	3588
CA50	11	6.3	2	67	134
	12	8.0	2	209	418
	13	8.0	2	132	264
	14	8.0	2	209	418
	15	8.0	4	511	2044
	16	8.0	2	327	654
	17	8.0	2	353	706
	18	8.0	2	97	194
	19	8.0	2	427	854
	20	8.0	2	437	874
	21	8.0	2	451	902
	22	8.0	2	111	222
	23	8.0	2	135	270
	24	8.0	2	424	848
	25	8.0	2	140	280
	26	8.0	2	457	914
	27	8.0	2	720	1440
	28	8.0	2	750	1500
	29	10.0	6	468	2808
	30	10.0	2	388	776
	31	10.0	1	227	227
	32	10.0	2	352	704
	33	10.0	7	81	567
	34	10.0	2	426	852
	35	10.0	2	407	814
	36	10.0	2	470	940
	37	10.0	2	593	1186
	38	10.0	4	121	484
	39	10.0	3	72	216
	40	12.5	1	297	297
	41	12.5	2	435	870
	42	12.5	1	165	165
	43	12.5	2	1069	2138
	44	12.5	1	220	220
	45	12.5	2	304	608
	46	12.5	2	514	1028
	47	12.5	1	271	271
	48	12.5	4	524	2096
	49	12.5	1	180	180

Resumo do a- o

Aç O	DIAM (mm)	C.TOTAL (m)	QUANT + 10 % (Barras)	PESO + 10 % (kg)
CA50	6.3	37.3	4	10
	8.0	128.1	12	55.6
	10.0	95.8	9	64.9
	12.5	78.8	8	83.4
CA60	5.0	351.4	33	59.6

PESO TOTAL (kg)	
CA50	213.9
CA60	59.6

Volume de concreto (C-30) = 3.21 m³
Crea de forma = 55.13 m²



ESTADO DE SANTA CATARINA
SECRETARIA DE ESTADO DA INFRA ESTRUTURA
DEPARTAMENTO ESTADUAL DE INFRA ESTRUTURA
DIRETORIA DE OBRAS CIVIS - DIOC



NOME DO PROJETO : SST - SECRETARIA DE ESTADO
DA ASSISTANCIA SOCIAL, TRABALHO E HABITACAO

REF.:

LOCAL: DIVERSAS LOCALIDADES DO ESTADO

TIPO DE PROJETO: ESTRUTURAL

CARACTERISTICAS: PROJETO PADRAO - CREAS

ARMADURAS DAS VIGAS

PAVIMENTO: COBERTURA

AUTOR DO PROJETO: ENG. CIVIL ROBERTO DANIEL GEVAERD
CREA/SC 041750-9

AVALIUS ENGENHARIA E AVALIUS ES LTDA

CREA: 220.04 m²

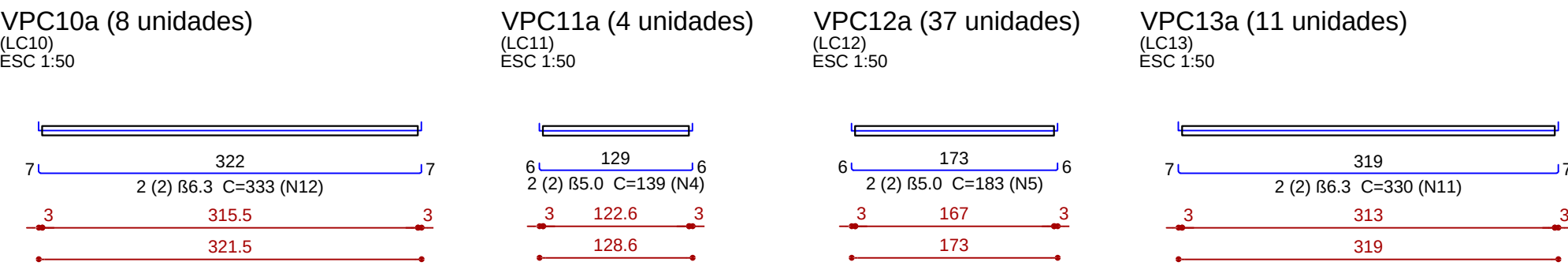
ESCALA: INDICADA

DATA: ABRIL/2017

DES. EDVÂNIO PACHECO

15

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Rela- «o do a- o

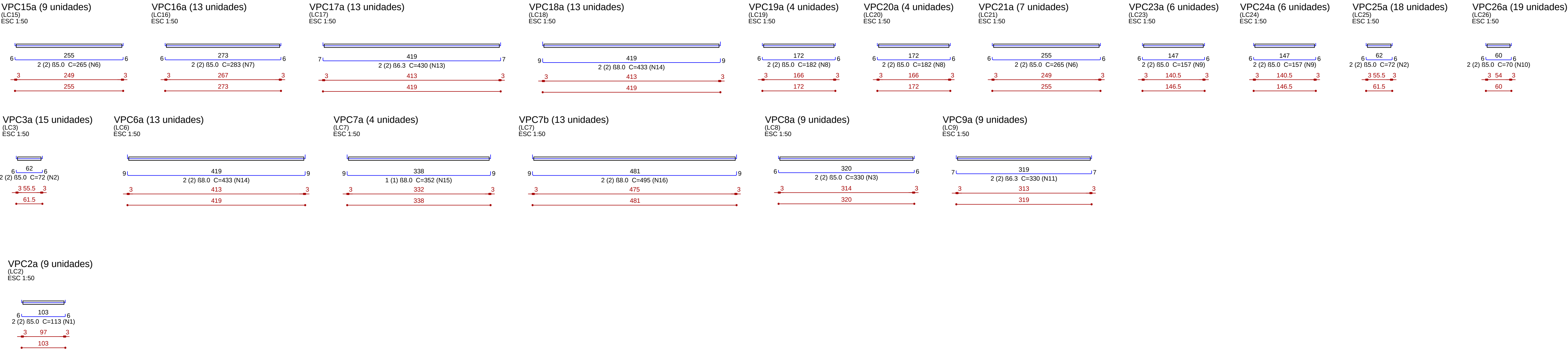
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4xVPC7a	13xVPC7b	9xVPC8a
9xVPC9a	9xVPC10a	4xVPC11a
37xVPC12a	11xVPC13a	9xVPC15a
13xVPC16a	13xVPC17a	13xVPC18a
4xVPC19a	4xVPC20a	7xVPC21a
6xVPC23a	6xVPC24a	18xVPC25a
19xVPC26a		

A# O	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	18	113	2034
	2	5.0	66	72	4752
	3	5.0	18	330	5940
	4	5.0	8	139	1112
	5	5.0	74	183	13542
	6	5.0	32	265	8480
	7	5.0	26	283	7358
	8	5.0	16	182	2912
	9	5.0	24	157	3768
	10	5.0	38	70	2660
CA50	11	6.3	40	330	13200
	12	6.3	16	333	5328
	13	6.3	26	430	11180
	14	8.0	52	433	22516
	15	8.0	4	352	1408
	16	8.0	26	495	12870

Resumo do a- o

A# O	DIAM (mm)	C.TOTAL (m)	QUANT + 10 % (Barras)	PESO + 10 % (kg)
CA50	6.3	297.1	28	80
CA60	8.0	368	34	159.7
CA60	5.0	525.6	49	89.1
PESO TOTAL (kg)				
CA50		239.7		
CA60		89.1		

Planta de vigotas pr®moldadas
escala 1:50



ESTADO DE SANTA CATARINA
SECRETARIA DE ESTADO DA INFRA ESTRUTURA
DEPARTAMENTO ESTADUAL DE INFRA ESTRUTURA
DIRETORIA DE OBRAS CIVIS - DIOC

NOME DO PROJETO : SST - SECRETARIA DE ESTADO DA ASSISTªNCIA SOCIAL, TRABALHO E HABITaçªo

LOCAL : DIVERSAS LOCALIDADES DO ESTADO

TIPO DE PROJETO : ESTRUTURAL

CARACTERÍSTICAS : PROJETO PADRªo - CREA

PAVIMENTO : COBERTURA

AUTOR DO PROJETO : ENG. CIVIL ROBERTO DANIEL GEVAERD
CREA/SC 041750-9

AVALIUS ENGENHARIA E AVALIAçªo ES LTDA

CREA: 220.04 mJ

ESCALA: INDICADA

DATA: ABRIL/2017

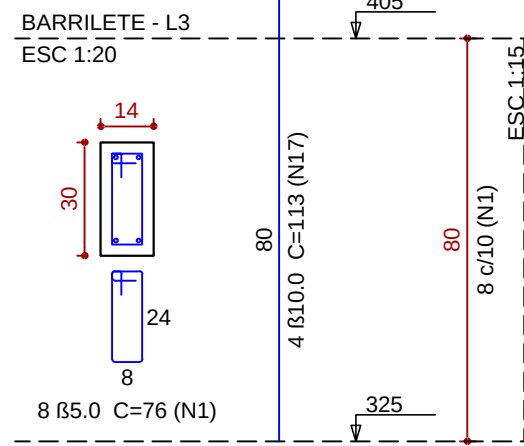
DES. EDVÂNIO PACHECO

REF.:

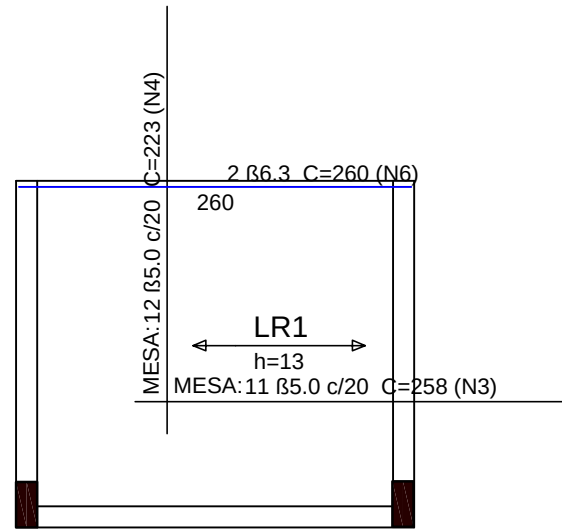
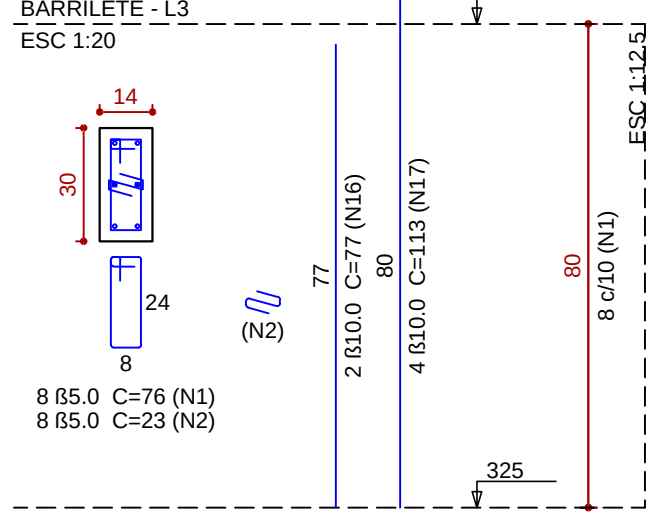
17

18

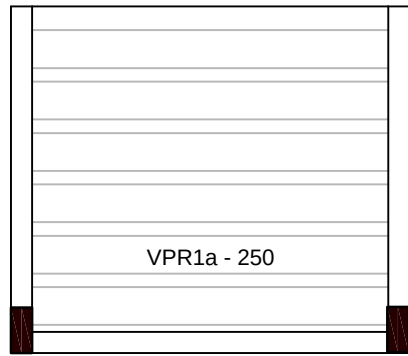
P17=P18=P26



P31



Planta de vigotas pr®moldadas
escala 1:50



Rela-«o do a-o

Barriete: 3xP17 P31
Positivos VR1
VR2 VR3
Tampa Reservat· rio: 4xP17 Positivos
VT1 VT2
VT3 VT4

A# O	N	DIAM (mm)	QUANT	C UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	220	76	16720
	2	5.0	8	23	184
	3	5.0	28	258	7224
	4	5.0	12	223	2676
	5	5.0	12	353	4236
CA50	6	6.3	2	260	520
	7	8.0	4	273	1092
	8	8.0	4	287	1148
	9	8.0	4	359	1436
	10	8.0	2	353	706
	11	8.0	4	358	1432
	12	8.0	2	274	548
	13	8.0	2	288	576
	14	8.0	2	383	766
	15	8.0	2	383	766
	16	10.0	2	77	154
	17	10.0	16	113	1808
	18	10.0	2	352	704
	19	10.0	16	142	2272

Resumo do a-o

A# O	DIAM (mm)	C.TOTAL (m)	QUANT + 10 % (Barras)	PESO + 10 % (kg)
CA50	6.3	5.2	1	1.4
	8.0	84.7	8	36.8
	10.0	49.4	5	33.5
CA60	5.0	310.4	29	52.6

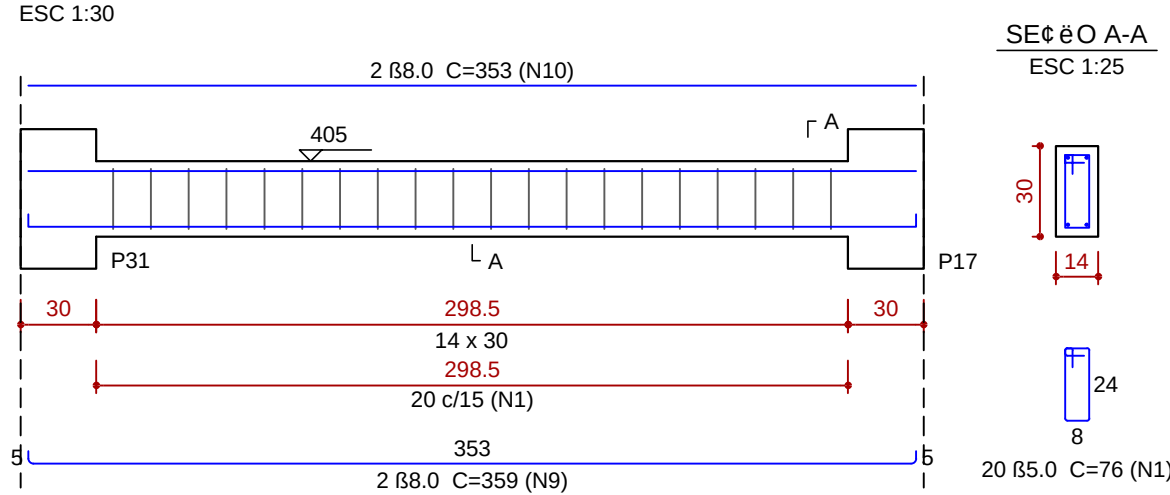
PESO TOTAL (kg)

CA50 71.7

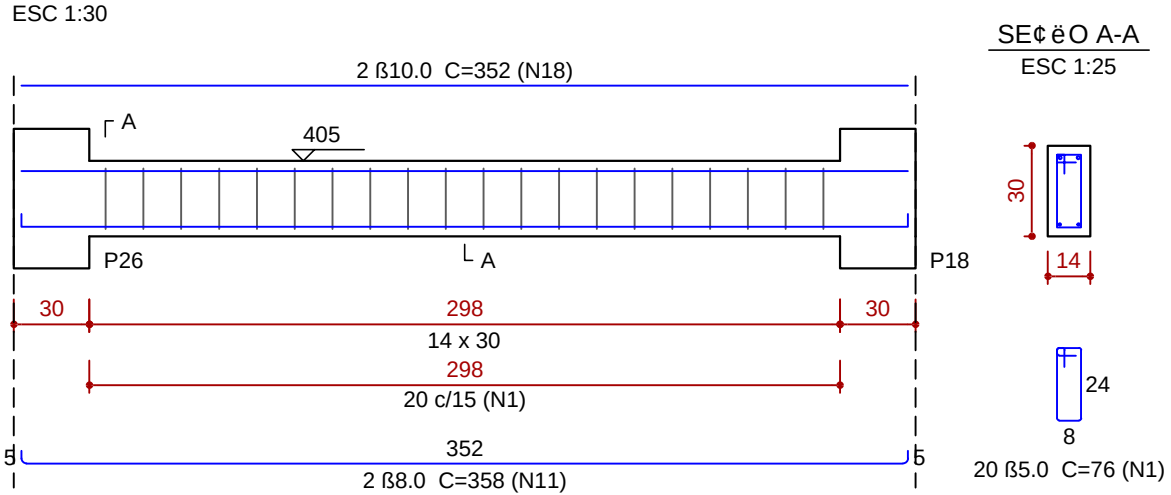
CA60 52.6

Volume de concreto (C-30) = 1.96 m³
Crea de forma = 24.37 m²

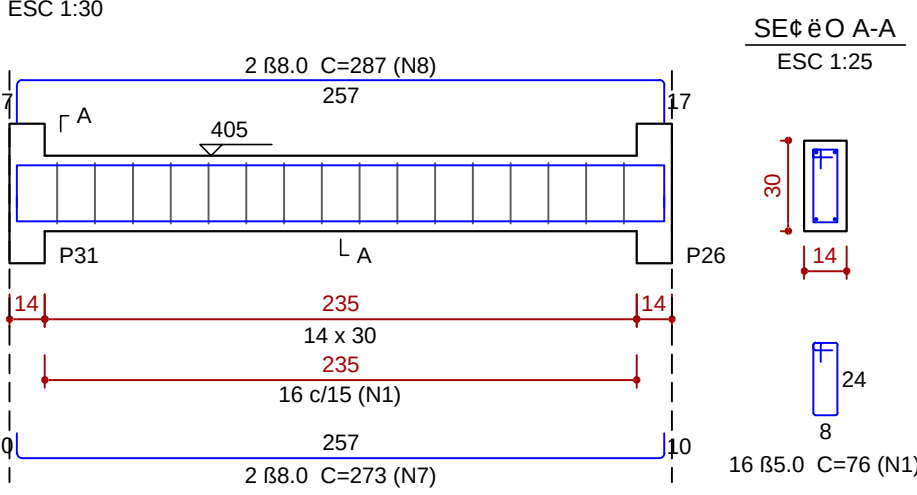
VR2



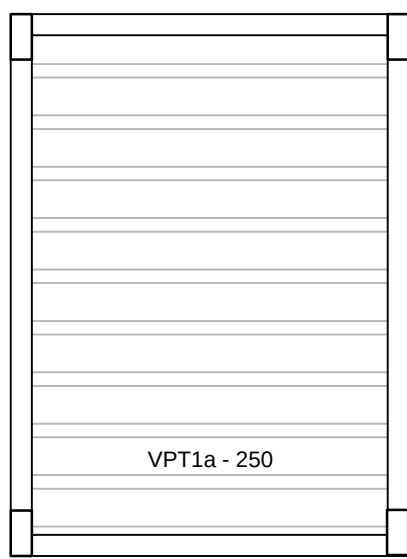
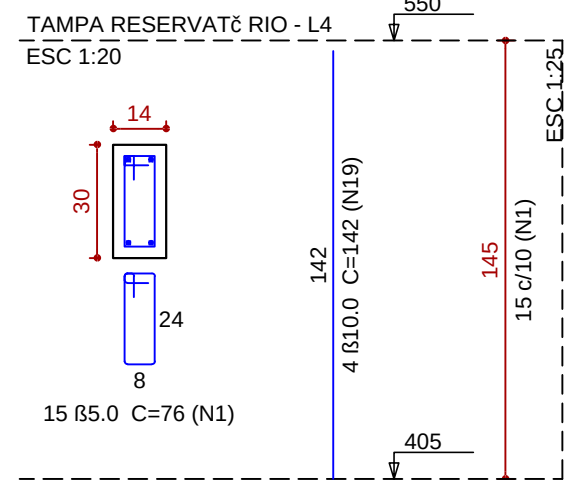
VR3



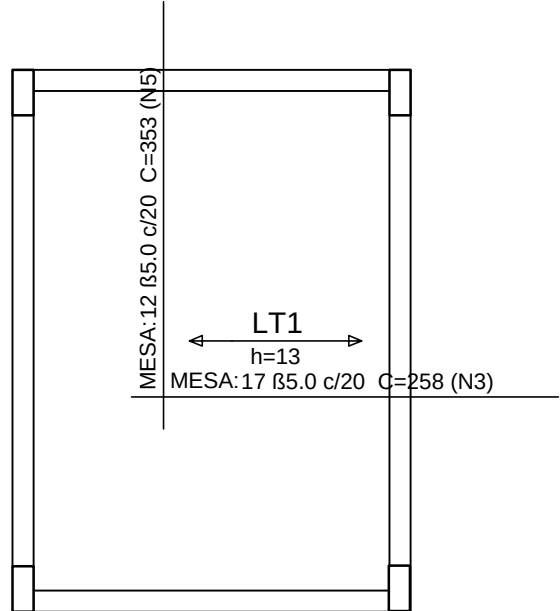
VR1



P17=P18=P26=P31

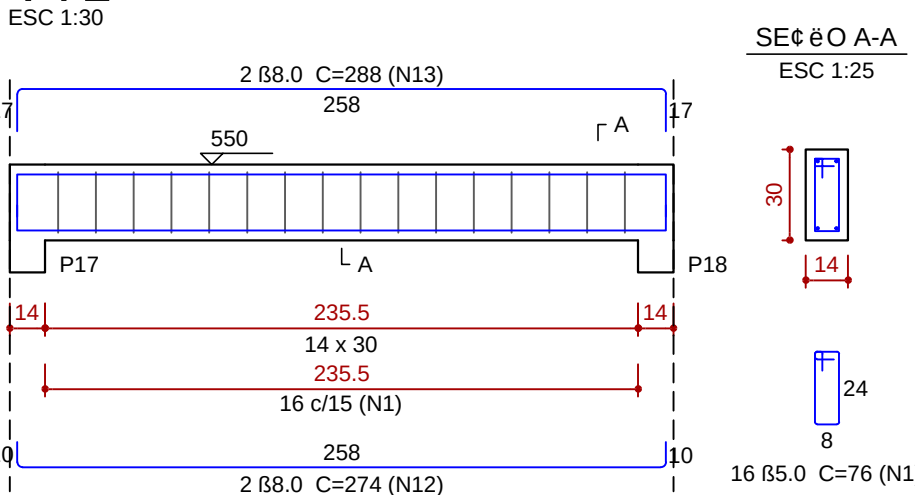


Planta de vigotas pr®moldadas
escala 1:50

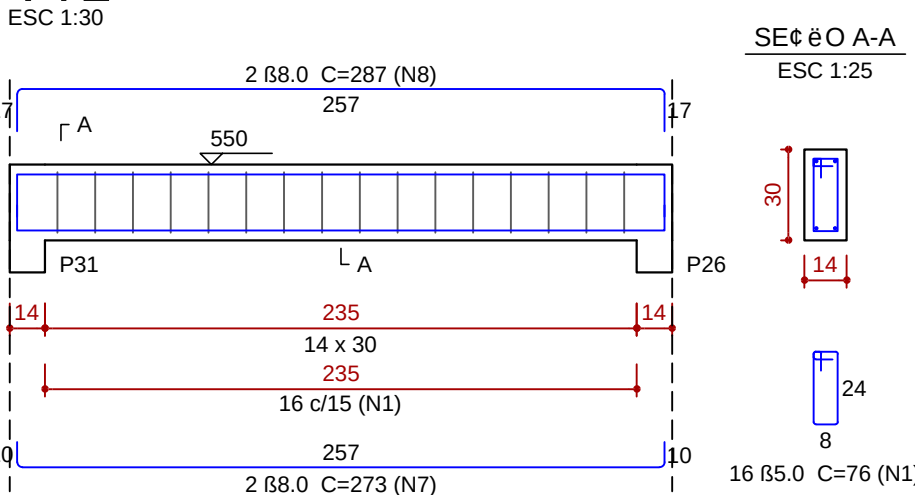


Arma-«o positiva das lajes do pavimento Tampa Reservat· rio
escala 1:50

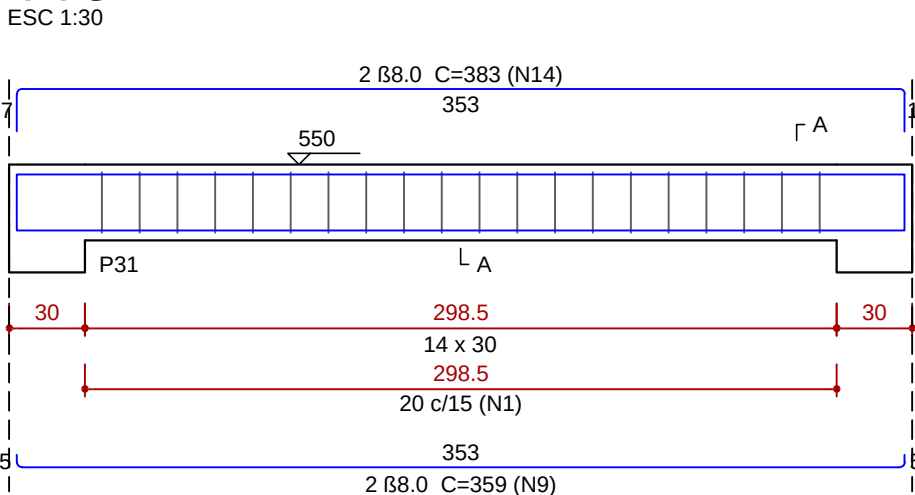
VT1



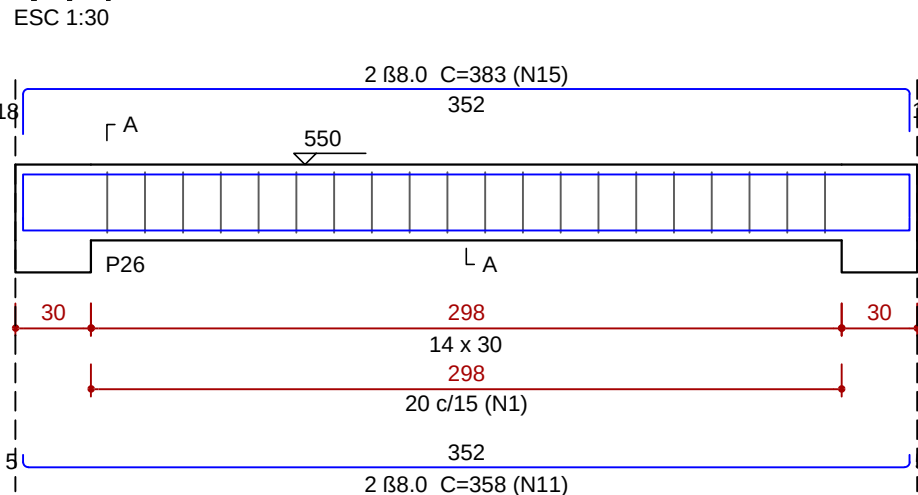
VT2



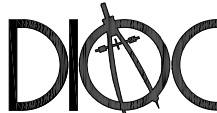
VT3



VT4



ESTADO DE SANTA CATARINA
SECRETARIA DE ESTADO DA INFRA ESTRUTURA
DEPARTAMENTO ESTADUAL DE INFRA ESTRUTURA
DIRETORIA DE OBRAS CIVIS - DIOC



NOME DO PROJETO : SST - SECRETARIA DE ESTADO
DA ASSISTªNCIA SOCIAL, TRABALHO E HABITªçªo

REF.:

LOCAL: DIVERSAS LOCALIDADES DO ESTADO

TIPO DE PROJETO: ESTRUTURAL

CARACTERÍSTICAS: PROJETO PADRªo - CREAS

ARMADURAS

PAVIMENTO: PAV RESERVATª RIO

AUTOR DO PROJETO: ENG. CIVIL ROBERTO DANIEL GEVAERD
CREA/SC 041750-9

AVALIUS ENGENHARIA E AVALIAªª ES LTDA

CREA: 220.04 m²

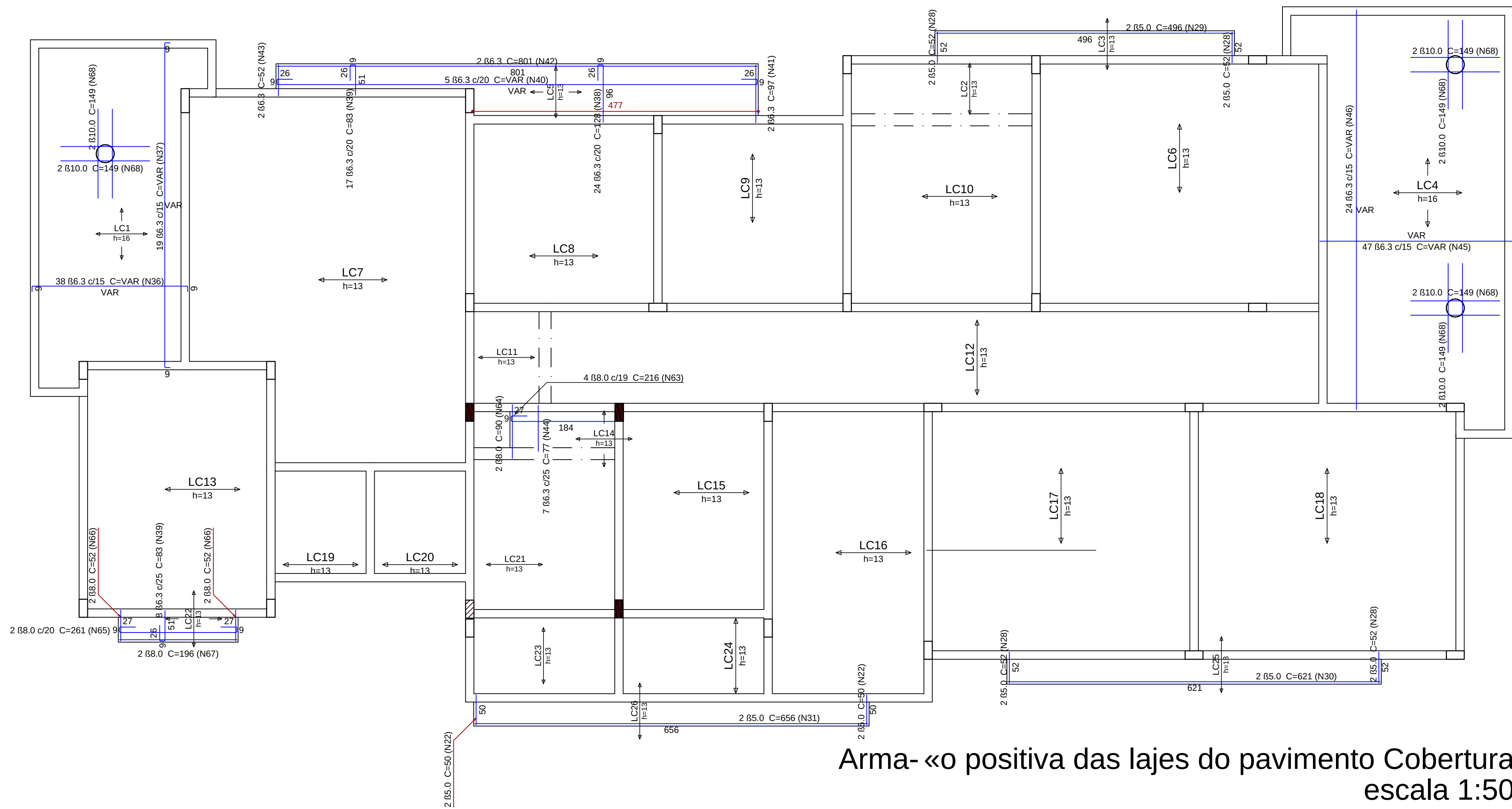
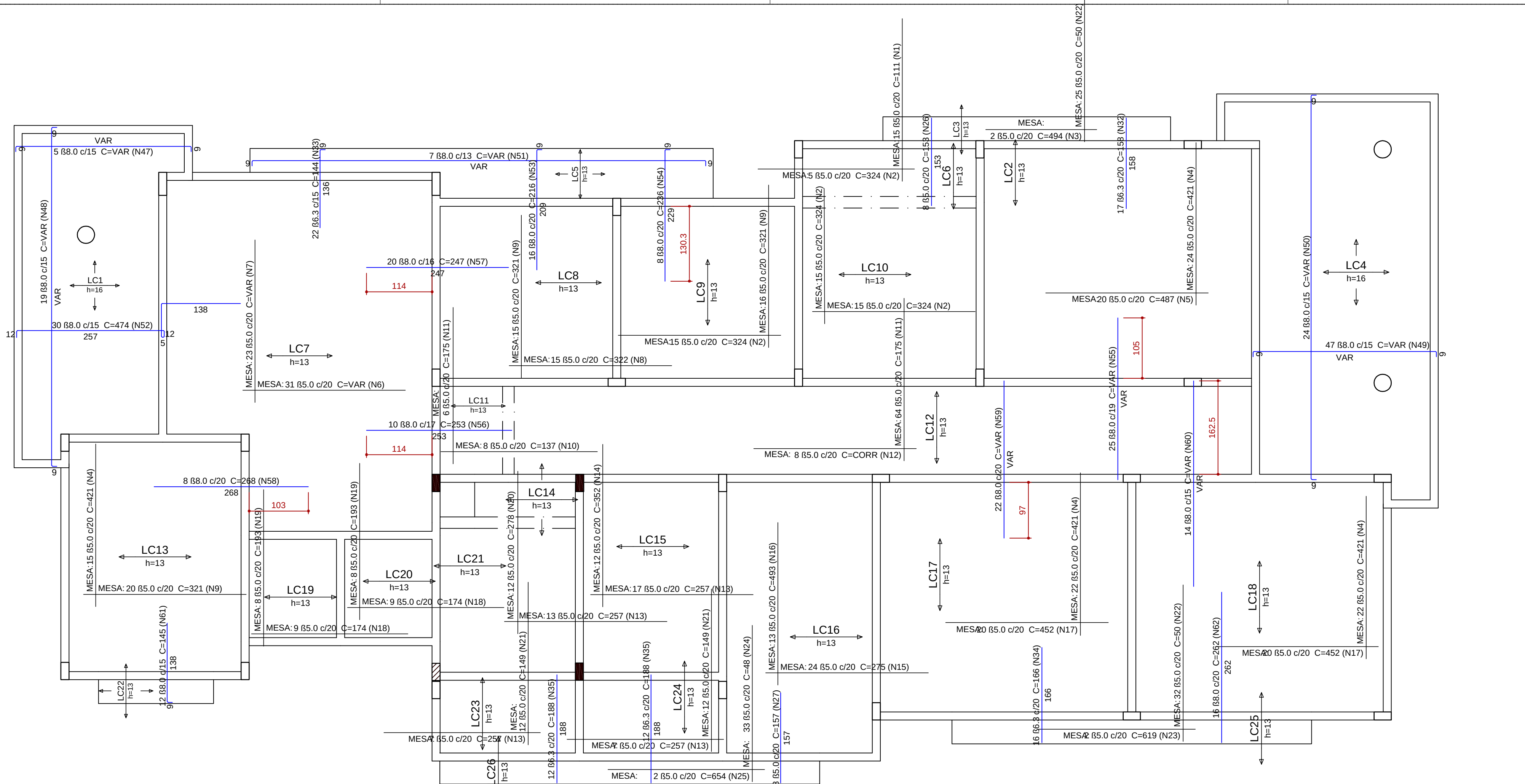
ESCALA: INDICADA

DATA: ABRIL/2017

DES. EDVÂNIO PACHECO

18

18

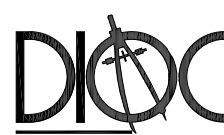


		Rela-«o do a-o				
		Negativa		Positiva		
A«O	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)	
CA60	1	5.0	15	111	1665	
	2	5.0	50	324	16200	
	3	5.0	2	494	988	
	4	5.0	83	421	34943	
	5	5.0	20	487	9740	
	6	5.0	31	VAR	VAR	
	7	5.0	23	VAR	VAR	
	8	5.0	15	322	4830	
	9	5.0	51	321	16371	
	10	5.0	8	137	1096	
	11	5.0	70	175	12250	
	12	5.0	8	CORR	10472	
	13	5.0	44	257	11306	
	14	5.0	12	352	4224	
	15	5.0	24	275	6600	
	16	5.0	13	493	6409	
	17	5.0	40	452	18080	
	18	5.0	18	174	3132	
	19	5.0	16	193	3088	
	20	5.0	12	278	3336	
	21	5.0	24	149	3576	
	22	5.0	61	50	3050	
	23	5.0	2	619	1238	
	24	5.0	33	48	1584	
	25	5.0	2	654	1308	
	26	5.0	8	153	1224	
	27	5.0	8	157	1256	
	28	5.0	8	52	416	
	29	5.0	2	496	992	
	30	5.0	2	621	1242	
CA50	31	5.0	2	656	1312	
	32	6.3	17	158	2686	
	33	6.3	22	144	3168	
	34	6.3	16	166	2656	
	35	6.3	24	188	4512	
	36	6.3	38	VAR	VAR	
	37	6.3	19	VAR	VAR	
	38	6.3	24	128	3072	
	39	6.3	25	83	2075	
	40	6.3	5	VAR	VAR	
	41	6.3	2	97	194	
	42	6.3	2	801	1602	
	43	6.3	2	52	104	
	44	6.3	7	77	539	
	45	6.3	47	VAR	VAR	
	46	6.3	24	VAR	VAR	
	47	8.0	5	VAR	VAR	
	48	8.0	19	VAR	VAR	
	49	8.0	47	VAR	VAR	
	50	8.0	24	VAR	VAR	
	51	8.0	7	VAR	VAR	
	52	8.0	30	474	14220	
	53	8.0	16	216	3456	
	54	8.0	8	236	1888	
	55	8.0	25	VAR	VAR	
	56	8.0	10	253	2530	
	57	8.0	20	247	4940	
	58	8.0	8	268	2144	
	59	8.0	22	VAR	VAR	
	60	8.0	14	VAR	VAR	
	61	8.0	12	145	1740	
	62	8.0	16	262	4192	
	63	8.0	4	216	864	
	64	8.0	2	90	180	
	65	8.0	2	261	522	
	66	8.0	4	52	208	
	67	8.0	2	196	392	
	68	10.0	12	149	1788	

Resumo do a-o				
A«O	DIAM (mm)	C.TOTAL (m)	QUANT + 10 % (Barras)	PESO + 10 % (kg)
CA50	6.3	771.1	71	207.6
	8.0	1060.6	98	460.3
	10.0	17.9	2	12.1
CA60	5.0	2091.4	192	354.6
PESO TOTAL (kg)				
CA50		680		
CA60		354.6		



ESTADO DE SANTA CATARINA
SECRETARIA DE ESTADO DA INFRA ESTRUTURA
DEPARTAMENTO ESTADUAL DE INFRA ESTRUTURA
DIRETORIA DE OBRAS CIVIS - DIOC



NOME DO PROJETO : SST - SECRETARIA DE ESTADO DA ASSISTªNCIA SOCIAL, TRABALHO E HABITªçªO

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PAVIMENTO : COBERTURA

AUTOR DO PROJETO : ENG. CIVIL ROBERTO DANIEL GEVAERD
CREA/SC 041750-9

AVALIUS ENGENHARIA E AVALIAªES LTDA

REF.:

16

18

CRªA: 220.04 mJ

ESCALA: INDICADA

DATA: ABRIL/2017

DES: EDVÂNIO PACHECO