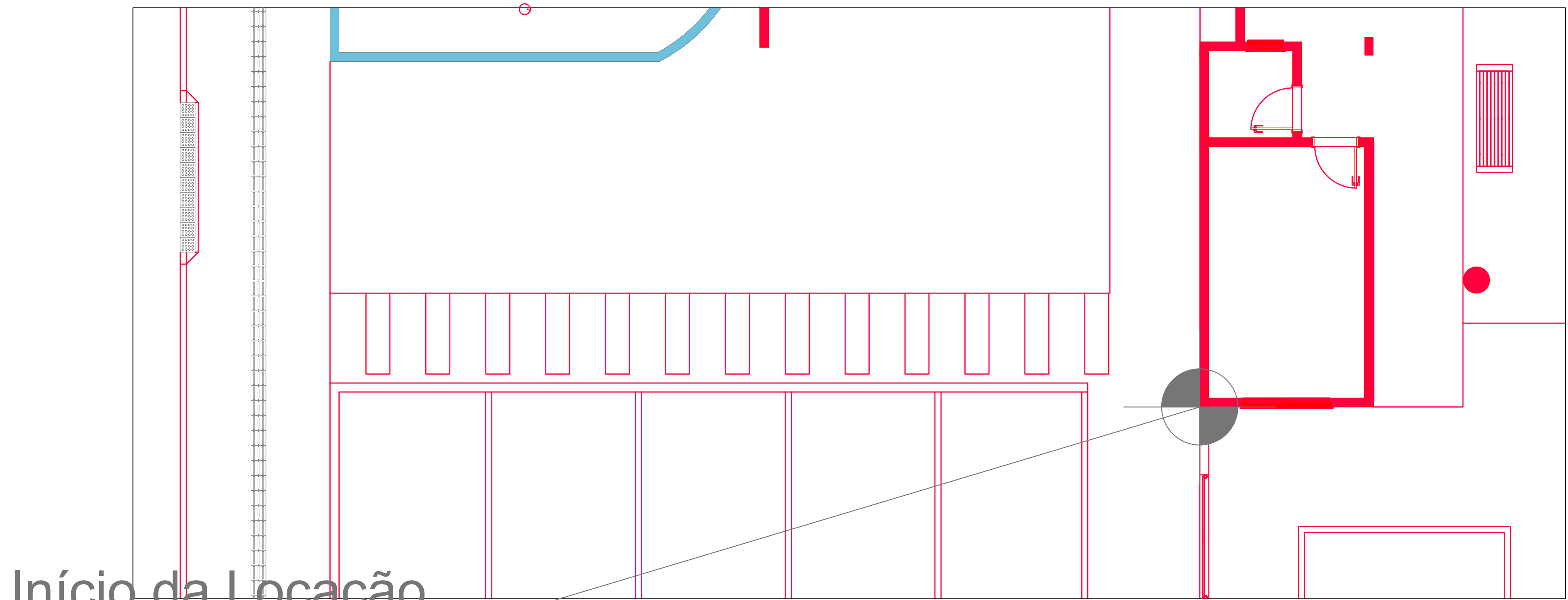
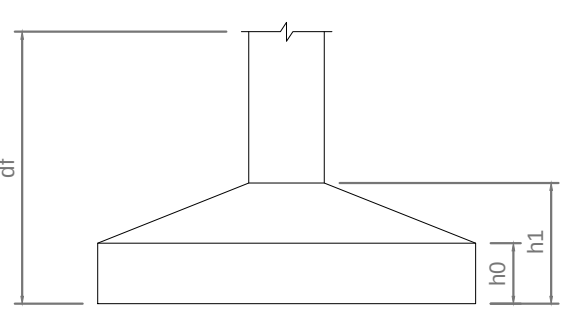


Início da Locação
(0.00,0.00)



Planta de locação
escala 1:75

Pilar				Fundação			
Nome	Seção	X (cm)	Y (cm)	Carga Máx.	Carga Mín.	Nome	Lado B (cm)
P1	15x40	1819.50	3924.58	6.0	4.5	S1	115
P2	15x40	2149.50	3937.08	14.5	11.0	S2	145
P3	15x40	2634.50	3937.08	10.5	7.5	S3	180
P4	15x40	3124.50	3937.08	11.0	8.5	S4	165
P5	15x40	3332.25	3937.08	11.5	8.5	S5	190
P6	15x40	3819.50	3937.08	16.5	12.5	S6	190
P7	15x40	4354.50	3937.08	11.0	8.5	S7	150
P8	15x40	4816.50	3937.08	12.0	9.0	S8	105
P9	15x40	4988.50	3924.58	7.5	6.0	S9	135
P10	15x40	1819.50	3919.58	6.5	5.0	S10	115
P11	15x40	2149.50	3919.58	15.0	10.5	S11	180
P12	15x40	2634.50	3919.58	20.5	14.5	S12	190
P13	15x30	3119.50	3931.08	13.0	9.5	S13	175
P14	15x30	3334.50	3931.08	14.0	10.0	S14	175
P15	15x40	3819.50	3911.58	20.0	14.0	S15	190
P16	15x30	4312.00	3931.08	13.0	9.0	S16	175
P17	15x40	4507.00	3931.08	14.0	10.0	S17	190
P18	15x40	4988.50	3916.58	9.5	7.0	S18	105
P19	15x40	1819.50	3409.08	6.0	4.5	S19	115
P20	15x40	2149.50	3409.08	18.0	13.0	S20	175
P21	15x40	2634.50	3409.08	20.0	14.5	S21	190
P22	15x40	3119.50	3409.08	14.0	10.0	S22	175
P23	15x40	3334.50	3409.08	14.0	10.5	S23	180
P24	15x40	3819.50	3409.08	21.0	15.0	S24	195
P25	15x40	4354.50	3409.08	15.0	10.5	S25	180
P26	15x40	4519.50	3409.08	14.0	10.5	S26	180
P27	15x40	4988.50	3409.08	8.0	6.0	S27	125
P28	15x40	4988.17	3231.58	3.5	3.0	S28	95
P29	15x40	1812.00	3099.58	10.0	7.5	S29	120
P30	15x40	2149.50	3099.58	10.5	8.0	S30	130
P31	15x40	2462.00	3099.58	11.5	9.0	S31	150
P32	15x40	2784.50	3111.58	10.5	8.0	S32	150
P33	15x40	3107.00	3099.58	9.5	7.5	S33	135
P34	15x40	3334.50	3099.58	10.0	7.0	S34	135
P35	15x40	3847.00	3099.58	11.0	8.5	S35	150
P36	15x40	3992.00	3099.58	14.0	10.5	S36	165
P37	15x40	4519.50	3099.58	13.5	10.0	S37	160
P38	15x40	4832.00	3099.58	7.5	6.0	S38	115
P39	15x40	2094.50	2971.08	8.0	6.0	S39	105
P40	C45	2275.30	2920.63	9.0	8.5	S40	130
P41	C45	2776.78	2920.63	9.0	8.5	S41	150
P42	C45	3278.26	2920.63	9.5	9.0	S42	150
P43	C45	3724.78	2920.63	9.5	9.0	S43	150
P44	25x60	4201.13	2898.58	10.0	9.5	S44	140
P45	15x40	1892.00	2824.08	9.5	7.0	S45	135
P46	15x40	2094.50	2838.58	14.5	11.5	S46	165
P47	C45	2275.30	2381.13	9.0	8.5	S47	150
P48	C45	2776.78	2381.13	13.5	13.0	S48	175
P49	C45	3251.83	2381.13	14.0	13.5	S49	175
P50	C45	3724.78	2381.13	14.0	13.5	S50	175
P51	25x60	4201.13	2382.31	16.0	15.5	S51	165
P52	15x40	1819.50	2218.58	11.0	8.0	S52	105
P53	15x40	2094.50	2058.58	17.5	13.5	S53	180
P54	C45	2275.30	1841.63	9.5	8.5	S54	130
P55	C45	2776.78	1841.63	9.0	8.5	S55	150
P56	C45	3251.83	1841.63	9.5	9.0	S56	150
P57	C45	3724.78	1841.63	9.5	9.0	S57	150
P58	25x90	4201.13	1891.58	10.0	9.5	S58	140
P59	15x40	1819.50	1648.58	6.0	4.0	S59	110
P60	15x40	2094.50	1648.58	7.5	5.5	S60	115
P61	15x40	3212.00	1661.08	8.5	6.5	S61	135
P62	15x40	3516.50	1661.08	8.5	6.5	S62	135
P63	15x40	3730.89	1661.08	8.5	6.5	S63	135
P64	15x40	4044.00	1661.08	10.5	8.0	S64	150
P65	15x40	4369.00	1661.08	10.5	8.0	S65	135
P66	15x40	4681.50	1661.08	8.5	6.5	S66	135
P67	15x40	4996.50	1661.08	8.5	6.5	S67	135
P68	15x40	5209.00	1661.08	9.0	7.0	S68	135
P69	15x40	5534.00	1661.08	7.0	5.5	S69	135
P70	15x40	5850.74	1661.08	7.0	5.0	S70	135
P71	15x40	6057.50	1648.58	3.5	2.5	S71	85
P72	15x40	3941.50	1528.58	9.5	7.5	S72	135
P73	15x40	5371.50	1528.58	6.0	4.5	S73	115
P74	15x30	3915.50	1395.97	17.5	13.0	S74	195
P75	15x30	3731.50	1395.98	13.0	9.5	S75	175
P76	15x40	4206.50	1396.08	22.5	16.5	S76	210
P77	15x40	4681.50	1396.08	14.0	10.0	S77	180
P78	15x40	4896.50	1394.20	13.5	9.5	S78	180
P79	15x40	5371.50	1396.08	13.5	10.0	S79	180
P80	15x40	5850.00	1395.08	18.0	11.5	S80	175
P81	15x40	6041.50	1396.08	4.0	2.5	S81	105
P82	15x40	3941.50	1084.58	13.0	9.5	S82	180
P83	15x40	3516.50	1084.58	13.5	10.0	S83	180
P84	15x40	3731.50	1084.58	13.0	9.5	S84	175
P85	15x40	4206.50	1084.58	20.0	14.5	S85	195
P86	15x40	4681.50	1084.58	15.5	11.5	S86	190
P87	15x40	4996.50	1133.08	12.0	8.5	S87	150
P88	15x40	5371.78	1084.58	21.0	15.0	S88	210
P89	15x40	5843.00	1072.08	13.0	9.5	S89	180
P90	15x40	6029.00	1072.08	3.5	2.5	S90	110
P91	15x40	3041.50	834.58	7.0	5.5	S91	135
P92	15x40	3516.50	822.08	11.5	9.0	S92	165
P93	15x40	3731.80	822.08	9.5	7.0	S93	160
P94	15x40	4206.50	822.08	17.5	13.5	S94	195
P95	15x40	4896.50	822.08	17.0	13.0	S95	190
P96	15x40	5371.50	822.08	13.5	10.5	S96	165
P97	15x40	5850.00	822.08	9.5	7.5	S97	135



CEI PROF. JOSÉ SANTOS NUNES

Localização:

CONTROLE

PLANTA DE LOCAÇÃO

RESP. TÉCNICO

GABRIELA BRESSAN PEDROSSO

Engenheira Civil CREA-SC 142.195-1

Engenheira Civil CREA-SC 138.385-6

DATA

JULHO / 2025

ÁREA TOTAL

CONSTRUÍDA

765,97 m²

PRÓPRIETÁRIO

01/26

LIBRE ENGENHARIA

Rua Floriano, 389 - Sala 03

Vila Morumbi - Foz de Iguaçu

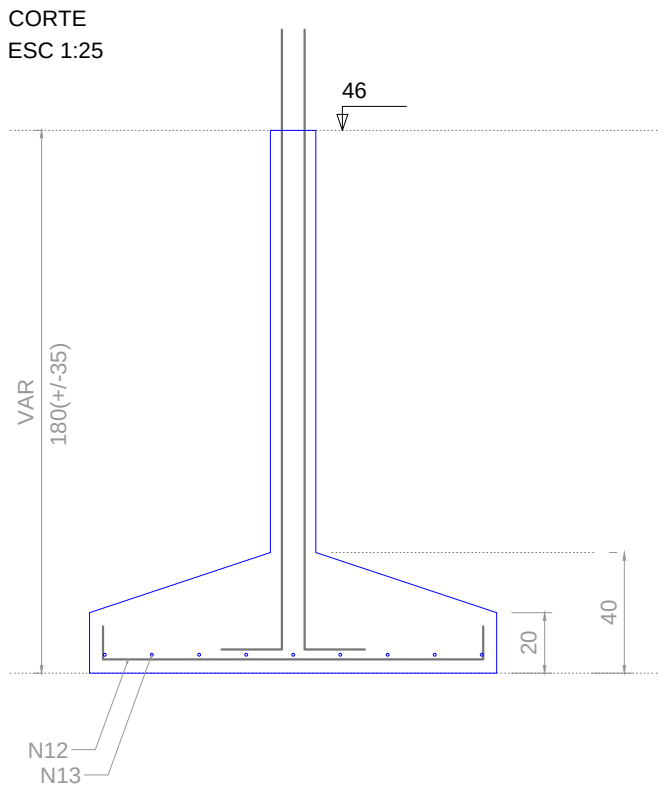
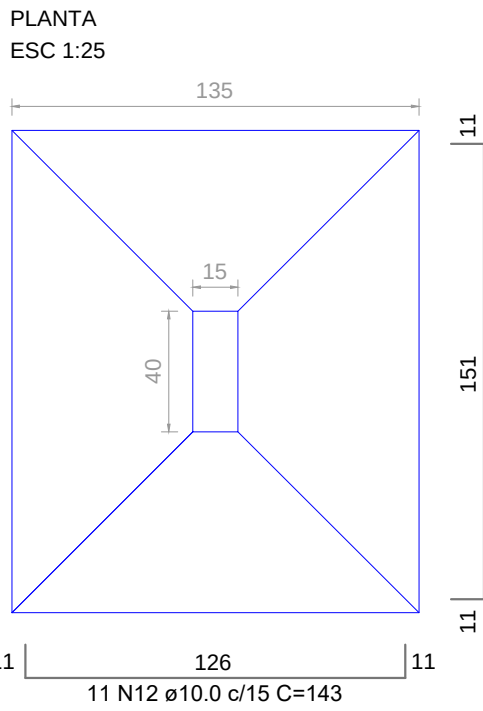
Paraná - Brasil

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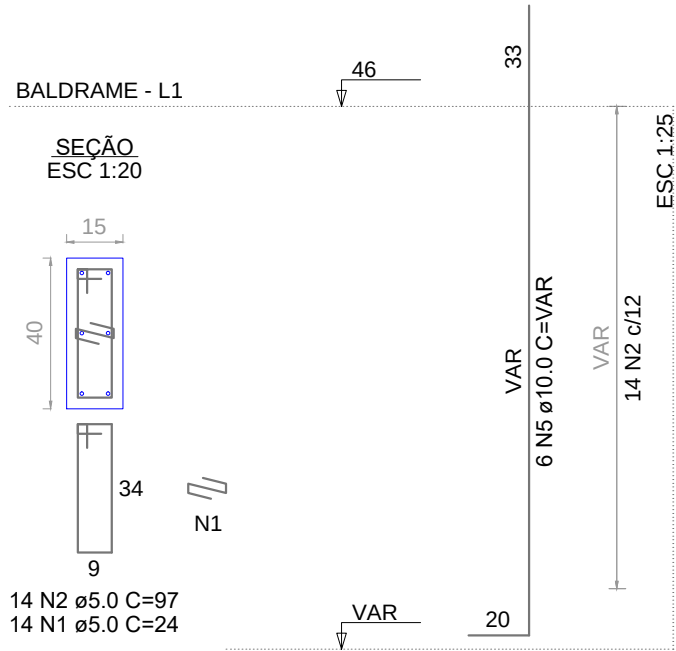
Assinatura do Técnico

Carimbo de Responsabilidade

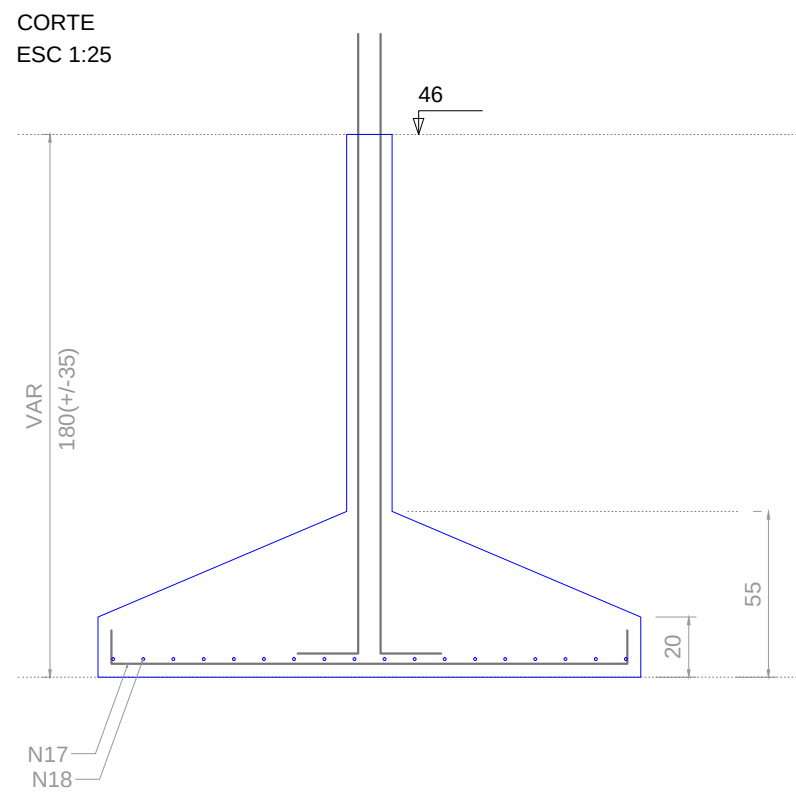
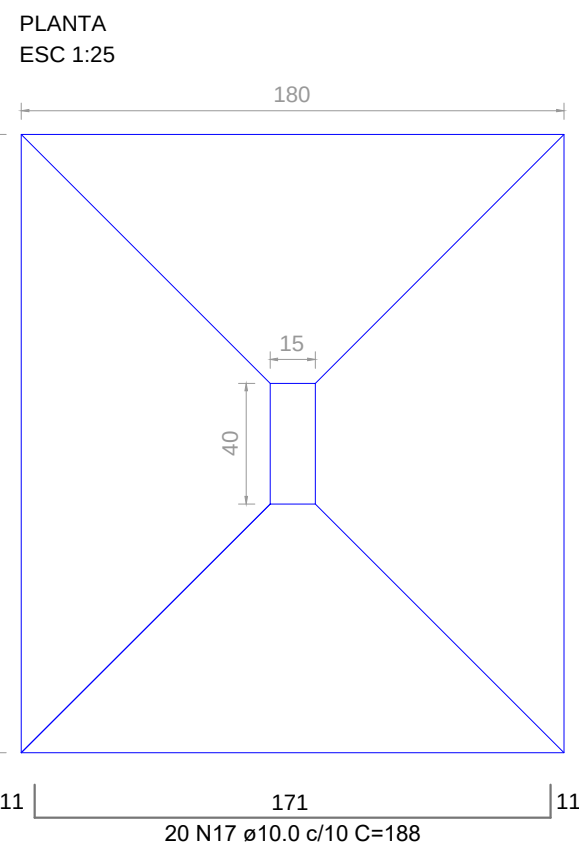
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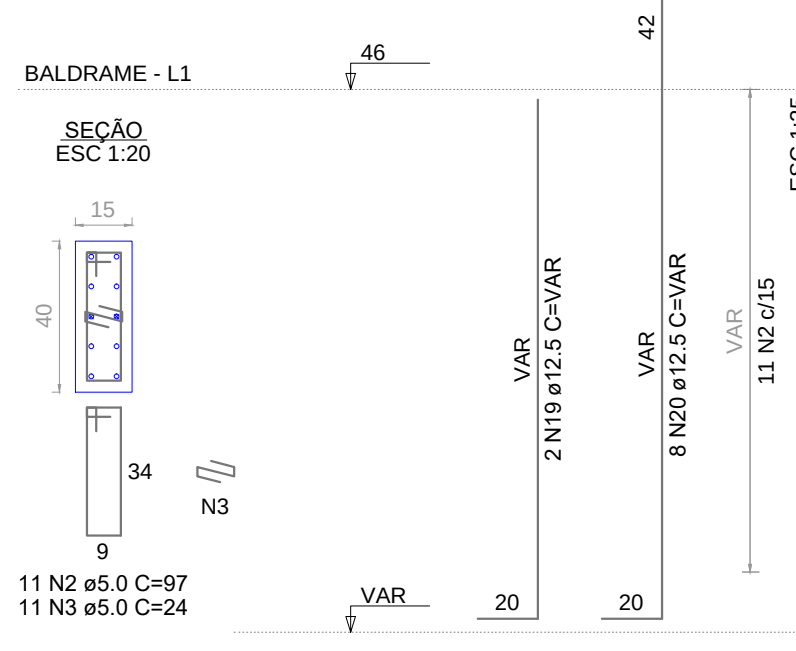
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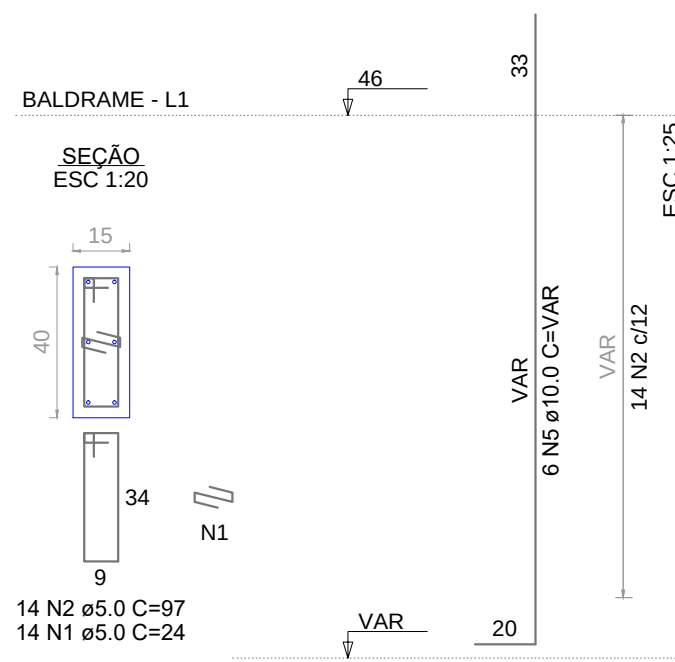
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P18



P4=P5=P7=P52=P87=P89=
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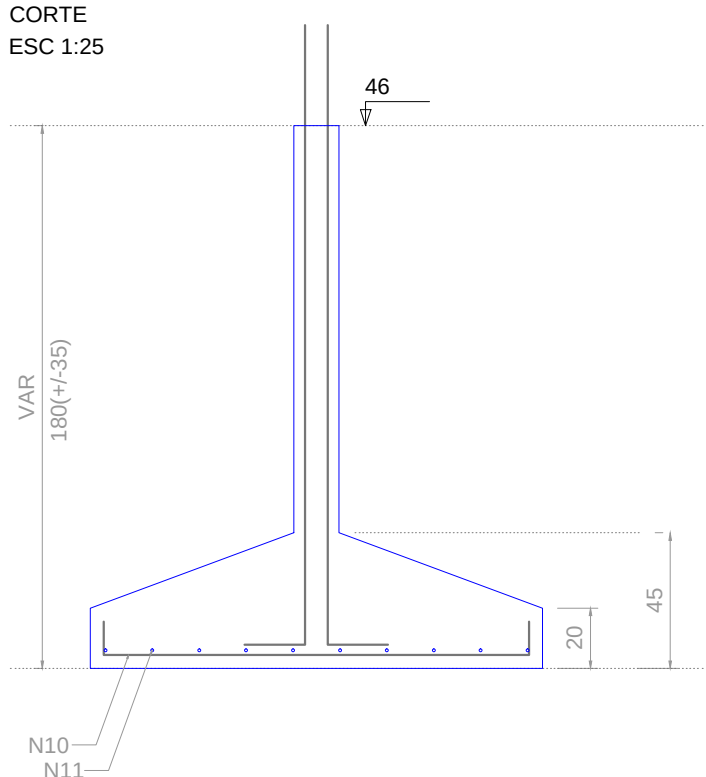
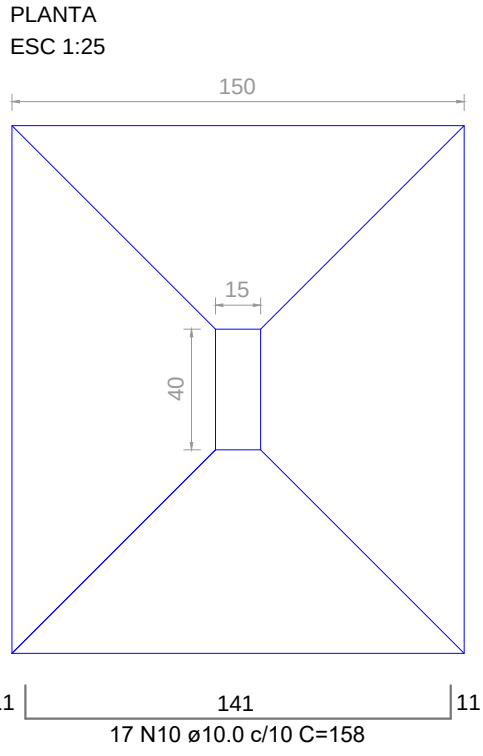
RELAÇÃO DO AÇO					
AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	570	24	13680
	2	5.0	564	97	54708
	9	5.0	22	24	528
CA50	4	5.0	28	140	3920
	6	10.0	8	108	864
	7	10.0	6	133	798
	8	10.0	190	173	32870
	9	10.0	110	198	21780
	10	10.0	221	158	34918
	11	10.0	130	183	23790
	12	10.0	88	143	12584
	13	10.0	72	168	12096
	14	10.0	23	203	6739
	15	10.0	44	188	8272
	16	10.0	40	153	6120
	17	10.0	160	188	30080
	18	10.0	144	213	30672
	19	12.5	4	VAR	VAR
	20	12.5	16	VAR	VAR

RESUMO DO AÇO

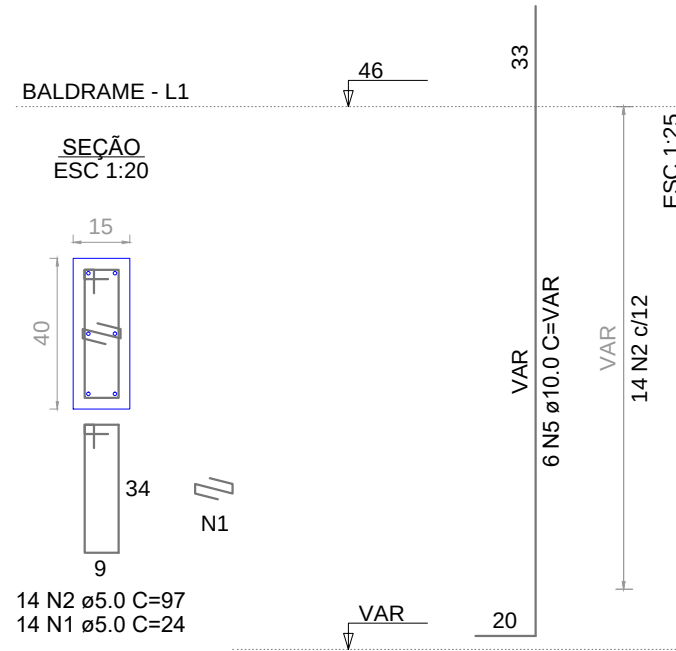
AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	10.0	2797	1866.9
CA60	5.0	45.2	47.9
PESO TOTAL (kg)			1944.7
CA50			1944.7
CA60			123.5

Volume de concreto (C-30) = 42.69 m³
Área de forma = 145.92 m²

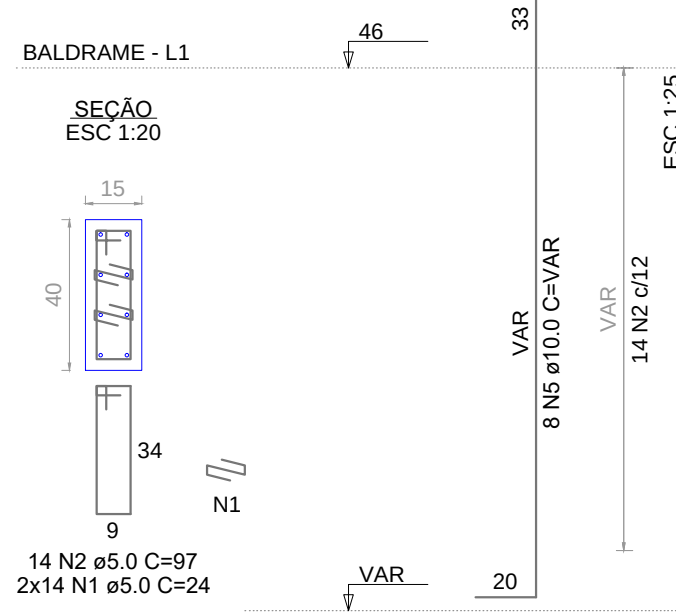
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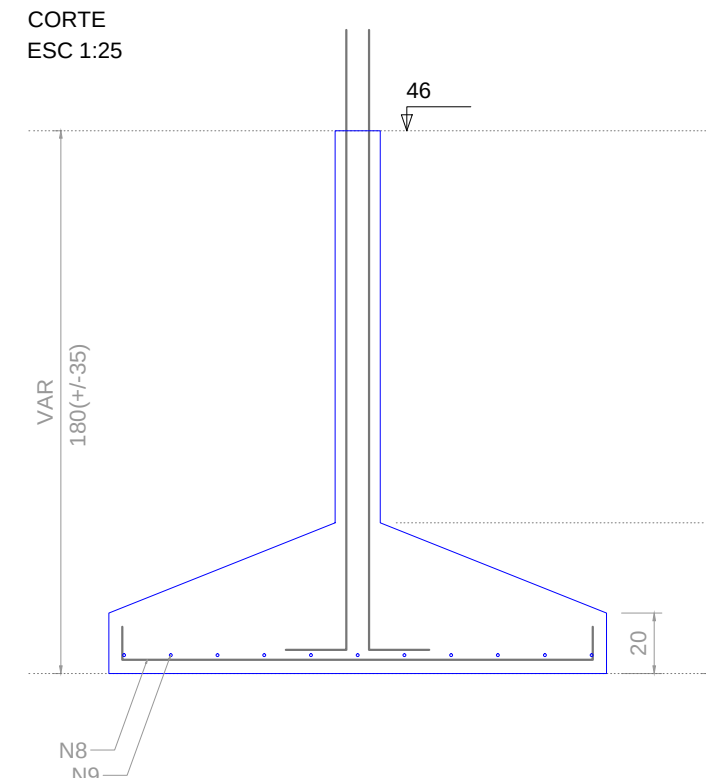
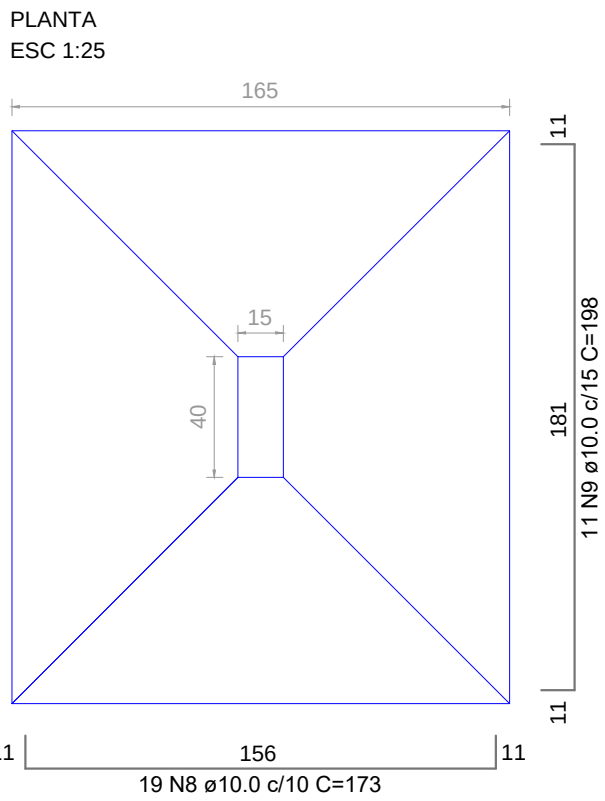
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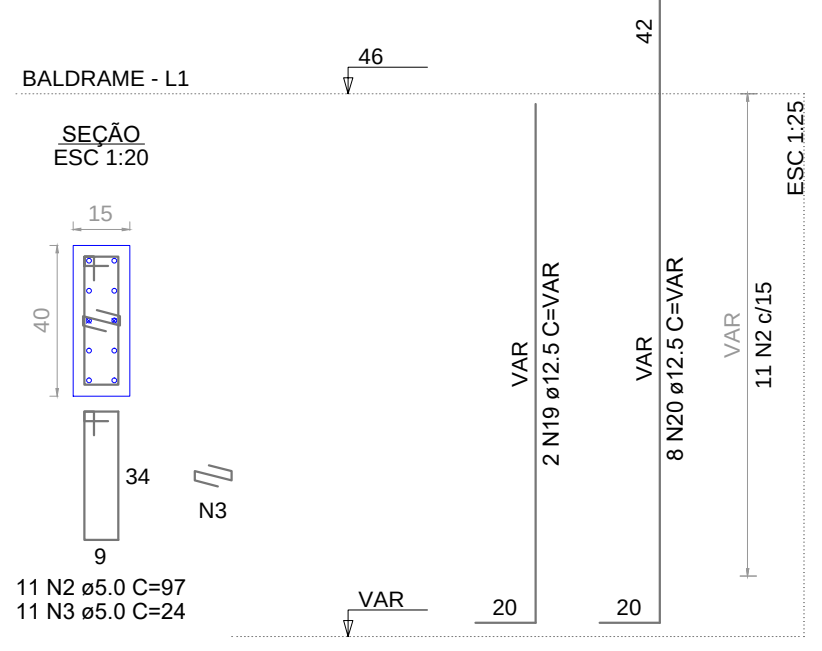
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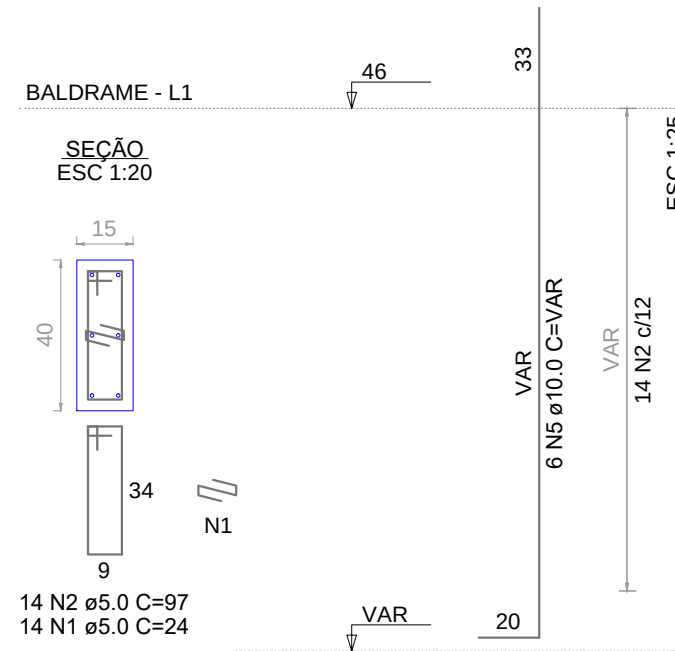
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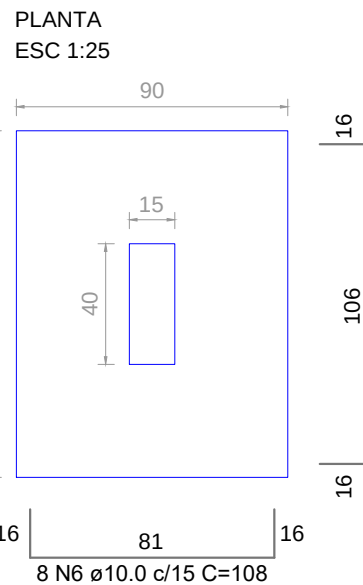
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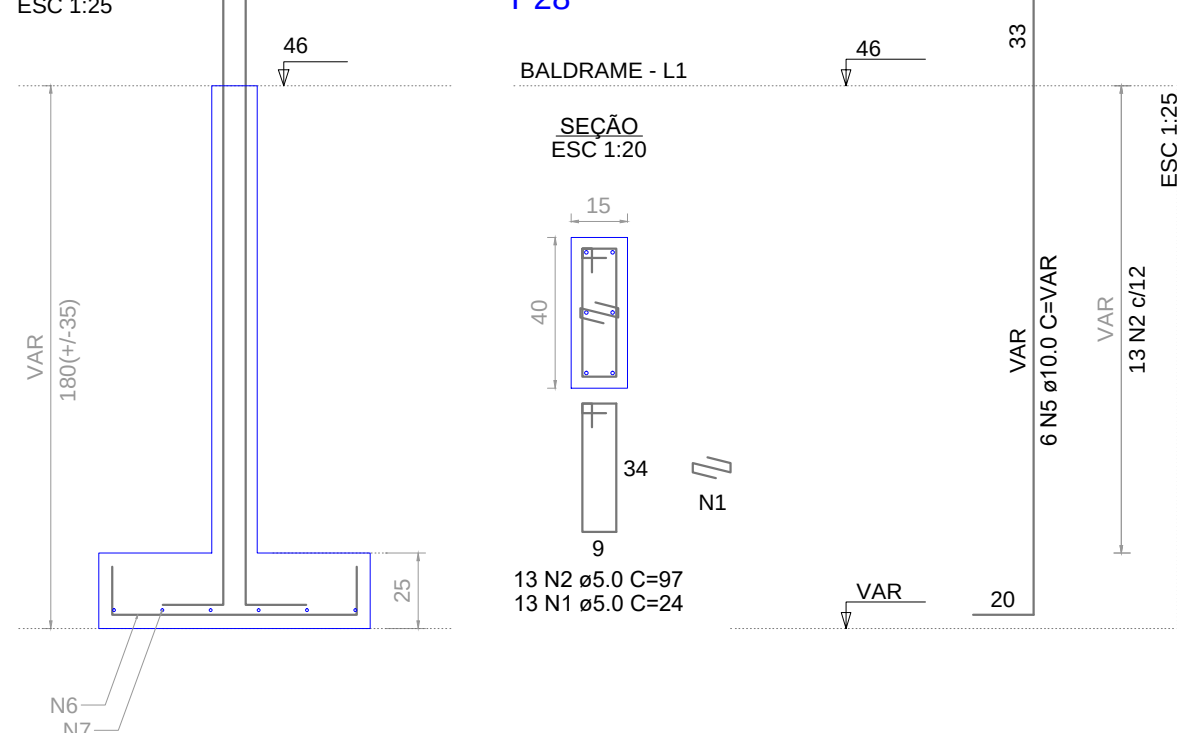
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=P45=P64=P65=P93



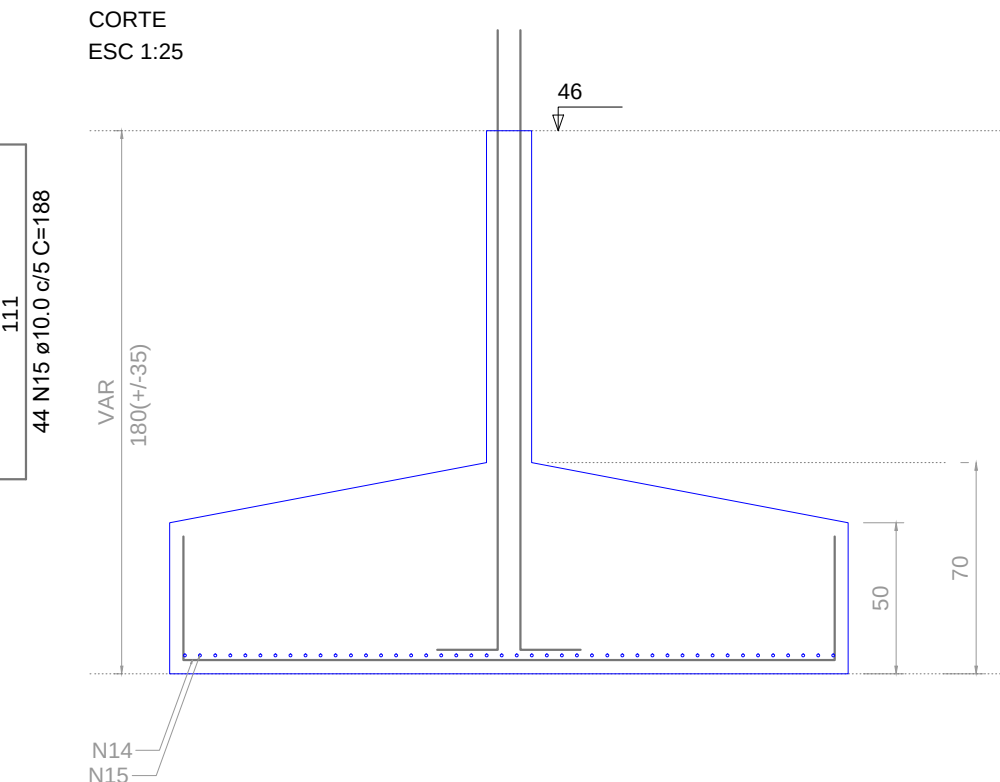
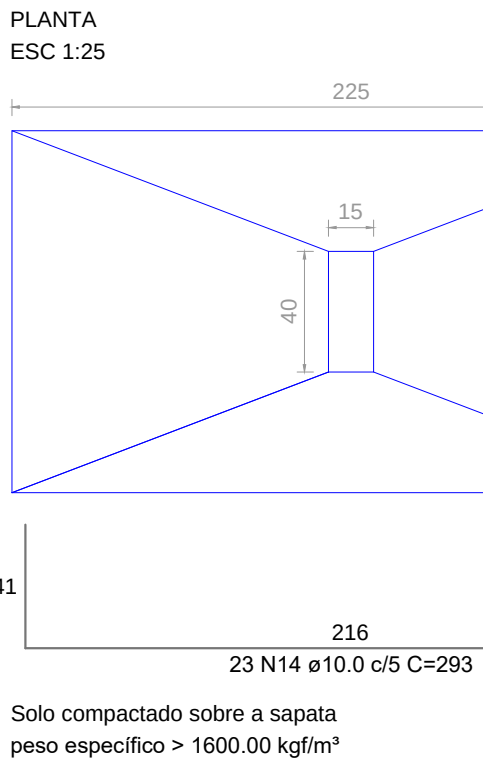
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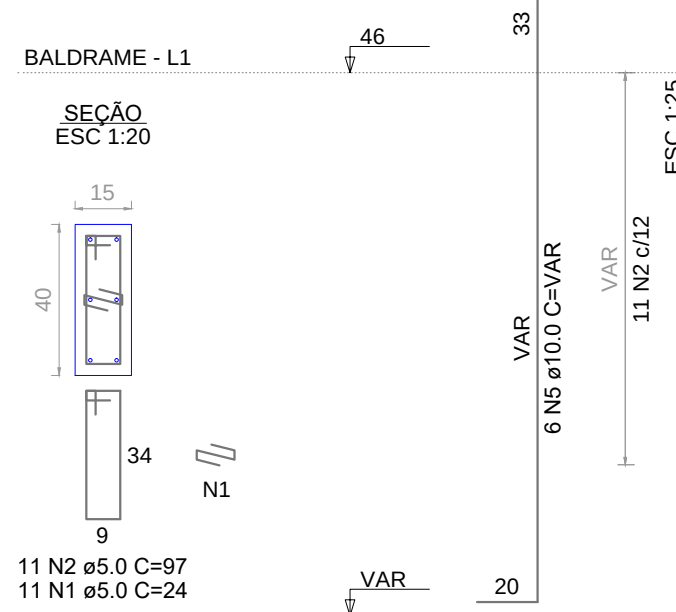
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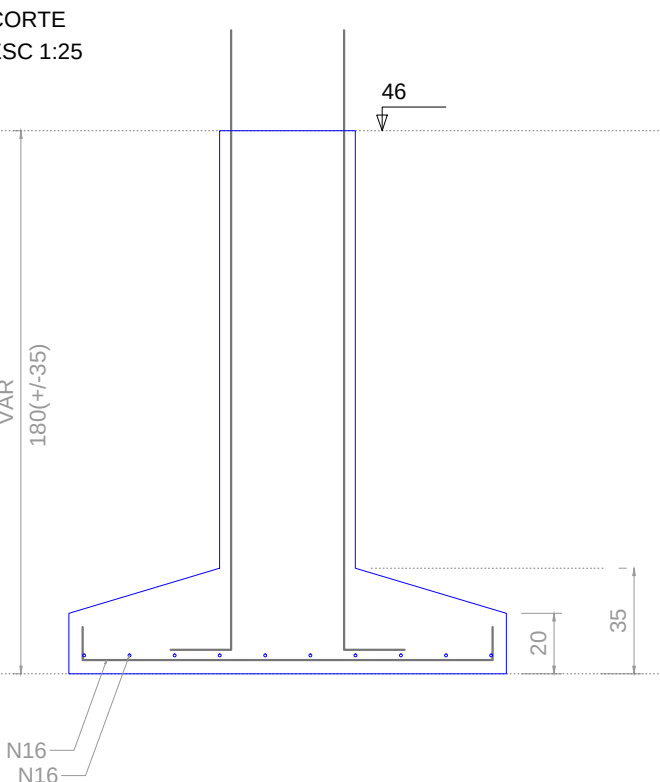
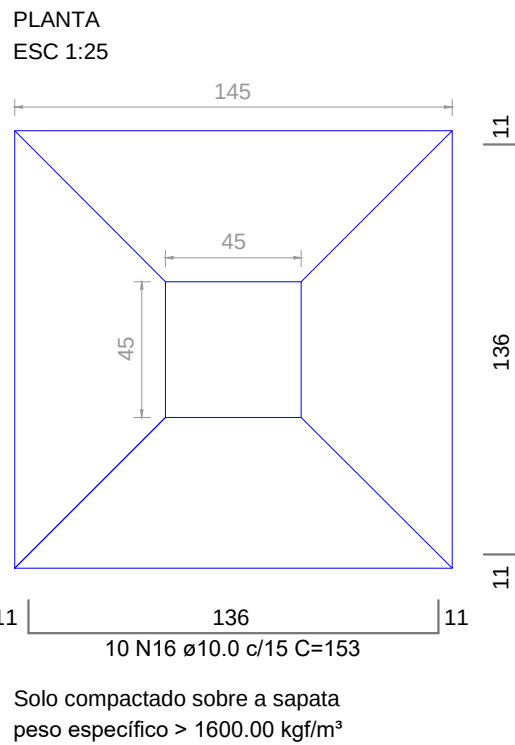
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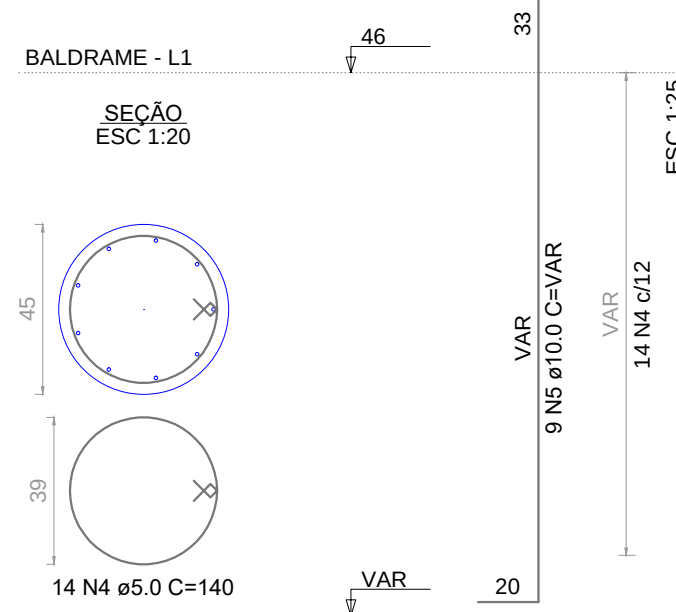
P39



S40=S54



P40=P54



CEI PROF. JOSÉ SANTOS NUNES

Localização:
Rua João Ribeiro, 31 No. Barro
Belo Horizonte - SC

CONTEÚDO:
DETALHAMENTO DAS SAPATAS

RESP. TÉCNICO:
GABRIELA BRESSAN PEDROSO
Engenheira Civil CREA-SC 142.195-1
SOFIA LIMA VIEIRA
Engenheira Civil CREA-SC 138.383-6

DATA:
JULHO / 2025

LIBRE
ENGENHARIA

Rua Florianoópolis, 388 - Sala 03
Vila Moema - Tubarão/SC
48 9 3922 9883 / 48 9 3922 5521

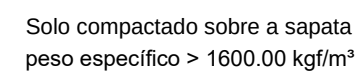
PROPRIETÁRIO:

Município de Tubarão
CNPJ 02.926.698/0001-33

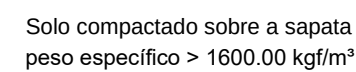
ÁREA TOTAL
CONSTRUÍDA:
755,97 m²

PRANCHAS:
02/26

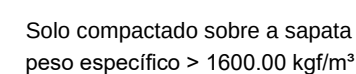
PLANTA
ESC 1:25



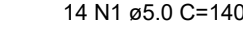
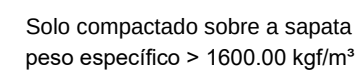
PLANTA
ESC 1:25



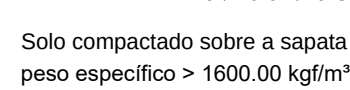
PLANTA
ESC 1:25



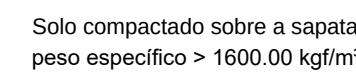
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ESC 1:25



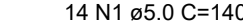
PLANTA
ESC 1:25



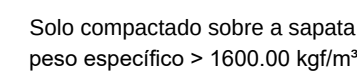
PLANTA
ESC 1:2



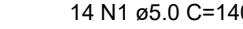
BALDR



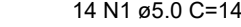
PLANTA
ESC 1:25



BALDR



BALDF



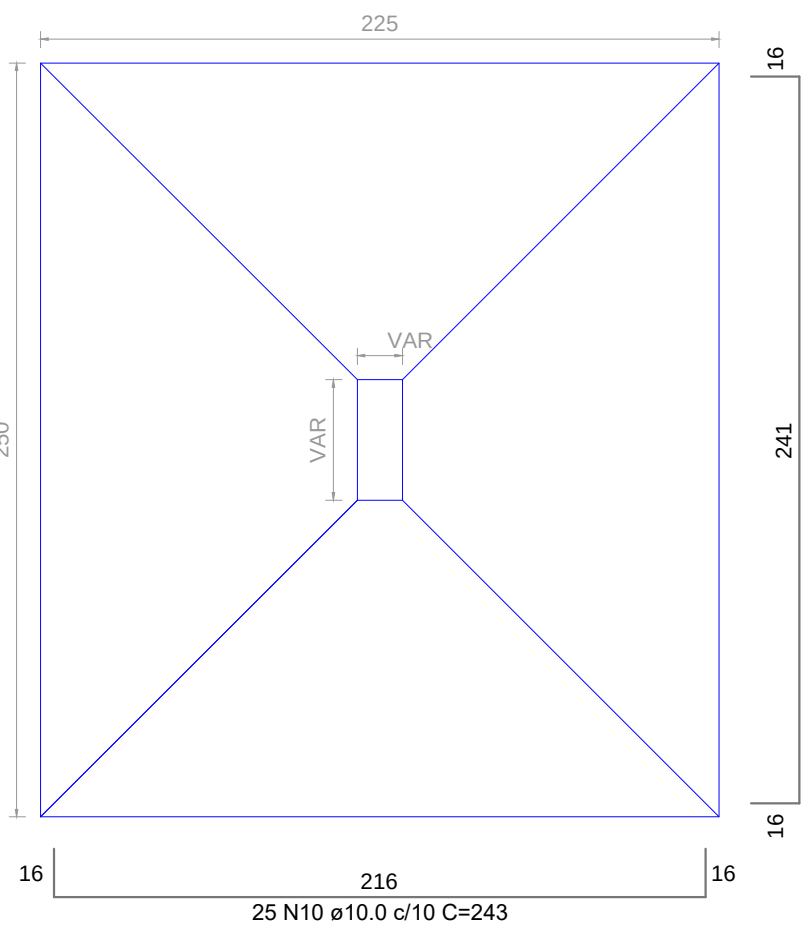
RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	10.0	1037.5	703.7
CA60	5.0	307.4	52.1
PESO TOTAL (kg)			
CA50	703.7		
CA60	52.1		

Volume de concreto (C-30) = 17.23 m³
Área de forma = 56.05 m²

S74=S79=S85

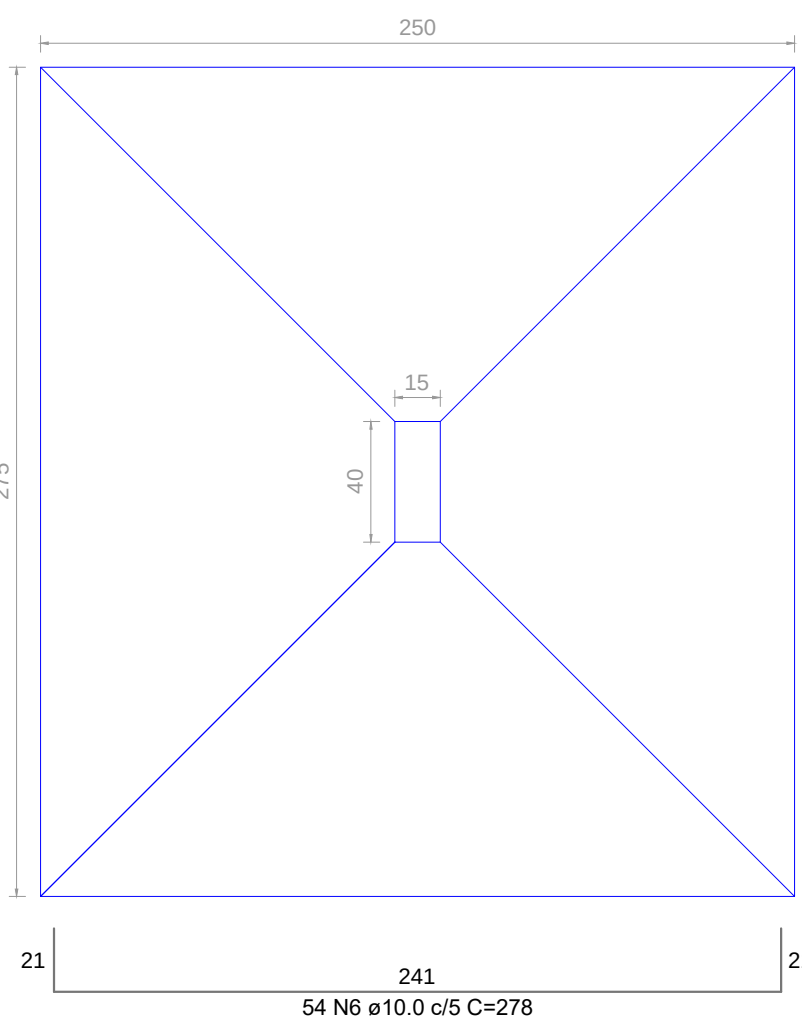
PLANTA
ESC 1:25



Solo compactado sobre a sapata
peso específico > 1600.00 kgf/m³

S76

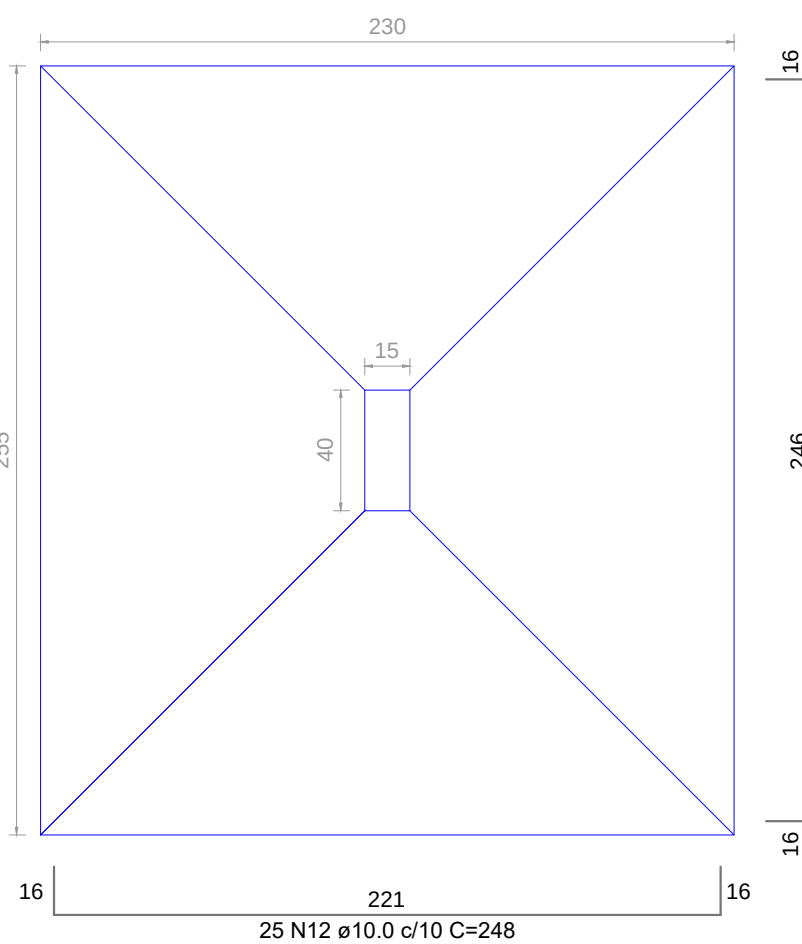
PLANTA
ESC 1:25



Solo compactado sobre a sapata
peso específico > 1600.00 kgf/m³

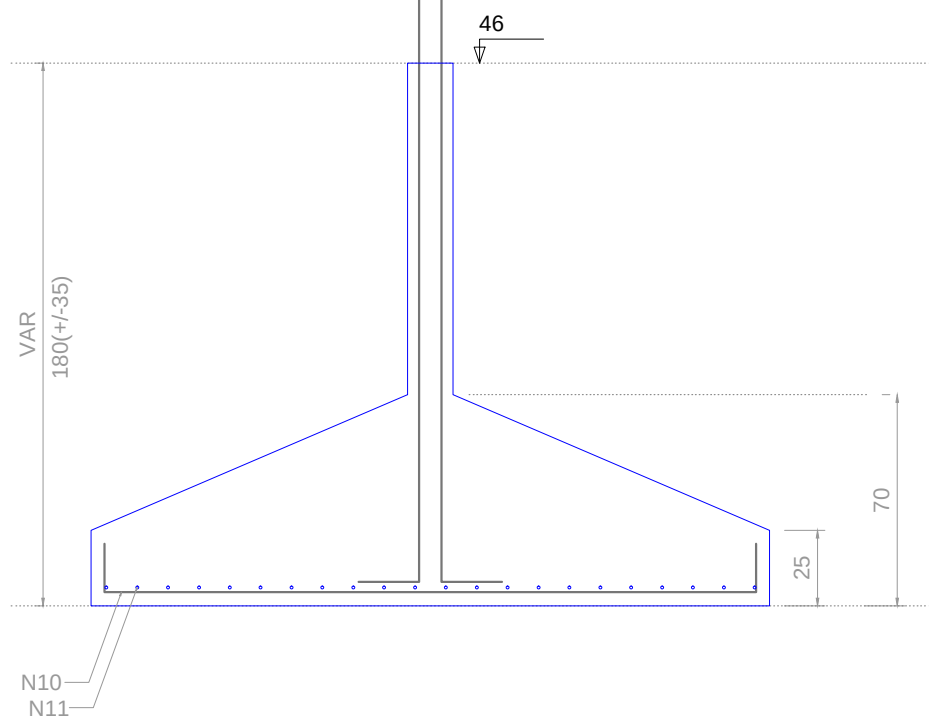
S88

PLANTA
ESC 1:25

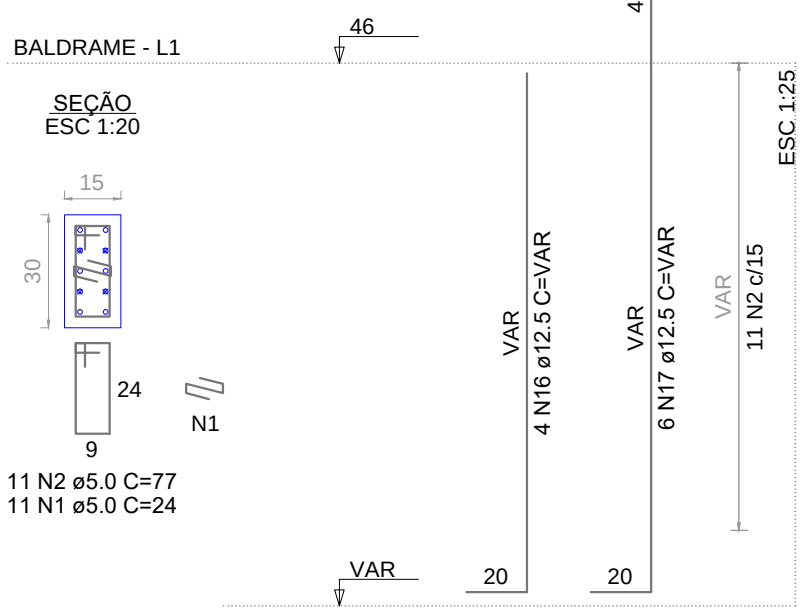


Solo compactado sobre a sapata
peso específico > 1600.00 kgf/m³

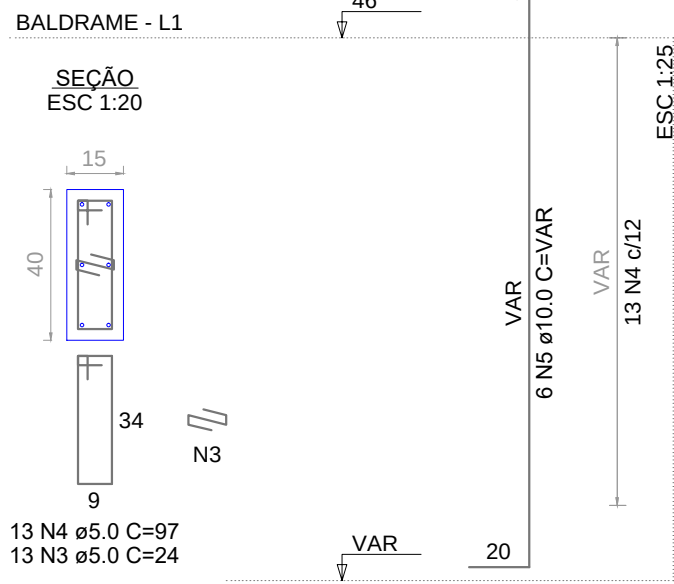
CORTE
ESC 1:25



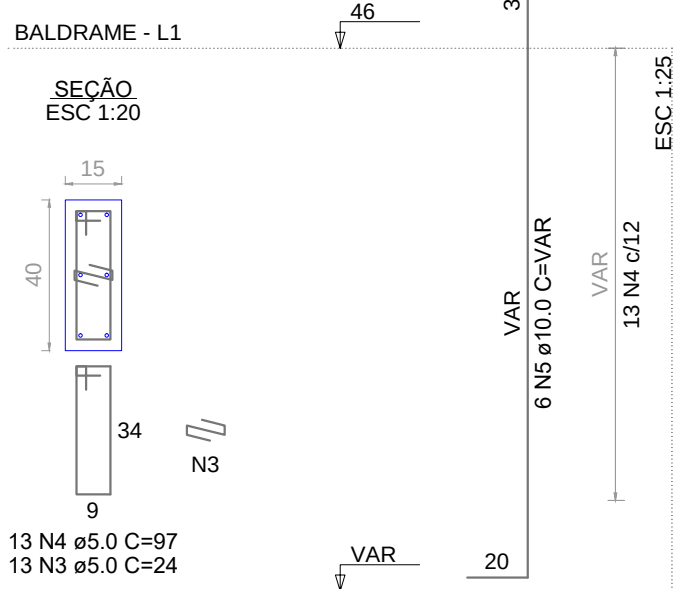
P74



P79=P85

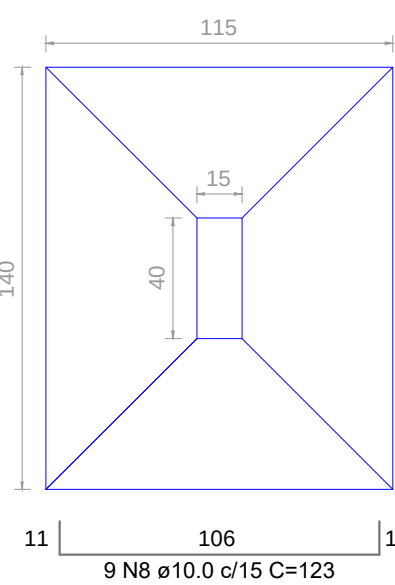


P76



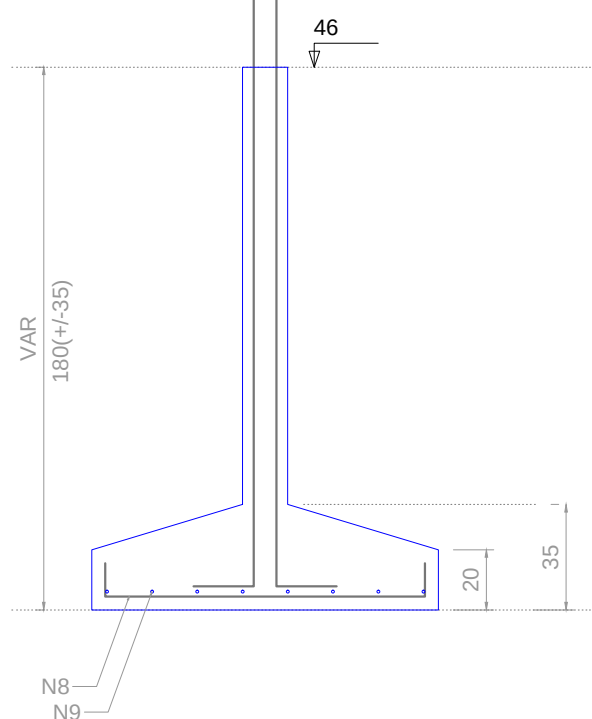
S81

PLANTA
ESC 1:25

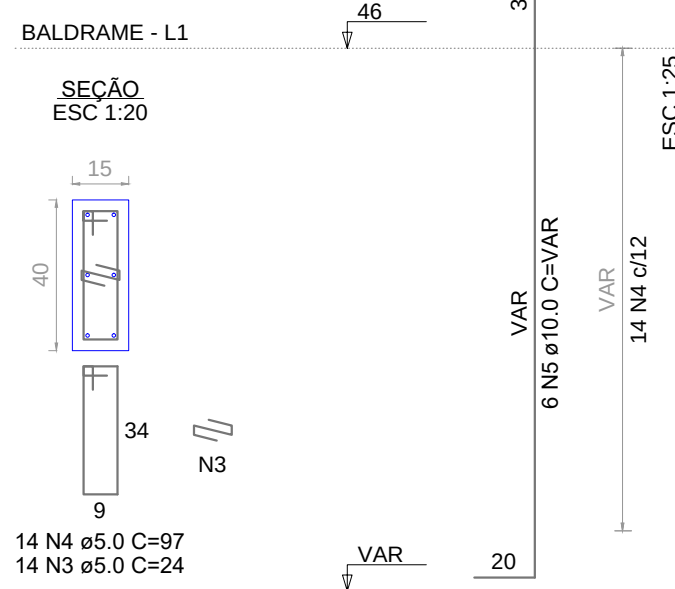


Solo compactado sobre a sapata
peso específico > 1600.00 kgf/m³

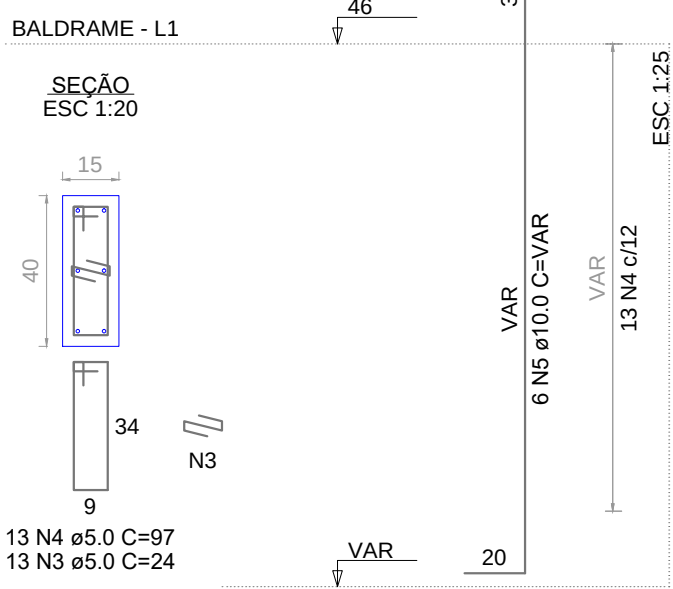
CORTE
ESC 1:25



P81

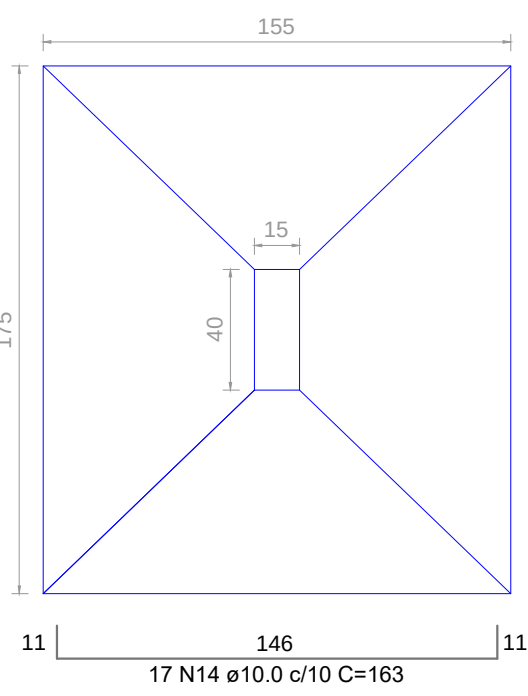


P88



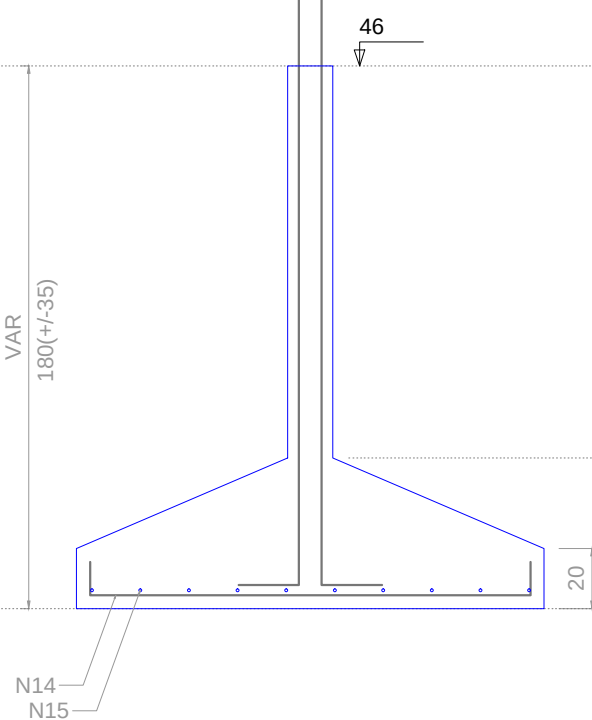
S97

PLANTA
ESC 1:25

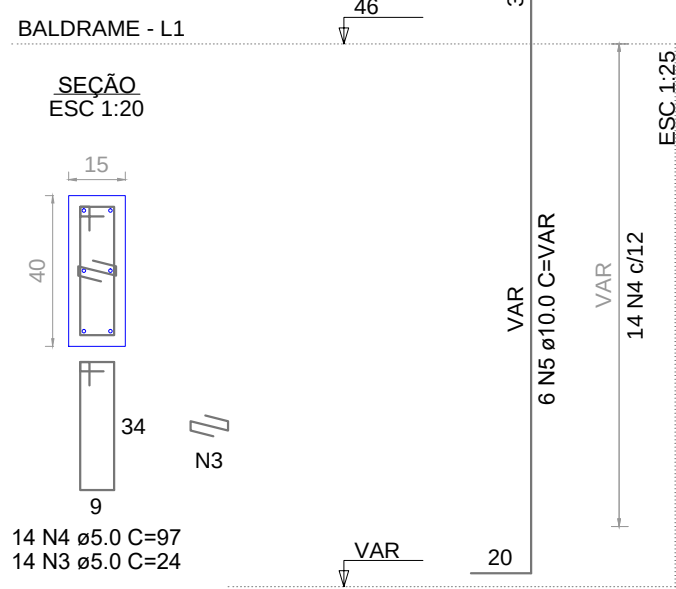


Solo compactado sobre a sapata
peso específico > 1600.00 kgf/m³

CORTE
ESC 1:25



P97



RELAÇÃO DO AÇO

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	11	24	264
	2	5.0	11	77	847
	3	5.0	80	24	1920
	4	5.0	80	97	7760
	5	10.0	36	VAR	VAR
	6	10.0	54	278	15012
	7	10.0	49	303	14847
	8	10.0	9	123	1107
	9	10.0	8	148	1184
	10	10.0	75	243	18225
	11	10.0	66	268	17688
	12	10.0	25	248	6200
	13	10.0	23	273	6279
	14	10.0	17	163	2771
	15	10.0	10	193	1930
	16	12.5	4	VAR	VAR
	17	12.5	6	VAR	VAR

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	10.0	933.1	632.9
CA60	12.5	21.7	23
	5.0	107.9	18.3

PESO TOTAL (kg)

CA50 655.8

CA60 18.3

Volume de concreto (C-30) = 14.93 m³

Área de forma = 28.54 m²

CEI PROF. JOSÉ SANTOS NUNES

Localização:
Rua João Ribeiro, 51 No. Bairro
Bela Luz,
Tubarão - SC

CONTEÚDO:
DETALHAMENTO DAS SAPATAS

RESP. TÉCNICO:
GABRIELA BRESSAN PEDROSO
Engenheiro Civil CREA-SC 142.195-1
SOFIA LIMA VIEIRA
Engenheiro Civil CREA-SC 138.383-6

DATA:
JULHO / 2025

ESCALA:
Indicada

ÁREA TOTAL
CONSTRUIDA:
755.97 m²

PRANCHA:
04/26

LB

LIBRE

ENGENHARIA

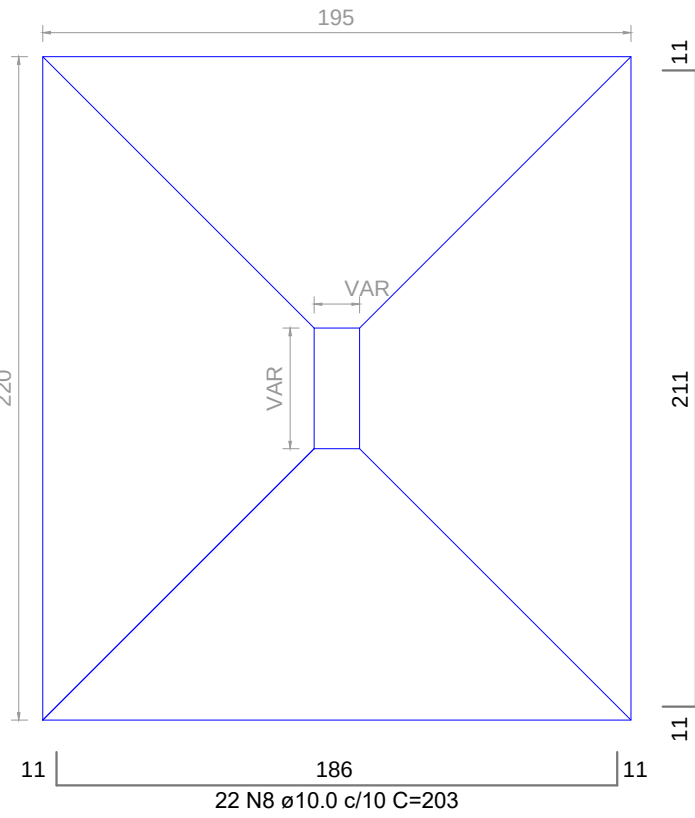
Rua Florianoópolis, 388 - Sala 03
Vila Moema - Tubarão/SC
48 9.9929.9883 / 48 9.9818.5531

PROPRIETÁRIO:

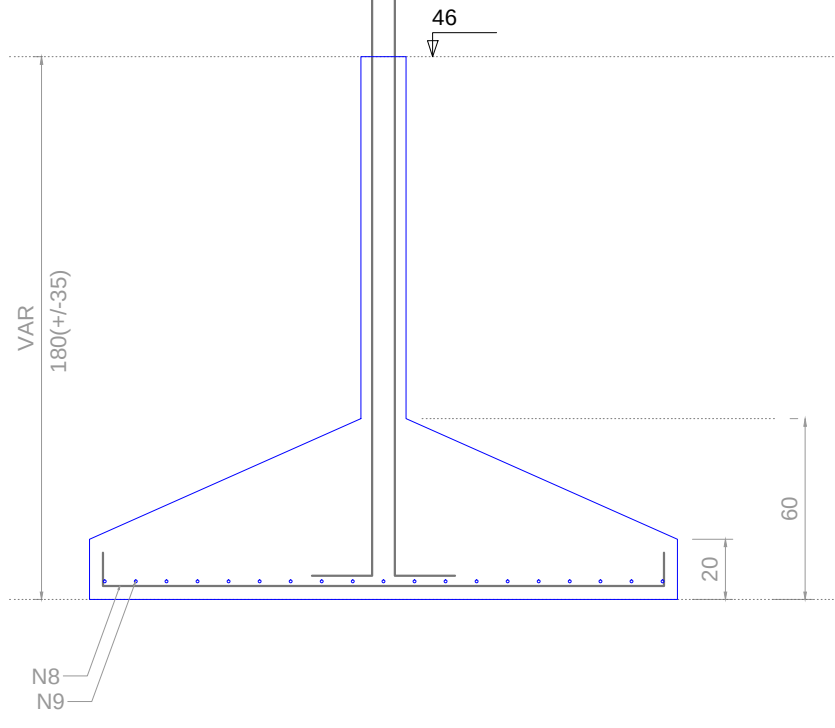
Município de Tubarão
CNPJ 02.926.698/0001-33

S2=S8=S13=S20=S22=S36=S37=S46=S75=S84
=S96

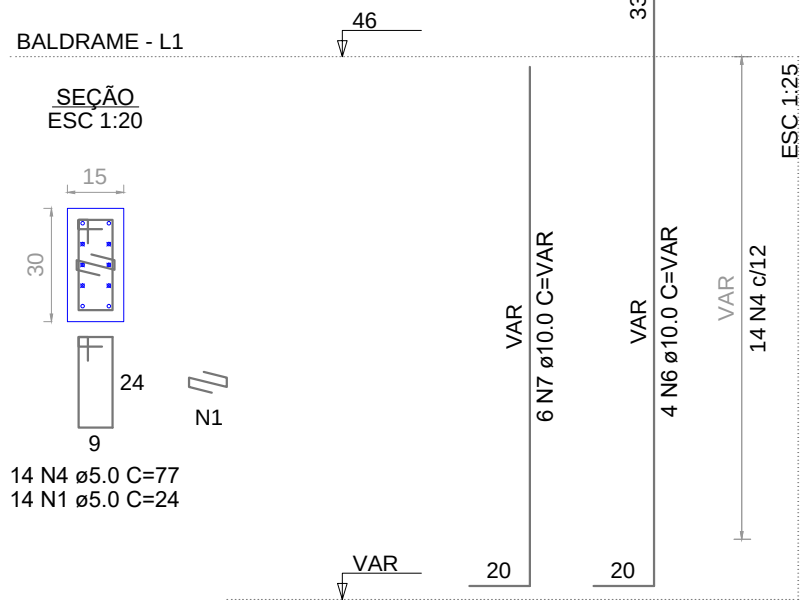
PLANTA
ESC 1:25



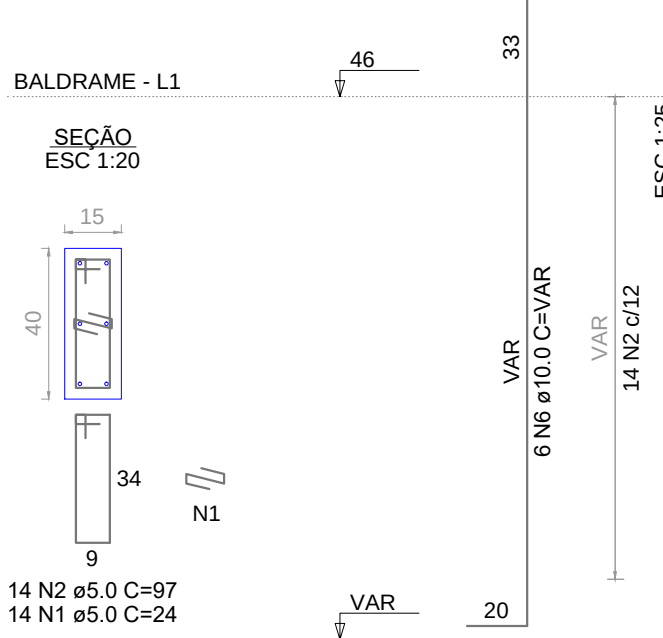
CORTE
ESC 1:25



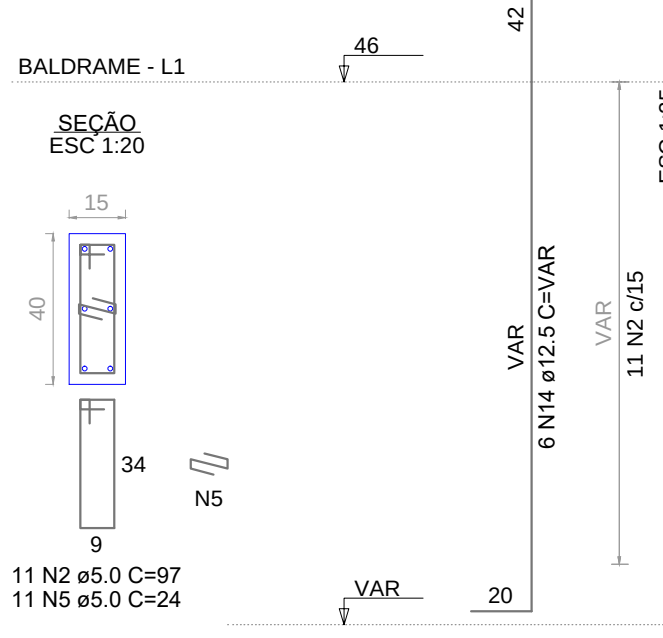
P13



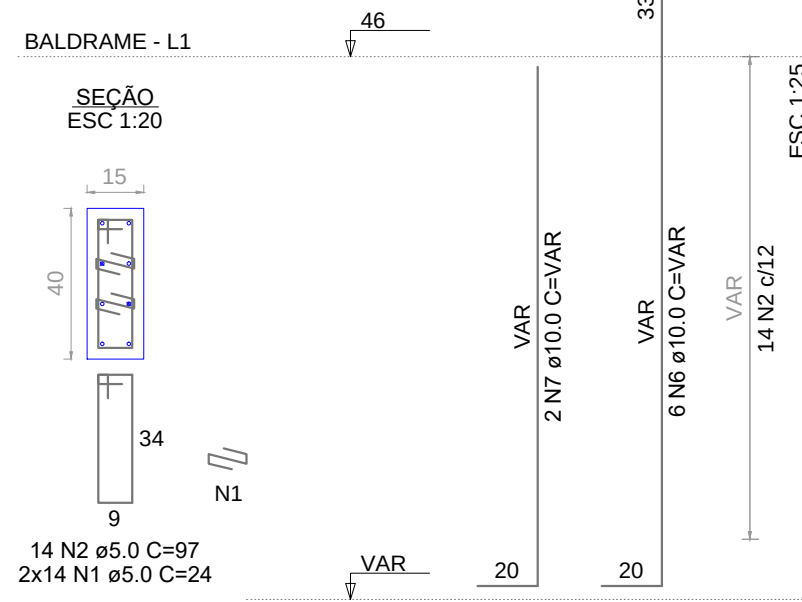
P2=P8=P20=P37=P96



P22



P36



RELAÇÃO DO AÇO

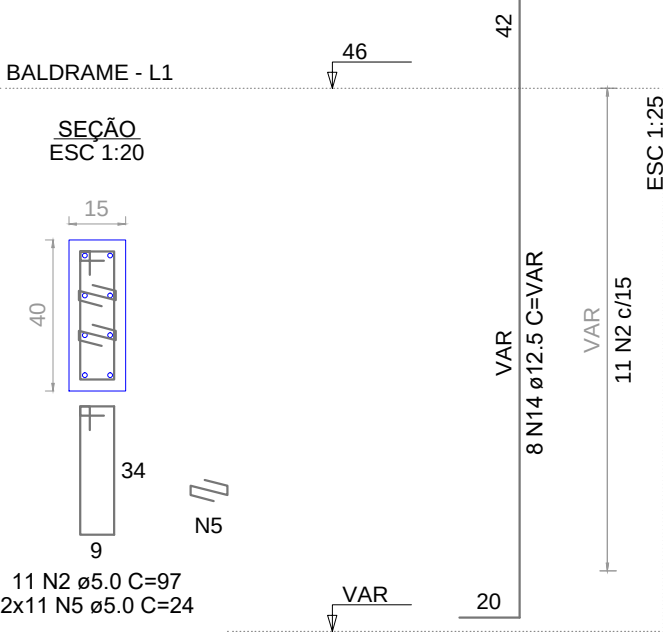
AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	346	24	8304
	2	5.0	367	97	35599
	3	5.0	66	24	1584
	4	5.0	54	77	4158
	5	5.0	66	24	1584
CA50	6	10.0	148	VAR	VAR
	7	10.0	34	VAR	VAR
	8	10.0	242	203	49126
	9	10.0	209	228	47652
	10	10.0	345	228	78680
	11	10.0	315	253	79695
	12	10.0	154	218	33572
	13	10.0	140	243	34020
	14	12.5	38	VAR	VAR
	15	12.5	2	VAR	VAR
	16	16.0	2	VAR	VAR
	17	16.0	2	VAR	VAR

RESUMO DO AÇO

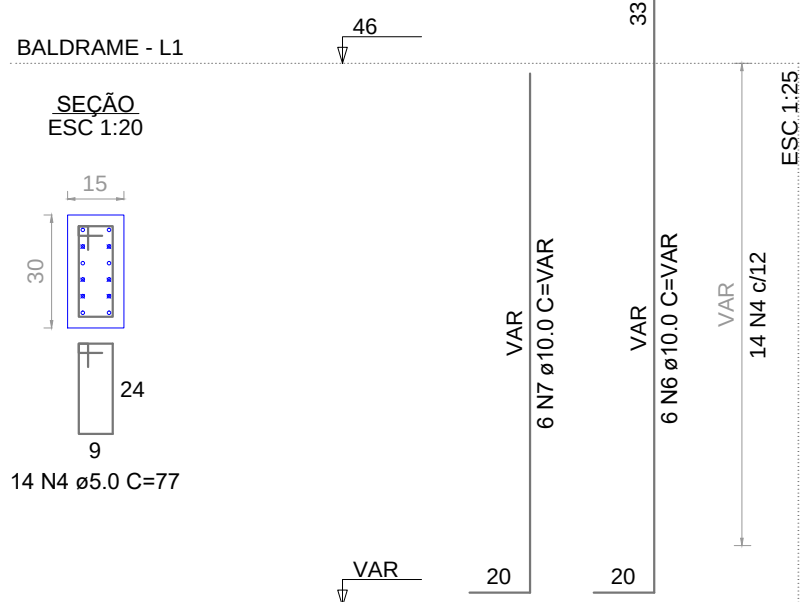
AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	10.0	3627.8	2460.3
	12.5	93.1	98.6
	16.0	56.5	98.1
	5.0	512.3	86.9
PESO TOTAL (kg)			
CA50		2657.1	
CA60		86.9	

Volume de concreto (C-30) = 62.22 m³
Área de forma = 130.41 m²

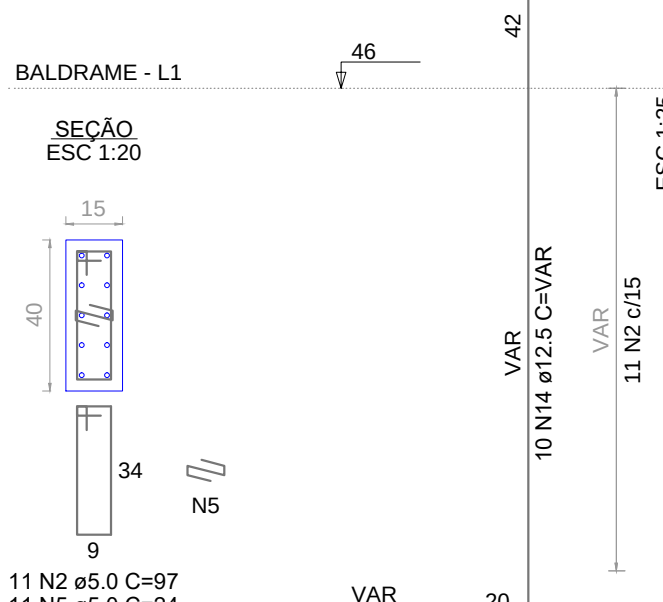
P46



P75

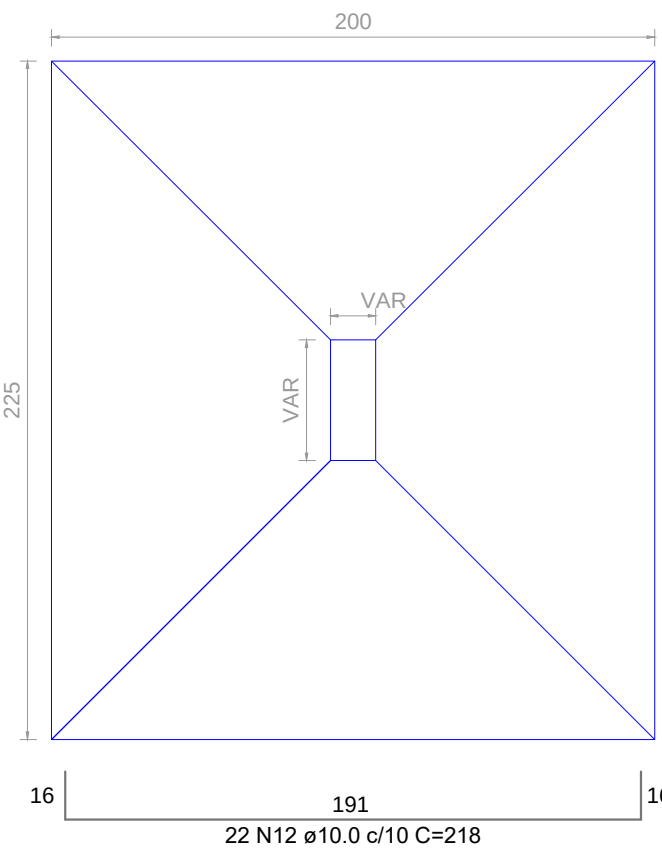


P84

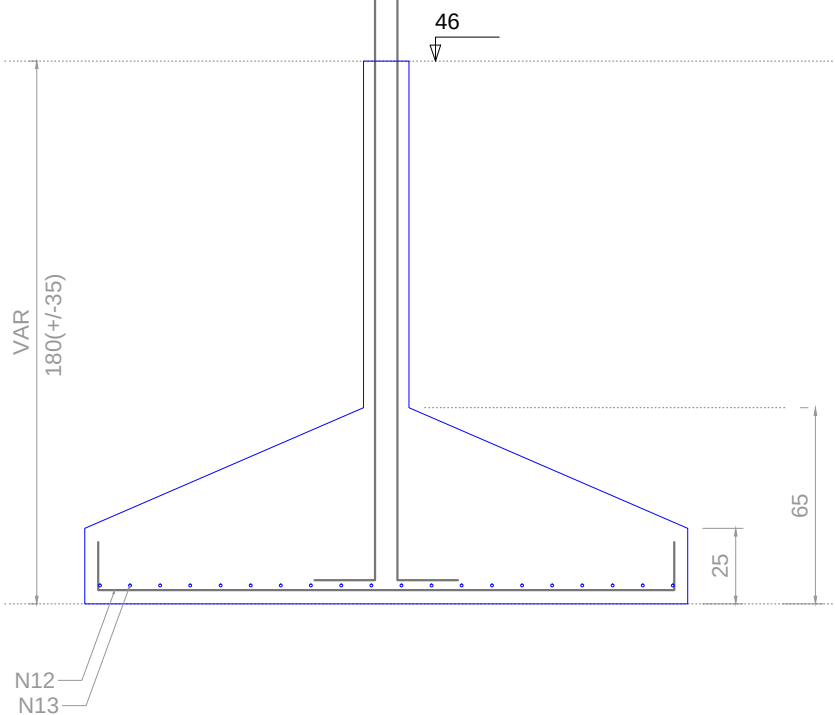


S14=S16=S23=S25=S26=S80=S83

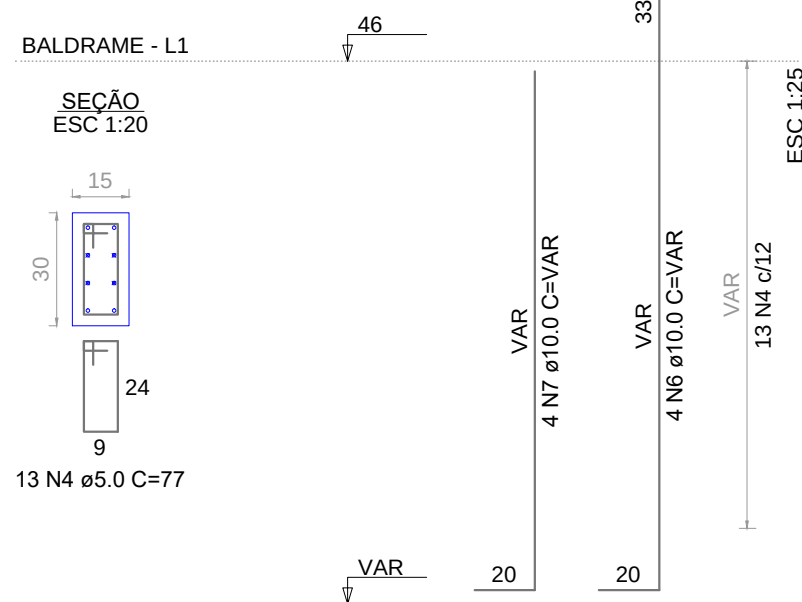
PLANTA
ESC 1:25



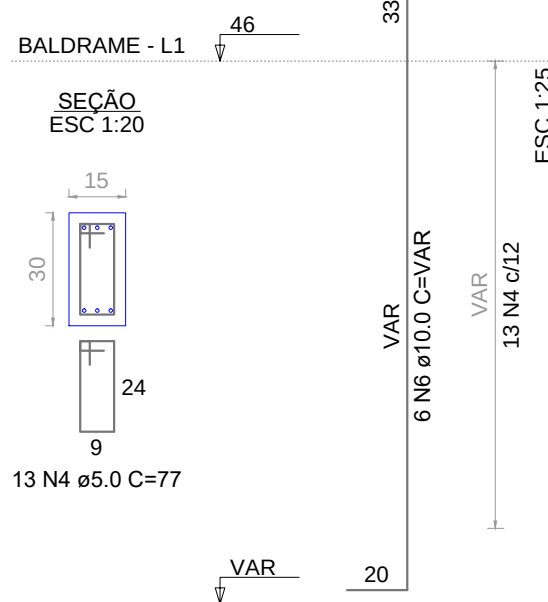
CORTE
ESC 1:25



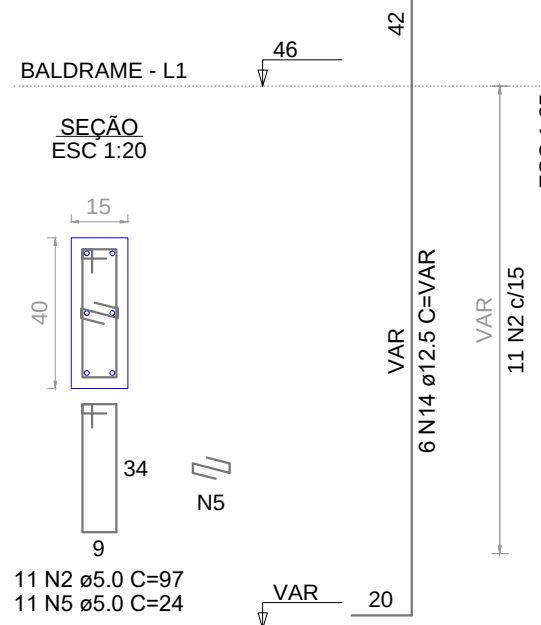
P14



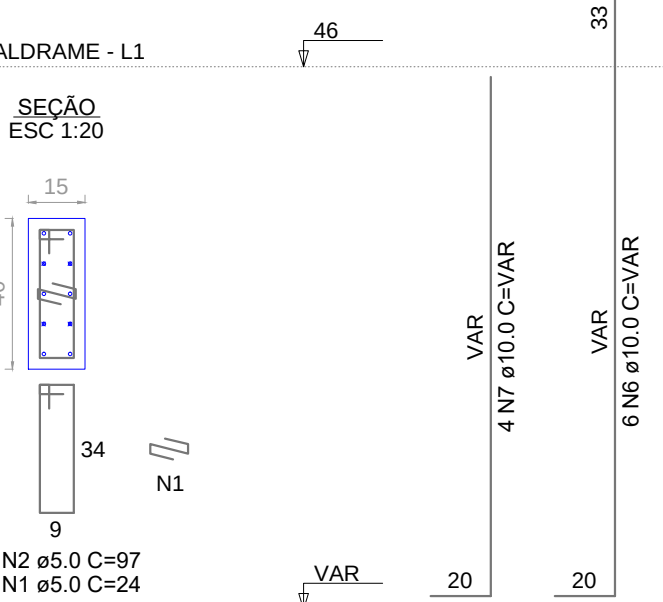
P16



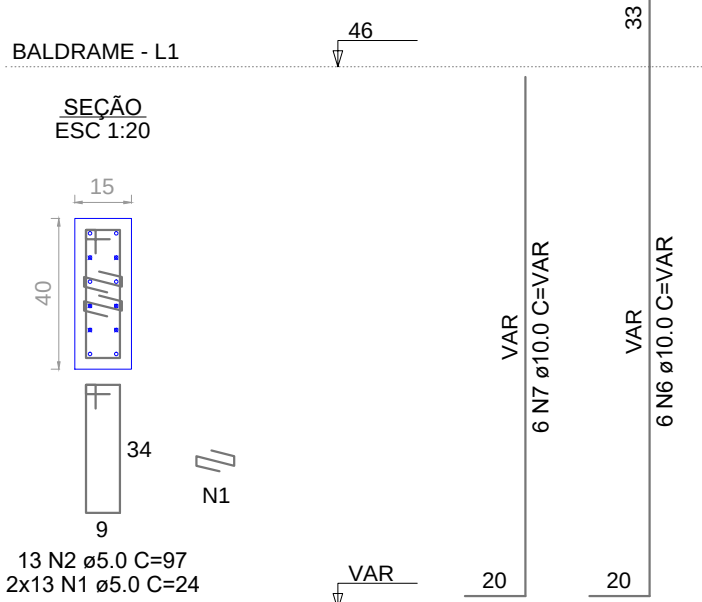
P23



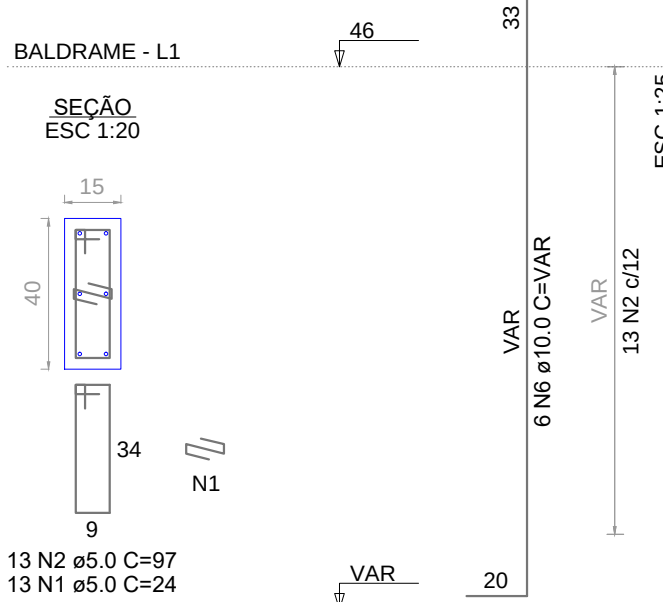
P25



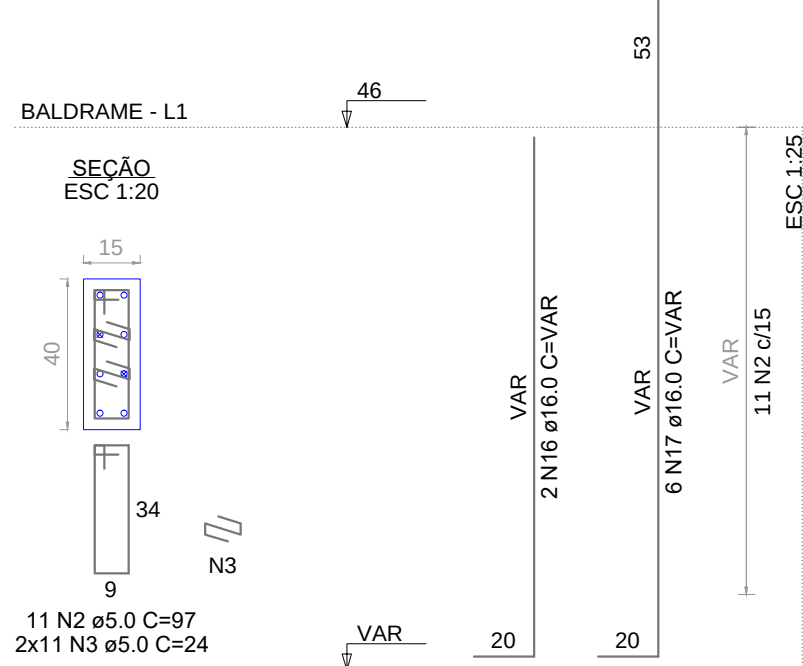
P26



P80

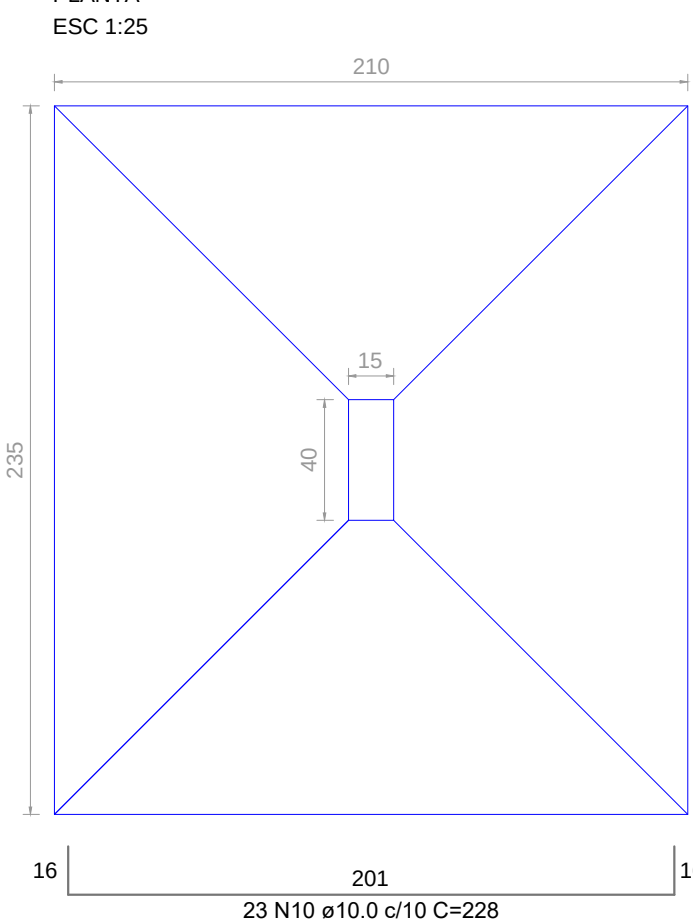


P83



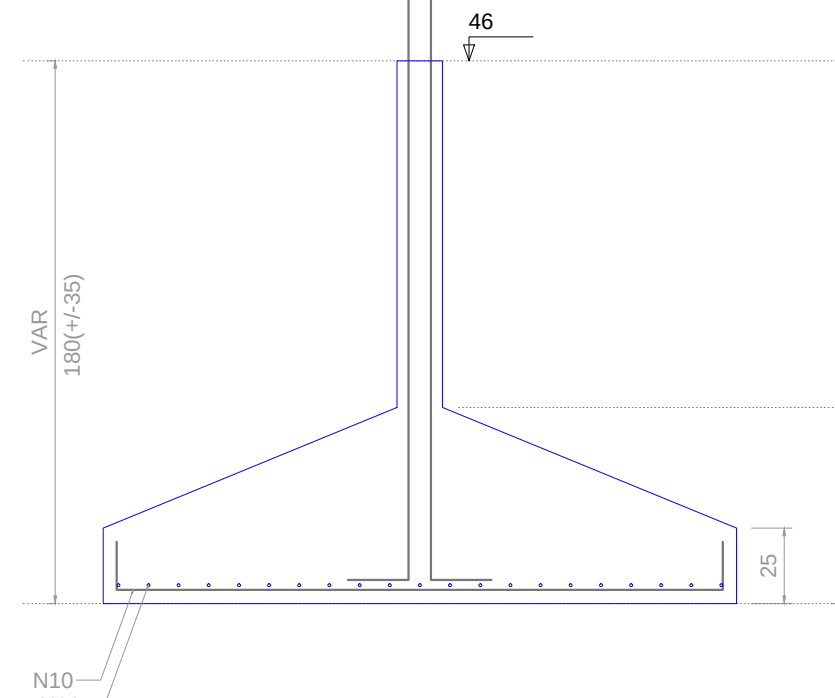
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=S78=S82=S86=S94=S95

PLANTA
ESC 1:25

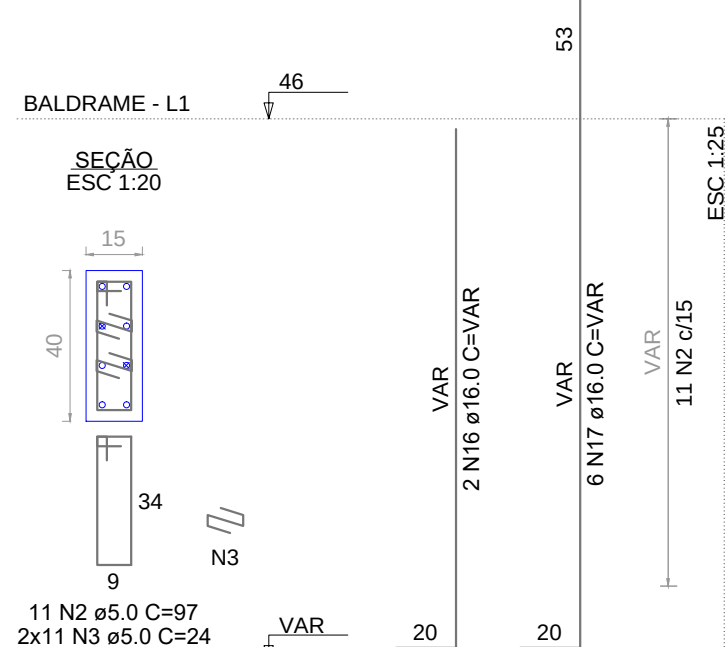


Solo compactado sobre a sapata
peso específico > 1600.00 kgf/m³

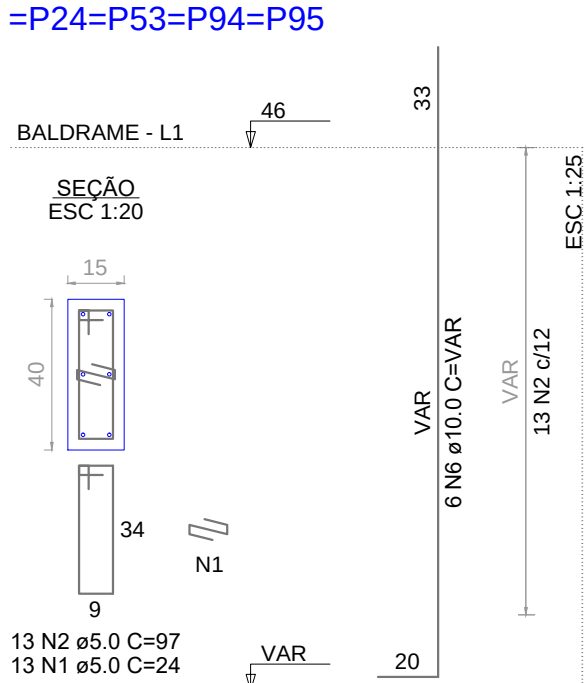
CORTE
ESC 1:25



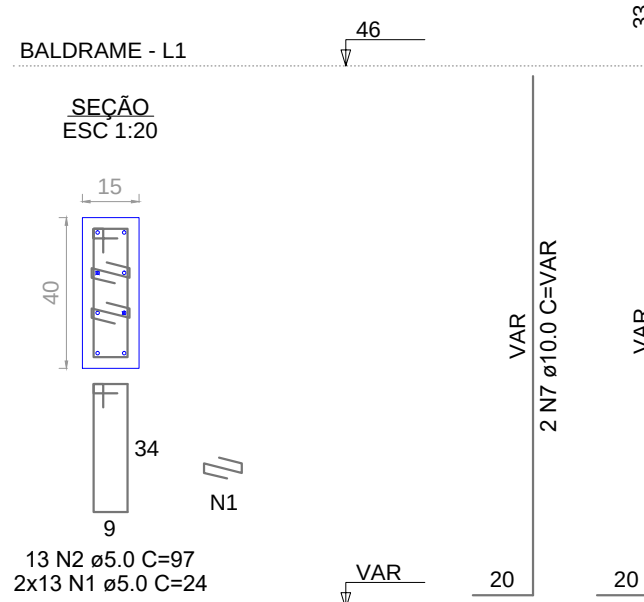
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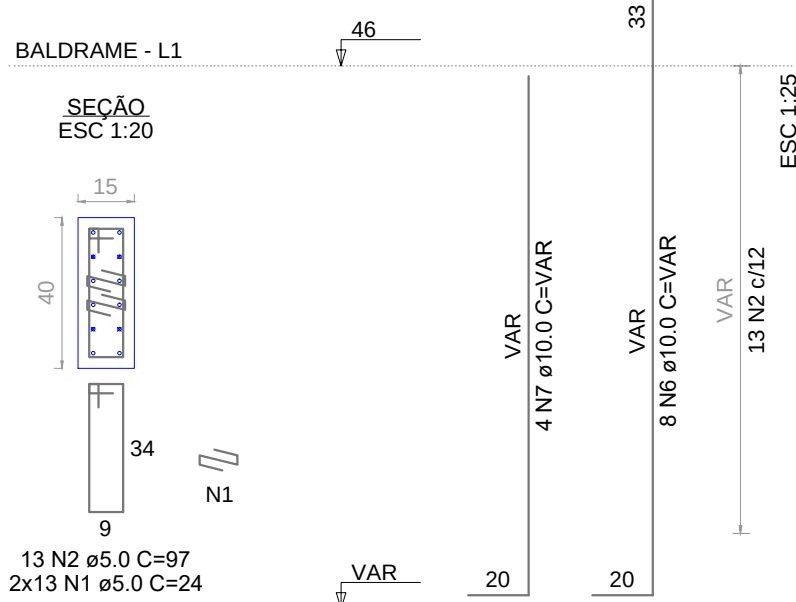
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=P24=P53=P94=P95



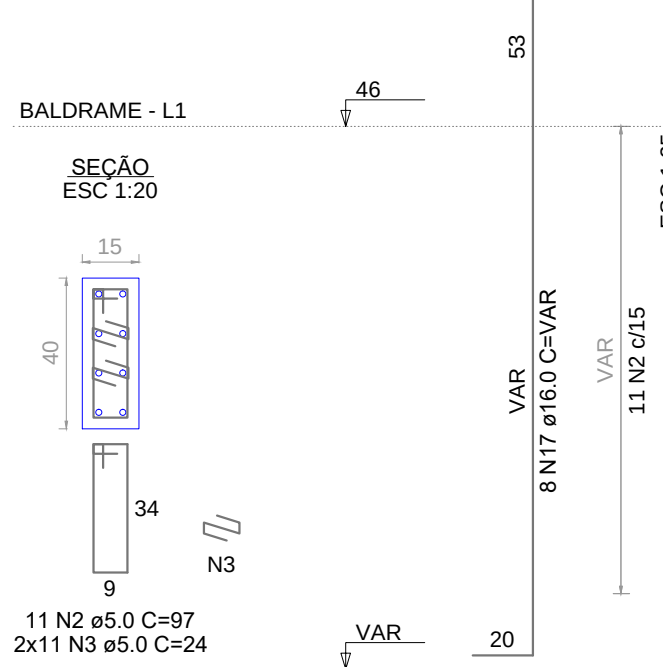
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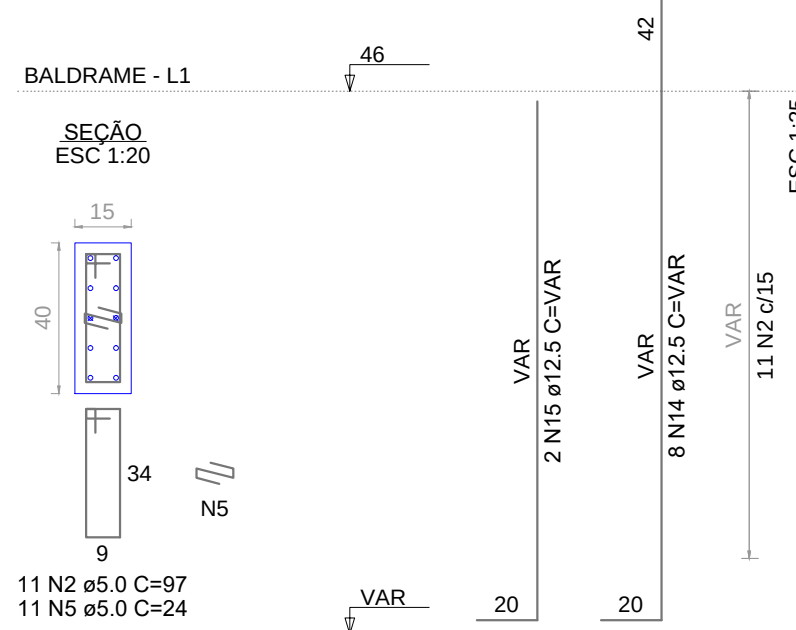
P78



P82



P86



CEI PROF. JOSÉ SANTOS NUNES

Localização:
Rua João Ribeiro, 81 No. Bairro
São Luiz,
Tubarão - SC

CONTEÚDO:
DETALHAMENTO DAS
SAPATAS

LB
ENGENHARIA

Rua Florianoópolis, 388 - Sala 03
Vila Moema - Tubarão/SC
48 9 3929 3983 / 48 9 3933 5531

PROPRIETÁRIO:

Município de Tubarão
CNPJ 02.926.696/0001-33

RESP. TÉCNICO:
GABRIELA BRESSAN PEDROSO
Engenheiro Civil CREA-SC 142.195-1
SOFIA LIMA VIEIRA
Engenheiro Civil CREA-SC 138.383-6

DATA:
JULHO / 2025

ESCALA:
Indicada

ÁREA TOTAL
CONSTRUIDA:
755,97 m²

PRANCHA:
05/26



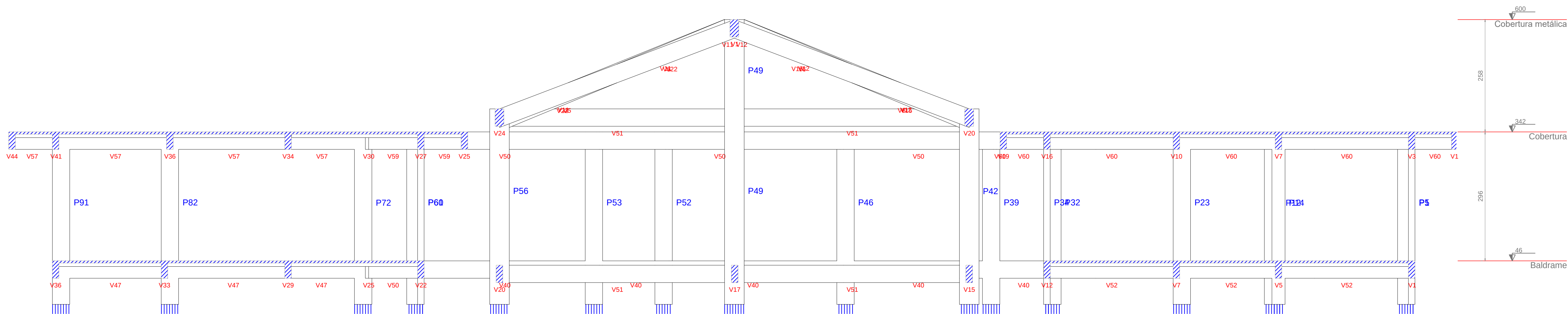
Características dos materiais	
fck (kgf/cm ²)	Abatimento (cm)
300	5.00

Dimensão máxima do agregado = 19 mm

Blocos de enchimento						
Detalhe	Tipo	Nome	Dimensões(cm)			Quantidade
			hb	bx	by	
1	Lajota cerâmica	B8/25/20	8	25	20	6751

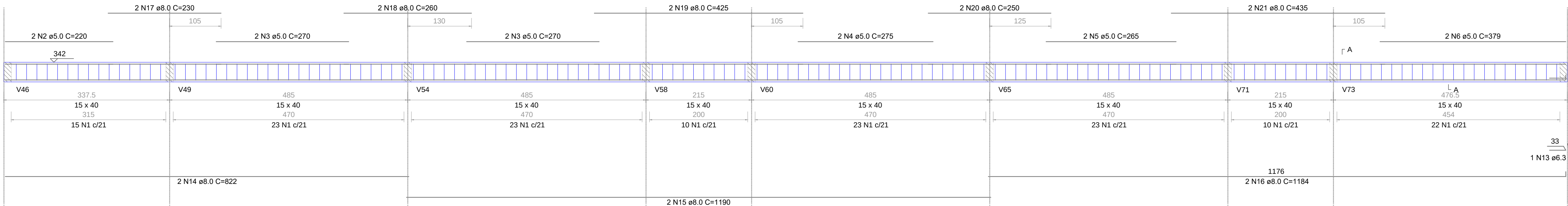
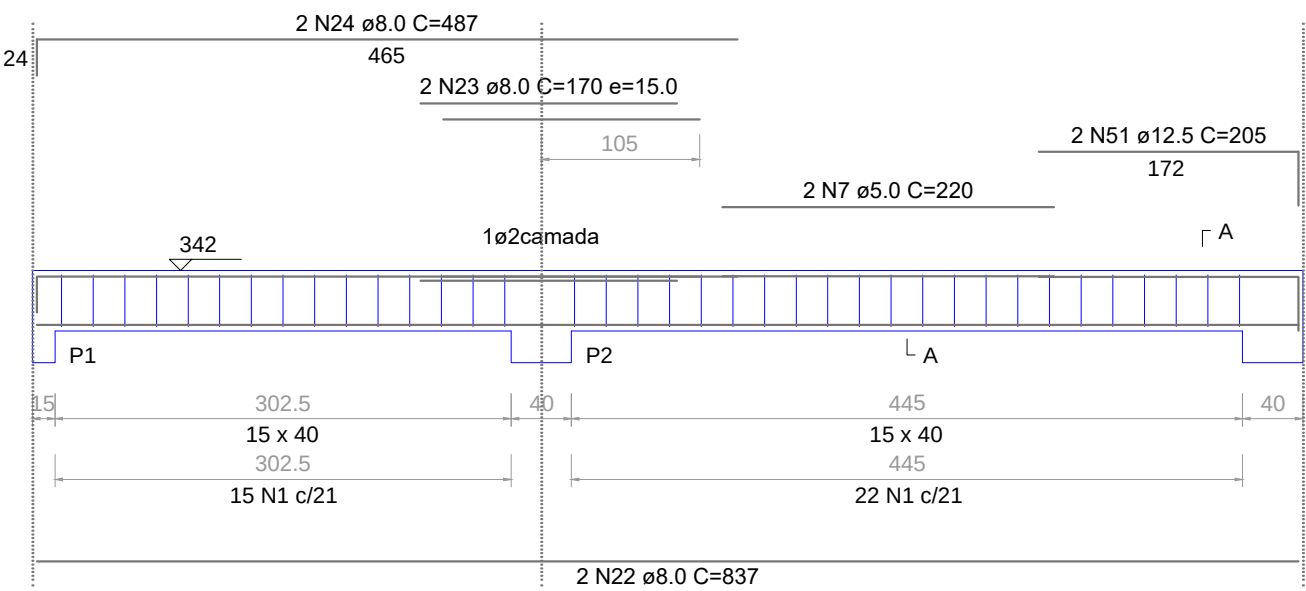
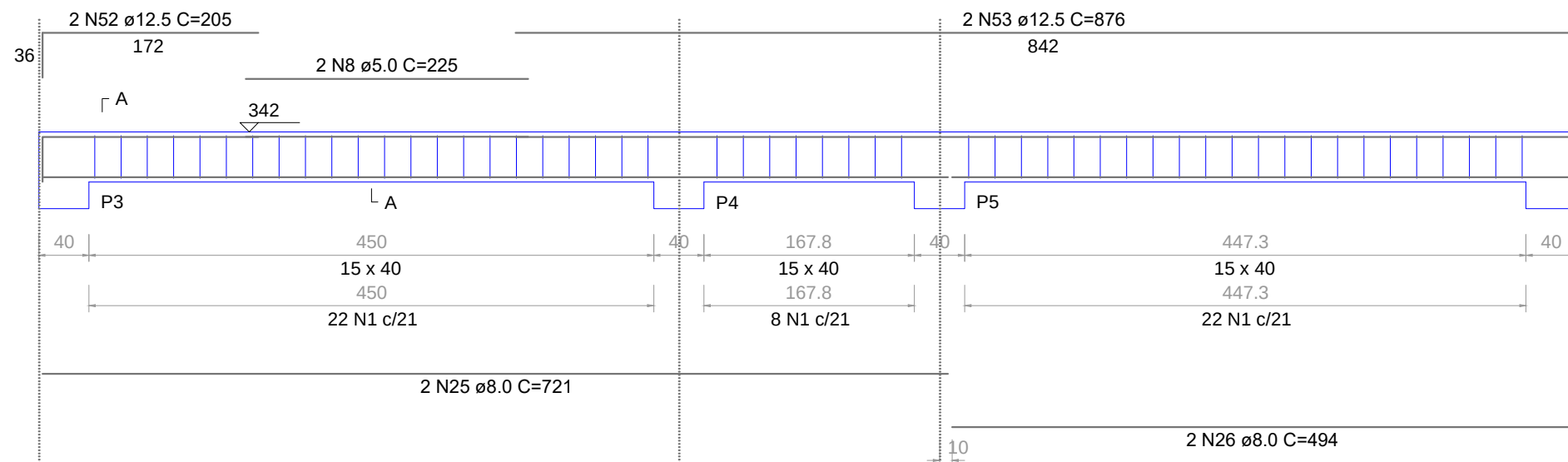
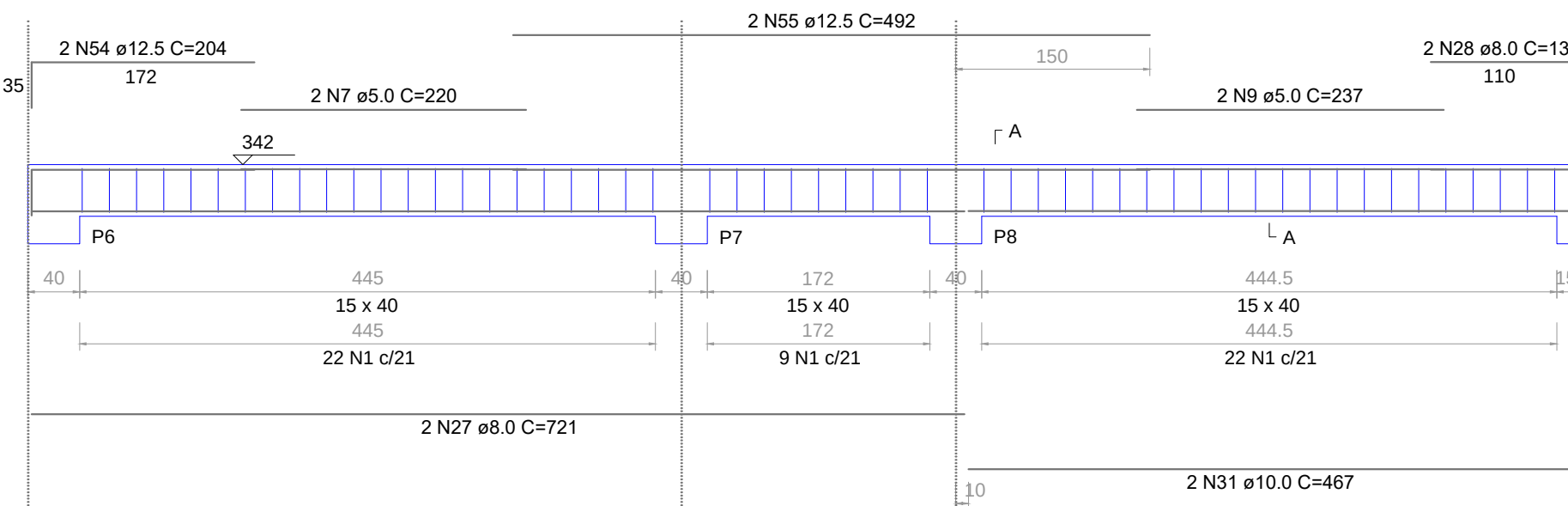
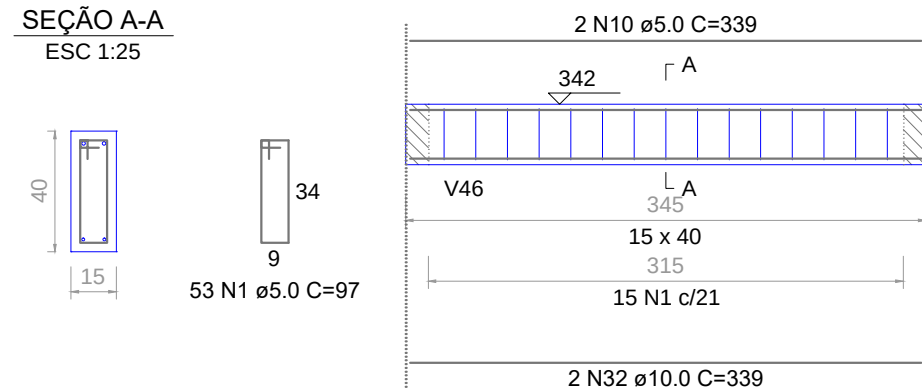
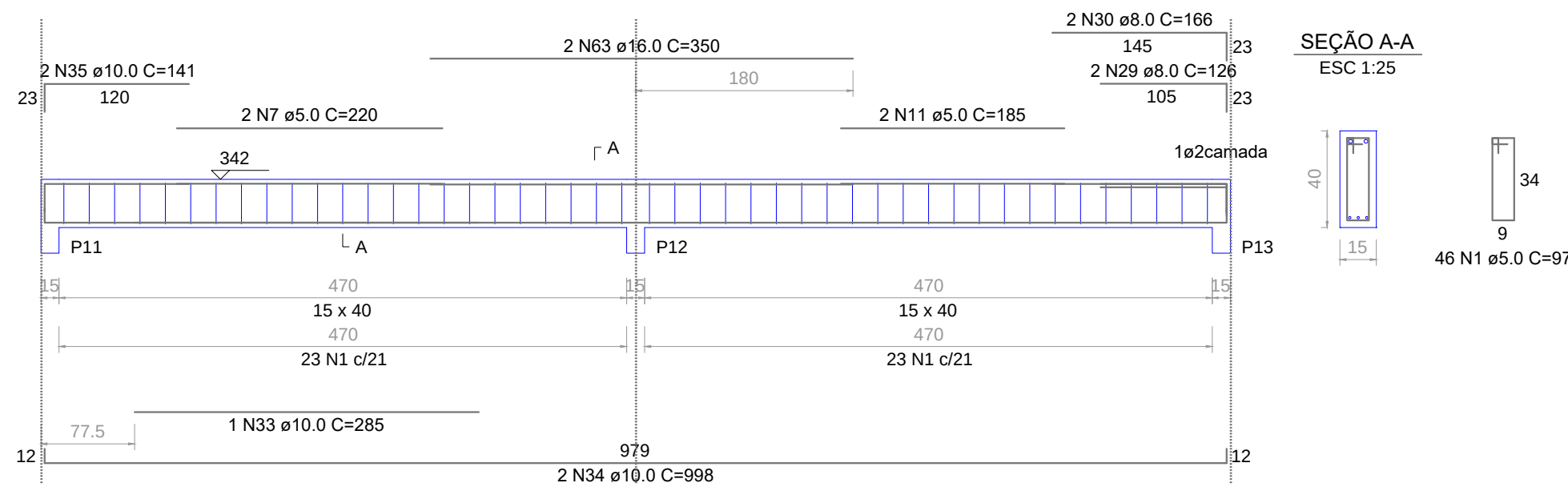
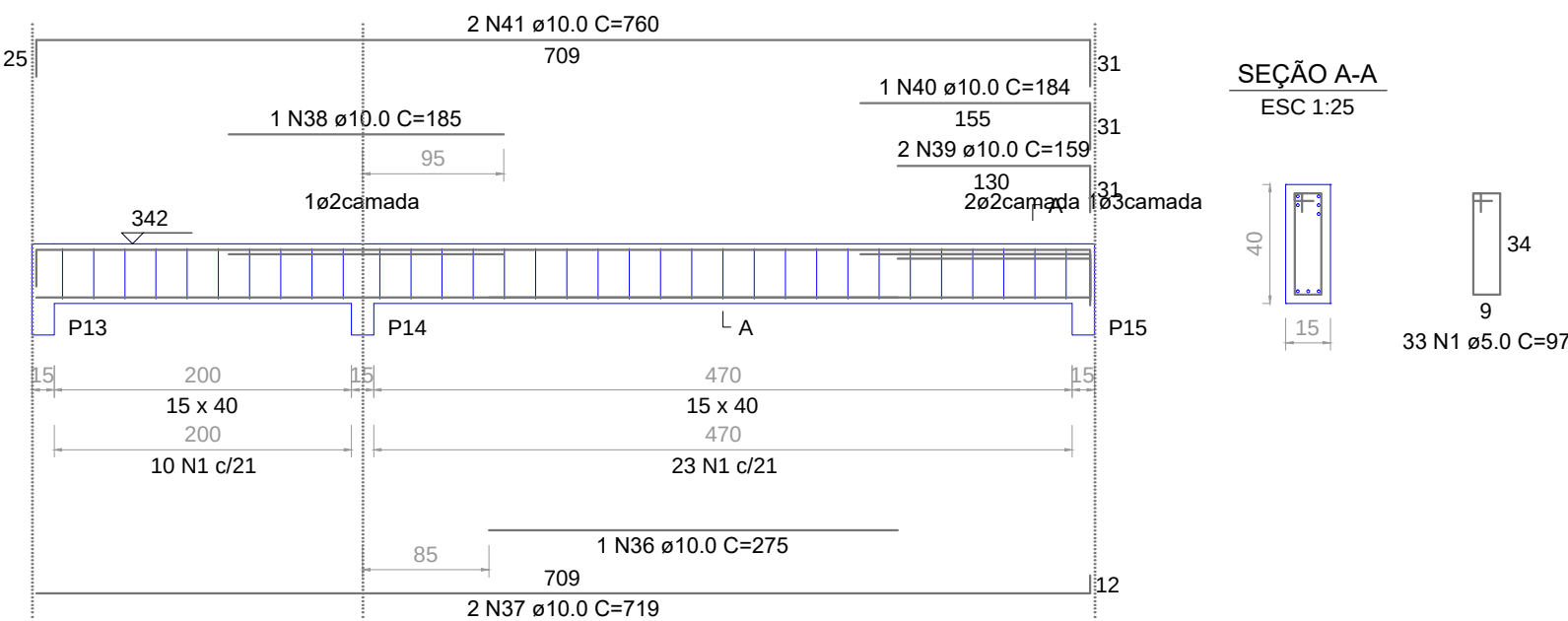
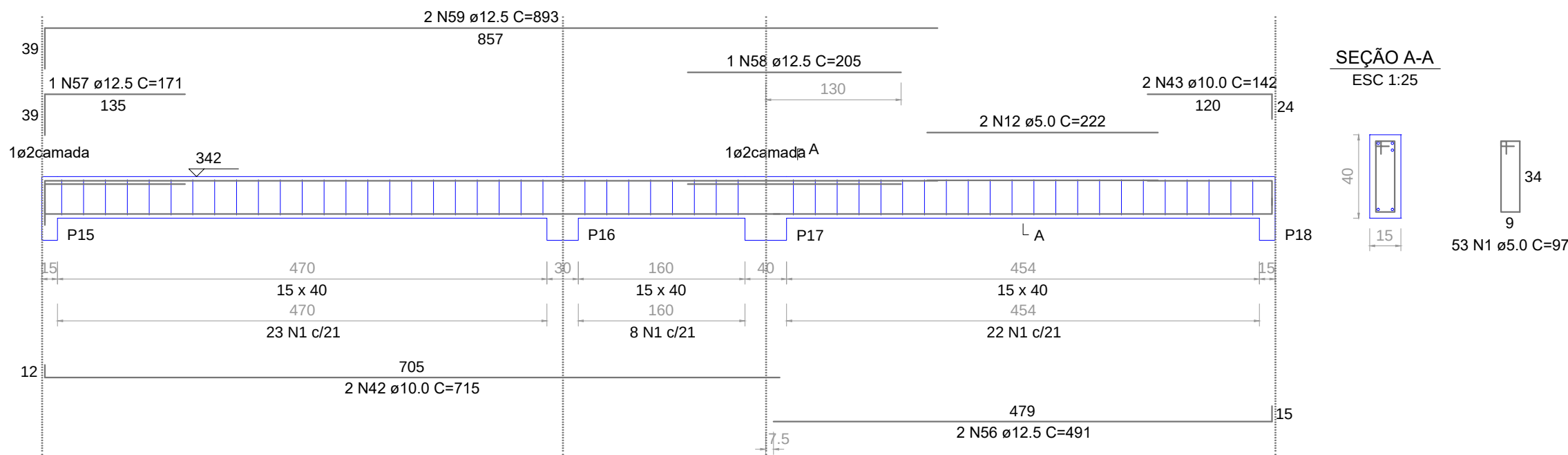
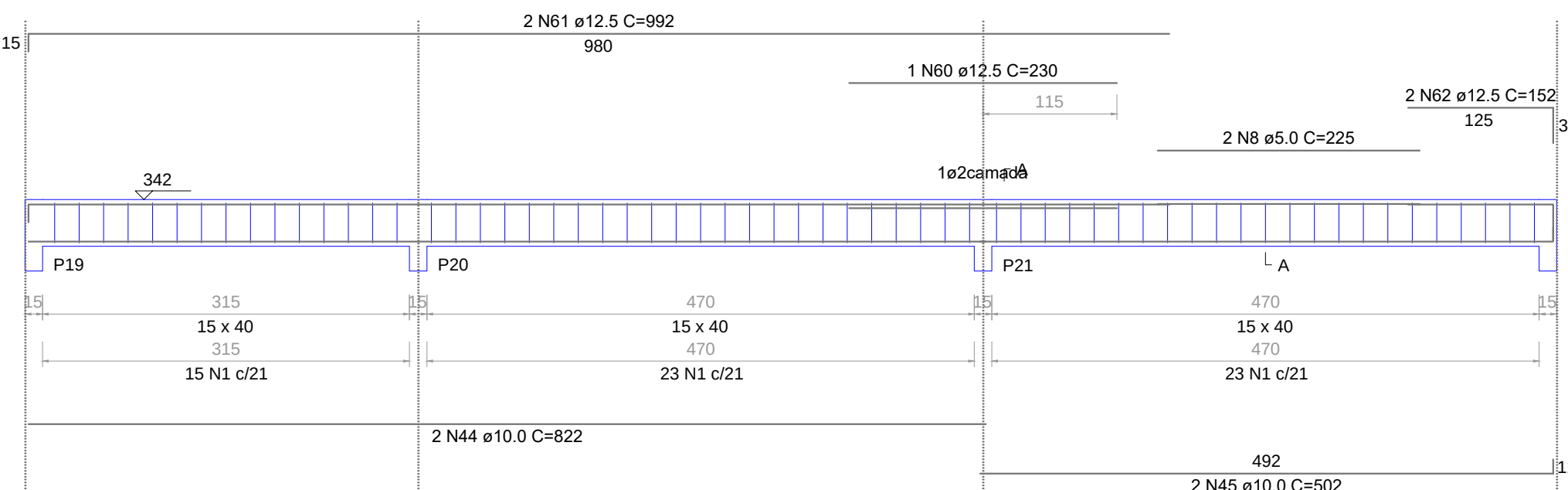
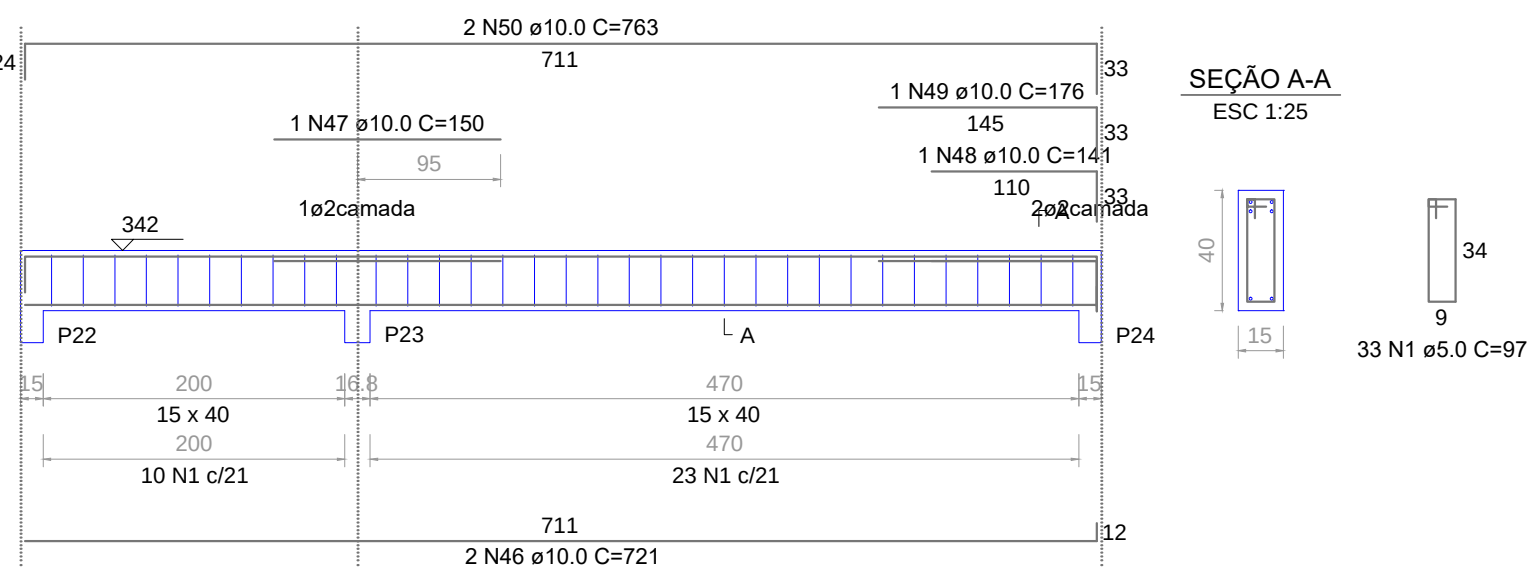
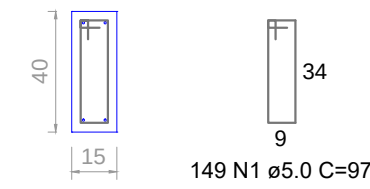
Name	Segment	Elevations	
		North	West
P1	1500	0	46
P2	1500	0	46
P3	1500	0	46
P4	1500	0	46
P5	1500	0	46
P6	1500	0	46
P7	1500	0	46
P8	1500	0	46
P9	1500	0	46
P10	1500	0	46
P11	1500	0	46
P12	1500	0	46
P13	1500	0	46
P14	1500	0	46
P15	1500	0	46
P16	1500	0	46
P17	1500	0	46
P18	1500	0	46
P19	1500	0	46
P20	1500	0	46
P21	1500	0	46
P22	1500	0	46
P23	1500	0	46
P24	1500	0	46
P25	1500	0	46
P26	1500	0	46
P27	1500	0	46
P28	1500	0	46
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P35	1500	0	46
P36	1500	0	46
P37	1500	0	46
P38	1500	0	46
P39	1500	0	46
P40	CR 45	0	46
P41	CR 45	0	46
P42	CR 45	0	46
P43	CR 45	0	46
P44	CR 45	0	46
P45	1500	0	46
P46	1500	0	46
P47	1500	0	46
P48	CR 45	0	46
P49	CR 45	0	46
P50	CR 45	0	46
P51	CR 45	0	46
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P53	1500	0	46
P54	CR 45	0	46
P55	CR 45	0	46
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P58	2500	0	46
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P60	1500	0	46
P61	1500	0	46
P62	1500	0	46
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P92	1500	0	46
P93	1500	0	46
P94	1500	0	46
P95	1500	0	46
P96	1500	0	46
P97	1500	0	46

CEI PROF. JOSÉ SANTOS NUNES Localização: Rua Rio de Janeiro, nº. 300 190 - LUIZ Taubaté - SP	 LIBRE ENGENHARIA Rua Flaminópolis, 365 - Sala 03 Uma Moeda - Taubaté/SP 013-3003-0000 - 013-3003-0001
CONTÉUDO PLANTA DE FORMA DO BALDRAME	PROPRIETÁRIO: Matrícula em Tabela: (197) e não numerada: 02



Corte A-A
escala 1:50

CEI PROF. JOSÉ SANTOS NUNES		 LIBRE ENGENHARIA	
Localização: Rua João Ribeiro, 51 No. Bairro São Luiz, Tubarão - SC		Rua Florianoópolis, 388 - Sala 03 Vila Moema - Tubarão/SC 48 9.9529.9893 / 48 9.9518.5531	
CONTEÚDO: CORTE AA		PROPRIETÁRIO: Município de Tubarão CNPJ 82.826.696/0001-93	
RESP. TÉCNICO: GABRIELA BRESSAN PEDROSO Engenheiro Civil CREA-SC 142.195-1 SOFIA LIMA VIEIRA Engenheiro Civil CREA-SC 138.383-6			
DATA: JULHO / 2025	ESCALA: Indicada	ÁREA TOTAL CONSTRUÍDA: 755,97 m²	PRANCHA: 07/26

V1
ESC 1:50V2
ESC 1:50V3
ESC 1:50V4
ESC 1:50V5
ESC 1:50V6
ESC 1:50V7
ESC 1:50V8
ESC 1:50V9
ESC 1:50V10
ESC 1:50SEÇÃO A-A
ESC 1:25

RELAÇÃO DO AÇO

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	532	97	51684
	2	5.0	2	220	440
	3	5.0	4	270	1080
	4	5.0	2	275	550
	5	5.0	2	265	530
	6	5.0	2	379	758
	7	5.0	6	220	1320
	8	5.0	4	225	900
	9	5.0	2	237	474
	10	5.0	2	339	678
	11	5.0	2	185	370
	12	5.0	2	222	444
	13	6.3	1	71	71
CA50	14	8.0	2	822	1644
	15	8.0	2	1190	2380
	16	8.0	2	1184	2368
	17	8.0	2	230	460
	18	8.0	2	425	850
	19	8.0	2	250	500
	20	8.0	2	435	870
	21	8.0	2	837	1674
	22	8.0	2	170	340
	23	8.0	2	487	974
	24	8.0	2	721	1442
	25	8.0	2	494	988
	26	8.0	2	721	1442
	27	8.0	2	132	264
	28	8.0	2	126	252
	29	8.0	2	166	332
	30	8.0	2	467	934
	31	10.0	2	159	318
	32	10.0	1	285	285
	33	10.0	2	998	1996
	34	10.0	2	721	1442
	35	10.0	2	719	1438
	36	10.0	1	185	185
	37	10.0	1	159	159
	38	10.0	1	184	184
	39	10.0	2	760	1520
	40	10.0	2	715	1430
	41	10.0	2	142	284
	42	10.0	2	822	1644
	43	10.0	2	502	1004
	44	10.0	2	721	1442
	45	10.0	1	150	150
	46	10.0	1	141	141
	47	10.0	1	176	176
	48	10.0	2	763	1526
	49	12.5	2	205	410
	50	12.5	2	205	410
	51	12.5	2	876	1752
	52	12.5	2	204	408
	53	12.5	2	492	984
	54	12.5	2	491	982
	55	12.5	1	171	171
	56	12.5	1	205	205
	57	12.5	2	893	1786
	58	12.5	1	230	230
	59	12.5	2	992	1984
	60	12.5	2	152	304
	61	16.0	2	350	700

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	6.3	0.7	0.2
	8.0	173	75.1
	10.0	158.9	107.8
	12.5	96.3	102
	16.0	7	12.2
CA60	5.0	591.5	100.3

PESO TOTAL (kg)

CA50	297.2
CA60	100.3

Volume de concreto (C-30) = 7.03 m³

Área de forma = 111.23 m²

CEI PROF. JOSÉ SANTOS NUNES

Localização:
Rua João Ribeiro, 91 No. Bairro
São Luiz,
Tubarão - SCCONTEÚDO:
DETALHAMENTO DAS VIGAS
BALDRAMERESP. TÉCNICO:
GABRIELA BRESSAN PEDROSO
Engenheiro Civil CREA-SC 142.195-1
SOFIA LIMA VIEIRA
Engenheiro Civil CREA-SC 138.383-6DATA:
JULHO / 2025ESCALA:
IndicadaÁREA TOTAL
CONSTRUÍDA:
755.97 m²PRANCHA:
08/26

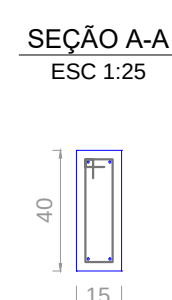
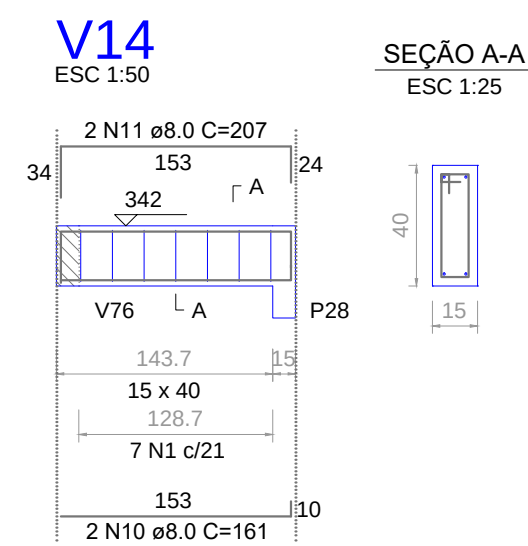
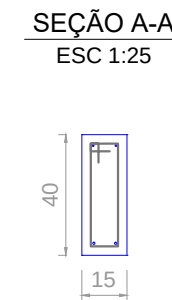
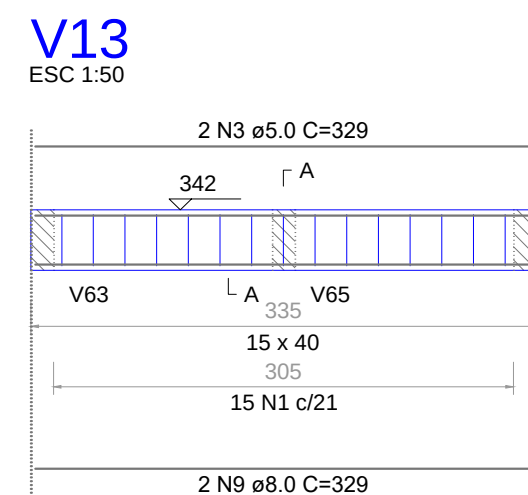
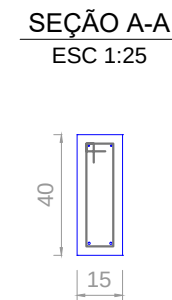
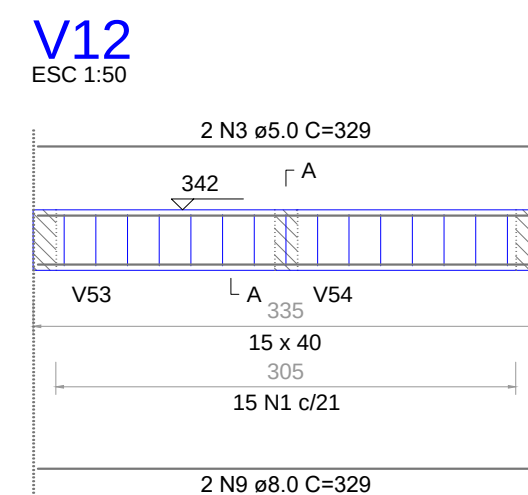
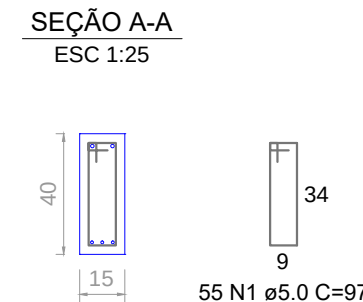
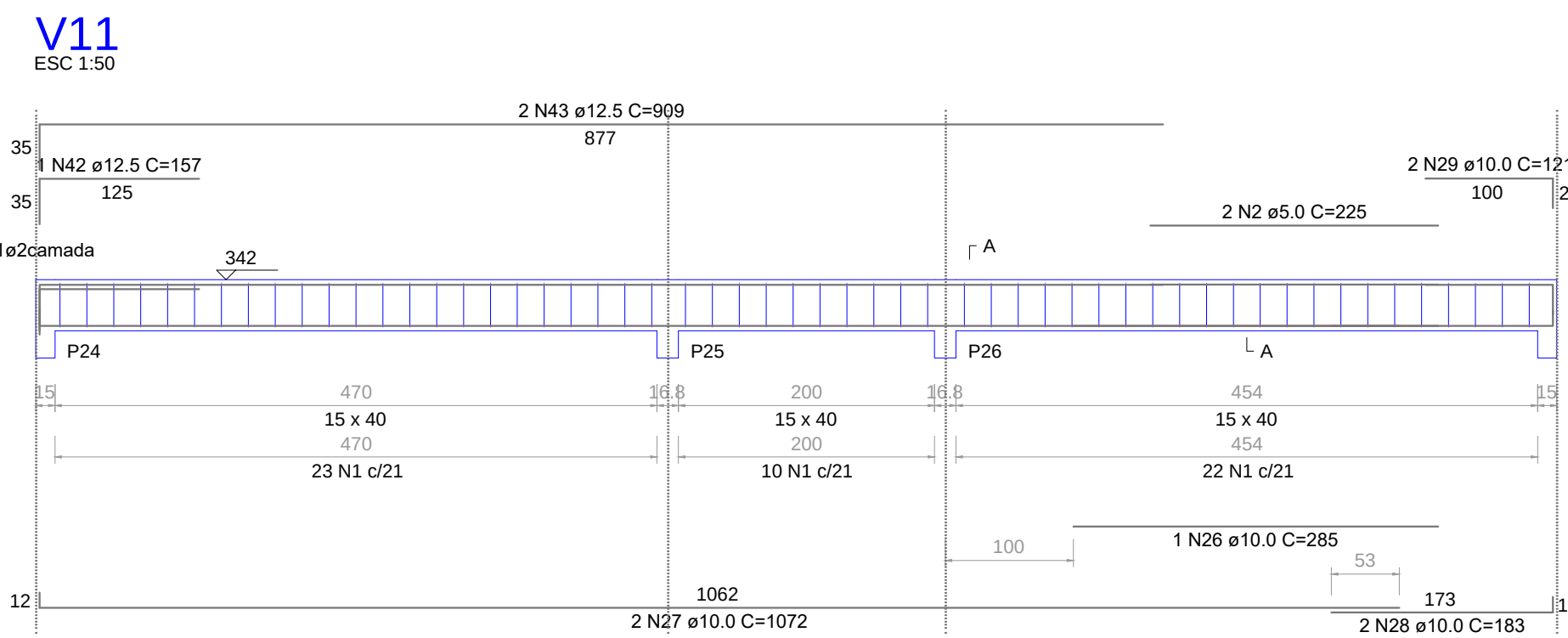
LIBRE

ENGENHARIA

Rua Florianoópolis, 388 - Sala 03
Vila Moema - Tubarão/SC
48 9 9029 9893 / 48 9 9818 5521

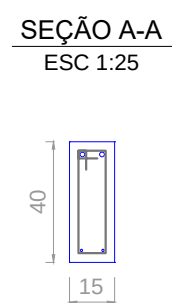
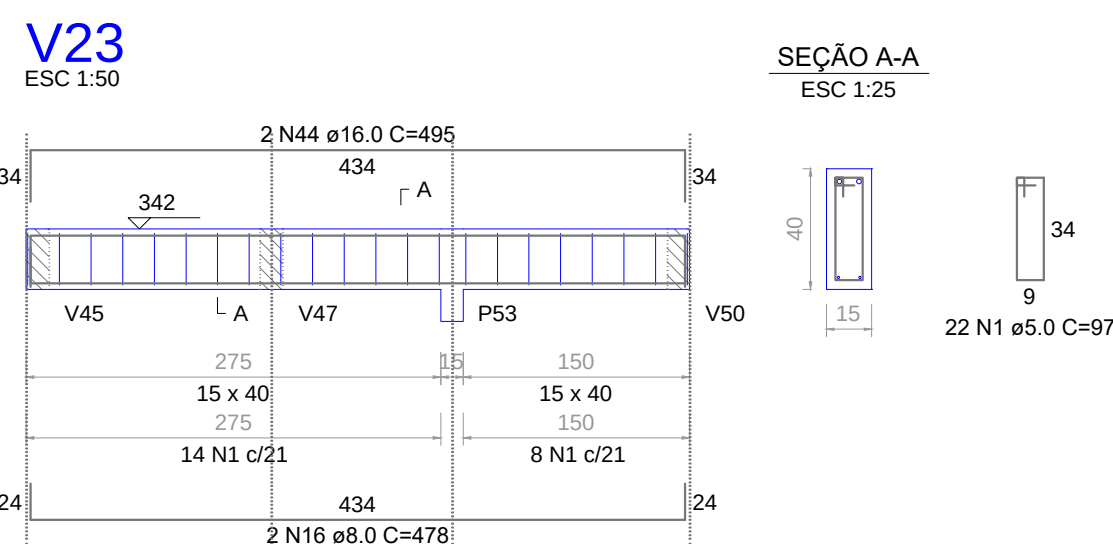
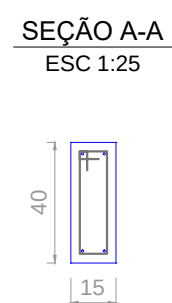
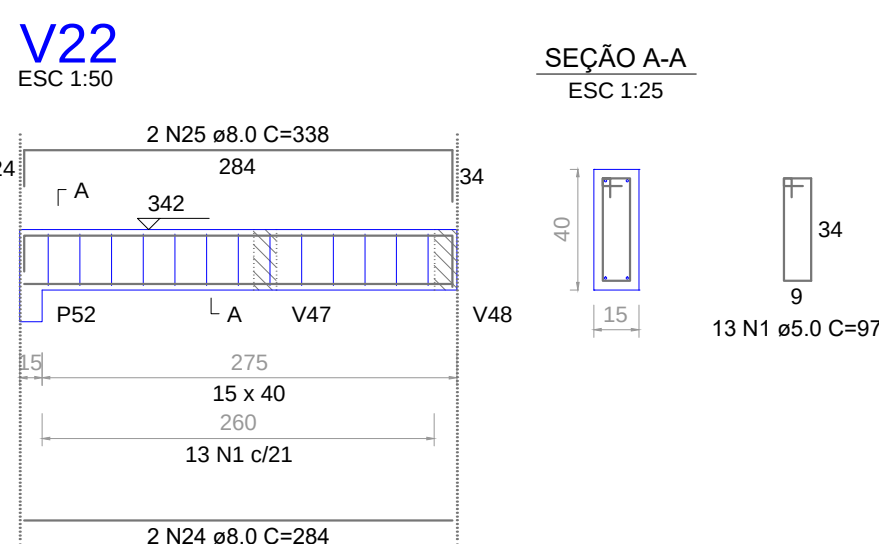
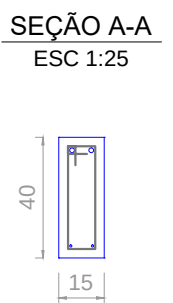
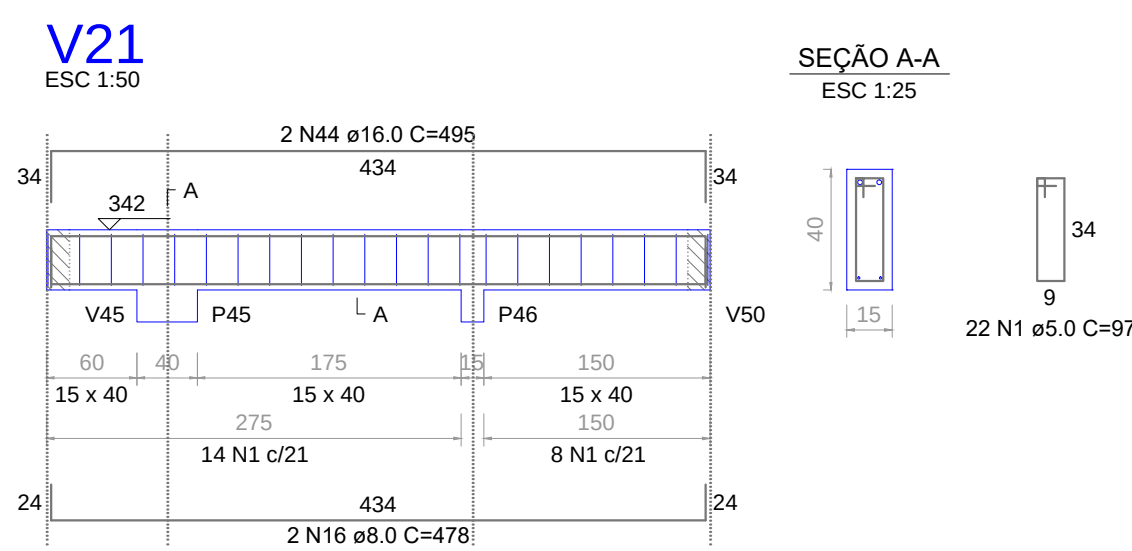
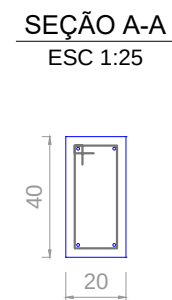
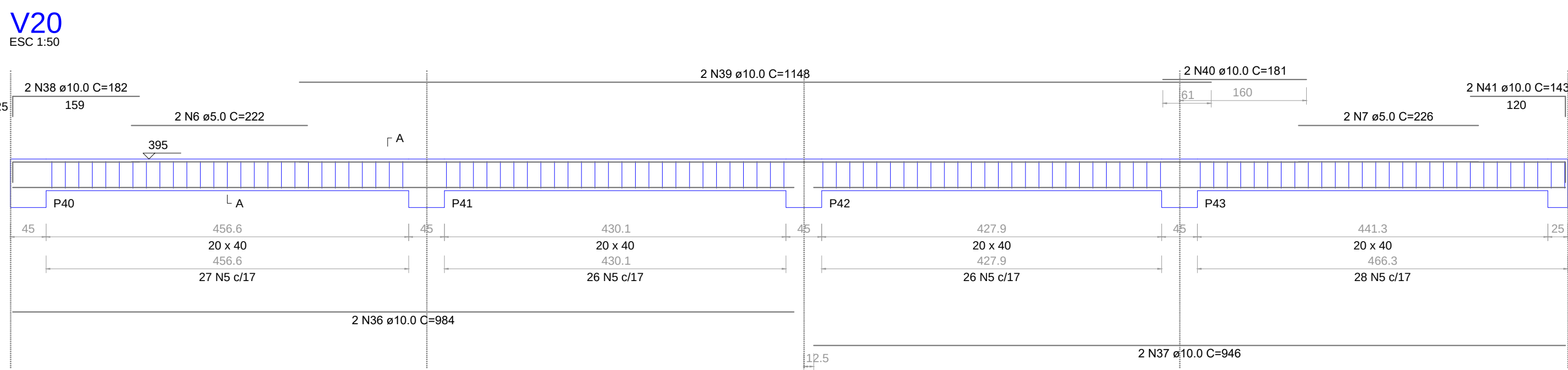
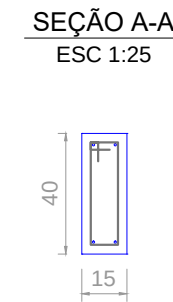
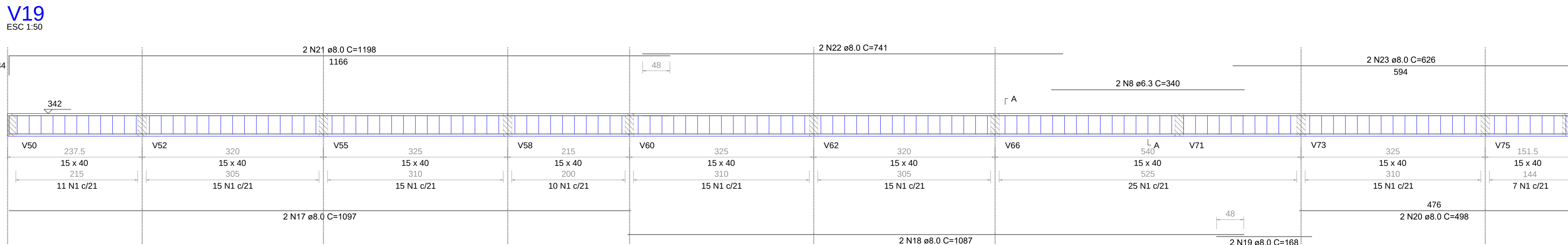
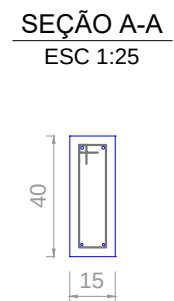
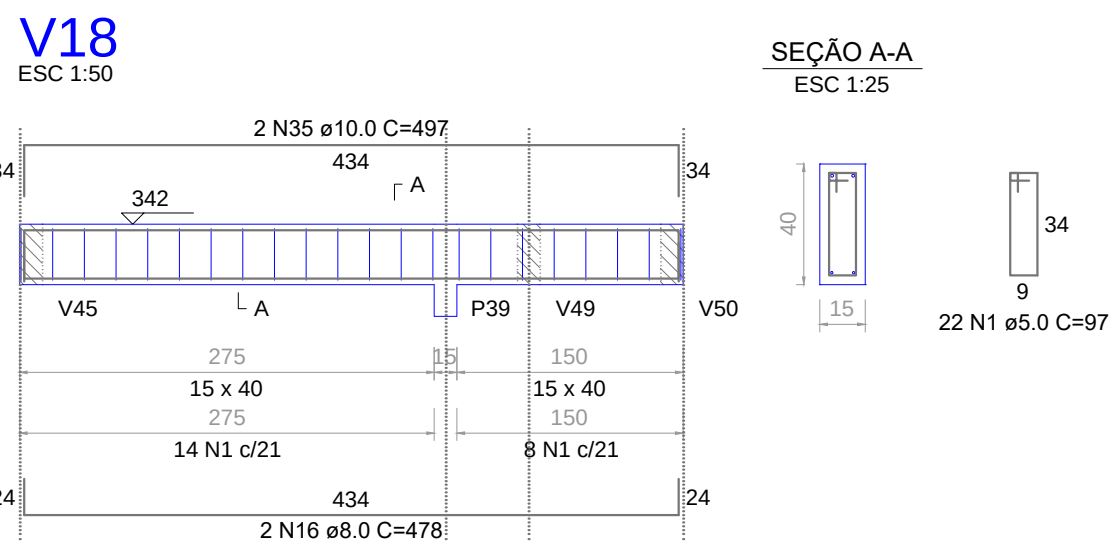
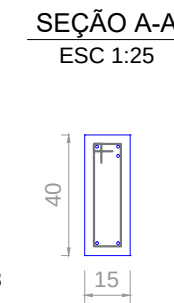
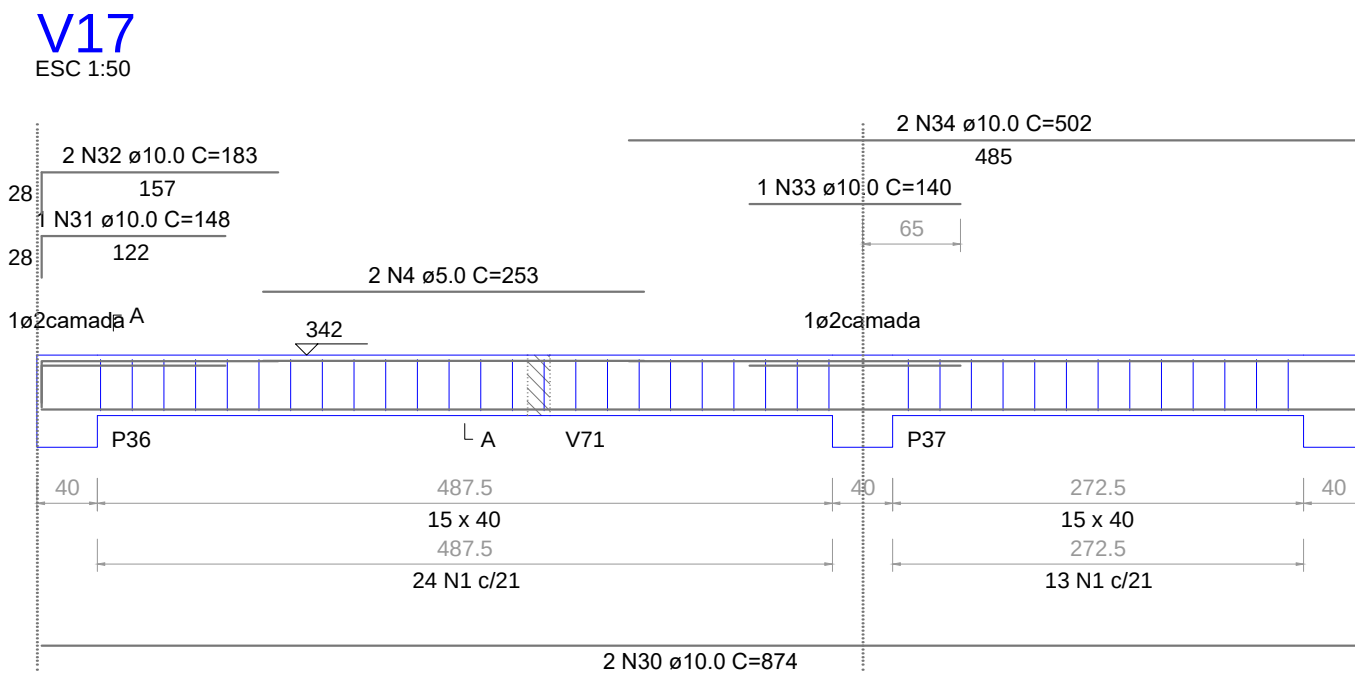
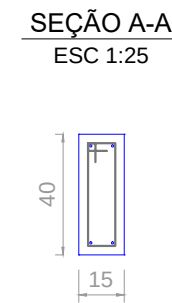
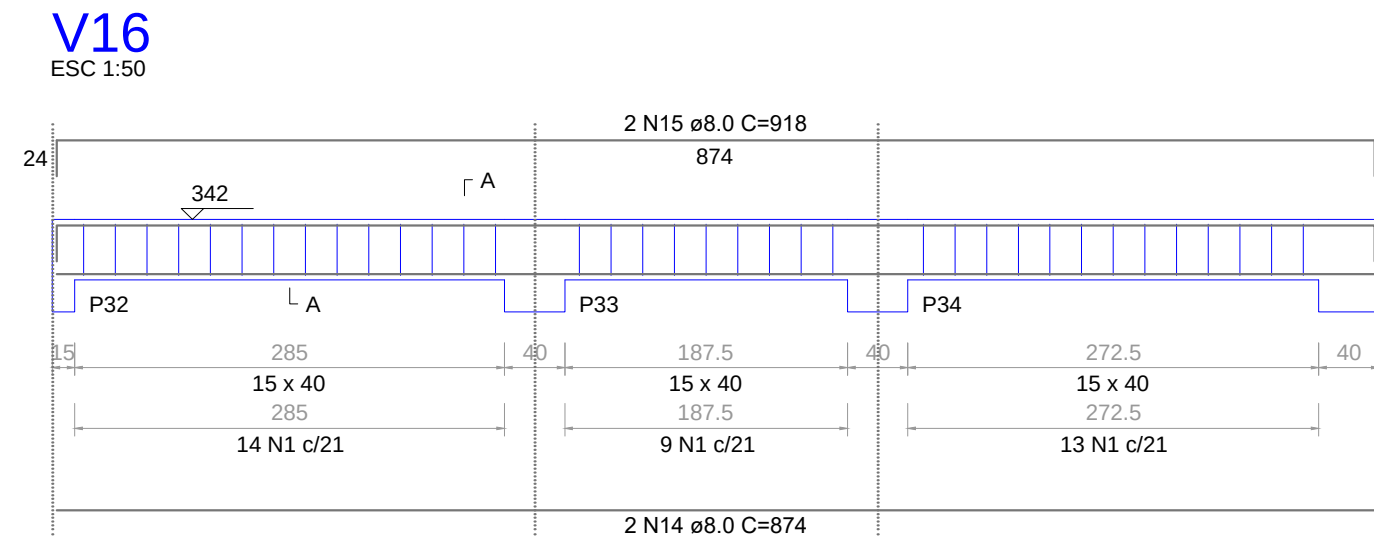
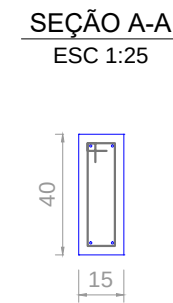
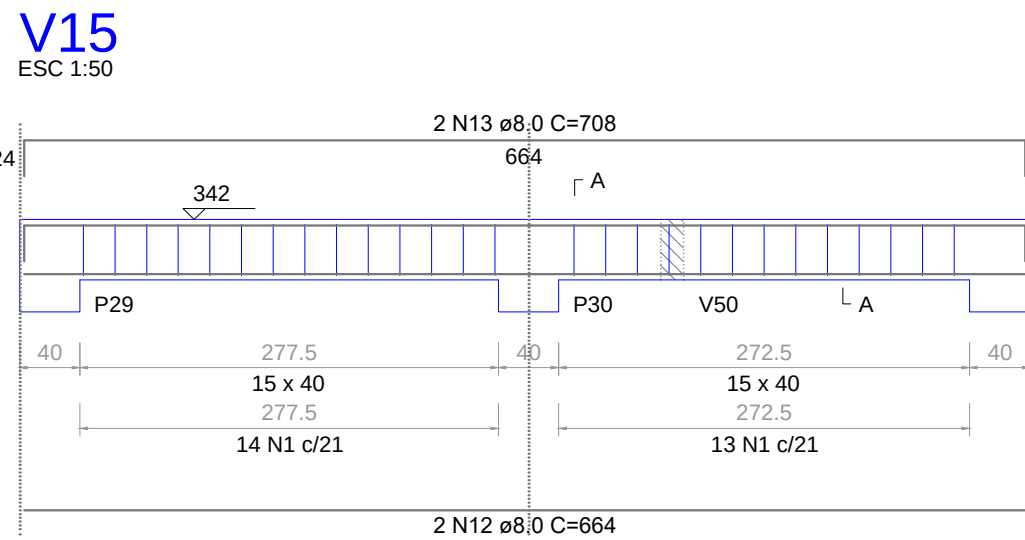
PROPRIETÁRIO:

Município de Tubarão
CNPJ 02.926.696/0001-93



RELAÇÃO DO AÇO

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	399	97	38703
	2	5.0	2	225	450
	3	5.0	4	329	1316
	4	5.0	2	253	506
	5	5.0	107	107	11449
CA50	6	5.0	2	222	444
	7	5.0	2	226	452
	8	6.3	2	340	680
	9	8.0	4	329	1316
	10	8.0	2	161	322
	12	8.0	2	207	414
	13	8.0	2	664	1328
	14	8.0	2	708	1416
	15	8.0	2	874	1748
	16	8.0	6	478	2868
	17	8.0	2	1097	2194
	18	8.0	2	1067	2174
	19	8.0	2	168	336
	20	8.0	2	498	996
	21	8.0	2	1198	2396



RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	6.3	6.8	1.8
	8.0	233.2	101.2
	10.0	146.1	99
	12.5	19.8	20.9
	16.0	19.8	34.4
CA60	5.0	533.2	90.4
PESO TOTAL (kg)		257.4	90.4

Volume de concreto (C-30) = 6.86 m³
Área de forma = 103.35 m²

CEI PROF. JOSÉ SANTOS NUNES

Localização:
Rua João Ribeiro, 91 No. Bairro
São Luiz,
Tubarão - SC

CONTEÚDO:
DETALHAMENTO DAS VIGAS
BALDRAME

RESP. TÉCNICO:
GABRIELA BRESSAN PEDROSO
Engenheiro Civil CREA-SC 142.195-1
SOFIA LIMA VIEIRA
Engenheiro Civil CREA-SC 138.383-6

DATA:
JULHO / 2025

ESCALA:
Indicada

ÁREA TOTAL
CONSTRUÍDA:
755,97 m²

PRANCHA:
09/26

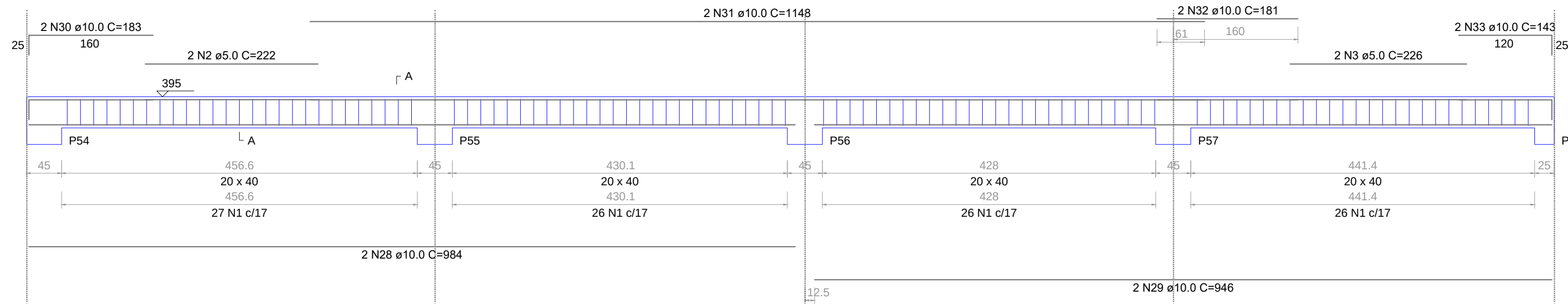


Rua Florianoópolis, 388 - Sala 03
Vila Moema - Tubarão/SC
48 9.9029.9893 / 48 9.9818.5551

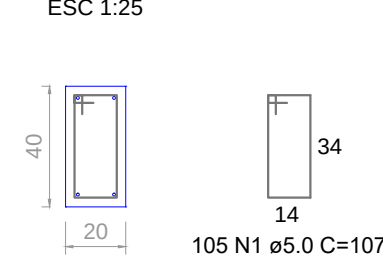
PROPRIETÁRIO:

Município de Tubarão
CNPJ 02.926.696/0001-93

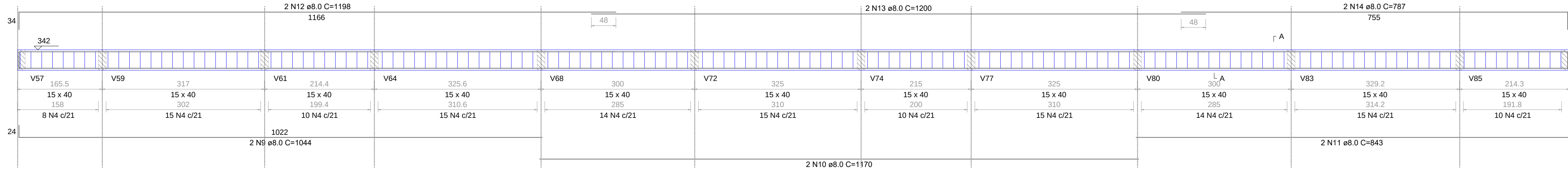
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ESC 1:50



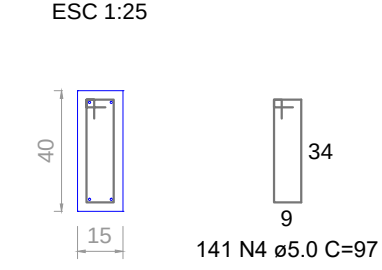
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ESC 1:25



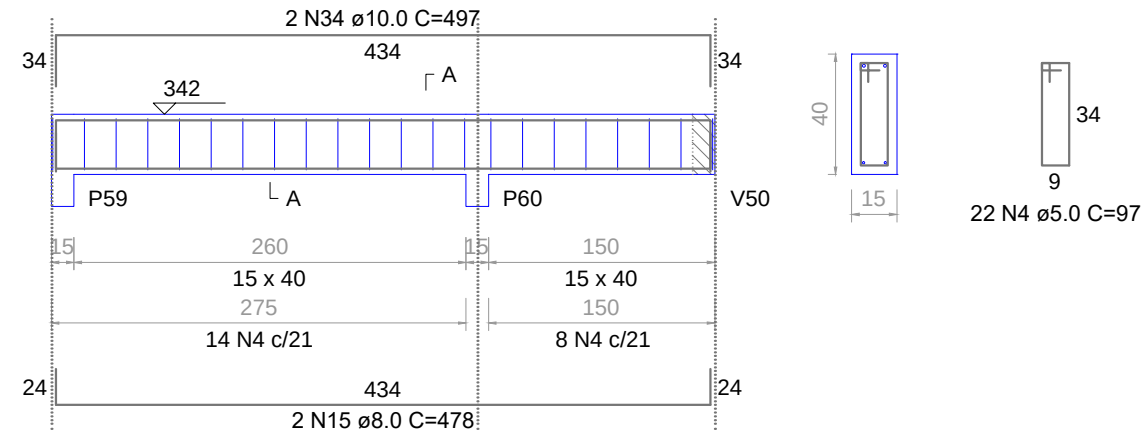
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ESC 1:50



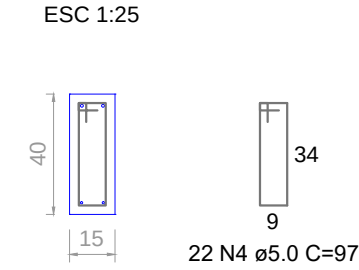
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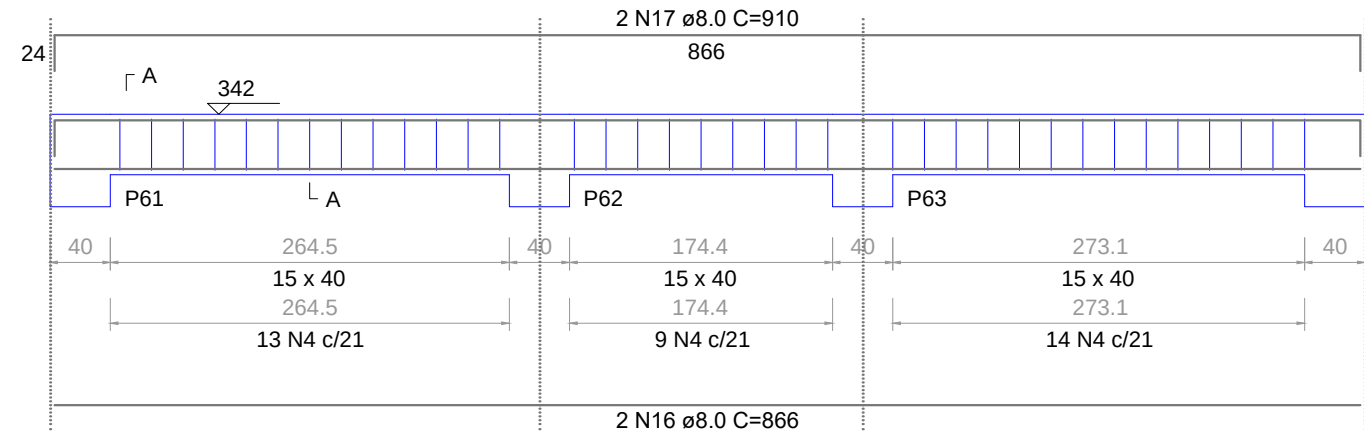
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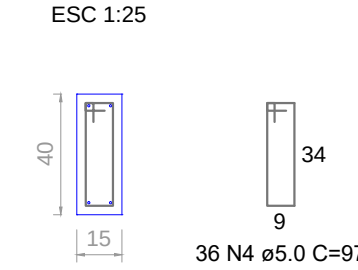
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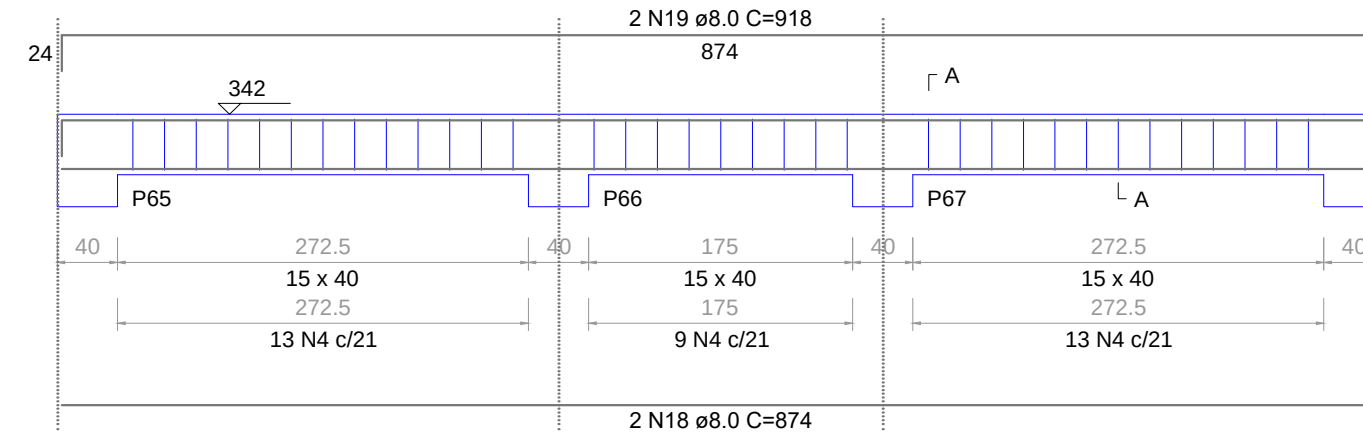
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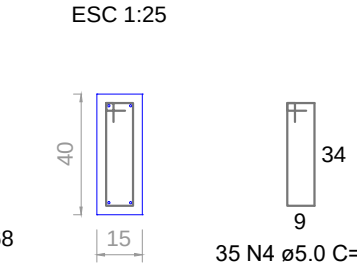
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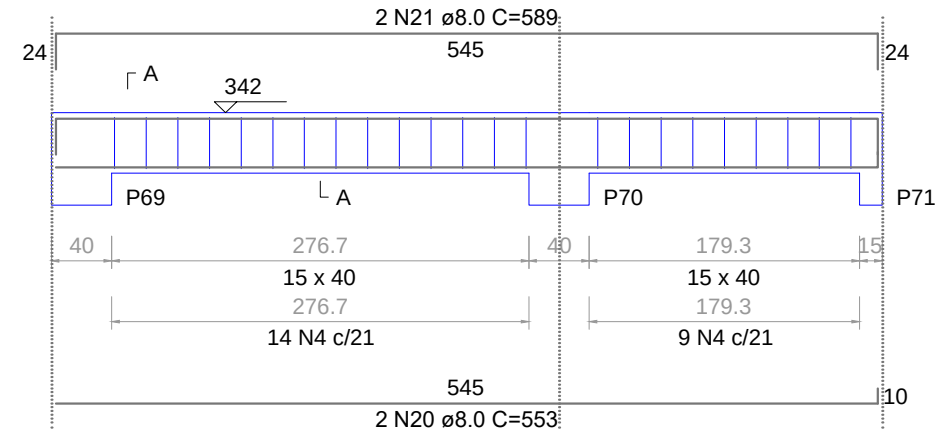
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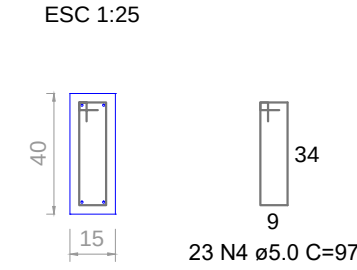
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ESC 1:25



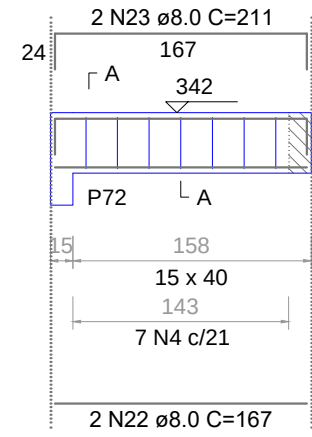
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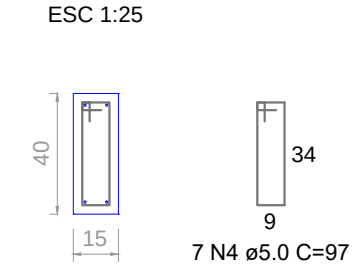
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ESC 1:25



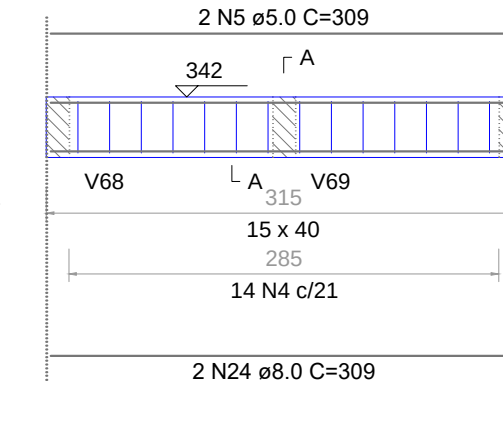
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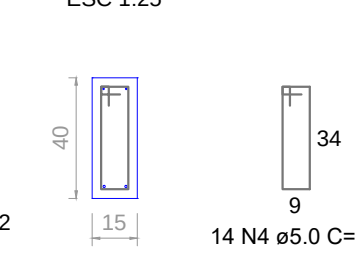
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ESC 1:25



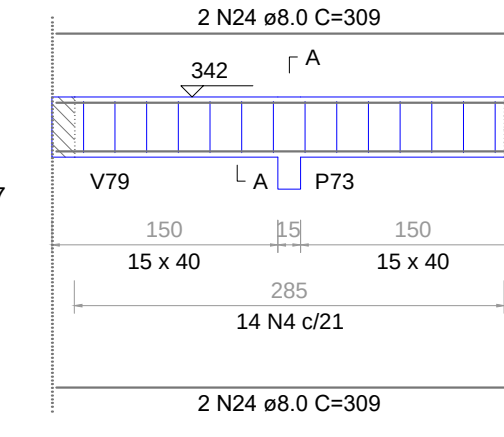
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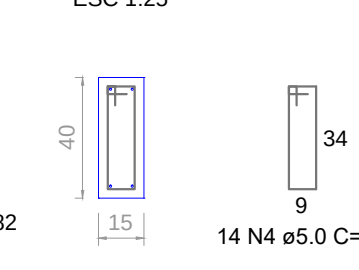
SEÇÃO A-A
ESC 1:25



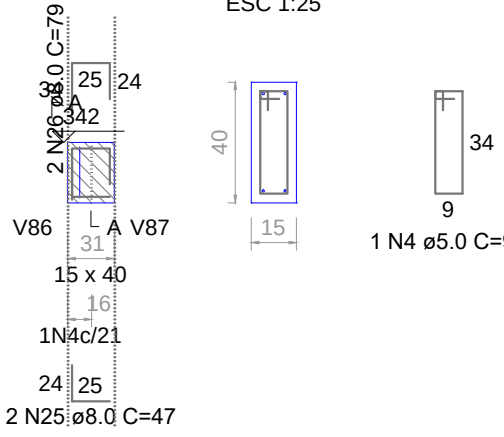
V32
ESC 1:50



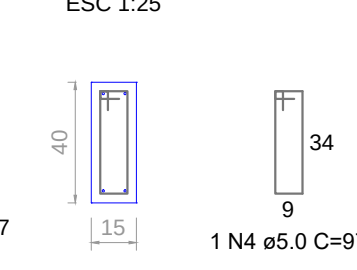
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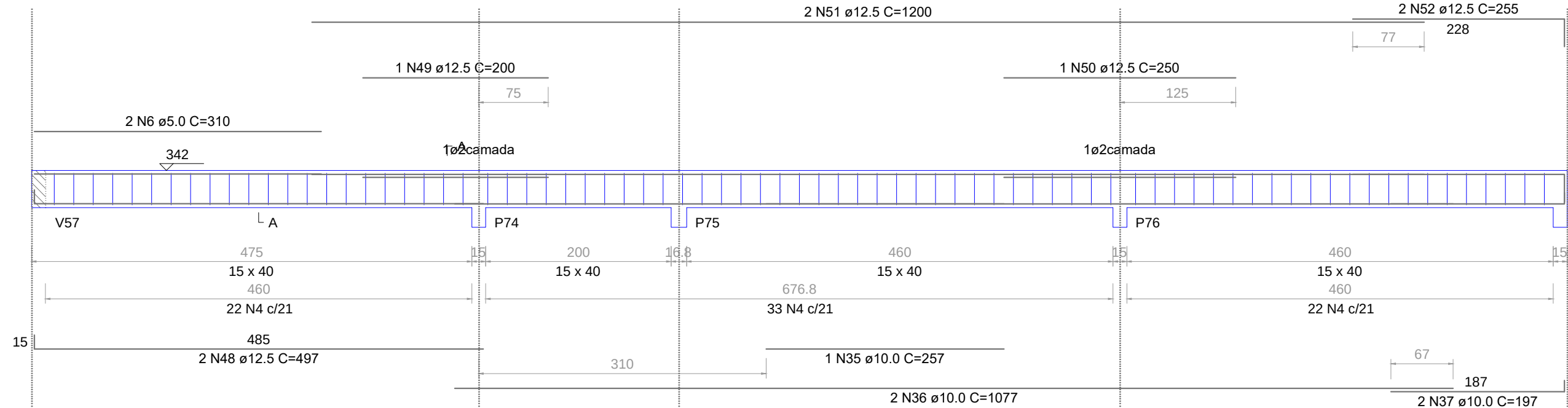
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ESC 1:50



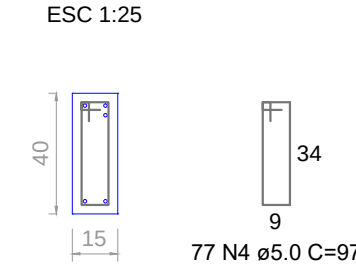
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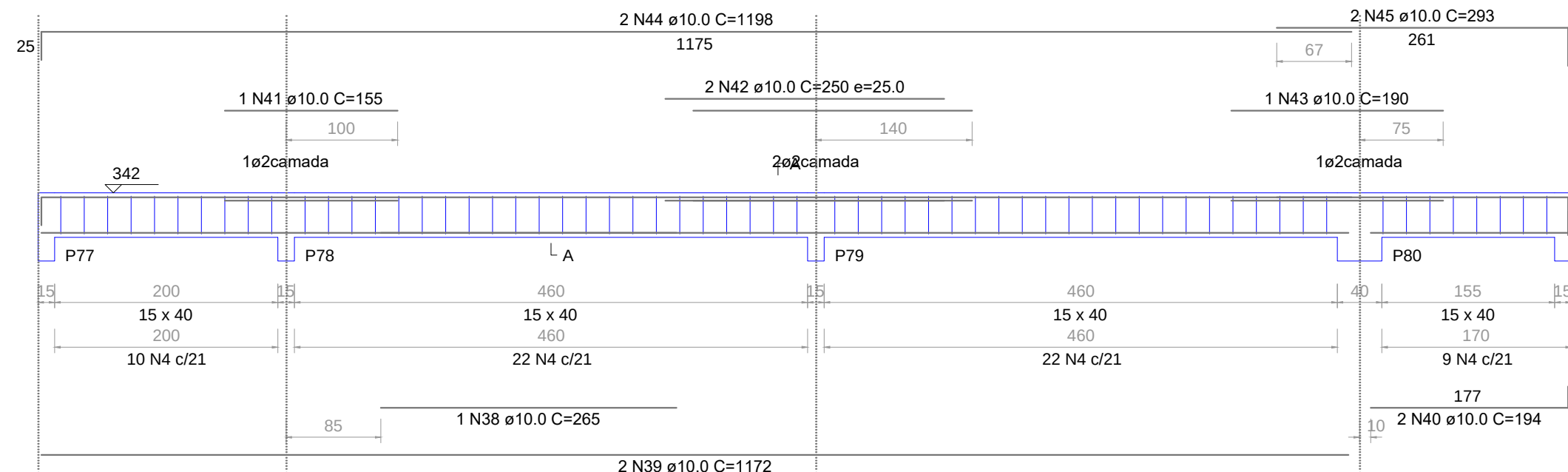
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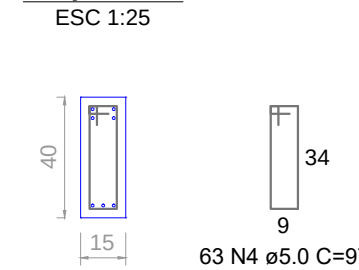
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ESC 1:25



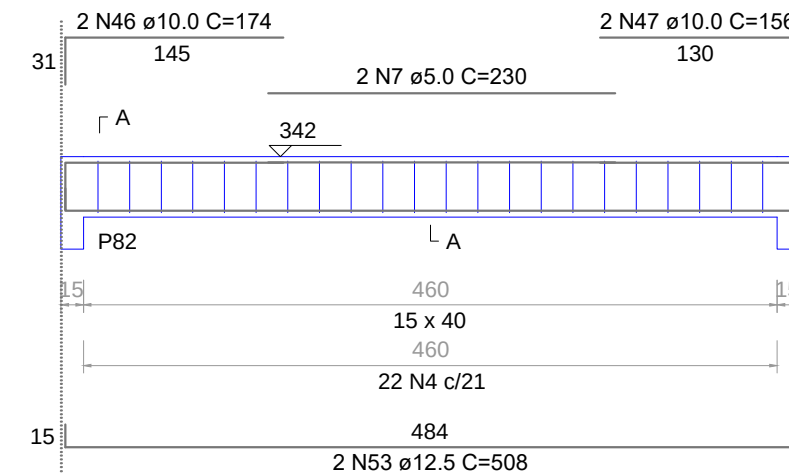
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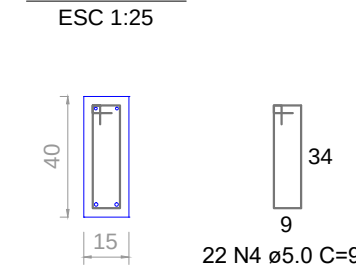
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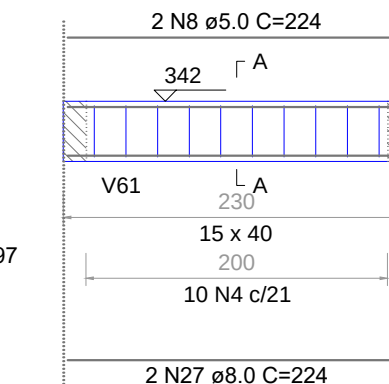
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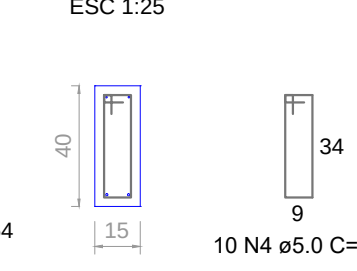
SEÇÃO A-A
ESC 1:25



V37
ESC 1:50



SEÇÃO A-A
ESC 1:25



RELAÇÃO DO AÇO				
AÇO	N	DIAM (mm)	QUANT	C.TOTAL (cm)
CA60	1	5.0	105	11235
	2	5.0	2	444
	3	5.0	2	452
	4	5.0	465	45105
	5	5.0	2	618
CA50	6	5.0	2	620
	7	5.0	2	460
	8	5.0	2	448
	9	8.0	2	1044
	10	8.0	2	1170
	11	8.0	2	843
	12	8.0	2	1198
	13	8.0	2	1200
	14	8.0	2	787
	15	8.0	2	478
	16	8.0	2	866
	17	8.0	2	910
	18	8.0	2	874
	19	8.0	2	918
	20	8.0	2	553
	21	8.0	2	589
	22	8.0	2	167
	23	8.0	2	211
	24	8.0	6	309
	25	8.0	2	47
	26	8.0	2	79
	27	8.0	2	224
	28	10.0	2	984
	29	10.0	2	946
	30	10.0	2	183
	31	10.0	2	1148
	32	10.0	2	181
	33	10.0	2	143
	34	10.0	2	497
	35	10.0	1	257
	36	10.0	2	1077
	37	10.0	2	394
	38	10.0	1	265
	39	10.0	2	1172
	40	10.0	2	194
	41	10.0	1	155
	42	10.0	2	250
	43	10.0	1	190
	44	10.0	2	1198
	45	10.0	2	293
	46	10.0	2	174
	47	10.0	2	156
	48	12.5	2	497
	49	12.5	1	200
	50	12.5	1	250
	51	12.5	2	1200
	52	12.5	2	255
	53	12.5	2	508

RESUMO DO AÇO			
AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	8.0	261.7	113.6
CA60	10.0	184.5	125.1
CA60	12.5	53.7	56.9
CA60	5.0	593.8	100.7
PESO TOTAL (kg)			
CA50	295.6		
CA60	100.7		

Volume de concreto (C-30) = 7.78 m³
Área de forma = 118.03 m²

CEI PROF. JOSÉ SANTOS NUNES

Localização:
Rua João Ribeiro, 51 - Rio Branco
Belo Horizonte - MG

CONTEÚDO:
DETALHAMENTO DAS VIGAS BALDRAME

RESP. TÉCNICO:
GABRIELA BRESSAN PEDROSO
Engenheira Civil CREA-SC 142.195-1
SOFIA LIMA VIEIRA
Engenheira Civil CREA-SC 138.383-6

DATA:
JULHO / 2025

LIBRE ENGENHARIA
Rua Florianoópolis, 388 - Sala 03
Vila Moema - Tubarão/SC
48 9 3929 3983 / 48 9 3929 3521

PROPRIETÁRIO:

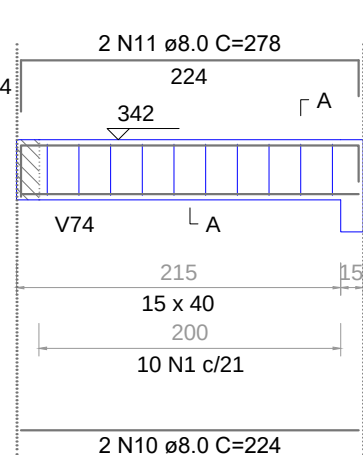
Município de Tubarão
CNPJ 02.926.696/0001-93

ÁREA TOTAL CONSTRUÍDA:
755.97 m²

PRANCHA:
10/26

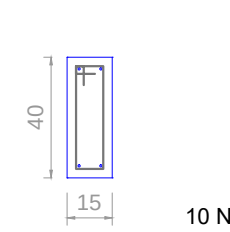
V38

ESC 1:50



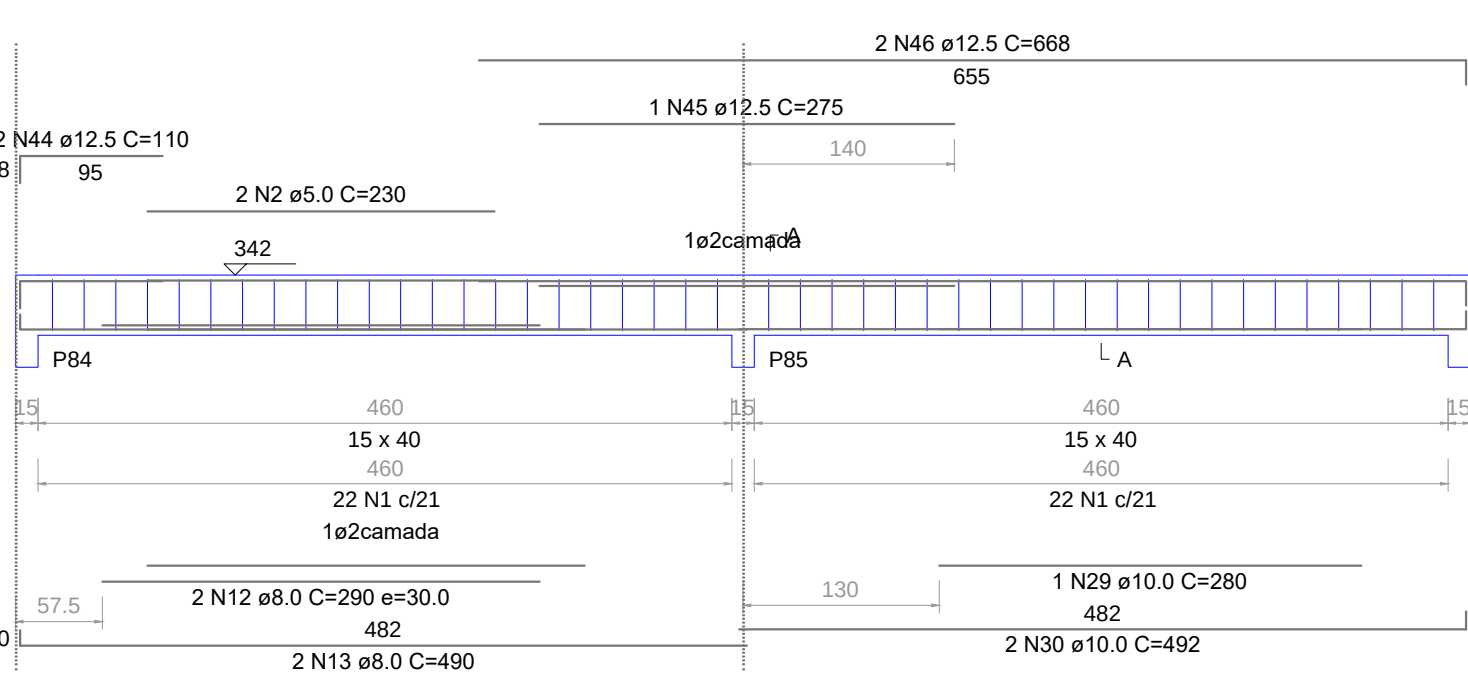
SEÇÃO A-A

ESC 1:25



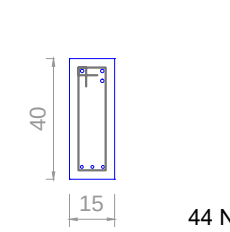
V39

ESC 1:50



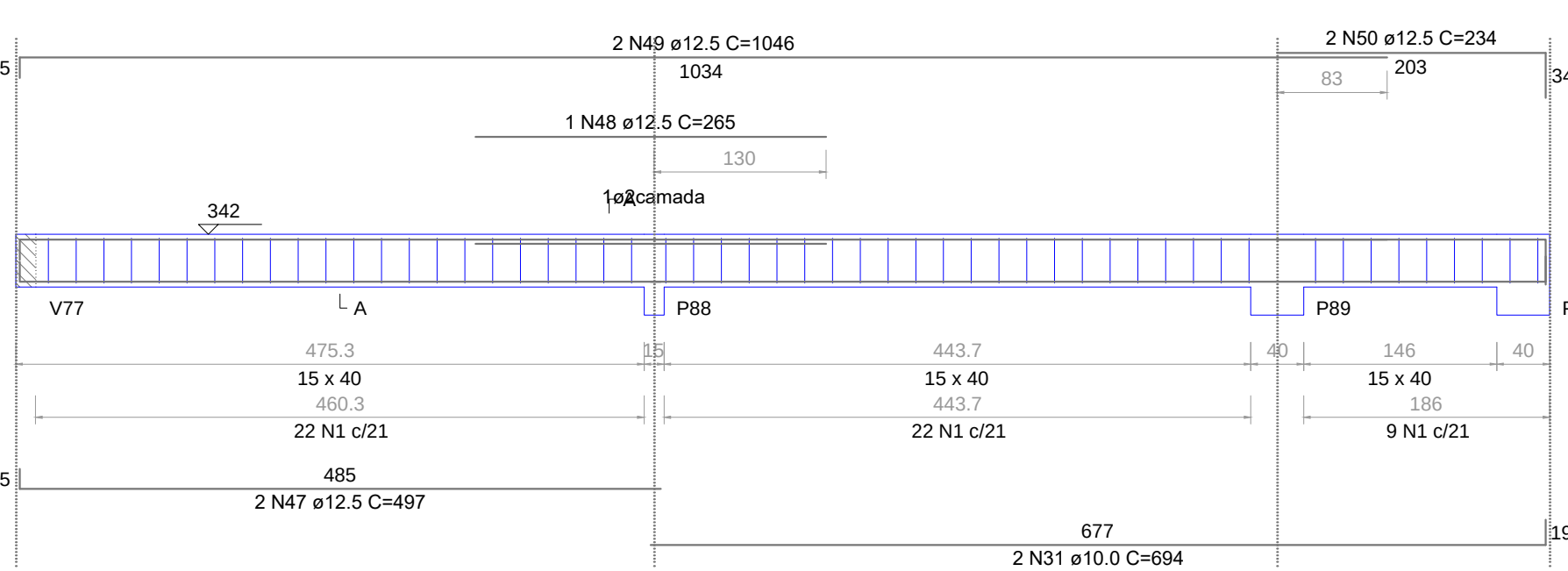
SEÇÃO A-A

ESC 1:25



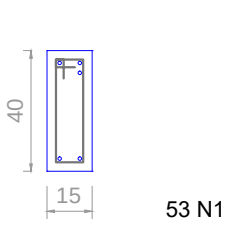
V40

ESC 1:50



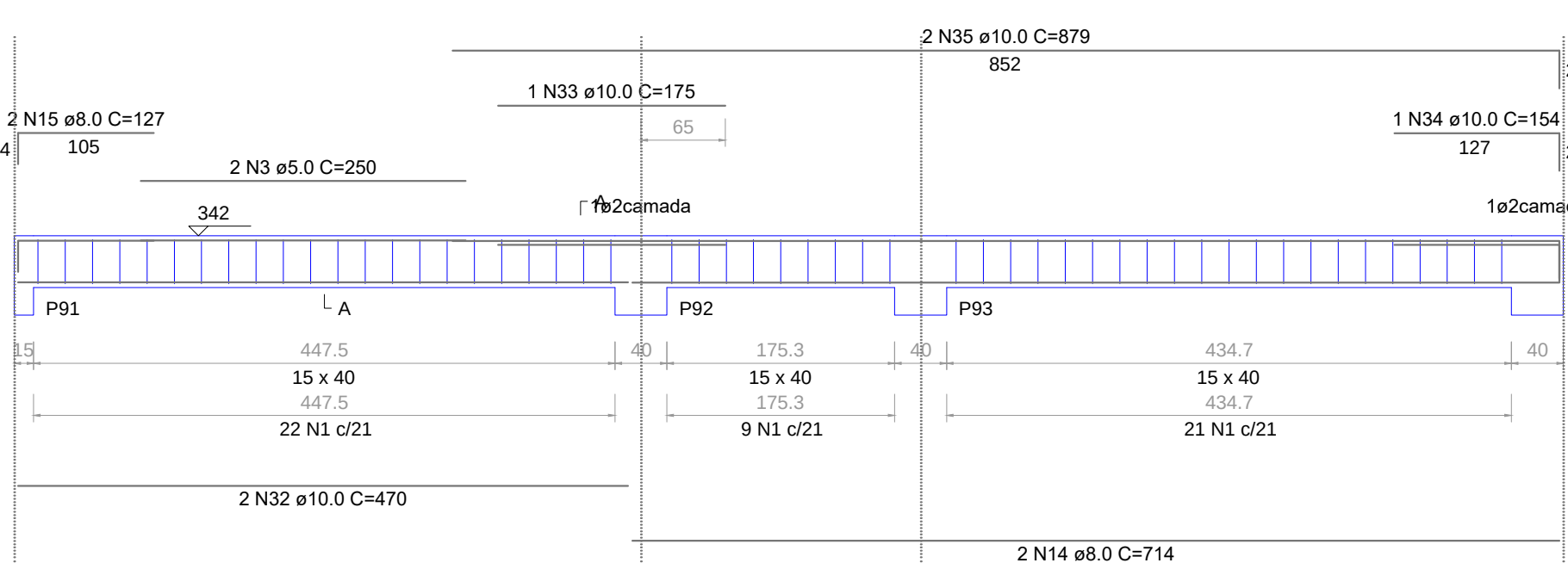
SEÇÃO A-A

ESC 1:25



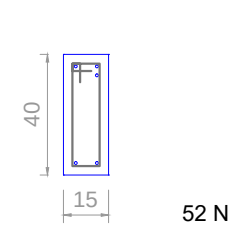
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ESC 1:50



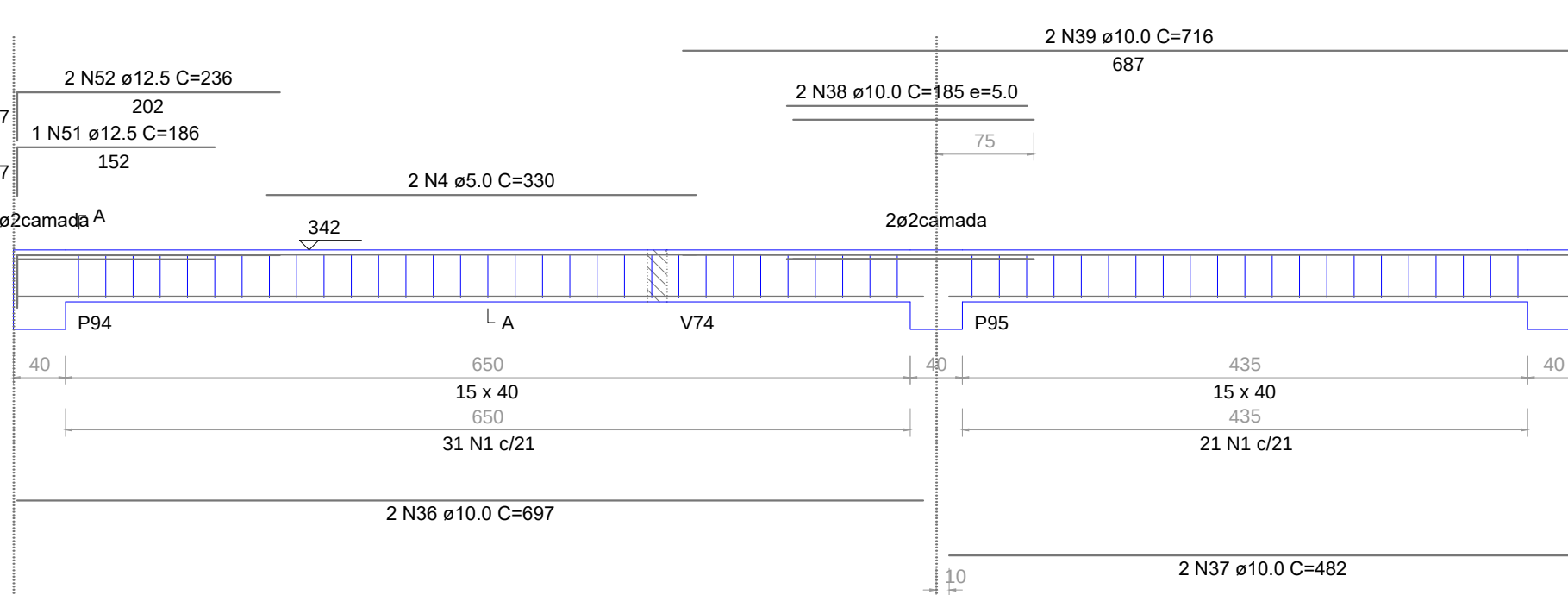
SEÇÃO A-A

ESC 1:25



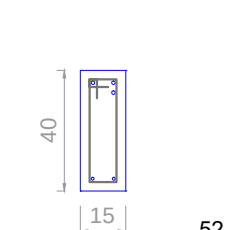
V42

ESC 1:50



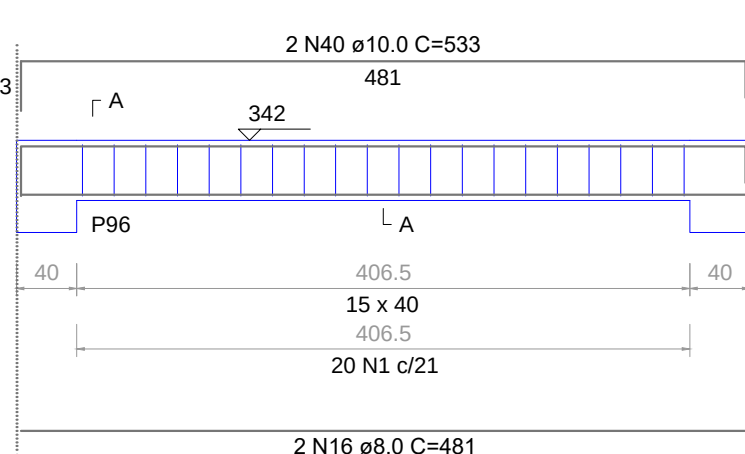
SEÇÃO A-A

ESC 1:25



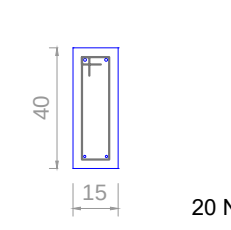
V43

ESC 1:50



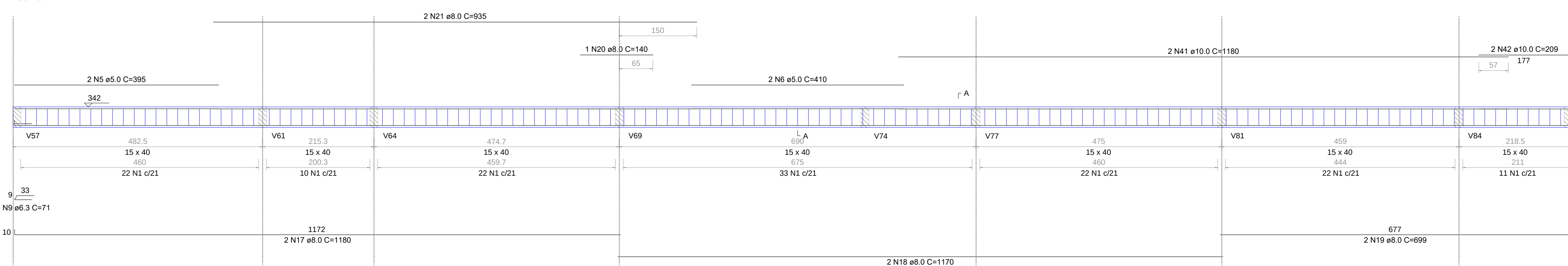
SEÇÃO A-A

ESC 1:25



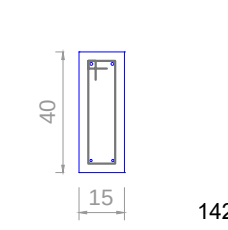
V44

ESC 1:50



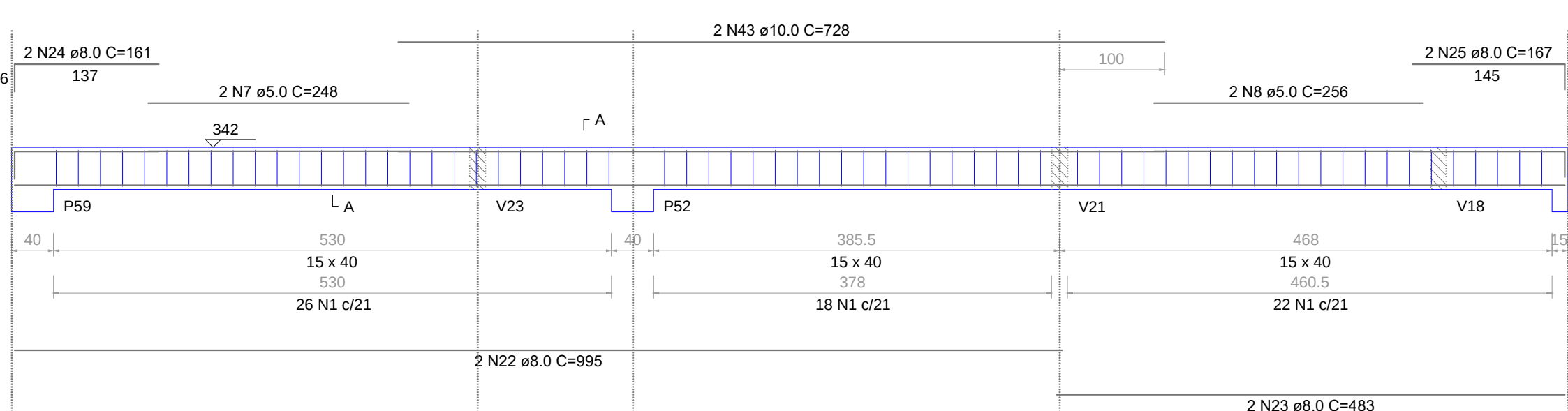
SEÇÃO A-A

ESC 1:25



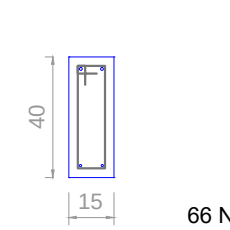
V45

ESC 1:50



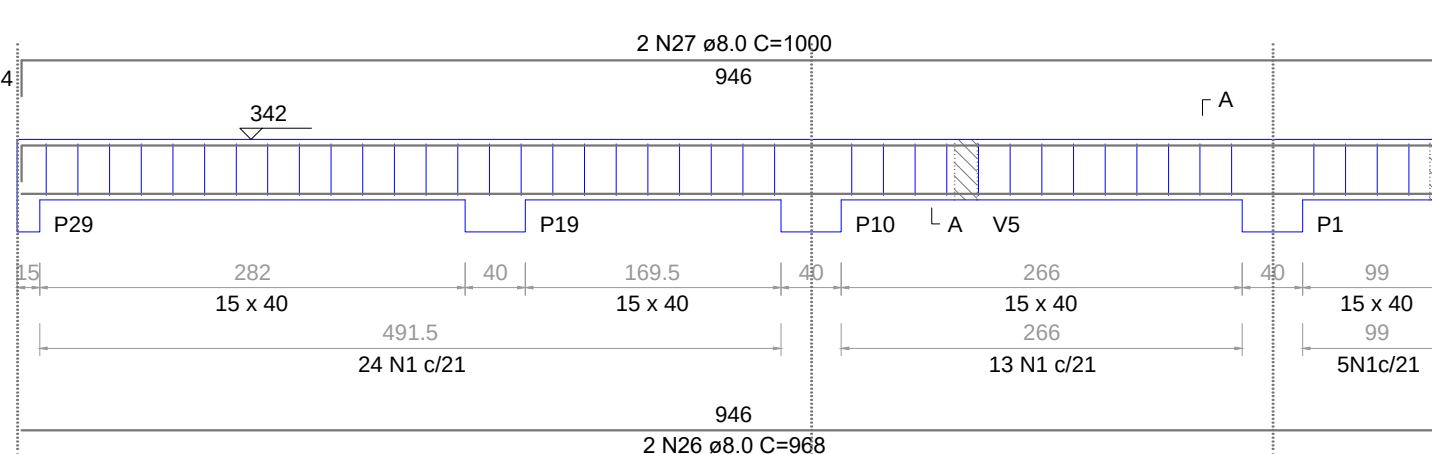
SEÇÃO A-A

ESC 1:25



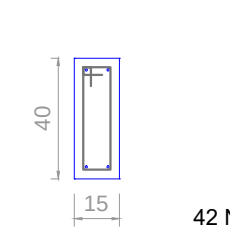
V46

ESC 1:50



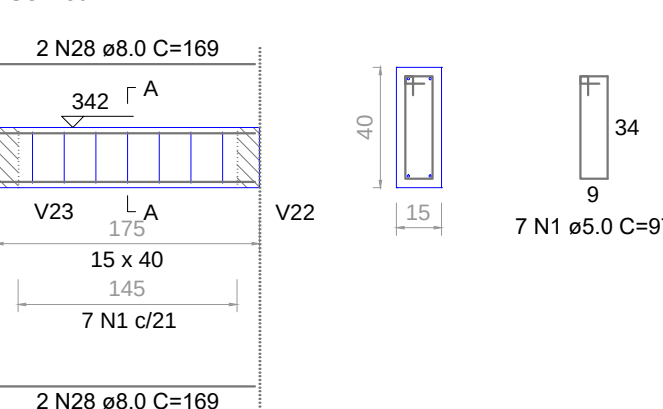
SEÇÃO A-A

ESC 1:25



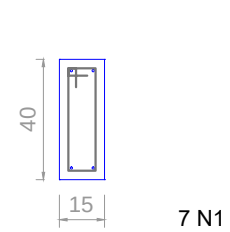
V47

ESC 1:50



SEÇÃO A-A

ESC 1:25



RELAÇÃO DO AÇO

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	488	97	47336
	2	5.0	2	230	460
	3	5.0	2	250	500
	4	5.0	2	330	660
	5	5.0	2	395	790
	6	5.0	2	410	820
	7	5.0	2	248	496
	8	5.0	2	256	512
	9	6.3	1	71	71
	10	8.0	2	224	448
CA50	11	8.0	2	278	556
	12	8.0	2	290	580
	13	8.0	2	490	980
	14	8.0	2	714	1428
	15	8.0	2	127	254
	16	8.0	2	481	962
	17	8.0	2	1180	2360
	18	8.0	2	1170	2340
	19	8.0	2	699	1398
	20	8.0	1	140	140
	21	8.0	2	935	1870
	22	8.0	2	995	1990
	23	8.0	2	483	966
	24	8.0	2	161	322
	25	8.0	2	167	334
	26	8.0	2	968	1936
	27	8.0	2	1000	2000
	28	8.0	4	169	676
	29	10.0	1	280	280
	30	10.0	2	492	984
	31	10.0	2	694	1388
	32	10.0	2	470	940
	33	10.0	1	175	175
	34	10.0	1	154	154
	35	10.0	2	879	1758
	36	10.0	2	697	1394
	37	10.0	2	482	964
	38	10.0	2	185	370
	39	10.0	2	716	1432
	40	10.0	2	533	1066
	41	10.0	2	1180	2360
	42	10.0	2	209	418
	43	10.0	2	728	1456
	44	12.5	2	110	220
	45	12.5	1	275	275
	46	12.5	2	668	1336
	47	12.5	2	497	994
	48	12.5	1	265	265
	49	12.5	2	1046	2092
	50	12.5	2	234	468
	51	12.5	1	186	186
	52	12.5	2	236	472

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	6.3	0.7	0.2
	8.0	215.4	93.5
	10.0	151.4	102.7
	12.5	63.1	66.8
CA60	5.0	515.7	87.4

PESO TOTAL (kg)

CA50	263.2
CA60	87.4

Volume de concreto (C-30) = 6.52 m³

Área de forma = 103.16 m²

CEI PROF. JOSÉ SANTOS NUNES

Localização:
Rua João Ribeiro, 51 No. Bairro
São Luiz,
Tubarão - SC

CONTEÚDO:
DETALHAMENTO DAS VIGAS
BALDRAME

RESP. TÉCNICO:
GABRIELA BRESSAN PEDROSO
Engenheiro Civil CREA-SC 142.195-1
SOFIA LIMA VIEIRA
Engenheiro Civil CREA-SC 138.383-6

DATA:
JULHO / 2025

ESCALA:
Indicada

ÁREA TOTAL
CONSTRUIDA:
755.97 m²

PRANCHA:
11/26

LB

LIBRE

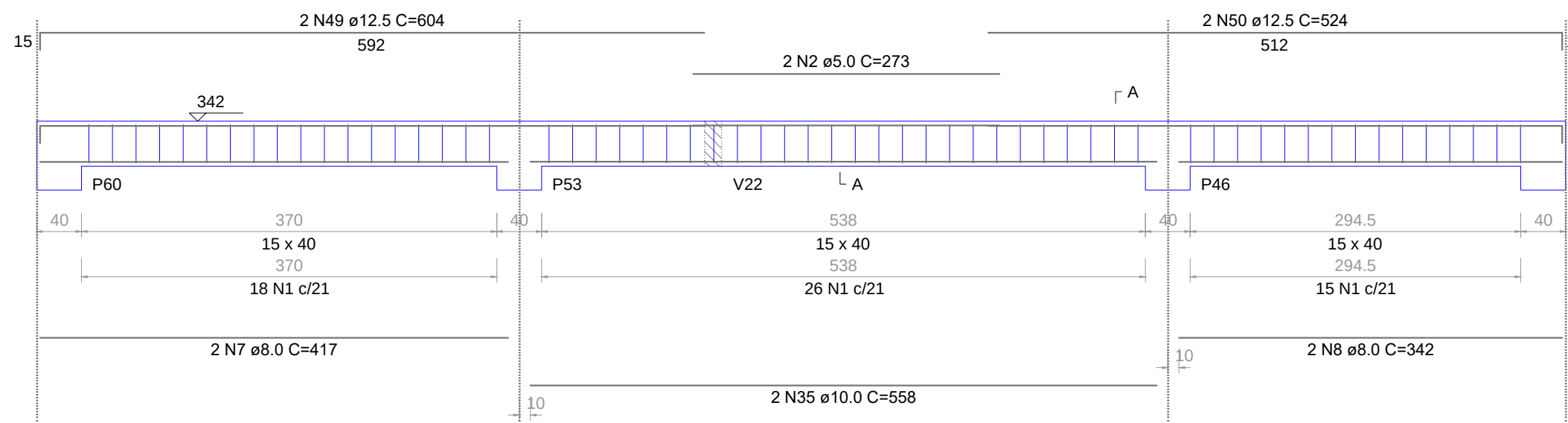
ENGENHARIA
Rua Florianoópolis, 388 - Sala 03
Vila Moema - Tubarão/SC
48 9.3929.9893 / 48 9.3929.5521

PROPRIETÁRIO:

Município de Tubarão
CNPJ 02.926.698/0001-93

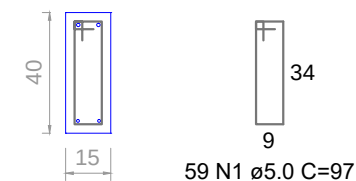
V48

ESC 1:50



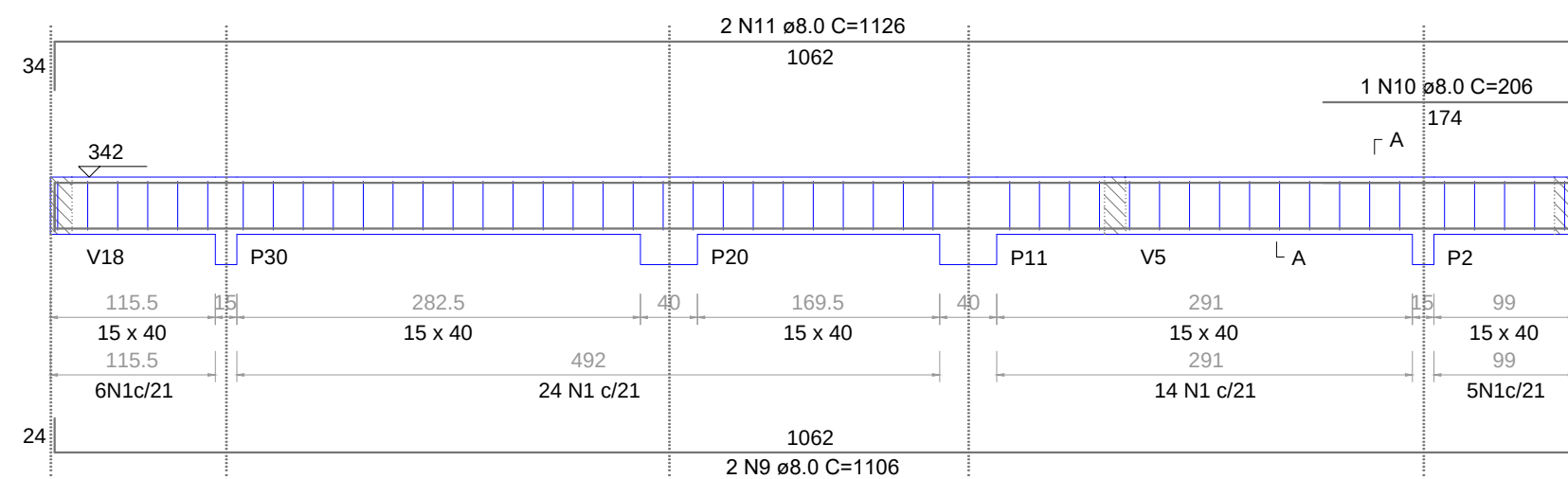
SEÇÃO A-A

ESC 1:25



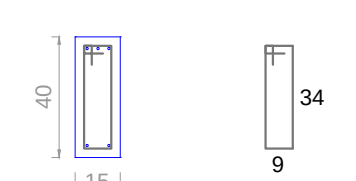
V49

ESC 1:50



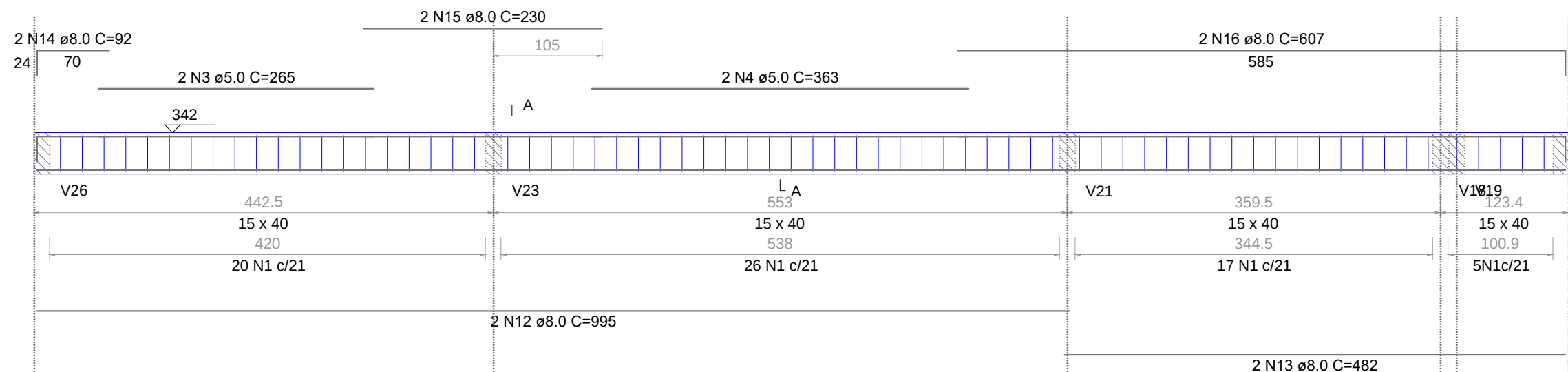
SEÇÃO A-A

ESC 1:25



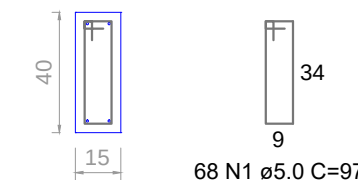
V50

ESC 1:50



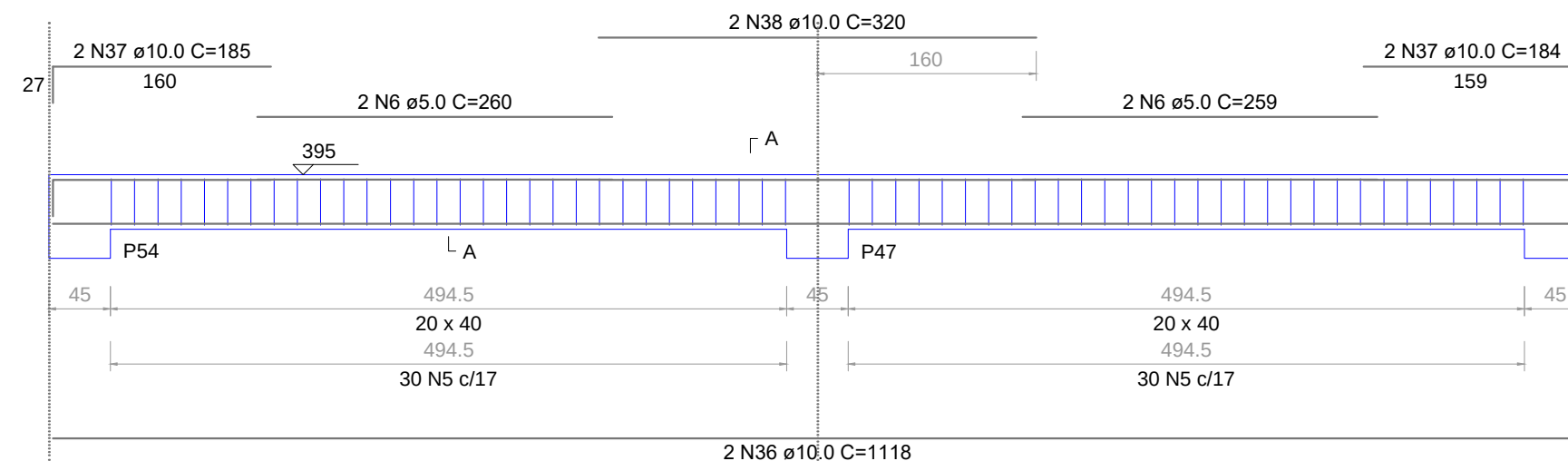
SEÇÃO A-A

ESC 1:25



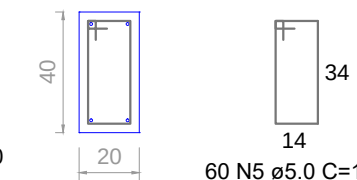
V51

ESC 1:50



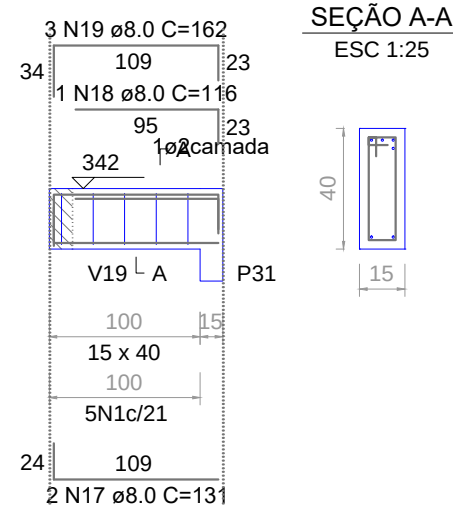
SEÇÃO A-A

ESC 1:25



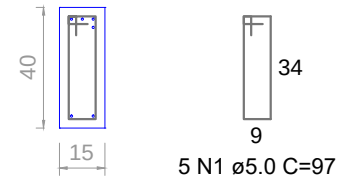
V52

ESC 1:50



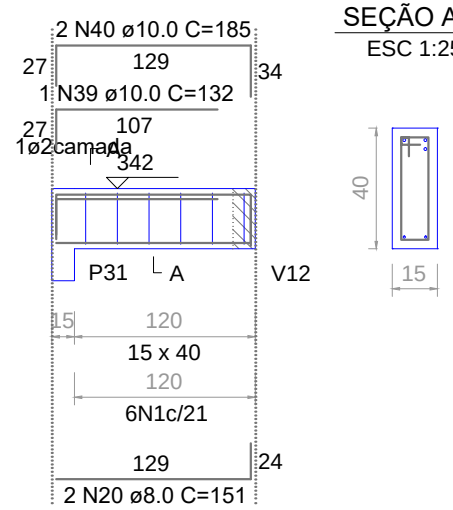
SEÇÃO A-A

ESC 1:25



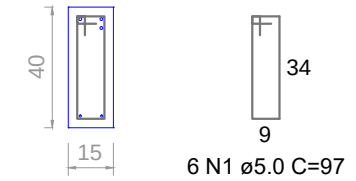
V53

ESC 1:50



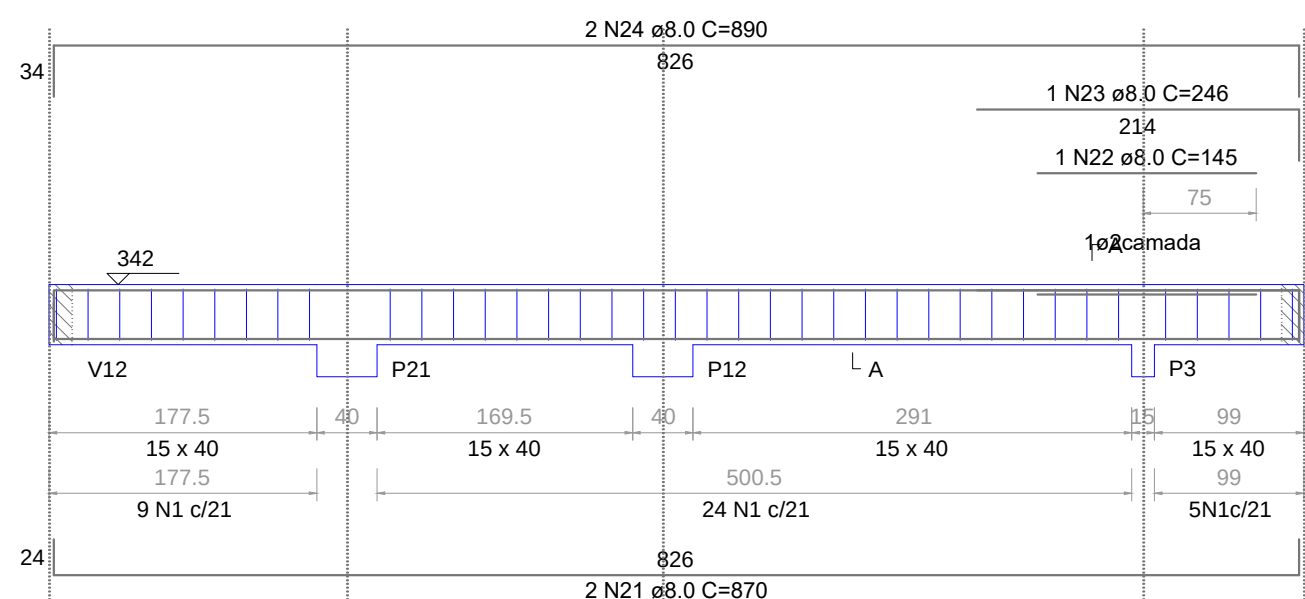
SEÇÃO A-A

ESC 1:25



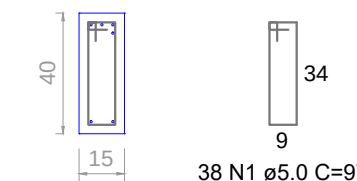
V54

ESC 1:50



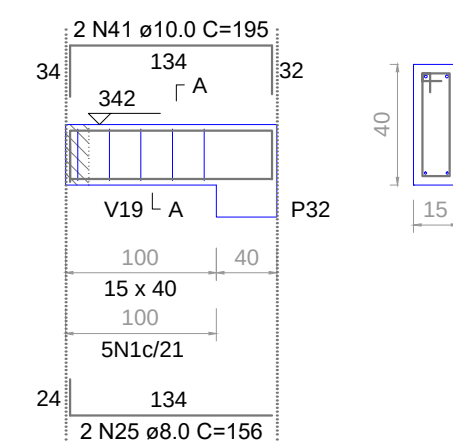
SEÇÃO A-A

ESC 1:25



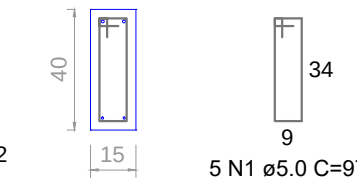
V55

ESC 1:50



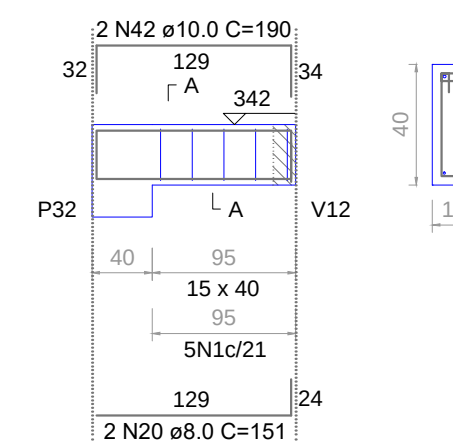
SEÇÃO A-A

ESC 1:25



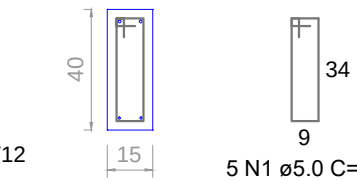
V56

ESC 1:50



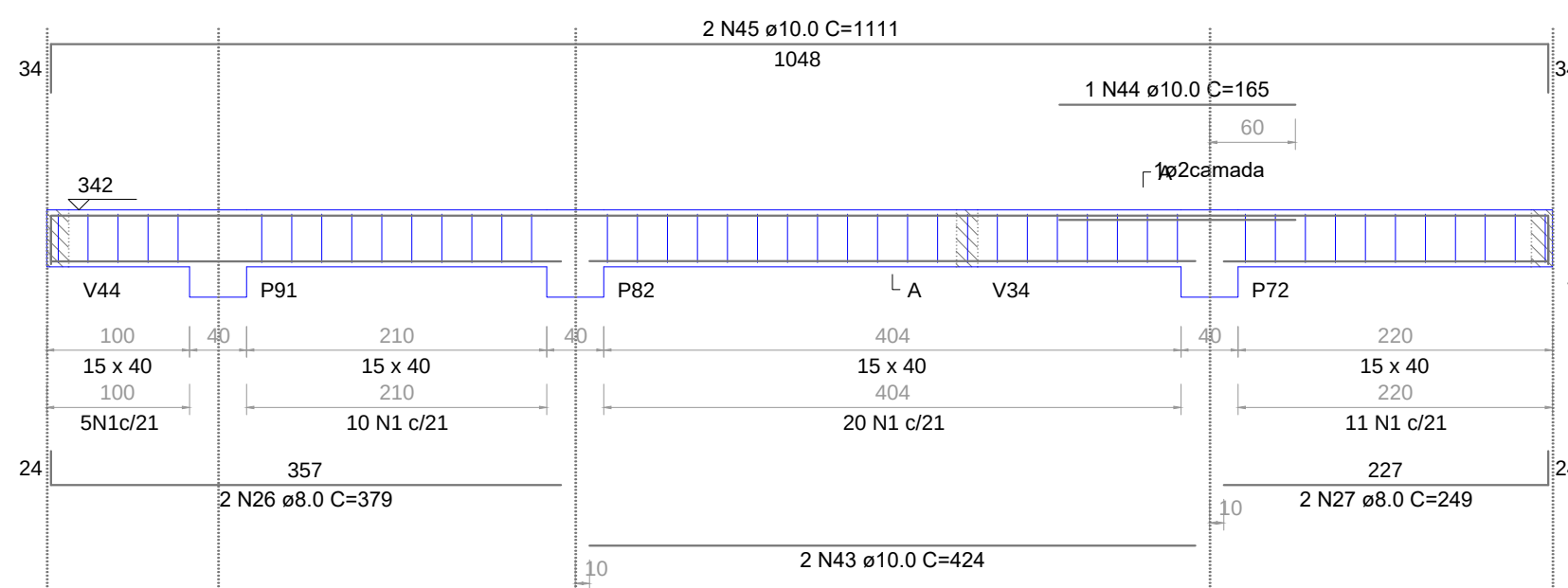
SEÇÃO A-A

ESC 1:25



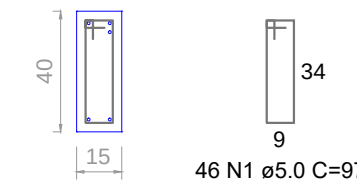
V57

ESC 1:50



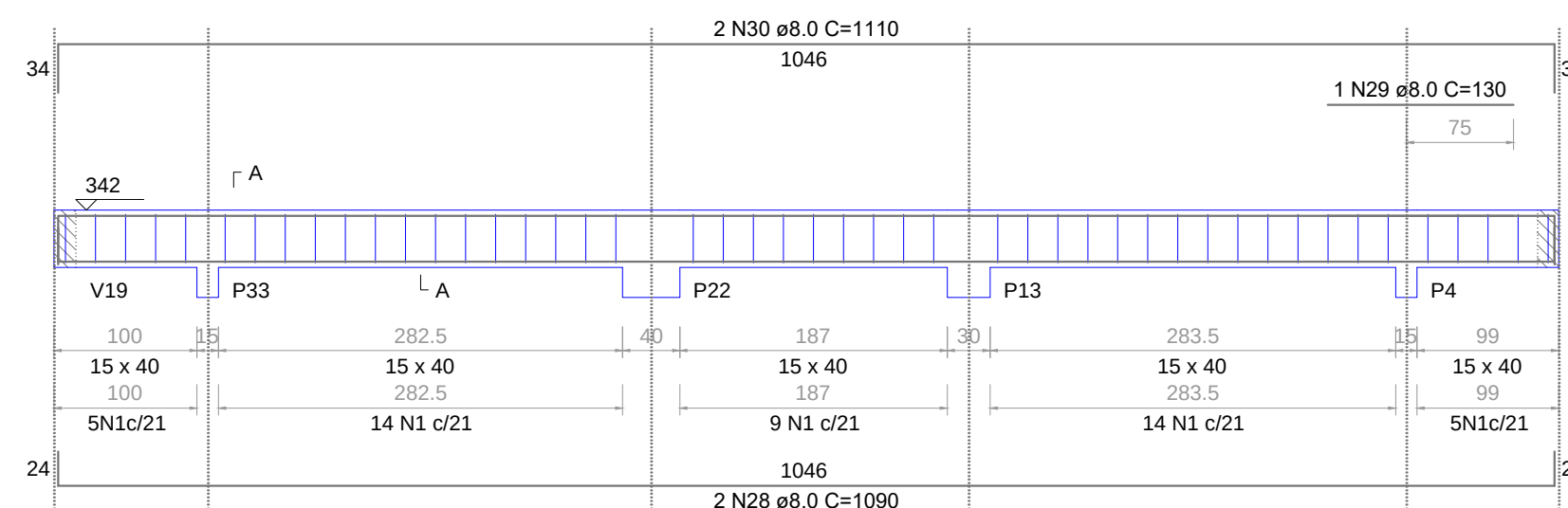
SEÇÃO A-A

ESC 1:25



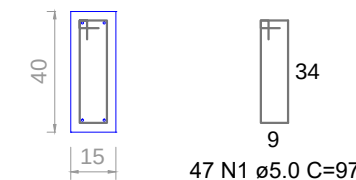
V58

ESC 1:50



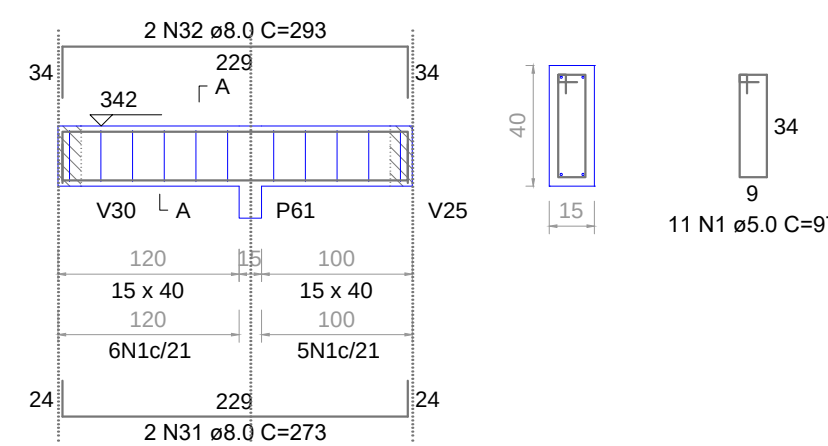
SEÇÃO A-A

ESC 1:25



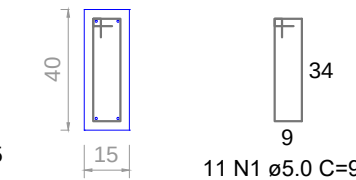
V59

ESC 1:50



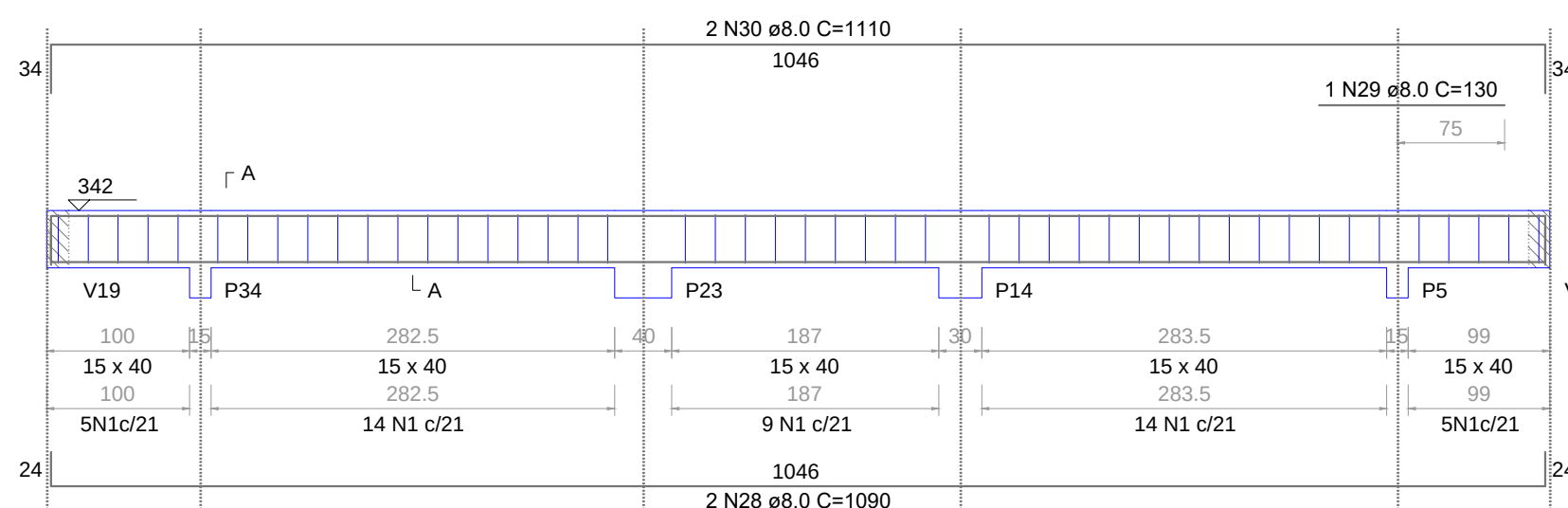
SEÇÃO A-A

ESC 1:25



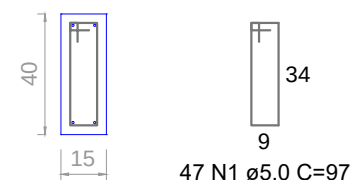
V60

ESC 1:50



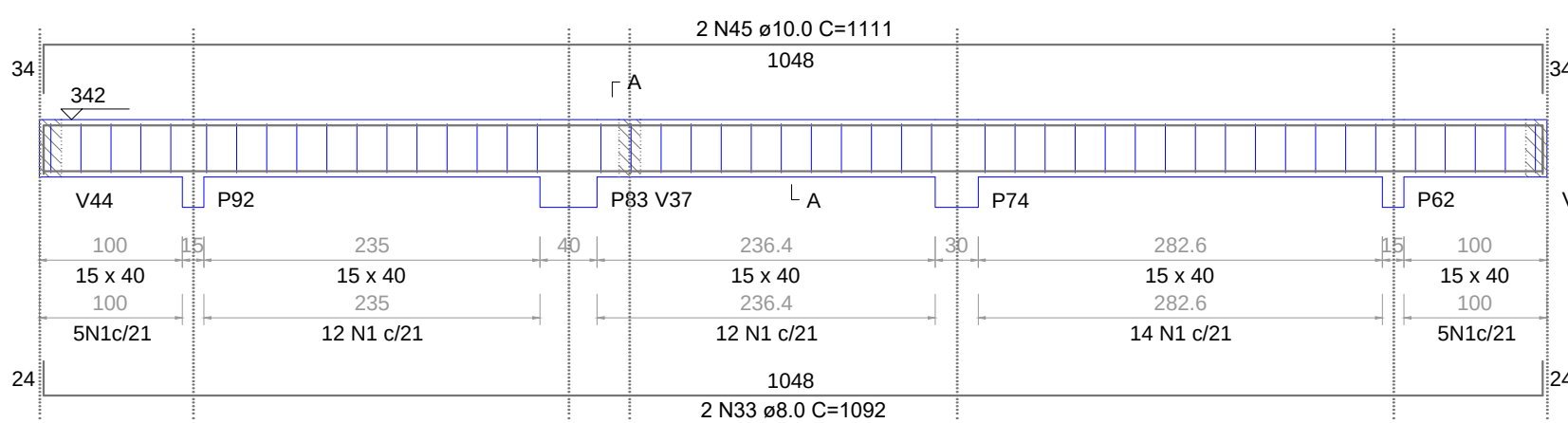
SEÇÃO A-A

ESC 1:25



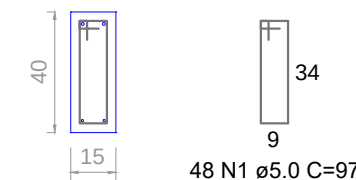
V61

ESC 1:50



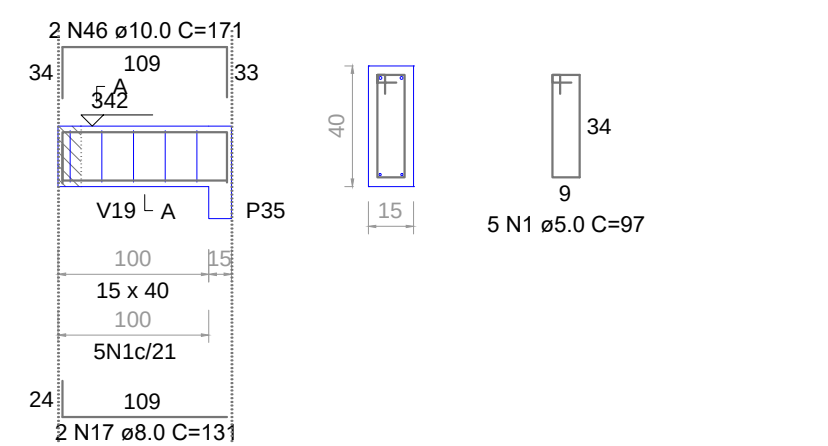
SEÇÃO A-A

ESC 1:25



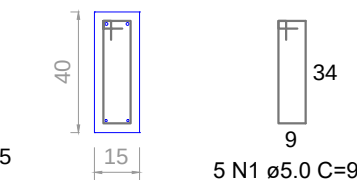
V62

ESC 1:50



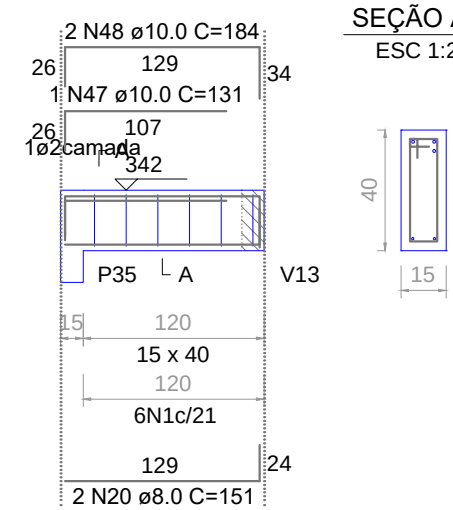
SEÇÃO A-A

ESC 1:25



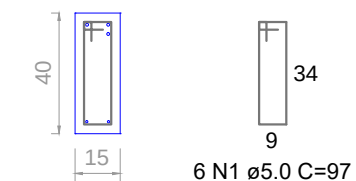
V63

ESC 1:50



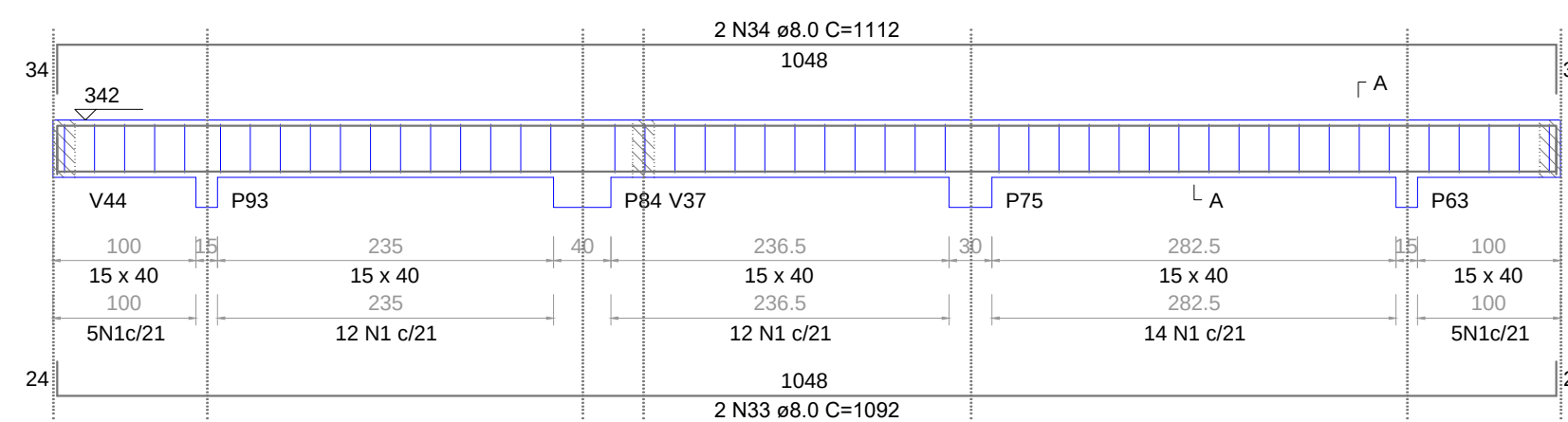
SEÇÃO A-A

ESC 1:25



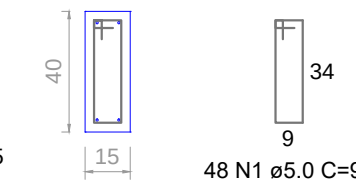
V64

ESC 1:50



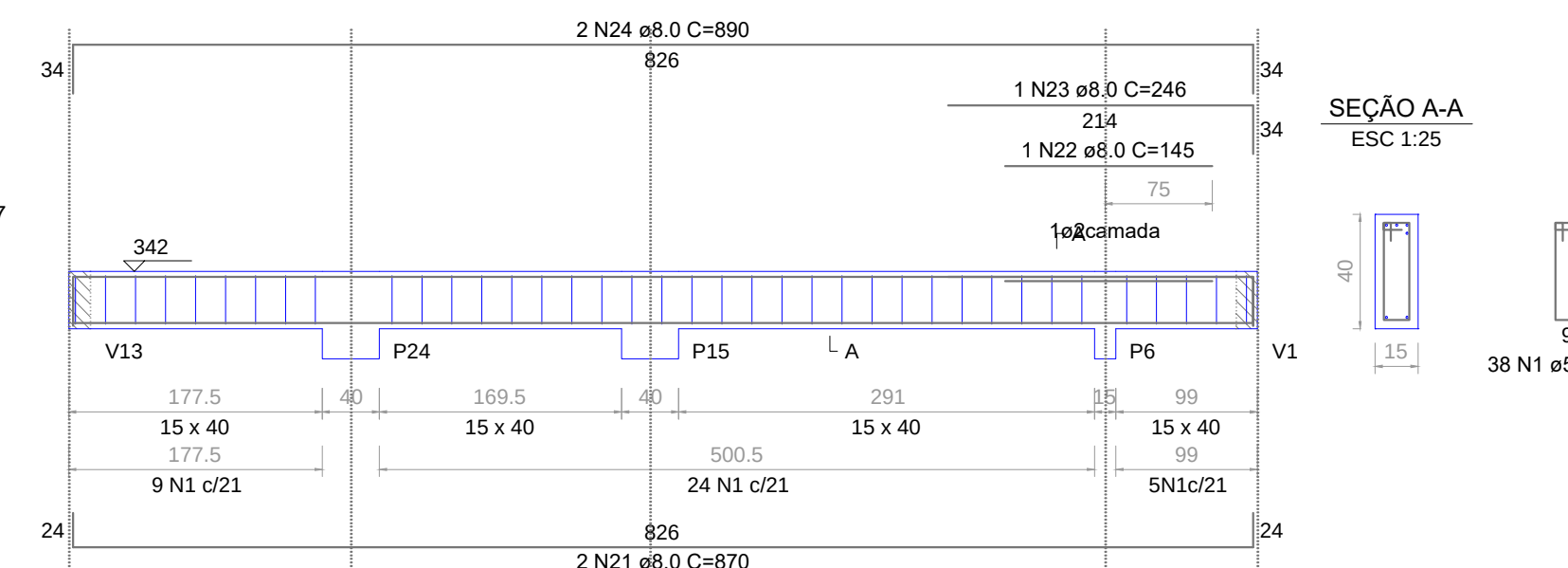
SEÇÃO A-A

ESC 1:25



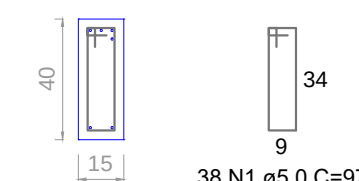
V65

ESC 1:50



SEÇÃO A-A

ESC 1:25



RELAÇÃO DO AÇO

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	531	97	51507
	2	5.0	2	273	546
	3	5.0	2	265	530
	4	5.0	2	363	726
	5	5.0	60	107	6420
	6	5.0	4	260	1040
	7	8.0	1	417	834
	8	8.0	2	342	684
	9	8.0	2	1106	2212
	10	8.0	1	206	206
	11	8.0	2	1126	2252
	12	8.0	2	995	1990
	13	8.0	2	462	924
	14	8.0	2	92	184
	15	8.0	2	230	460
	16	8.0	2	607	1214
	17	8.0	4	131	524
	18	8.0	1	116	116
	19	8.0	3	162	486
	20	8.0	6	151	906
	21	8.0	4	870	3480
	22	8.0	2	145	290
	23	8.0	2	246	492
	24	8.0	4	890	3560
	25	8.0	2	156	312
	26	8.0	2	379	758
	27	8.0	2	249	498
	28	8.0	4	1090	4360
	29	8.0	2	130	260
	30	8.0	4	1110	4440
	31	8.0	2	273	546
	32	8.0	2	293	586
	33	8.0	4	1092	4368
	34	8.0	2	1112	2224
	35	10.0	2	558	1116
	36	10.0	2	1118	2236
	37	10.0	4	185	740
	38	10.0	2	320	640
	39	10.0	1	132	132
	40	10.0	2	185	370
	41	10.0	2	195	390
	42	10.0	2	190	380
	43	10.0	2	424	848
	44	10.0	1	165	165
	45	10.0	4	1111	4444
	46	10.0	2	171	342
	47	10.0	1	131	131
	48	10.0	2	184	368
	49	12.5	2	604	1208
	50	12.5	2	524	1048

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	8.0	392.1	170.2
	10.0	123	83.4
	12.5	22.6	23.9
CA60	5.0	607.7	103
PESO TOTAL (kg)			
CA50		277.5	
CA60		103	

Volume de concreto (C-30) = 8.01 m³

Área de forma = 123.80 m²

CEI PROF. JOSÉ SANTOS NUNES

Localização:
Rua João Ribeiro, 31 No. Bairro
São Luiz,
Tubarão - SC

CONTEÚDO:

DETALHAMENTO DAS VIGAS

BALDRAME

LIBRE ENGENHARIA

Rua Florianoópolis, 388 - Sala 03
Vila Moema - Tubarão/SC
48 9 3929 3933 / 48 9 3933 5531

PROPRIETÁRIO:

Município de Tubarão
CNPJ 02.926.696/0001-33RESP. TÉCNICO:
GABRIELA BRESSAN PEDROSO
Engenheira Civil CREA-SC 142.195-1
SOFIA LIMA VIEIRA
Engenheira Civil CREA-SC 138.383-6

DATA:

JULHO / 2025

ESCALA:

Indicada

ÁREA TOTAL

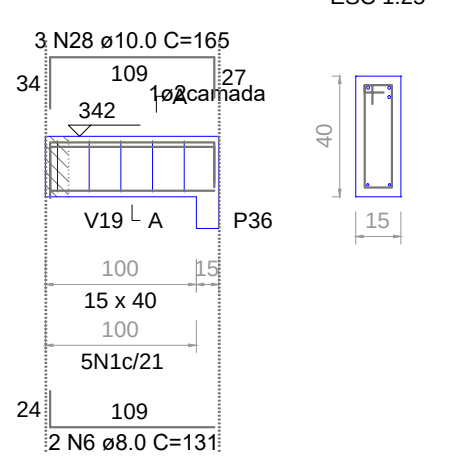
CONSTRUIDA:

755,97 m²

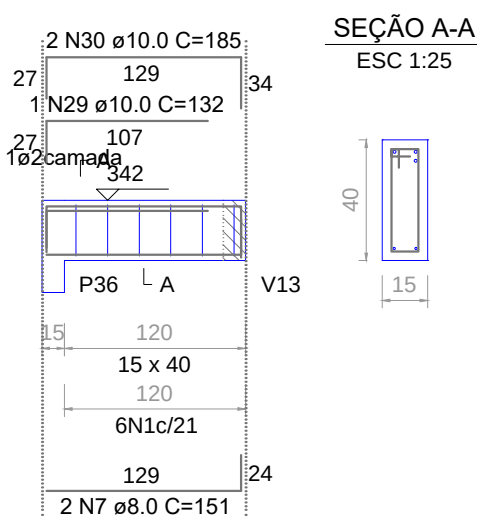
PRANCHA:

12/26

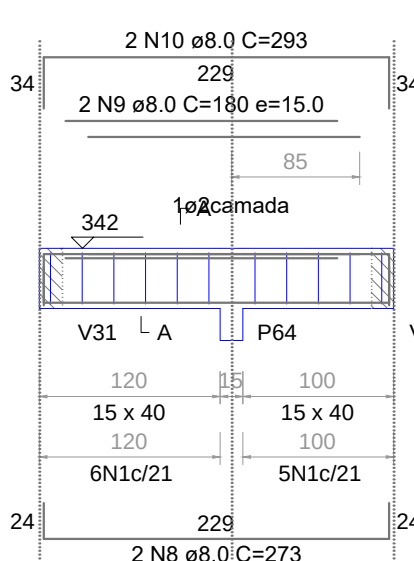
V66
ESC 1:50



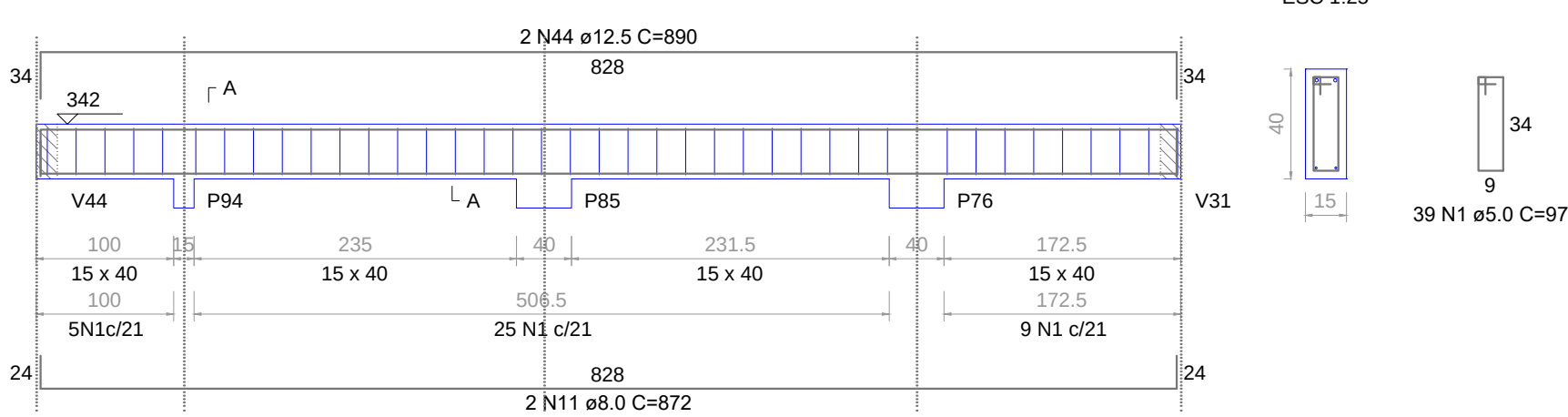
V67
ESC 1:50



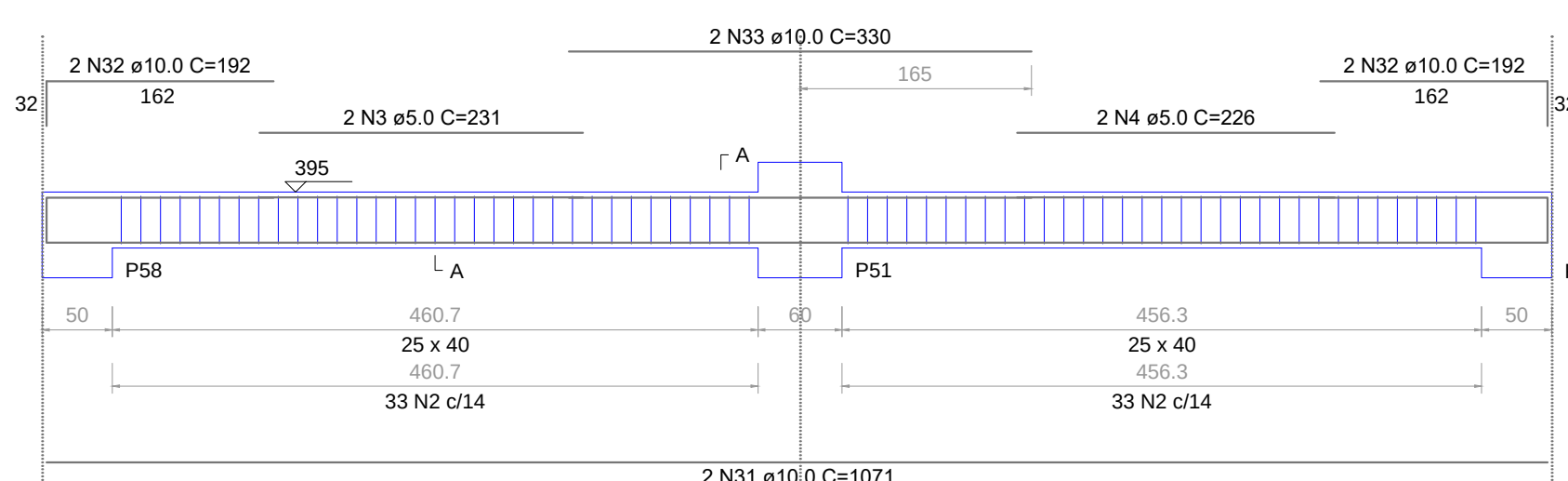
V68
ESC 1:50



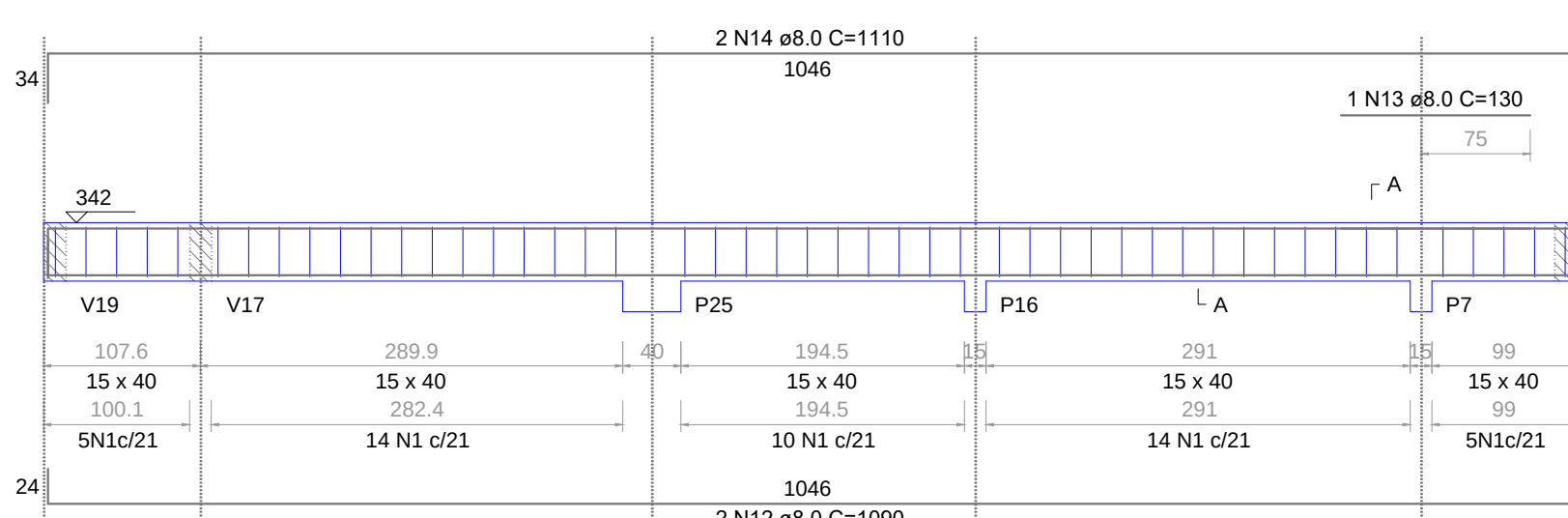
V69
ESC 1:50



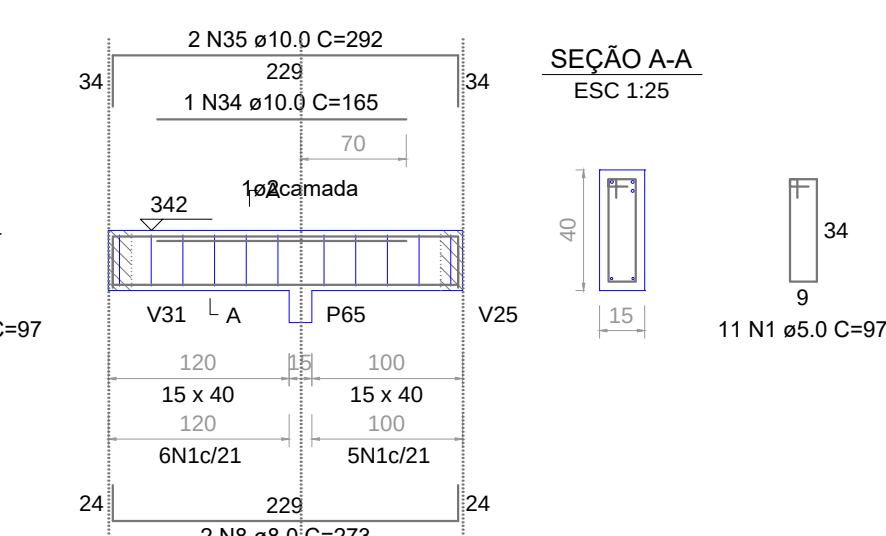
V70
ESC 1:50



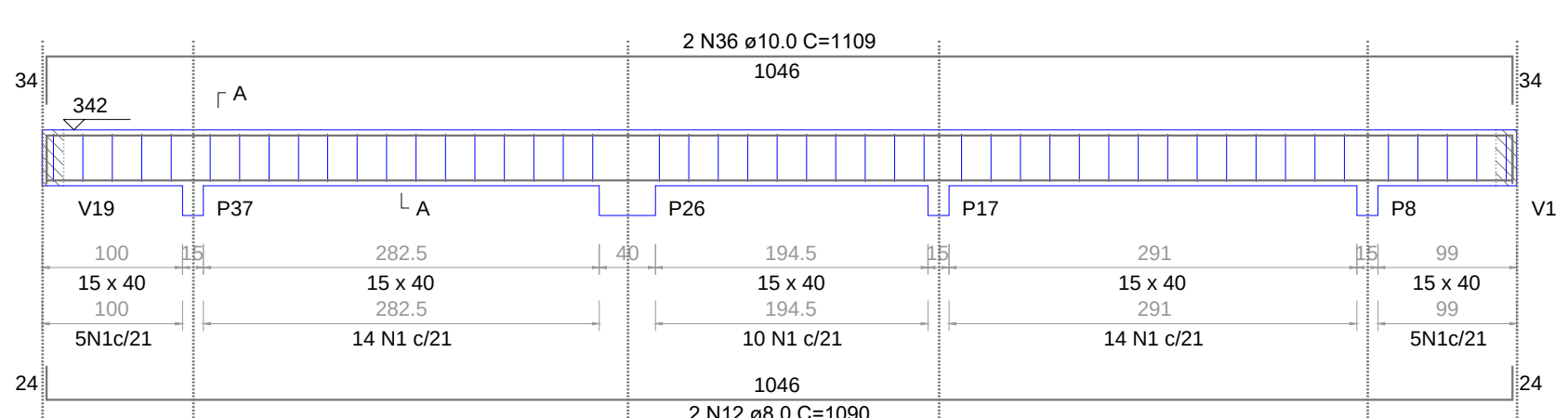
V71
ESC 1:50



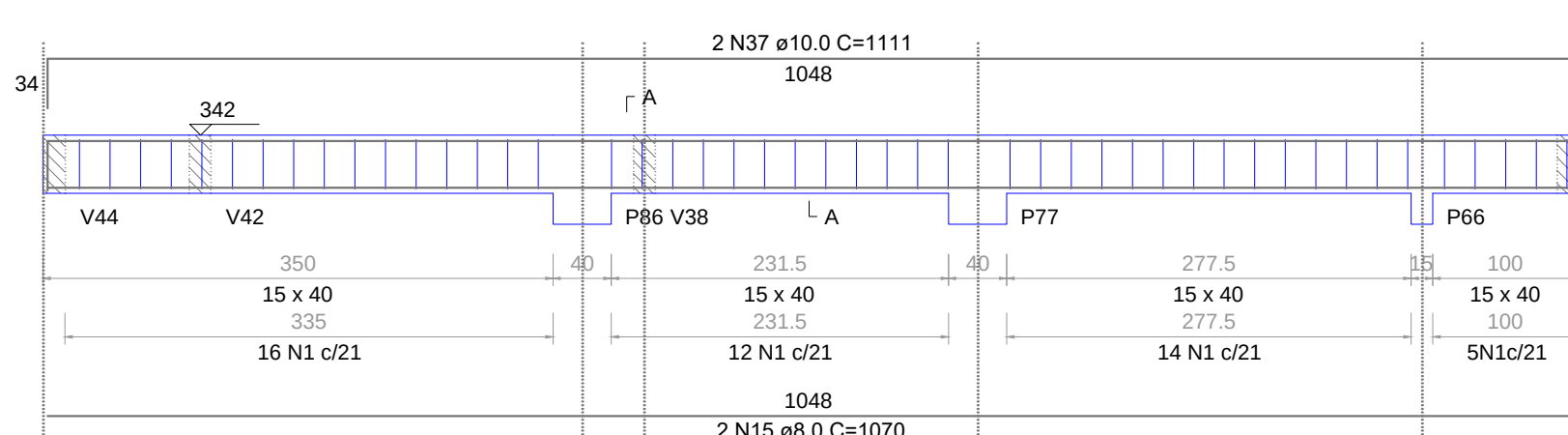
V72
ESC 1:50



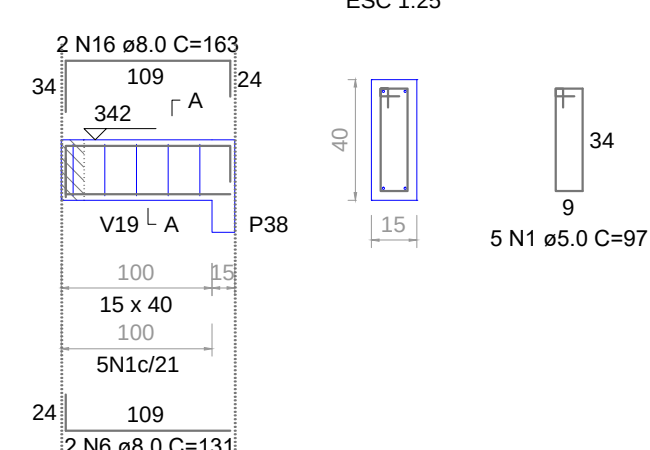
V73
ESC 1:50



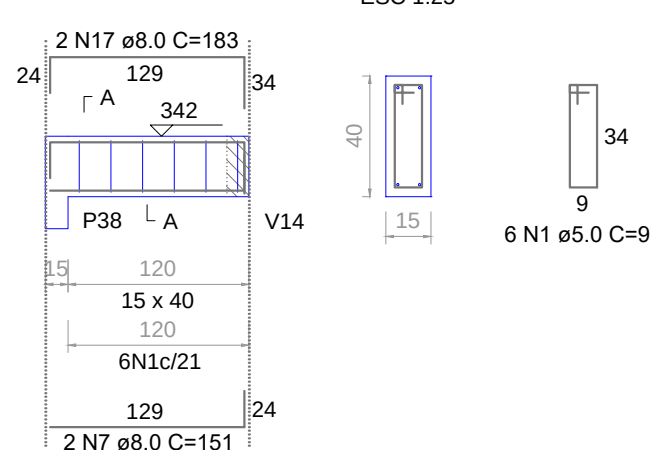
V74
ESC 1:50



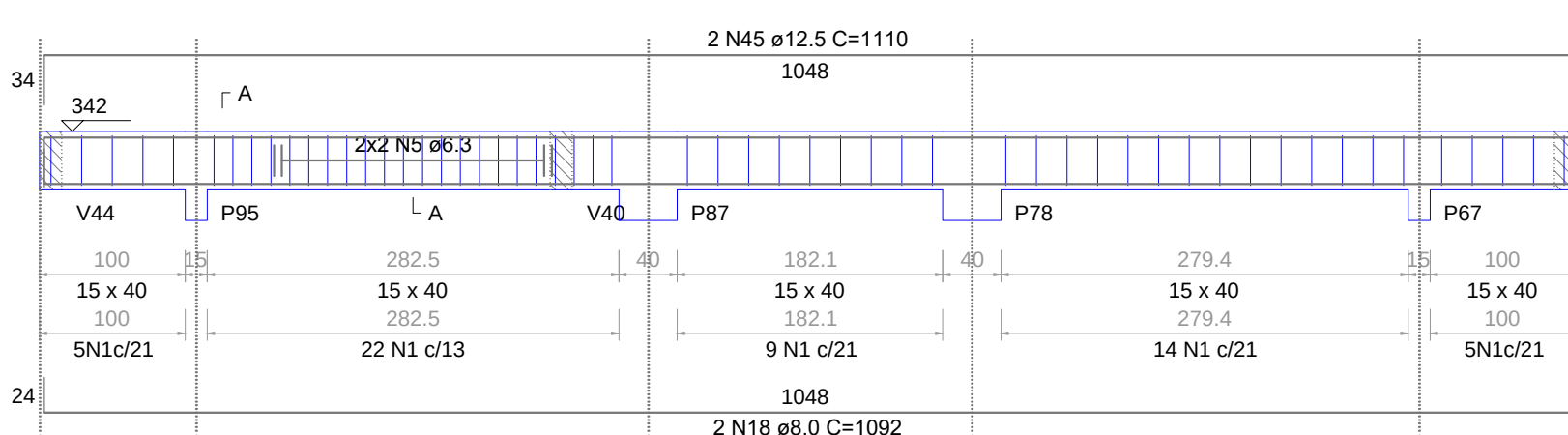
V75
ESC 1:50



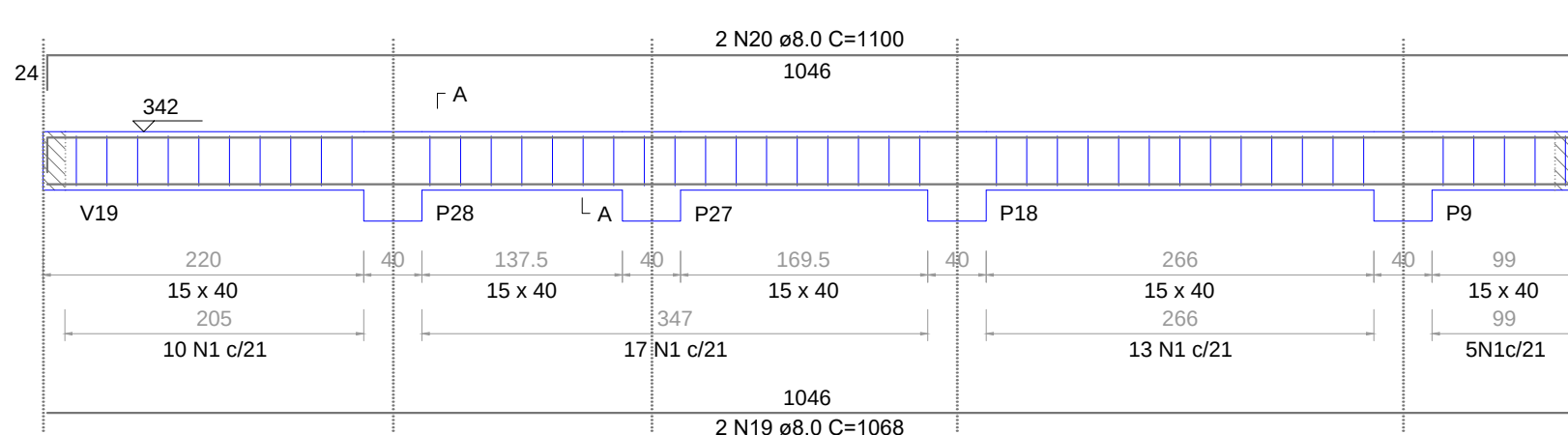
V76
ESC 1:50



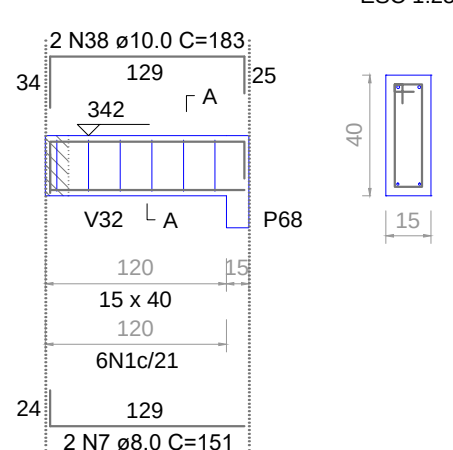
V77
ESC 1:50



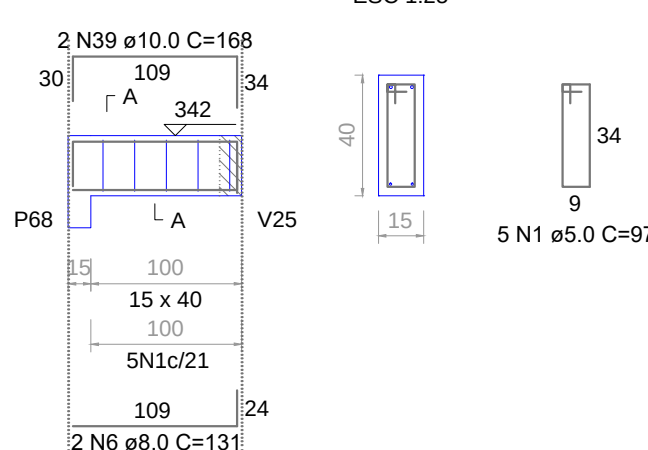
V78
ESC 1:50



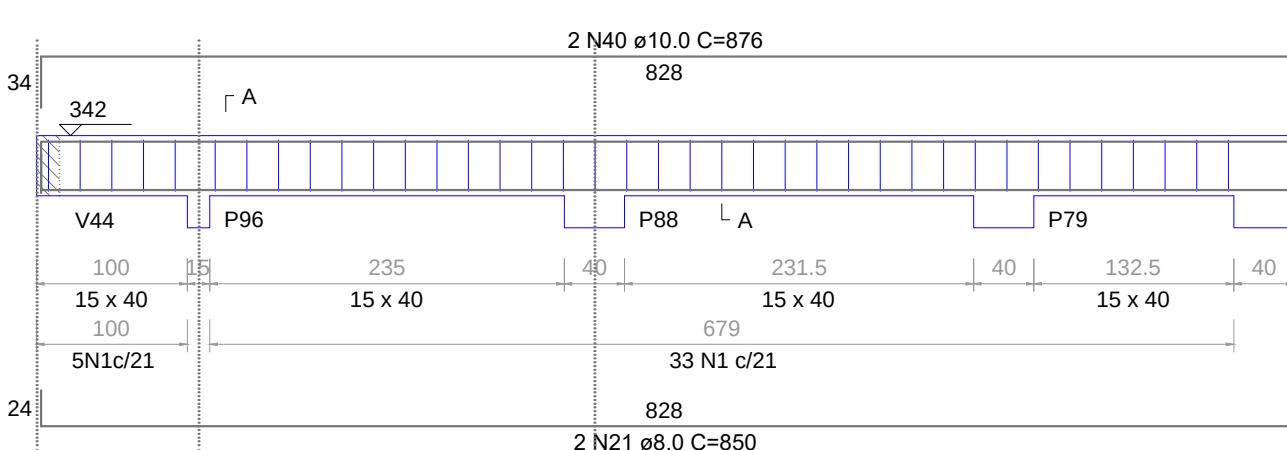
V79
ESC 1:50



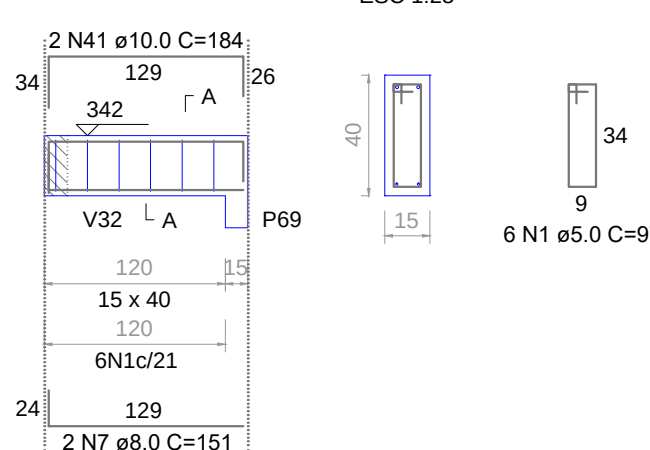
V80
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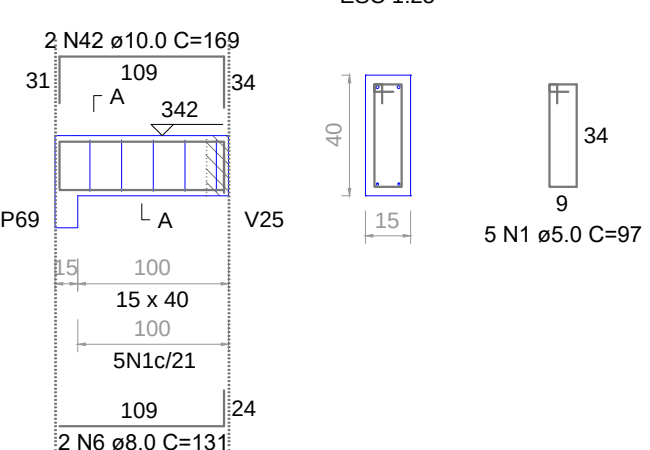
V81
ESC 1:50



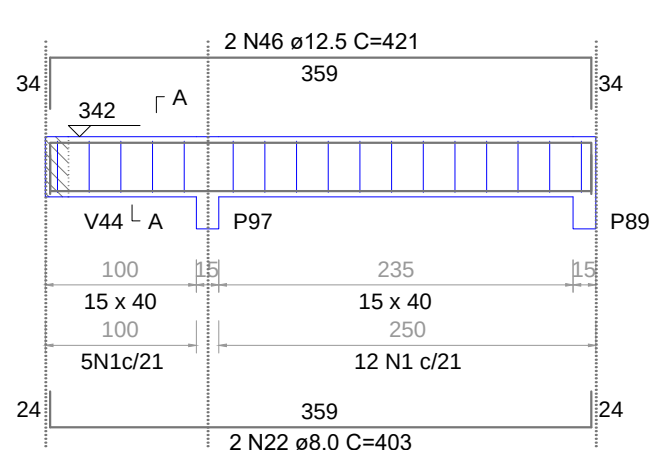
V82
ESC 1:50



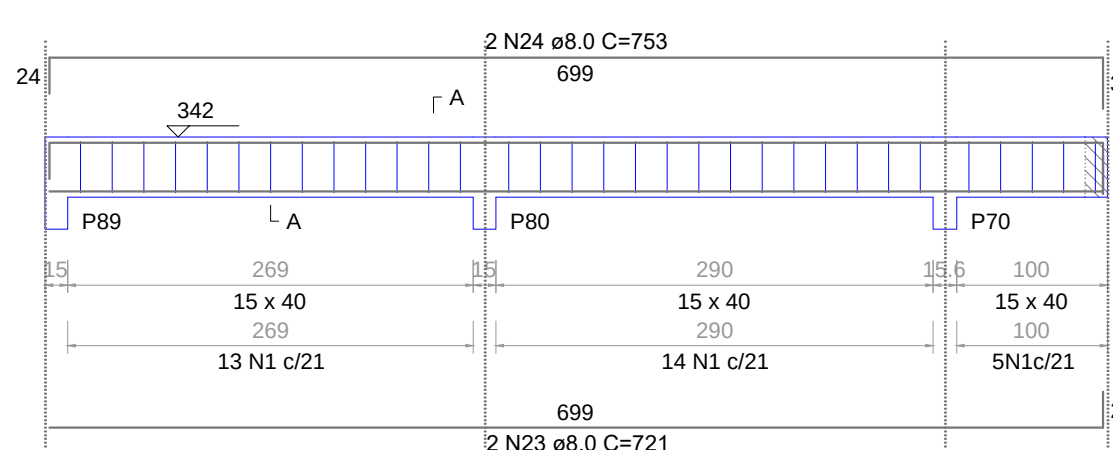
V83
ESC 1:50



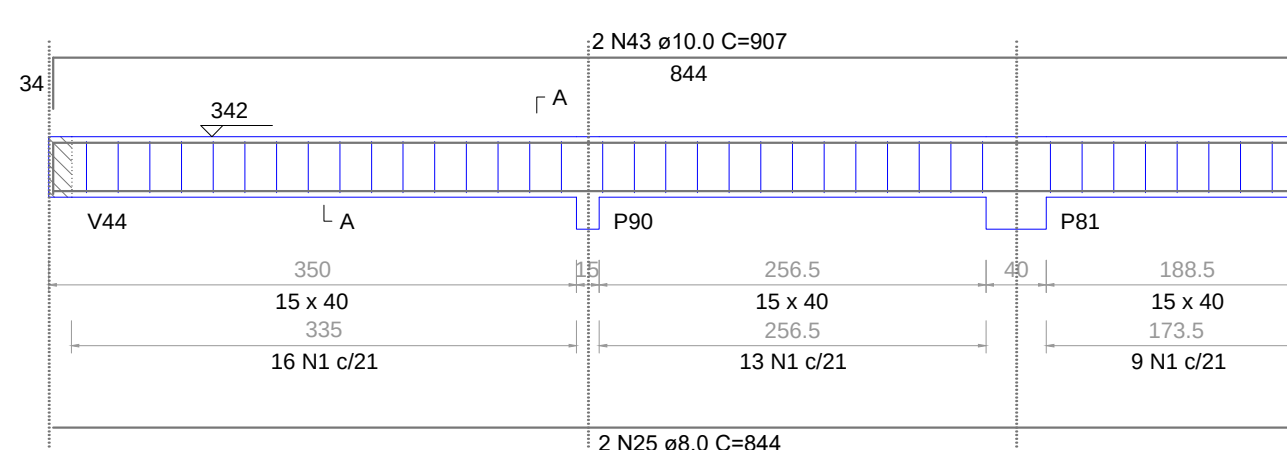
V84
ESC 1:50



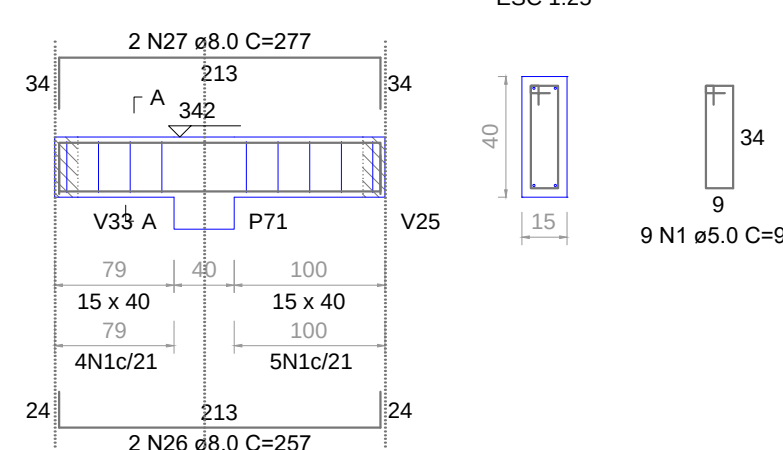
V85
ESC 1:50



V86
ESC 1:50



V87
ESC 1:50



RELAÇÃO DO AÇO

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
V66	1	5.0	482	97	46754
V69	2	5.0	66	117	7722
V72	3	5.0	2	231	462
V75	4	5.0	2	226	452
V78	5	6.3	4	corr	1324
V81	6	8.0	8	131	1048
V84	7	8.0	8	151	1208
V87	8	8.0	4	273	1092
	9	8.0	2	180	360
	10	8.0	2	293	586
	11	8.0	2	872	1744
	12	8.0	4	1090	4360
	13	8.0	1	130	130
	14	8.0	2	1110	2220
	15	8.0	2	1070	2140
	16	8.0	2	163	326
	17	8.0	2	183	366
	18	8.0	2	1092	2184
	19	8.0	2	1068	2136
	20	8.0	2	1100	2200
	21	8.0	2	850	1700
	22	8.0	2	403	806
	23	8.0	2	721	1442
	24	8.0	2	753	1506
	25	8.0	2	844	1688
	26	8.0	2	257	514
	27	8.0	2	277	554
	28	10.0	3	165	495
	29	10.0	1	132	132
	30	10.0	2	185	370
	31	10.0	2	1071	2142
	32	10.0	4	192	768
	33	10.0	2	330	660
	34	10.0	1	165	165
	35	10.0	2	292	584
	36	10.0	2	1109	2218
	37	10.0	2	1111	2222
	38	10.0	2	183	366
	39	10.0	2	168	336
	40	10.0	2	876	1752
	41	10.0	2	184	368
	42	10.0	2	169	338
	43	10.0	2	907	1814
	44	12.5	2	890	1780
	45	12.5	2	1110	2220
	46	12.5	2	421	842

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	6.3	13.2	3.6
	8.0	303.1	131.6
	10.0	147.3	99.9
	12.5	46.4	51.3
CA60	5.0	553.9	93.9
PESO TOTAL (kg)			
CA50		286.3	
CA60		93.9	

Volume de concreto (C-30) = 7.40 m³

Área de forma = 111.45 m²

CEI PROF. JOSÉ SANTOS NUNES

Localização:
Rua João Ribeiro, 91 No. Bairro
São Luiz,
Tubarão - SC

CONTEÚDO:
DETALHAMENTO DAS VIGAS
BALDRAME

RESP. TÉCNICO:
GABRIELA BRESSAN PEDROSO
Engenheiro Civil CREA-SC 142.195-1
SOFIA LIMA VIEIRA
Engenheiro Civil CREA-SC 138.383-6

DATA:
JULHO / 2025

ESCALA:
Indicada

ÁREA TOTAL
CONSTRUIDA:
755,97 m²

PRANCHA:
13/26



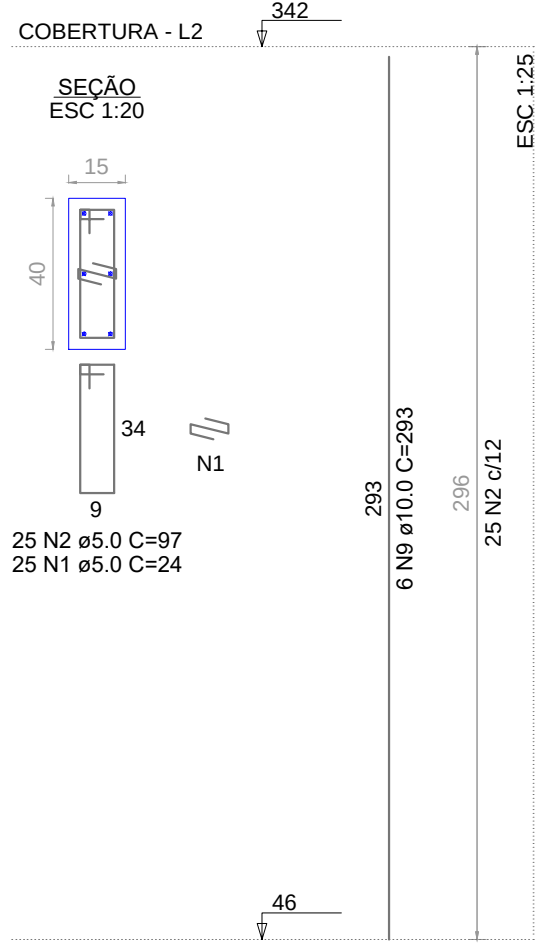
LIBRE
ENGENHARIA

Rua Florianoópolis, 388 - Sala 03
Vila Moema - Tubarão/SC
48 9.9029.9893 / 48 9.9818.5531

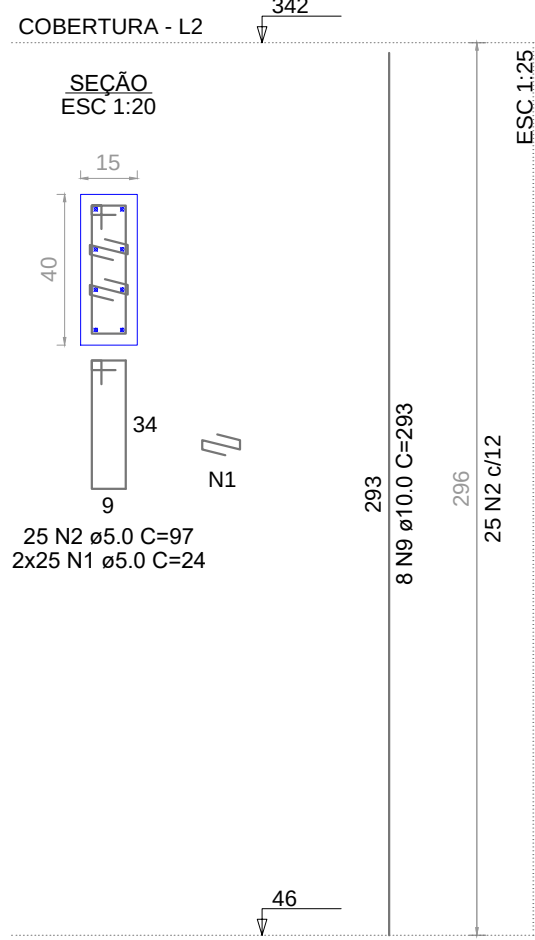
PROPRIETÁRIO:

Município de Tubarão
CNPJ 02.926.696/0001-93

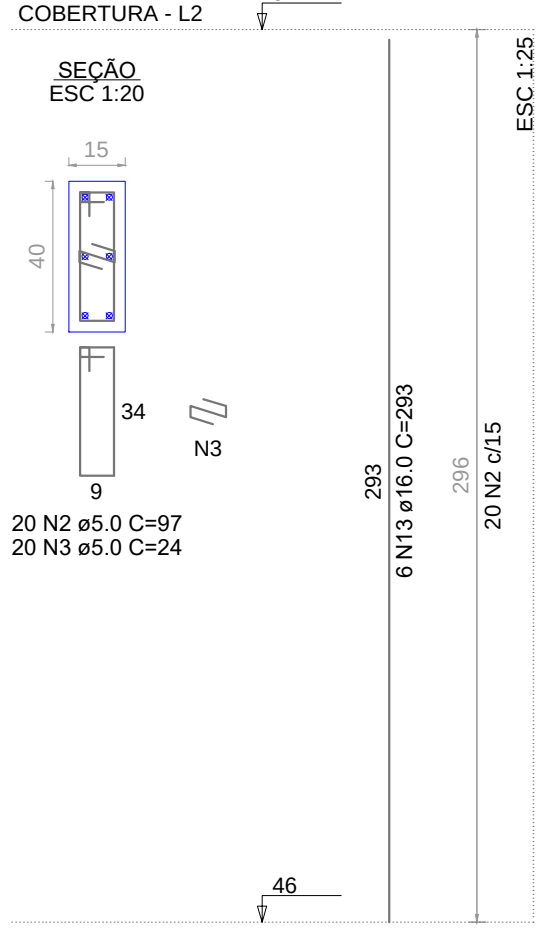
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=P19=P20=P21=P22=P23=
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=P30=P31=P32=P33=P34=
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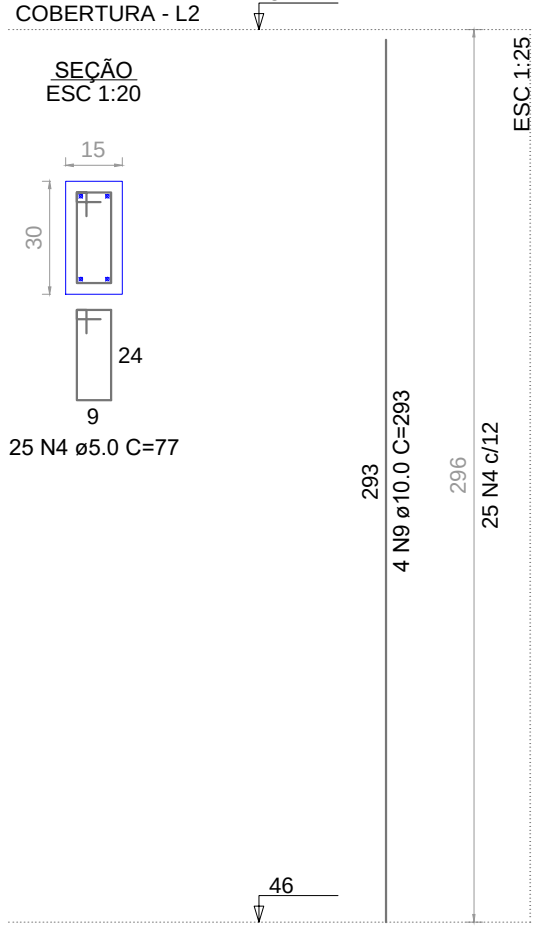
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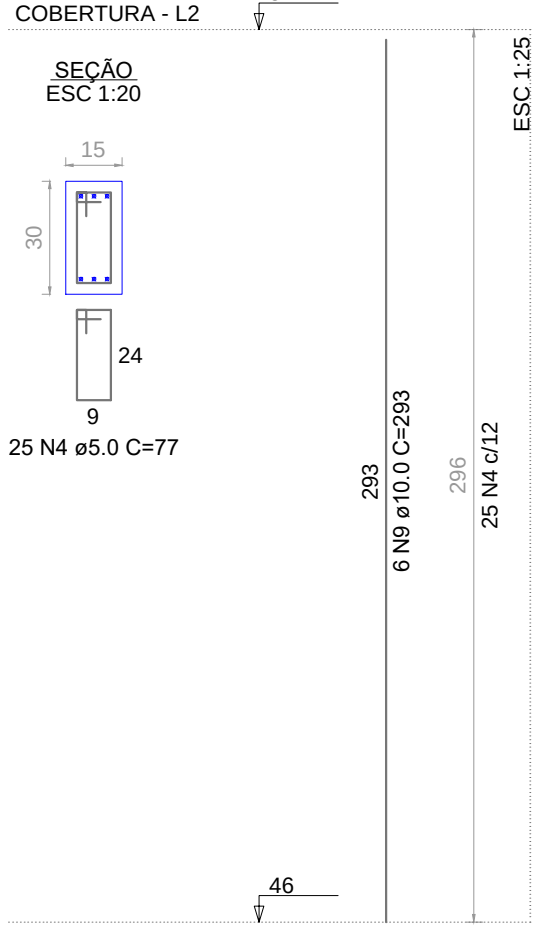
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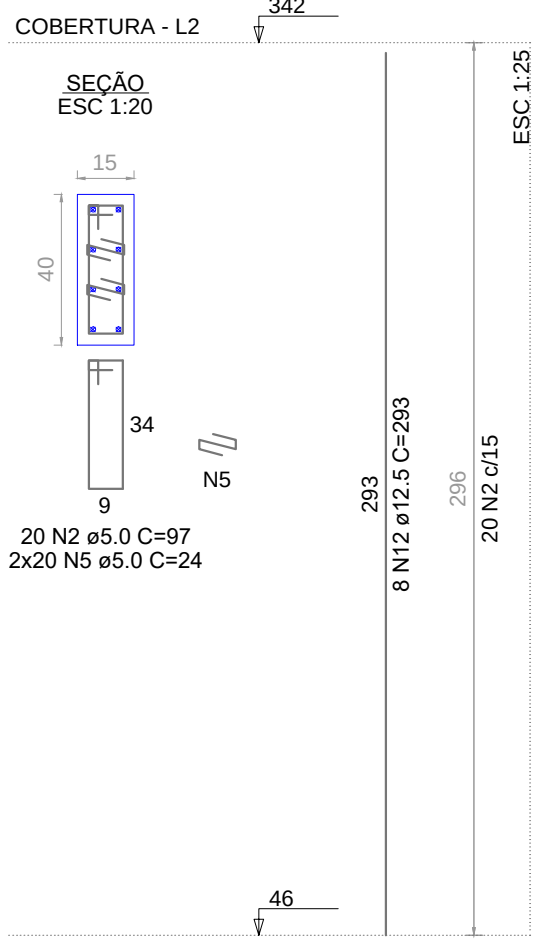
P13=P14



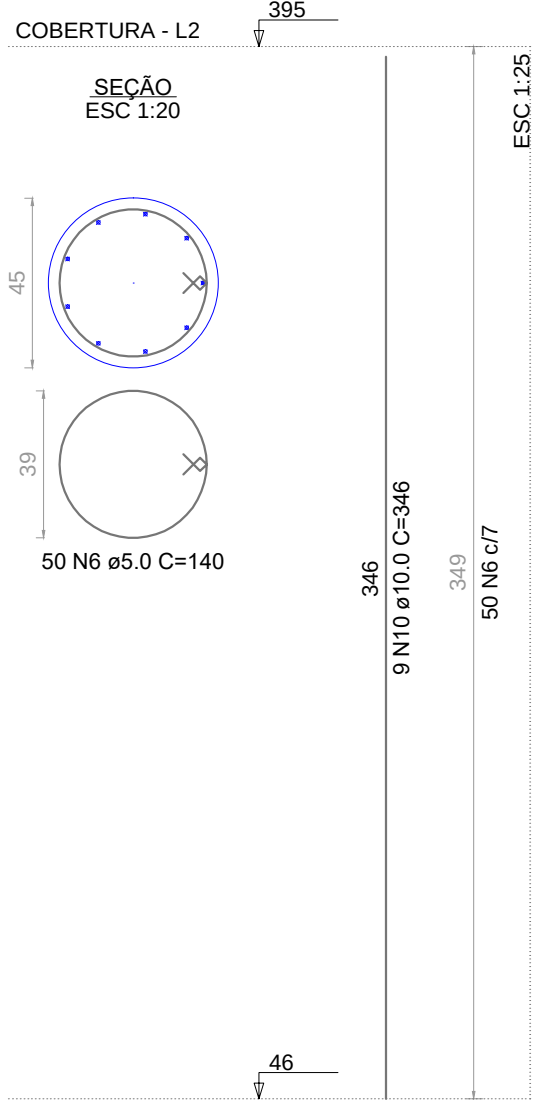
P16



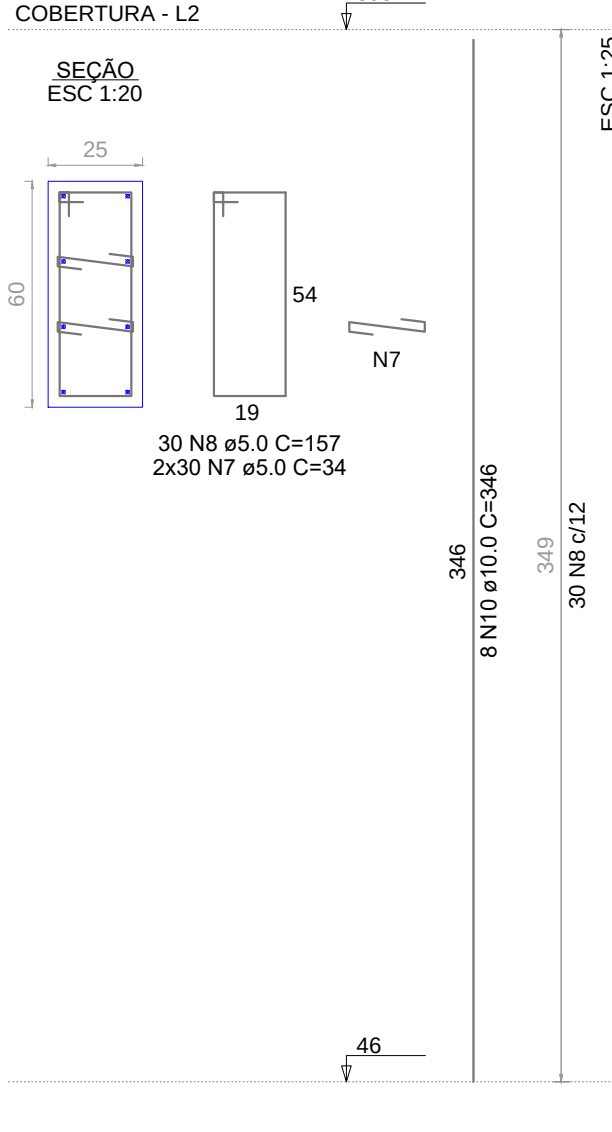
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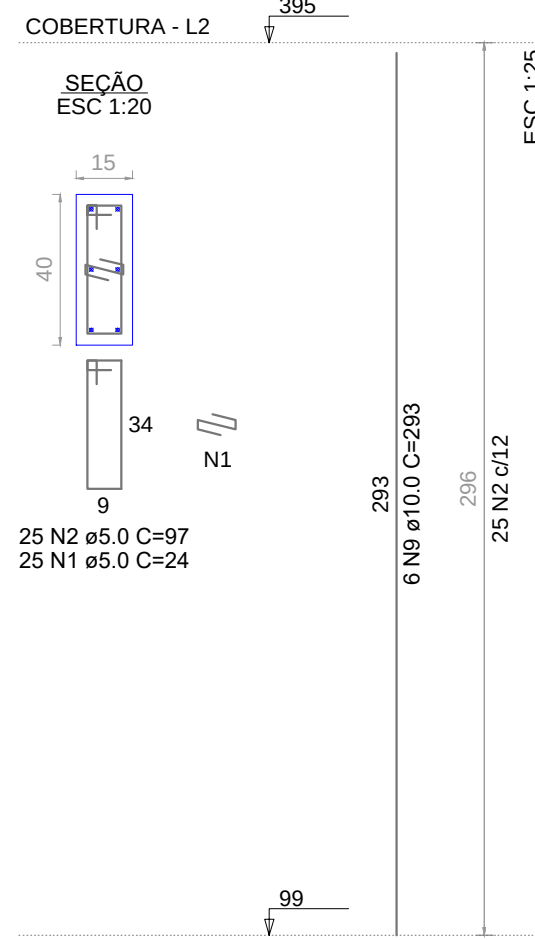
P40=P41=P42=P43=P54=
=P55=P56=P57



P44=P58



P45=P87=P89=P90



RELAÇÃO DO AÇO

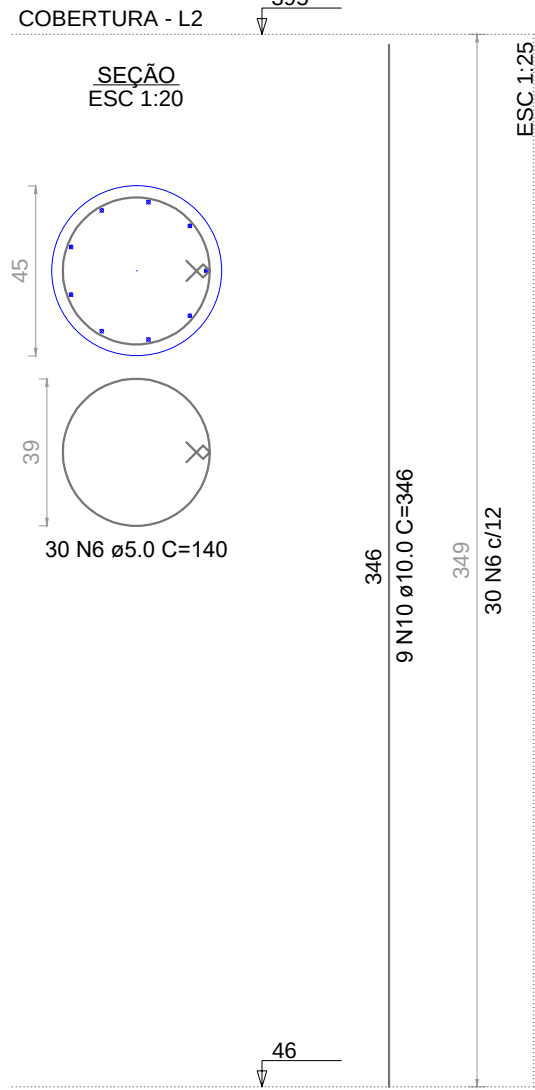
AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	1875	24	45000
	2	5.0	1890	97	183330
	3	5.0	80	24	1920
	4	5.0	125	77	9625
	5	5.0	160	24	3840
	6	5.0	520	140	72800
	7	5.0	180	34	6120
	8	5.0	90	157	14130
CA50	9	10.0	456	293	133608
	10	10.0	97	346	33562
	11	10.0	35	382	13370
	12	12.5	32	293	9376
	13	16.0	20	293	5860

RESUMO DO AÇO

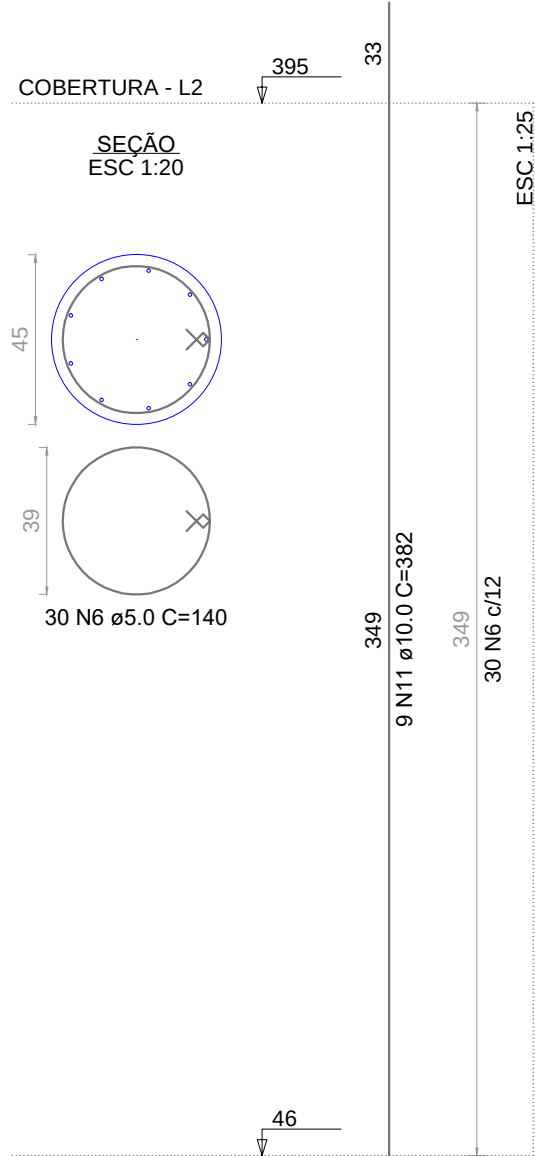
AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	10.0	1805.4	1224.4
	12.5	93.8	99.4
CA60	5.0	3367.7	571
PESO TOTAL (kg)			
CA50	1425.5		
CA60	571		

Volume de concreto (C-30) = 22.57 m³
Área de forma = 341.04 m²

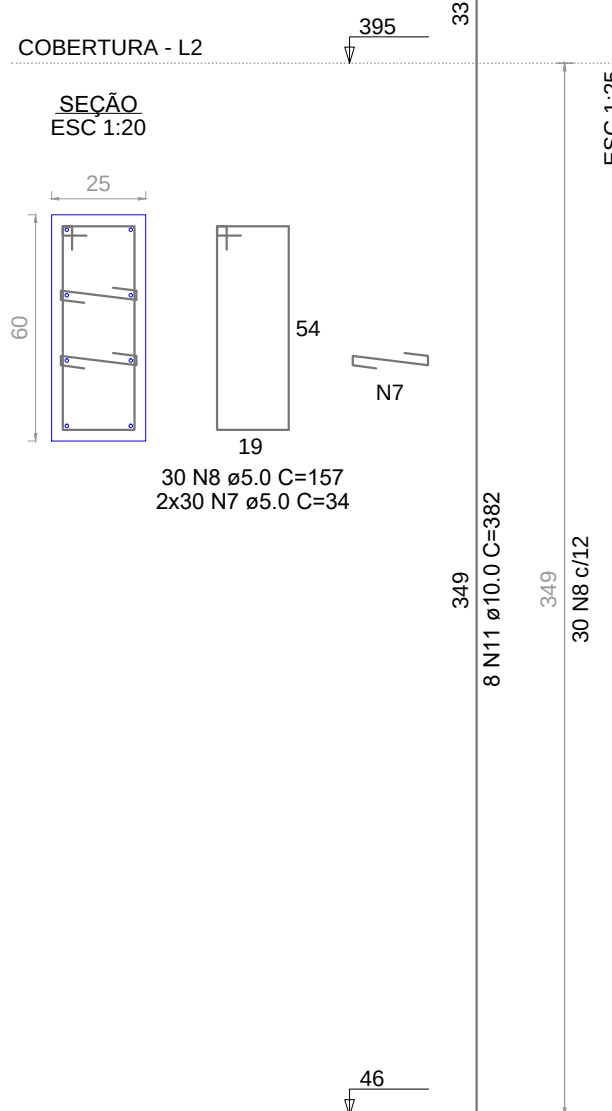
P47



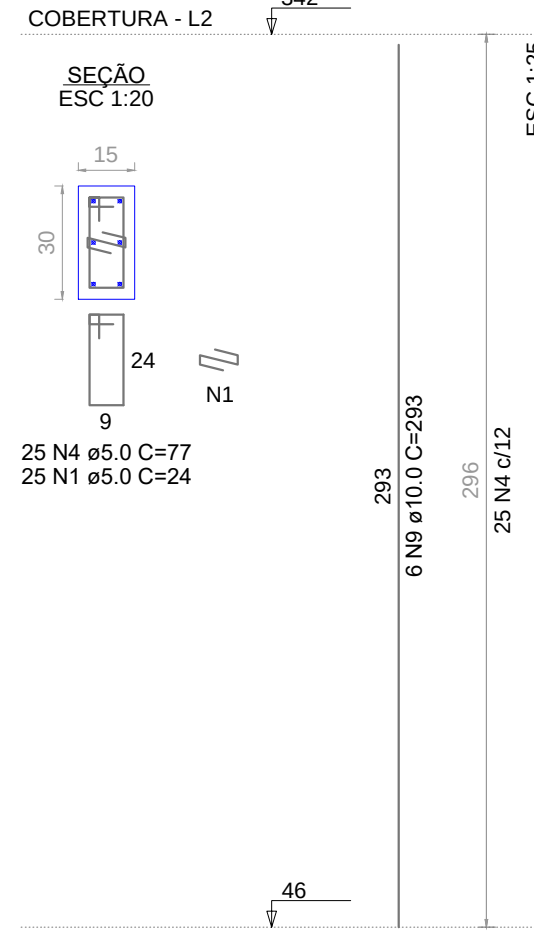
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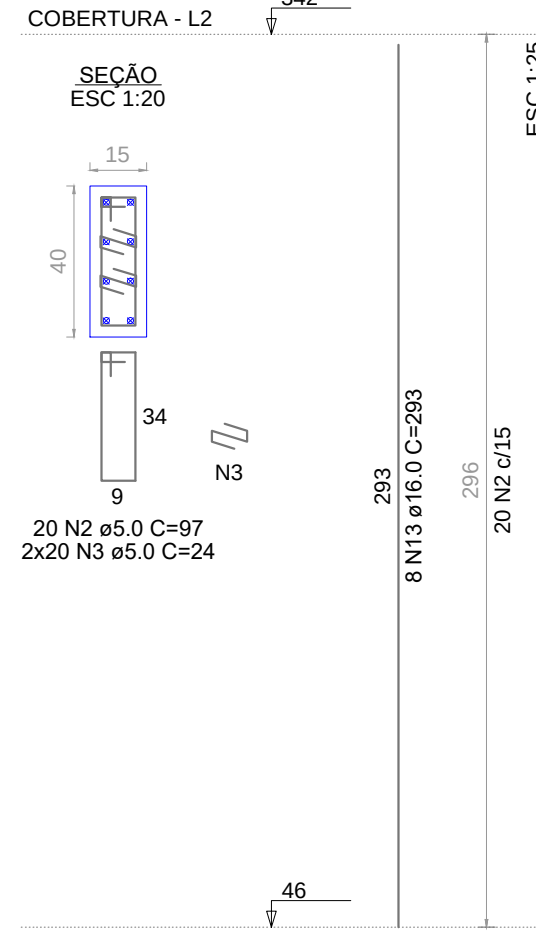
P51



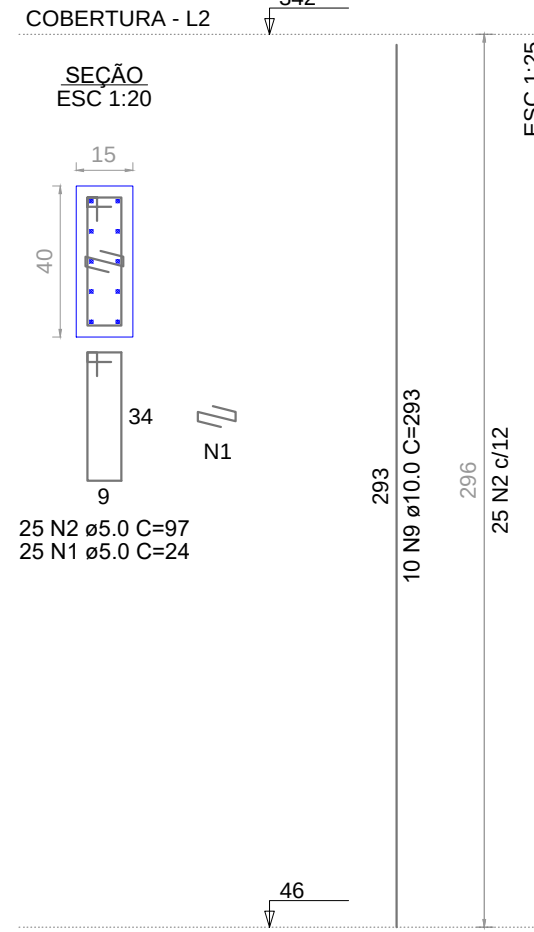
P74=P75



P82



P84



CEI PROF. JOSÉ SANTOS NUNES

Localização:
Rua João Ribeiro, 51 - Rio Branco
Belo Horizonte - MG

CONTEÚDO:
DETALHAMENTO DOS PILARES DA COBERTURA

RESP. TÉCNICO:
GABRIELA BRESSAN PEDROSO
Engenheira Civil CREA-SC 142.195-1
SOFIA LIMA VIEIRA
Engenheira Civil CREA-SC 138.383-6

DATA:
JULHO / 2025

ESCALA:
Indicada

ÁREA TOTAL CONSTRUÍDA:
755,97 m²

PRANCHA:
14/26



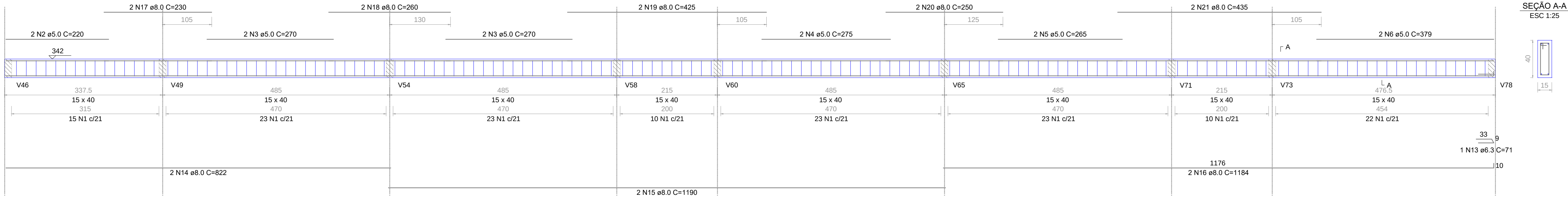
LIBRE ENGENHARIA
Rua Florianoópolis, 388 - Sala 03
Vila Moema - Tubarão/SC
48 9.9529.9883 / 48 9.9518.5531

PROPRIETÁRIO:

Município de Tubarão
CNPJ 02.926.698/0001-93

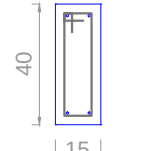
V1

ESC 1:50



SEÇÃO A-A

ESC 1:25

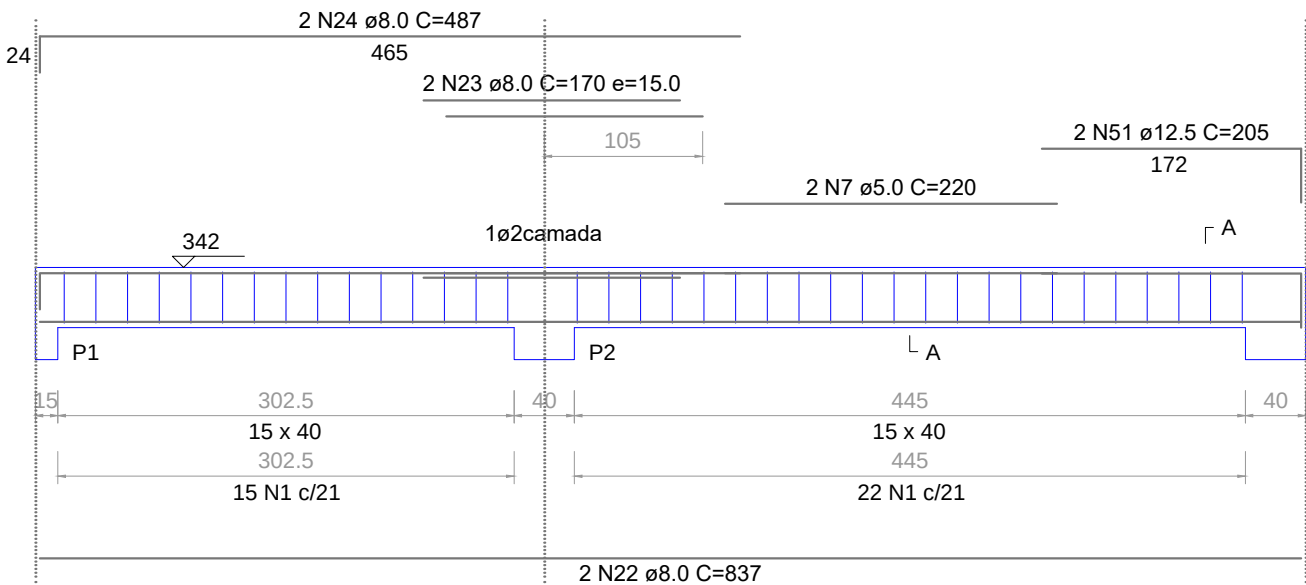


RELAÇÃO DO AÇO

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	532	97	51604
	2	5.0	2	220	440
	3	5.0	4	270	1080
	4	5.0	2	275	550
	5	5.0	2	265	530
	6	5.0	2	379	758
	7	5.0	2	220	440
	8	5.0	4	225	900
	9	5.0	2	237	474
	10	5.0	2	339	678
	11	5.0	2	185	370
	12	5.0	2	222	444
	13	6.3	1	71	71
	14	8.0	2	822	1644
	15	8.0	2	1190	2380
	16	8.0	2	1184	2368
	17	8.0	2	230	460
	18	8.0	2	260	520
	19	8.0	2	425	850
	20	8.0	2	250	500
	21	8.0	2	435	870
	22	8.0	2	837	1674
	23	8.0	2	170	340
	24	8.0	2	487	974
	25	8.0	2	721	1442
	26	8.0	2	494	988
	27	8.0	2	721	1442
	28	8.0	2	132	264
	29	8.0	2	126	252
	30	8.0	2	166	332
	31	10.0	2	467	934
	32	10.0	2	339	678
	33	10.0	1	285	285
	34	10.0	2	998	1996
	35	10.0	2	141	282
	36	10.0	1	275	275
	37	10.0	2	719	1438
	38	10.0	1	185	185
	39	10.0	2	159	318
	40	10.0	1	184	184
	41	10.0	2	760	1520
	42	10.0	2	715	1430
	43	10.0	2	142	284
	44	10.0	2	822	1644
	45	10.0	2	502	1004
	46	10.0	2	721	1442
	47	10.0	1	150	150
	48	10.0	1	141	141
	49	10.0	1	176	176
	50	10.0	2	763	1526
	51	12.5	2	205	410
	52	12.5	2	205	410
	53	12.5	2	876	1752
	54	12.5	2	204	408
	55	12.5	2	492	984
	56	12.5	2	491	982
	57	12.5	1	171	171
	58	12.5	1	205	205
	59	12.5	2	893	1786
	60	12.5	1	230	230
	61	12.5	2	992	1984
	62	12.5	2	152	304
	63	16.0	2	350	700

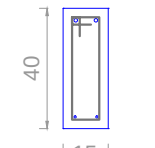
V2

ESC 1:50



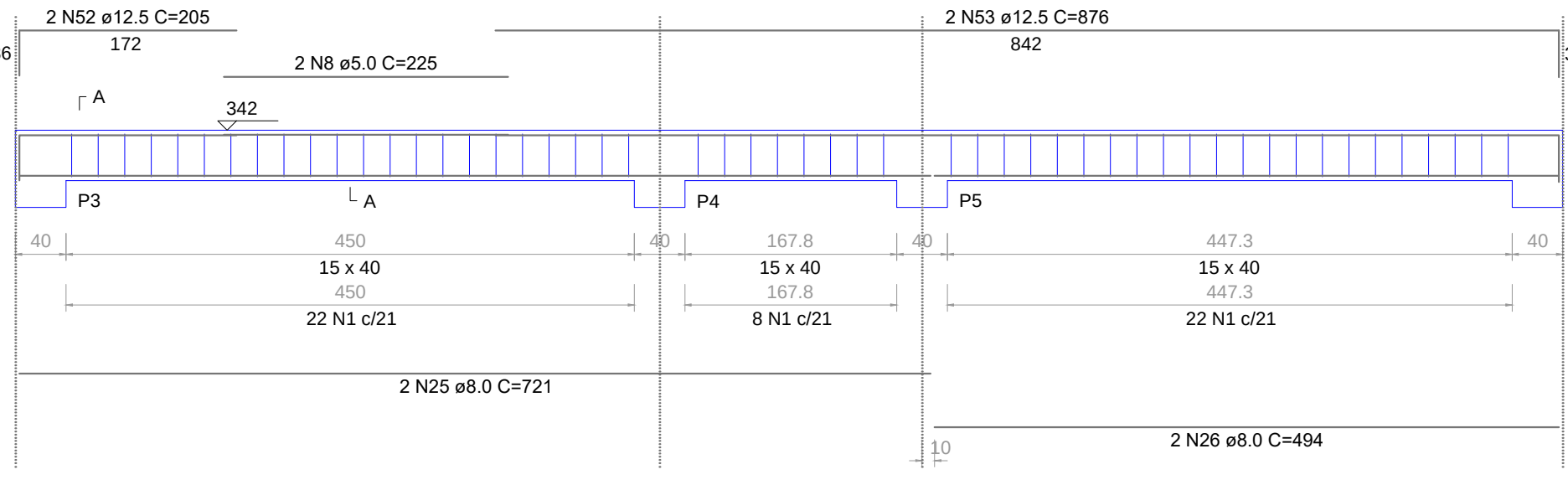
SEÇÃO A-A

ESC 1:25



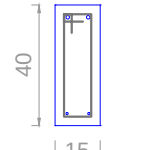
V3

ESC 1:50



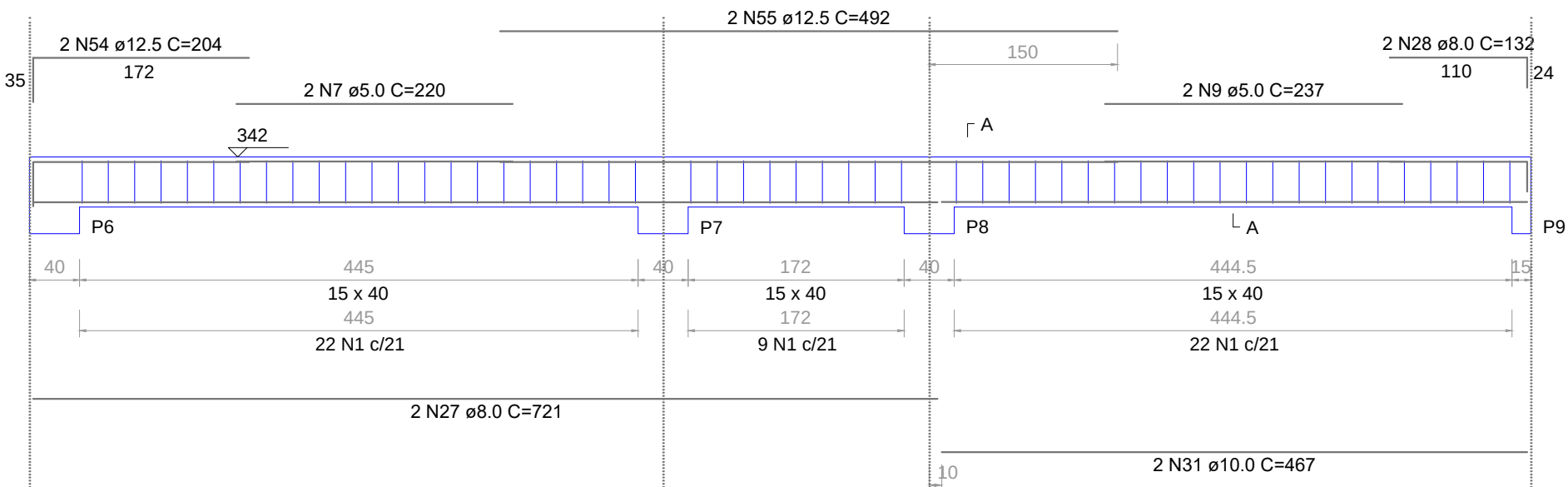
SEÇÃO A-A

ESC 1:25



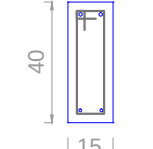
V4

ESC 1:50



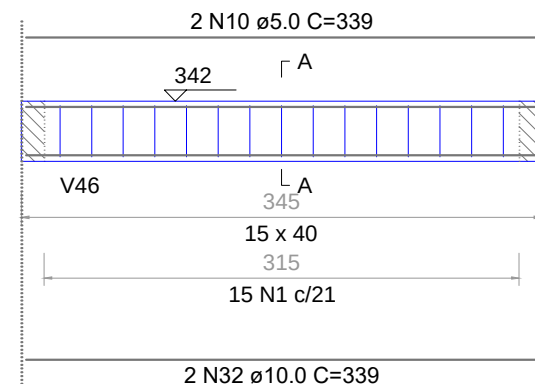
SEÇÃO A-A

ESC 1:25



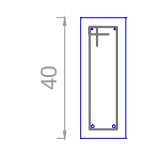
V5

ESC 1:50



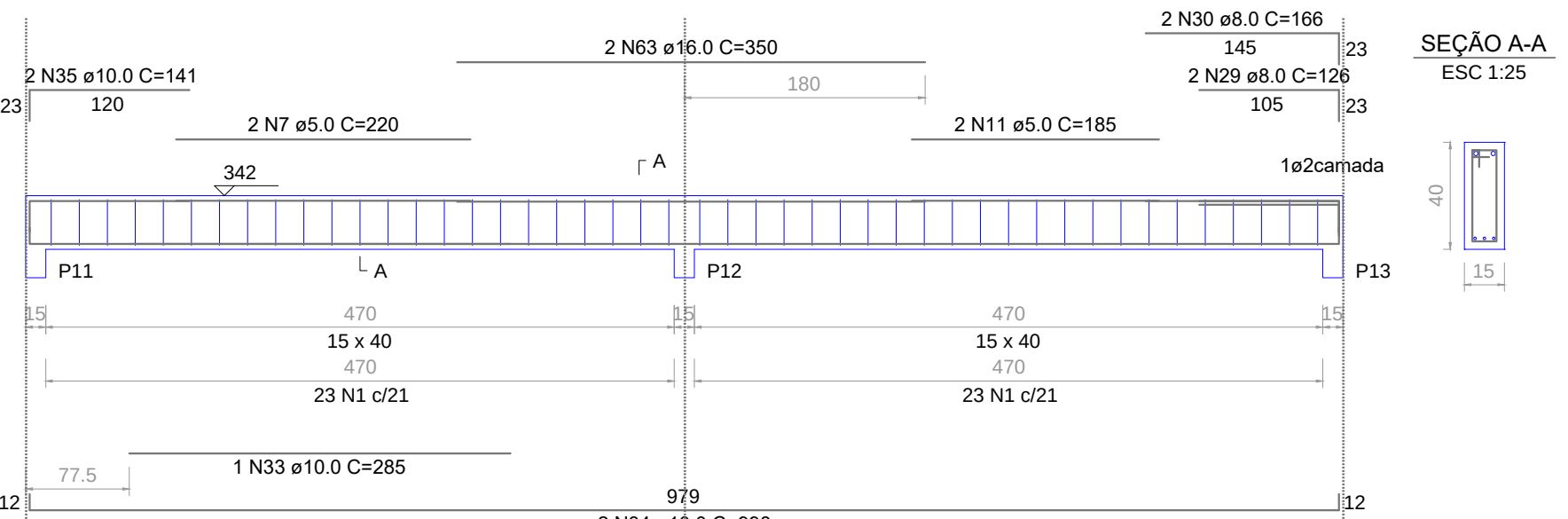
SEÇÃO A-A

ESC 1:25



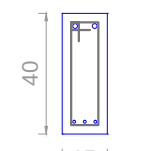
V6

ESC 1:50



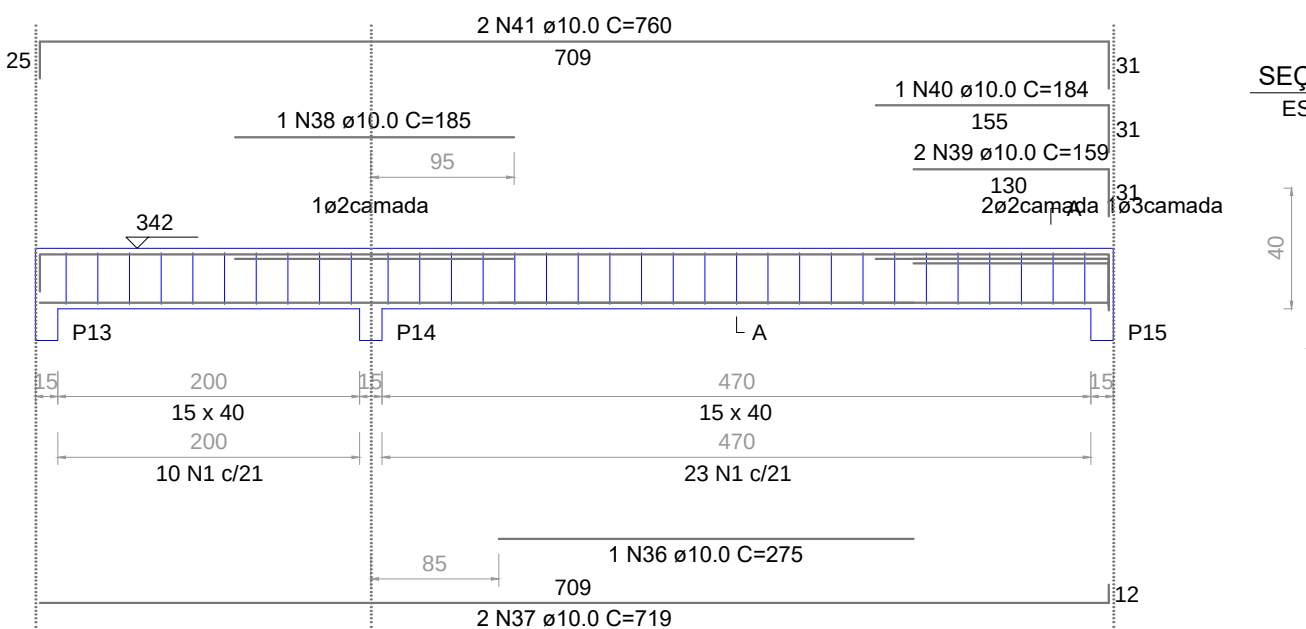
SEÇÃO A-A

ESC 1:25



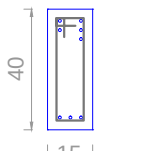
V7

ESC 1:50



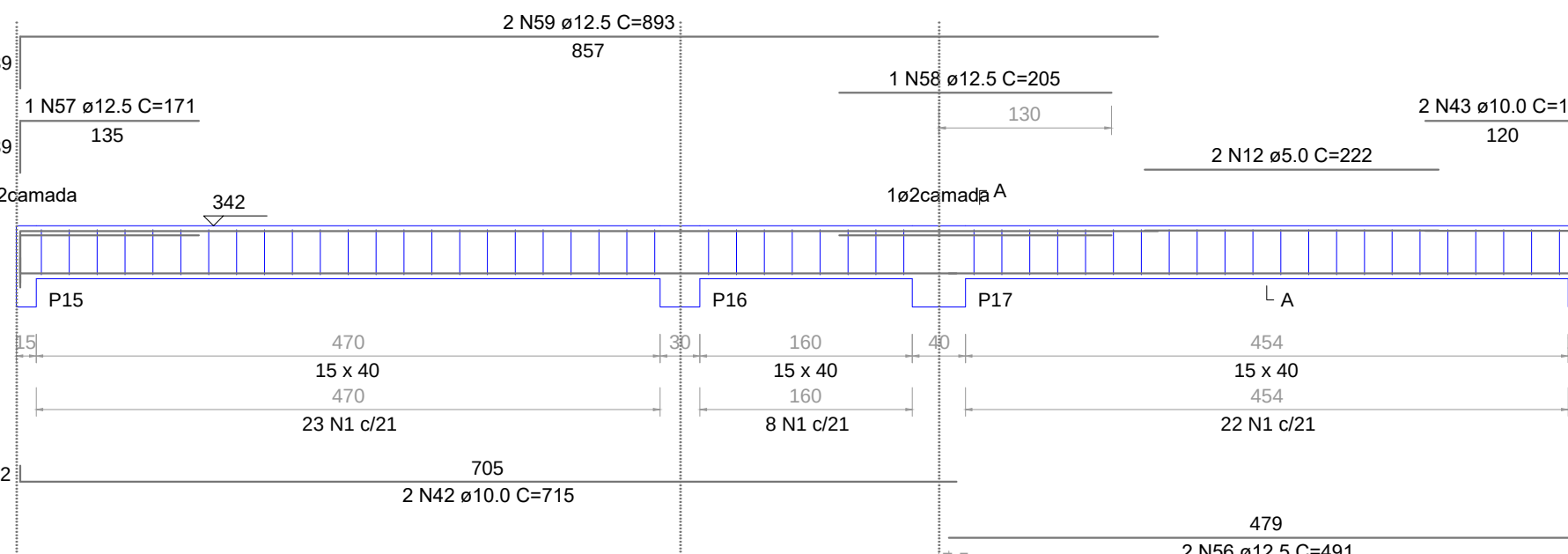
SEÇÃO A-A

ESC 1:25



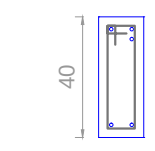
V8

ESC 1:50



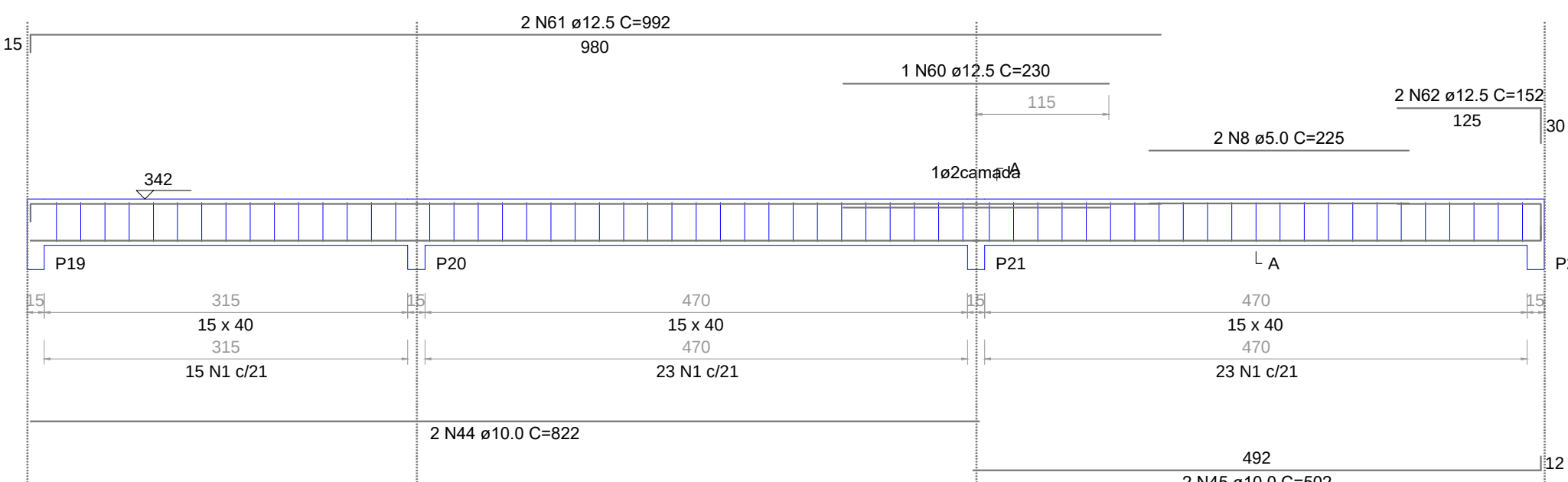
SEÇÃO A-A

ESC 1:25



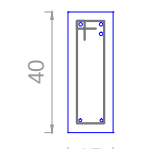
V9

ESC 1:50



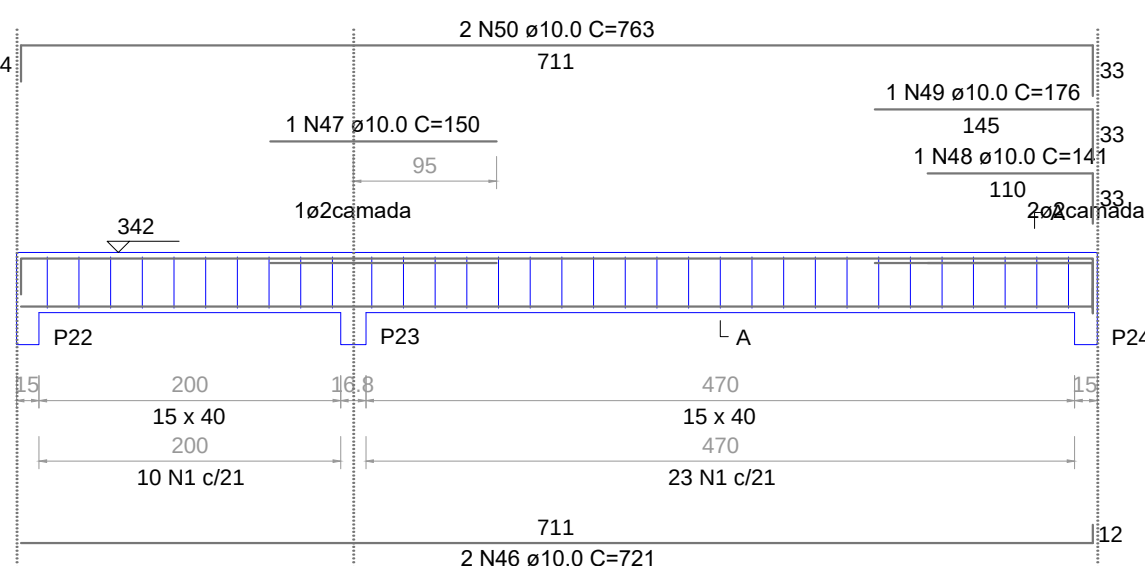
SEÇÃO A-A

ESC 1:25



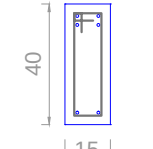
V10

ESC 1:50



SEÇÃO A-A

ESC 1:25



CEI PROF. JOSÉ SANTOS NUNES

Localização:
Rua João Ribeiro, 51 No. Bairro
São Luiz,
Tubarão - SC

CONTEÚDO:
DETALHAMENTO DAS VIGAS
DA COBERTURA

RESP. TÉCNICO:
GABRIELA BRESSAN PEDROSO
Engenheira Civil CREA-SC 142.195-1
SOFIA LIMA VIEIRA
Engenheira Civil CREA-SC 138.383-6

DATA:
JULHO / 2025

ESCALA:
Indicada

ÁREA TOTAL
CONSTRUIDA:
755,97 m²

PRANCHA:
16/26



LIBRE
ENGENHARIA

Rua Florianoópolis, 388 - Sala 03
Vila Moema - Tubarão/SC
48 9.9029.9893 / 48 9.9818.5521

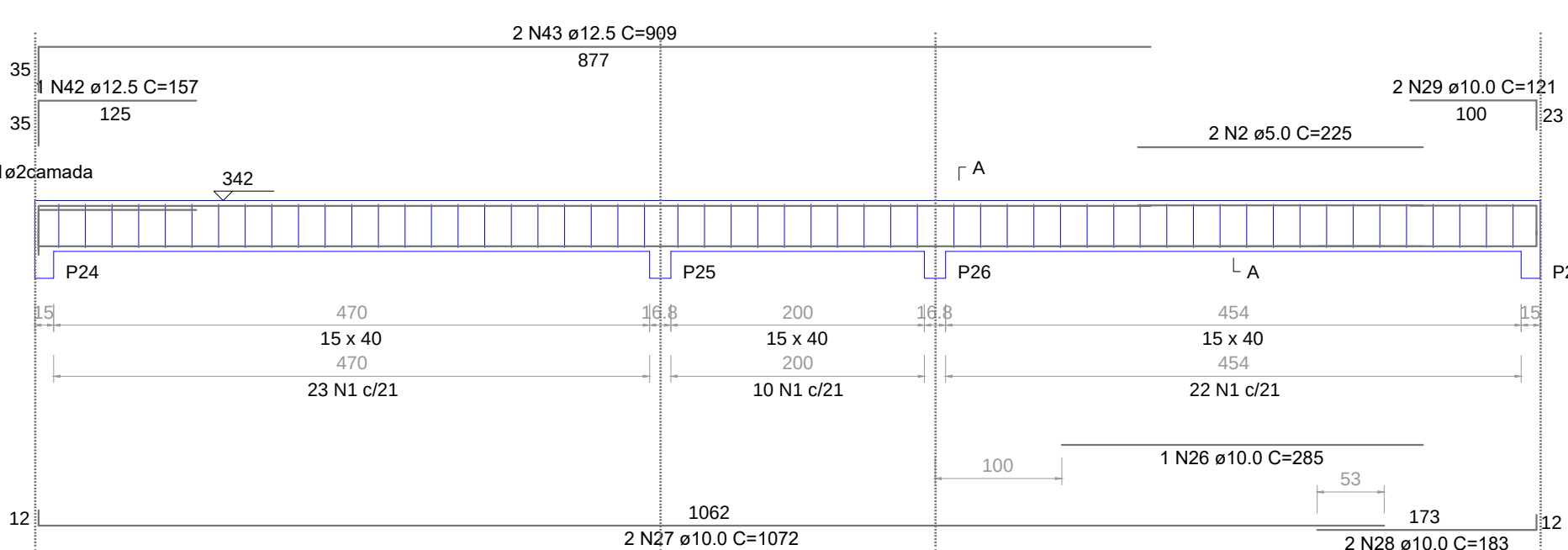
PROPRIETÁRIO:

Município de Tubarão

CNPJ 02.926.696/0001-33

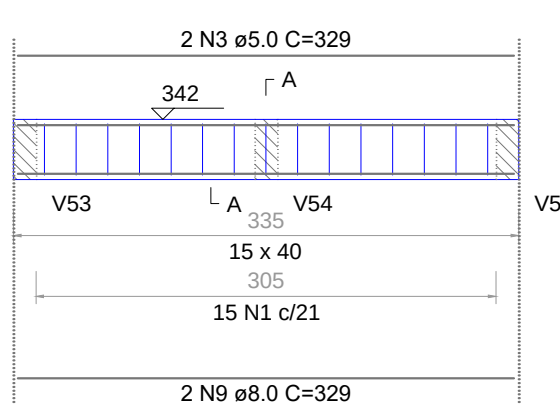
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ESC 1:50



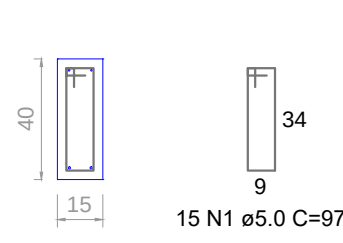
V12

ESC 1:50



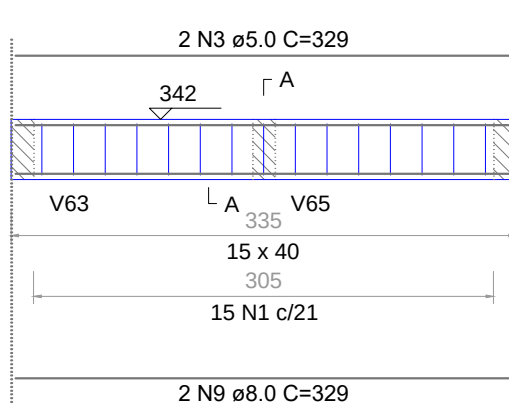
SEÇÃO A-A

ESC 1:25



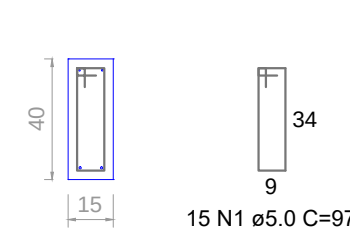
V13

ESC 1:50



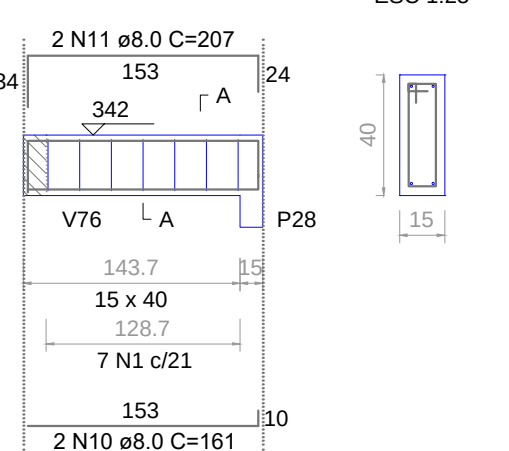
SEÇÃO A-A

ESC 1:25



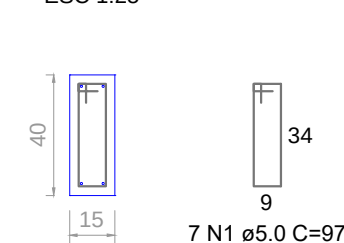
V14

ESC 1:50



SEÇÃO A-A

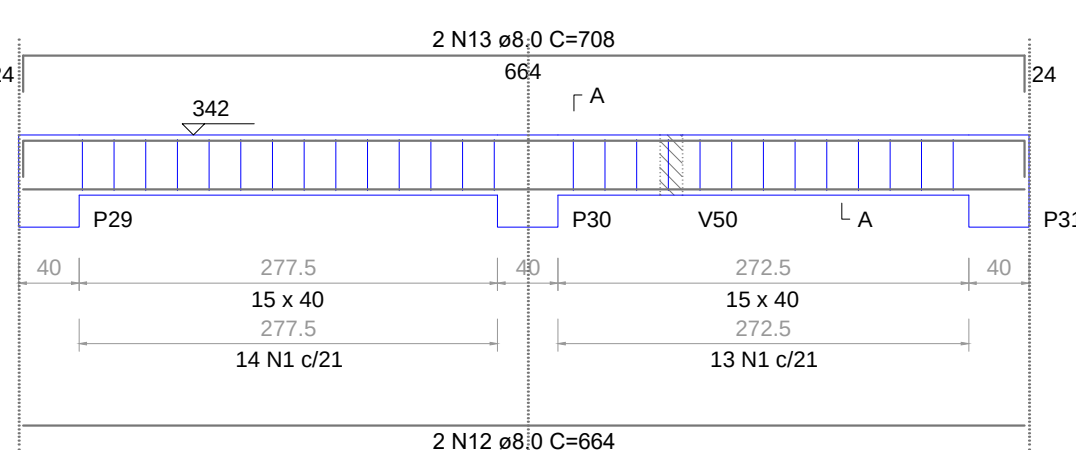
ESC 1:25



RELAÇÃO DO AÇO				
AÇO	N	DIAM (mm)	QUANT	C.TOTAL (cm)
CA60	1	5.0	399	97
	2	5.0	2	225
	3	5.0	4	329
	4	5.0	2	253
	5	5.0	107	107
	6	5.0	2	222
	7	5.0	2	226
	8	6.3	2	340
	9	8.0	4	329
	10	8.0	2	161
CA50	11	8.0	2	207
	12	8.0	2	664
	13	8.0	2	708
	14	8.0	2	874
	15	8.0	2	918
	16	8.0	6	478
	17	8.0	2	1097
	18	8.0	2	1087
	19	8.0	2	168
	20	8.0	2	498
	21	8.0	2	1198
	22	8.0	2	741
	23	8.0	2	626
	24	8.0	2	284
	25	8.0	2	338
	26	10.0	1	285
	27	10.0	2	1072
	28	10.0	2	183
	29	10.0	2	121
	30	10.0	2	874
	31	10.0	1	148
	32	10.0	2	183
	33	10.0	1	140
	34	10.0	2	502
	35	10.0	2	497
	36	10.0	2	984
	37	10.0	2	946
	38	10.0	2	182
	39	10.0	2	1148
	40	10.0	2	181
	41	10.0	2	143
	42	12.5	1	157
	43	12.5	2	909
	44	16.0	4	495

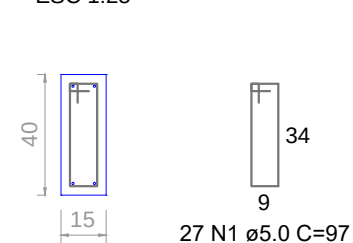
V15

ESC 1:50



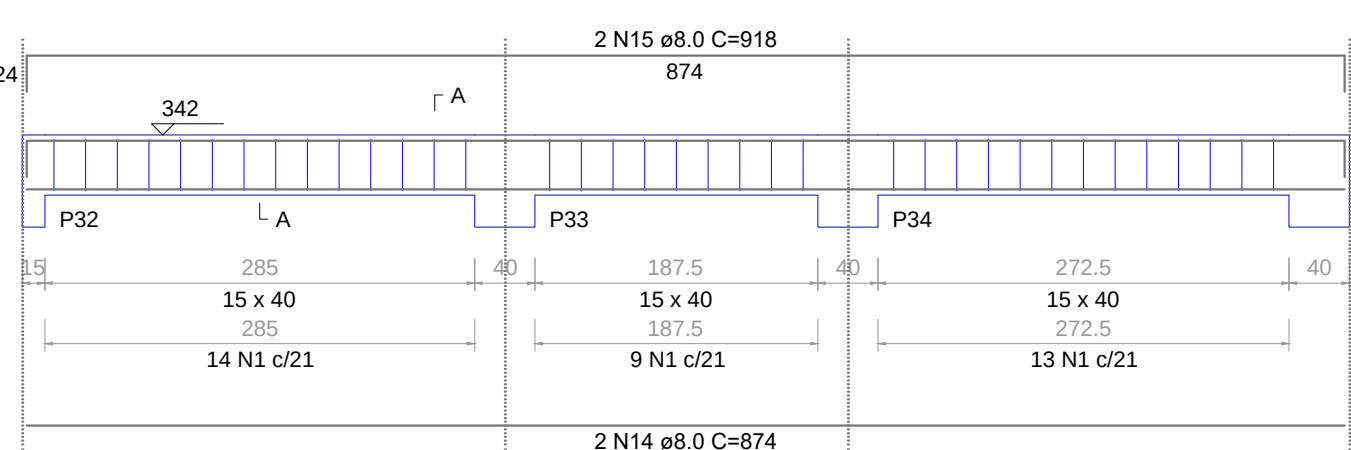
SEÇÃO A-A

ESC 1:25



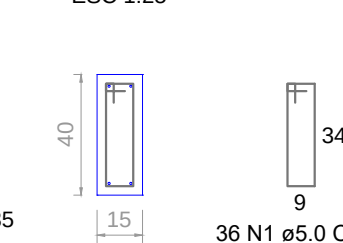
V16

ESC 1:50



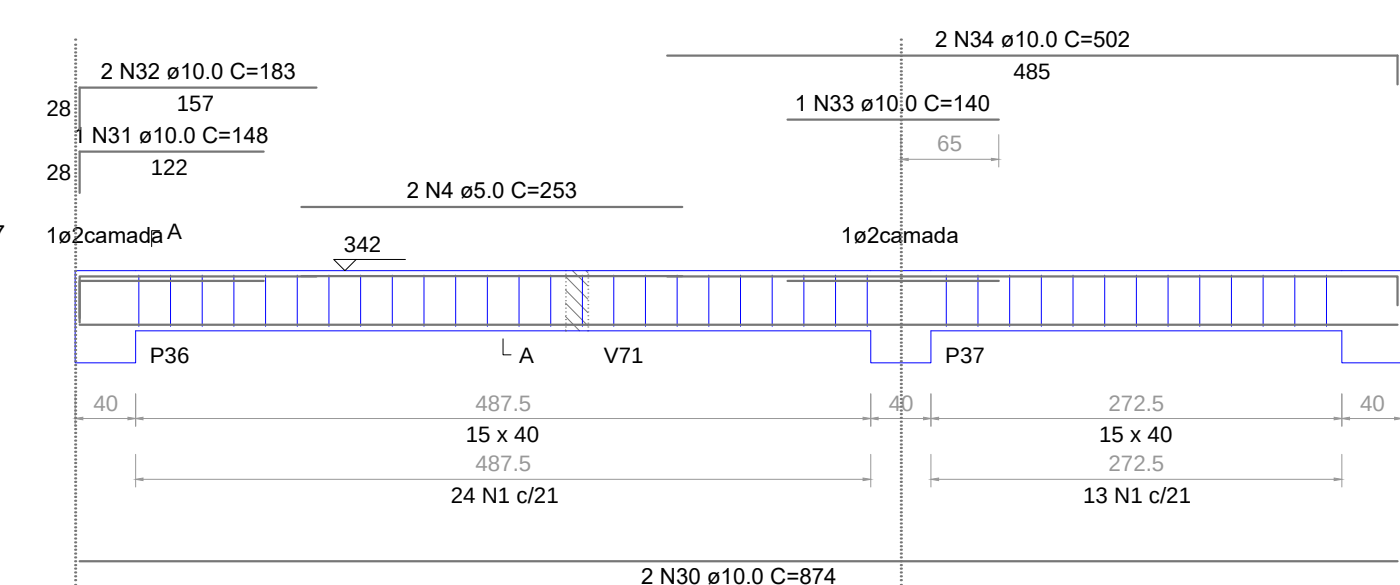
SEÇÃO A-A

ESC 1:25



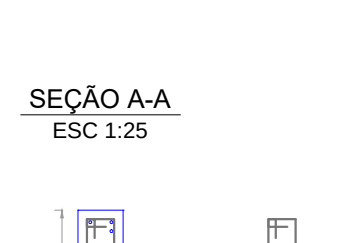
V17

ESC 1:50



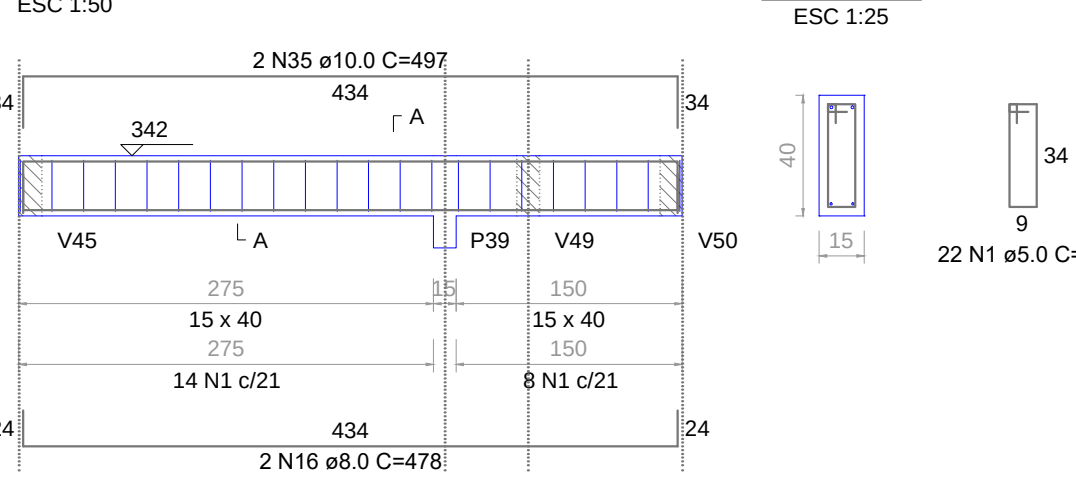
SEÇÃO A-A

ESC 1:25



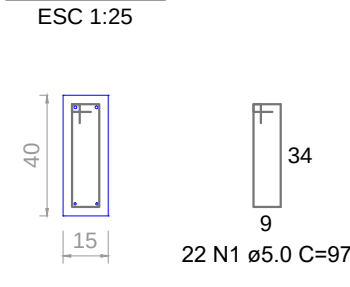
V18

ESC 1:50



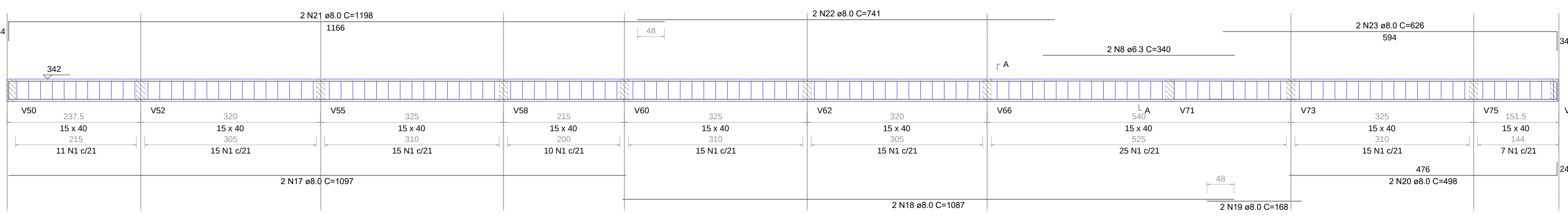
SEÇÃO A-A

ESC 1:25



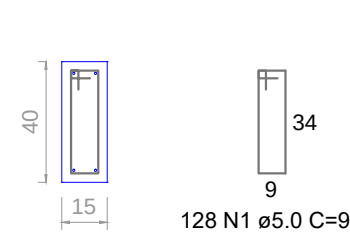
V19

ESC 1:50



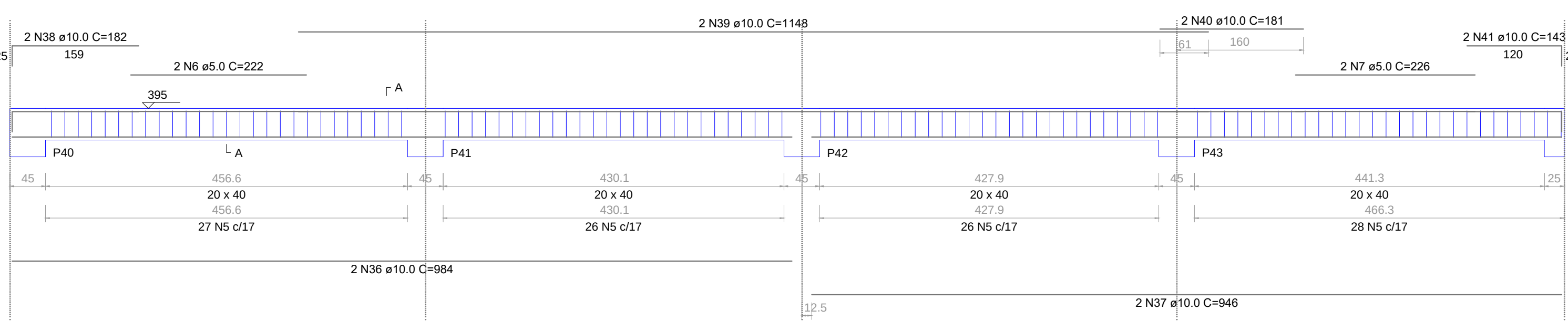
SEÇÃO A-A

ESC 1:25



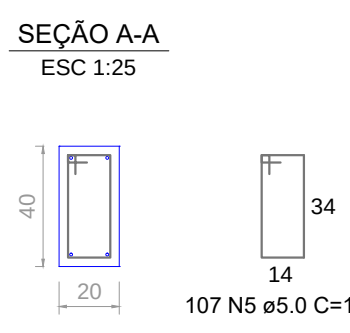
V20

ESC 1:50



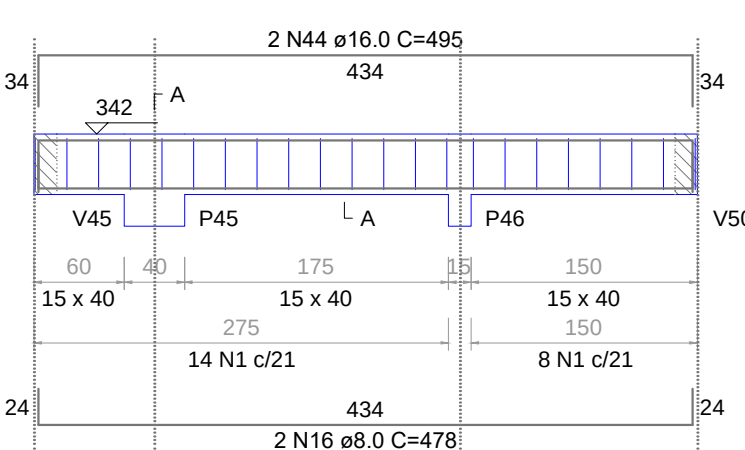
SEÇÃO A-A

ESC 1:25



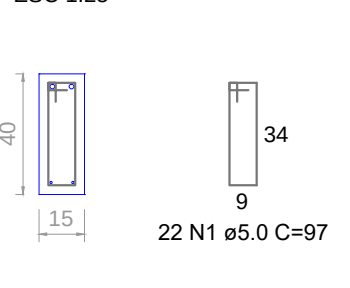
V21

ESC 1:50



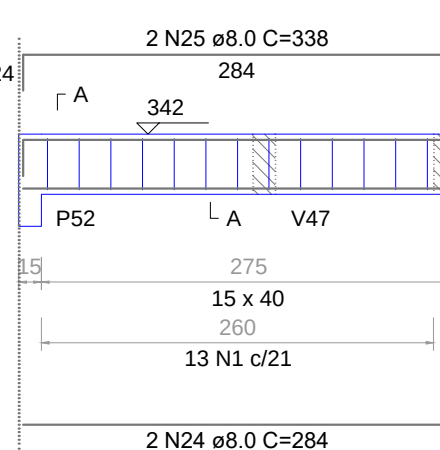
SEÇÃO A-A

ESC 1:25



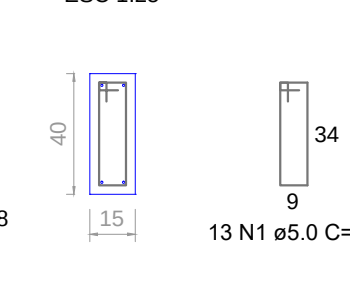
V22

ESC 1:50



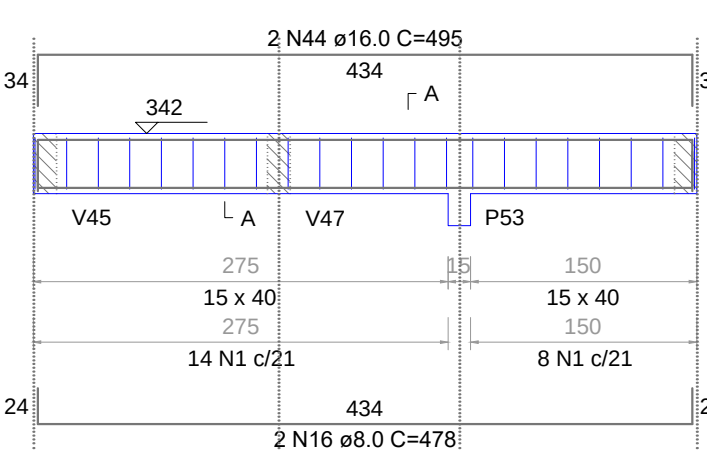
SEÇÃO A-A

ESC 1:25



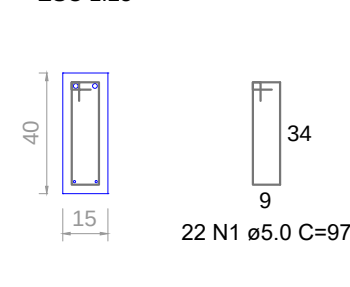
V23

ESC 1:50



SEÇÃO A-A

ESC 1:25



RESUMO DO AÇO			
AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	6.3	233.2	1.8
	8.0	146.1	101.2
	10.0	19.8	99
	12.5	19.8	20.9
CA60	16.0	19.8	34.4
	5.0	533.2	90.4
PESO TOTAL (kg)			
CA50	257.4		
CA60	90.4		

Volume de concreto (C-30) = 6.86 m³
Área de forma = 103.35 m²

CEI PROF. JOSÉ SANTOS NUNES

Localização:
Rua José Roberto, 51 - Rio Branco
Belo Horizonte - MG
Tubarão - SC

CONTEÚDO:
DETALHAMENTO DAS VIGAS DA COBERTURA

LIBRE
ENGENHARIA

Rua Florianoópolis, 388 - Sala 03
Vila Moema - Tubarão/SC
48 9 9929 9893 / 48 9 9818 5531

PROPRIETÁRIO:

Município de Tubarão
CNPJ 02.926.696/0001-93

RESP. TÉCNICO:
GABRIELA BRESSAN PEDROSO
Engenheira Civil CREA-SC 142.195-1
SOFIA LIMA VIEIRA
Engenheira Civil CREA-SC 138.383-6

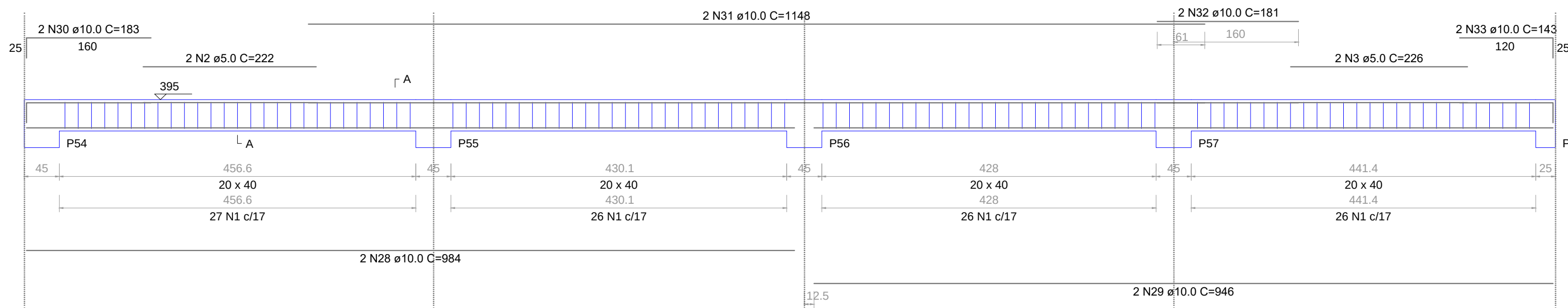
DATA:
JULHO / 2025

ESCALA:
Indicada

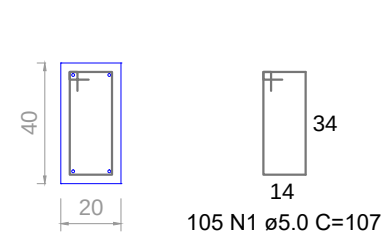
ÁREA TOTAL CONSTRUÍDA:
755.97 m²

PRANCHA:
17/26

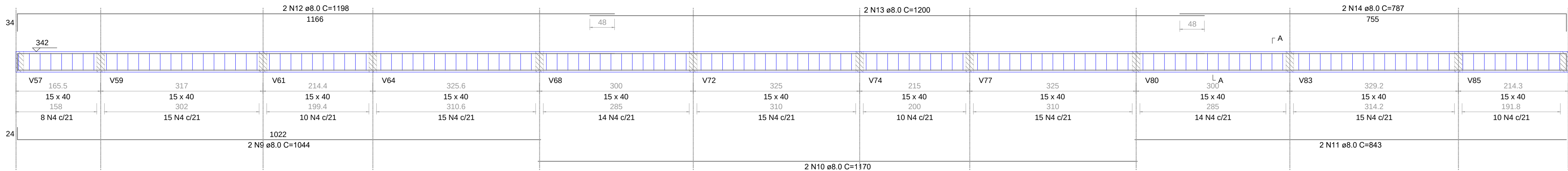
V24
ESC 1:50



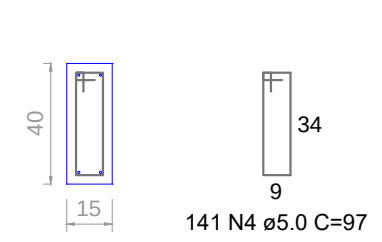
SEÇÃO A-A
ESC 1:25



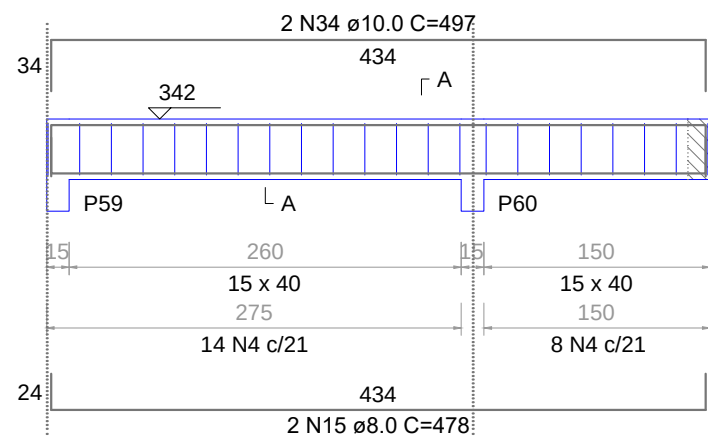
V25
ESC 1:50



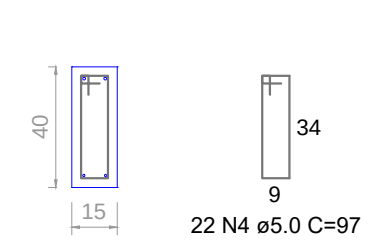
SEÇÃO A-A
ESC 1:25



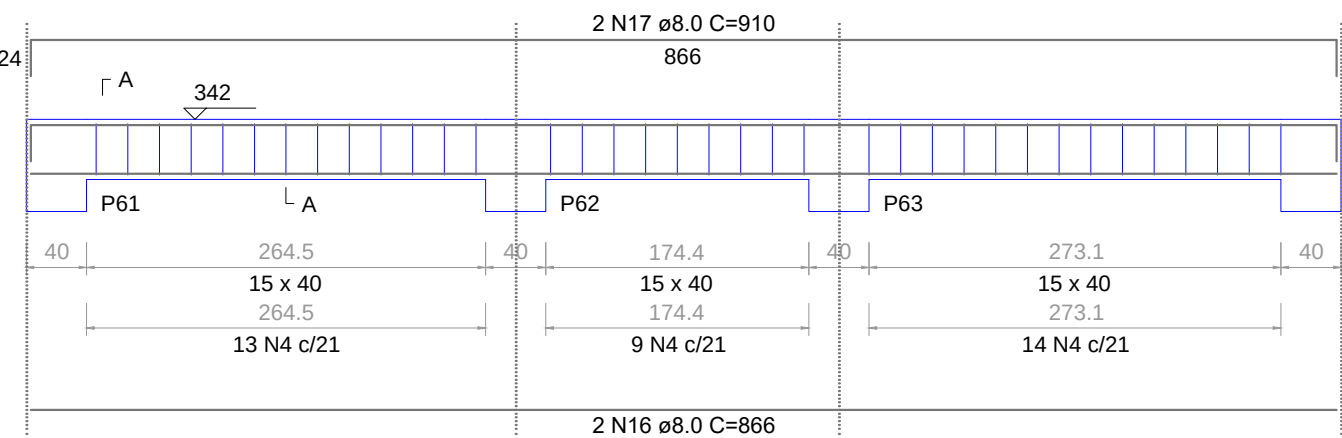
V26
ESC 1:50



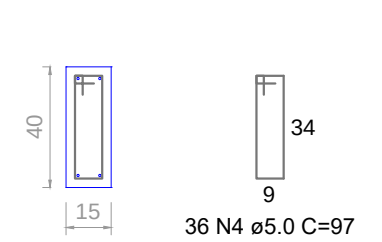
SEÇÃO A-A
ESC 1:25



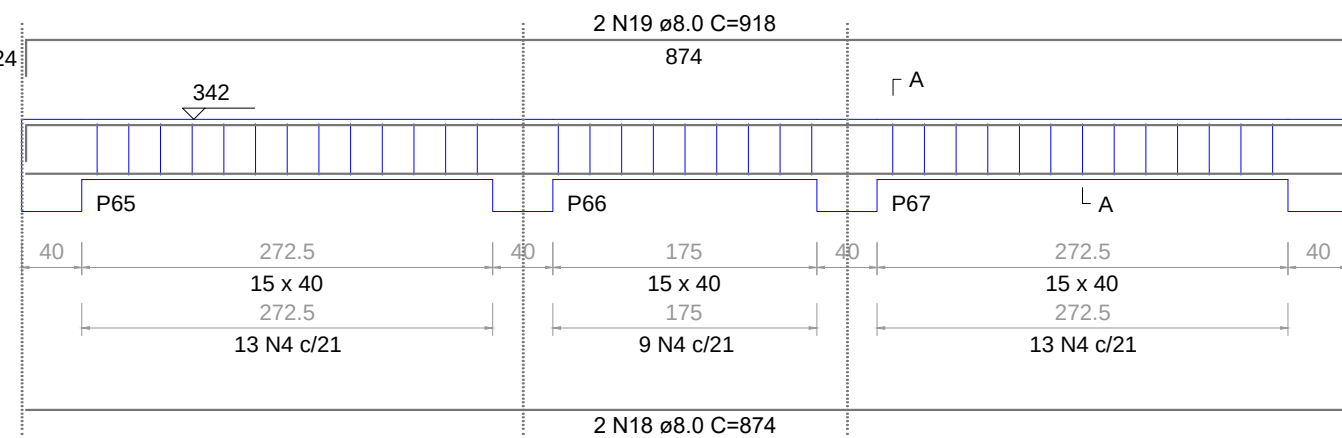
V27
ESC 1:50



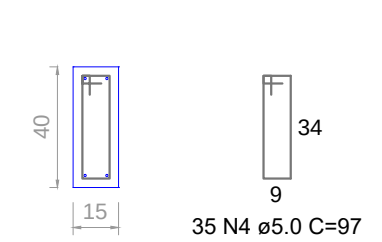
SEÇÃO A-A
ESC 1:25



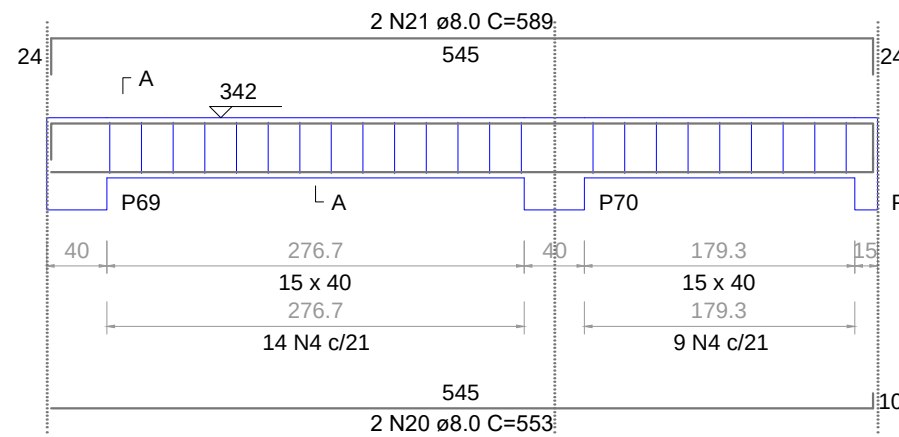
V28
ESC 1:50



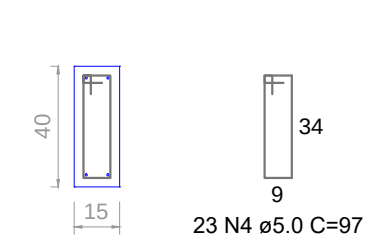
SEÇÃO A-A
ESC 1:25



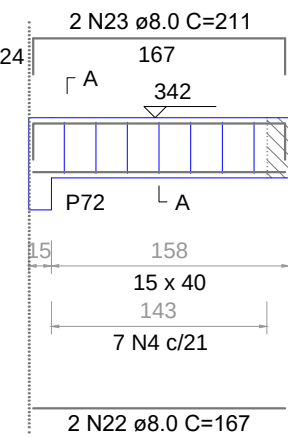
V29
ESC 1:50



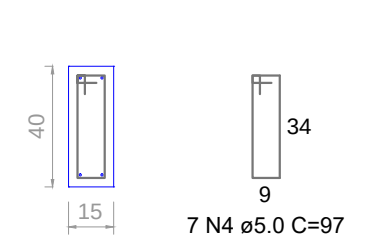
SEÇÃO A-A
ESC 1:25



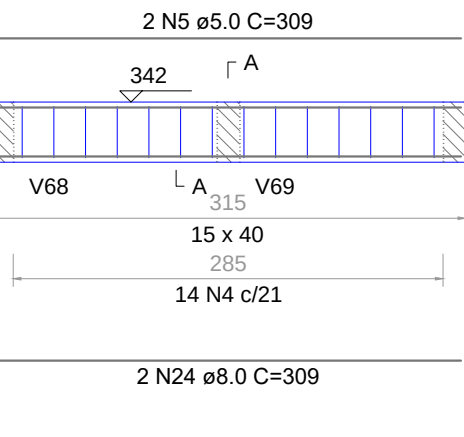
V30
ESC 1:50



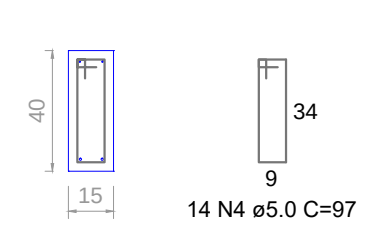
SEÇÃO A-A
ESC 1:25



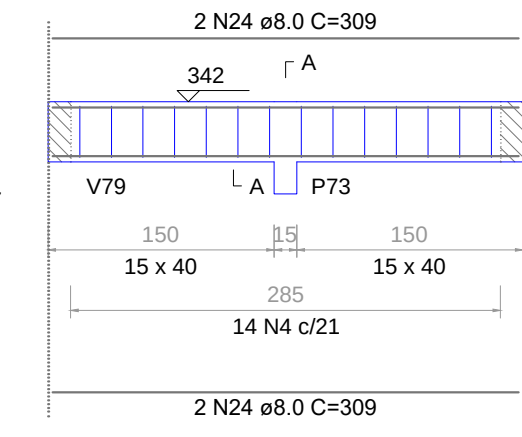
V31
ESC 1:50



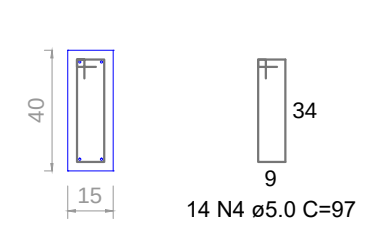
SEÇÃO A-A
ESC 1:25



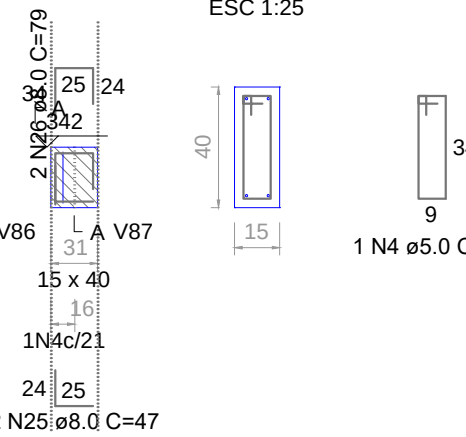
V32
ESC 1:50



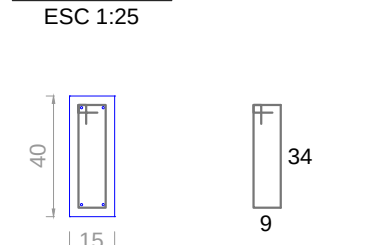
SEÇÃO A-A
ESC 1:25



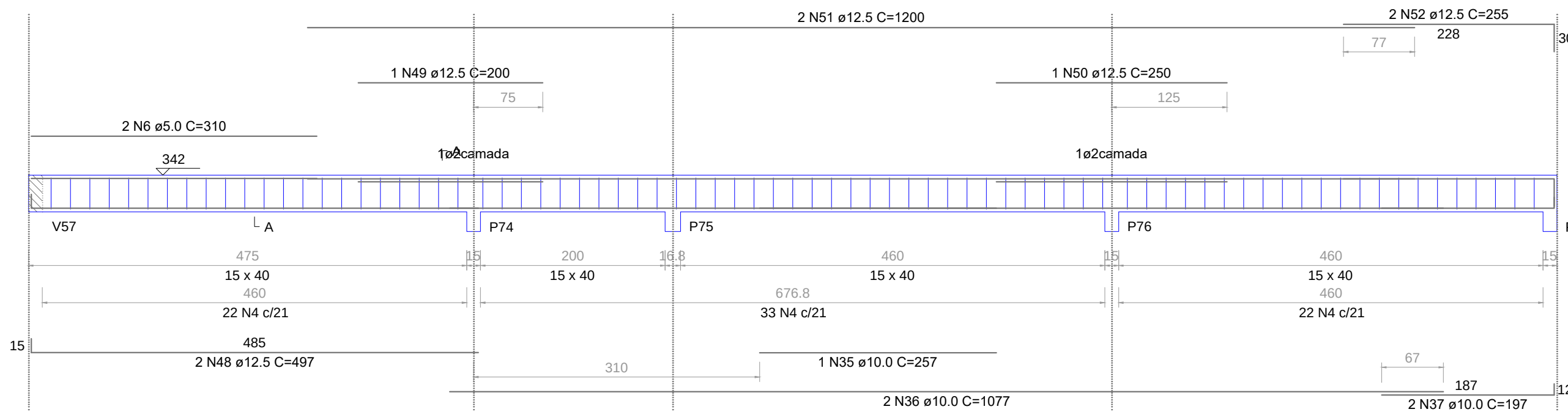
V33
ESC 1:50



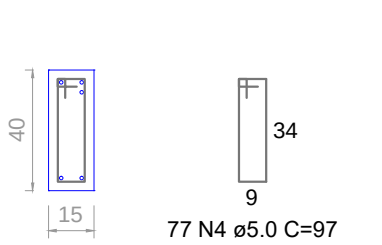
SEÇÃO A-A
ESC 1:25



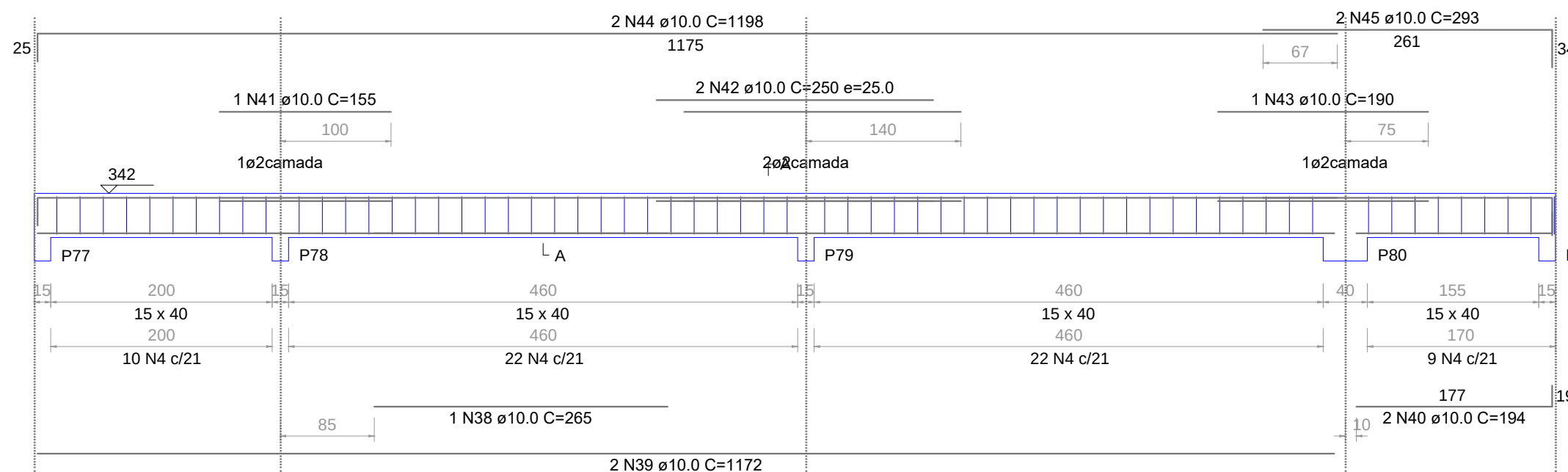
V34
ESC 1:50



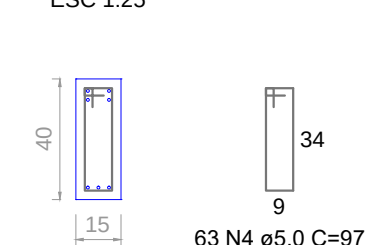
SEÇÃO A-A
ESC 1:25



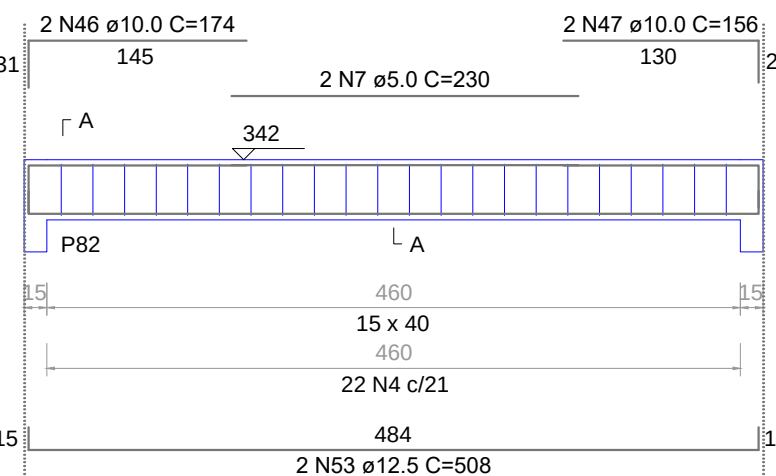
V35
ESC 1:50



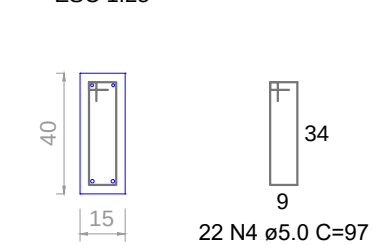
SEÇÃO A-A
ESC 1:25



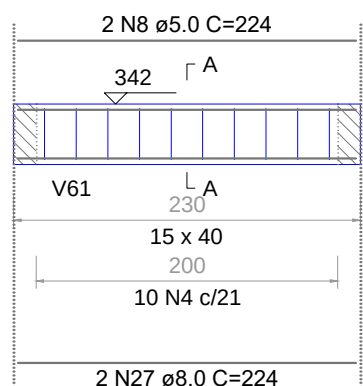
V36
ESC 1:50



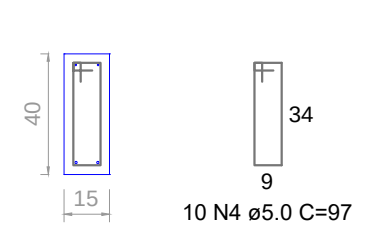
SEÇÃO A-A
ESC 1:25



V37
ESC 1:50



SEÇÃO A-A
ESC 1:25



RELAÇÃO DO AÇO

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	105	107	11235
	2	5.0	2	222	444
	3	5.0	2	226	452
	4	5.0	465	97	45105
	5	5.0	2	309	618
CA50	6	5.0	2	310	620
	7	5.0	2	230	460
	8	5.0	2	224	448
	9	8.0	2	1044	2088
	10	8.0	2	1170	2340
	11	8.0	2	943	1886
	12	8.0	2	1198	2396
	13	8.0	2	1200	2400
	14	8.0	2	787	1574
	15	8.0	2	478	956
	16	8.0	2	866	1732
	17	8.0	2	910	1820
	18	8.0	2	874	1748
	19	8.0	2	918	1836
	20	8.0	2	553	1106
	21	8.0	2	589	1178
	22	8.0	2	167	334
	23	8.0	2	211	422
	24	8.0	2	309	618
	25	8.0	2	47	94
	26	8.0	2	79	158
	27	8.0	2	224	448
	28	10.0	2	984	1968
	29	10.0	2	946	1892
	30	10.0	2	183	366
	31	10.0	2	1148	2296
	32	10.0	2	181	362
	33	10.0	2	143	286
	34	10.0	2	497	994
	35	10.0	1	257	257
	36	10.0	2	1077	2154
	37	10.0	2	197	394
	38	10.0	1	265	265
	39	10.0	2	1172	2344
	40	10.0	2	194	388
	41	10.0	1	155	155
	42	10.0	2	250	500
	43	10.0	1	190	190
	44	10.0	2	1198	2396
	45	10.0	2	293	586
	46	10.0	2	174	348
	47	10.0	2	156	312
	48	12.5	2	497	994
	49	12.5	1	200	200
	50	12.5	1	250	250
	51	12.5	2	1200	2400
	52	12.5	2	255	510
	53	12.5	2	508	1016

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	8.0	261.7	113.6
	10.0	184.5	125.1
	12.5	53.7	56.9
CA60	5.0	593.8	100.7

PESO TOTAL (kg)	
CA50	295.6
CA60	100.7

Volume de concreto (C-30) = 7.78 m³
Área de forma = 118.03 m²

CEI PROF. JOSÉ SANTOS NUNES

Localização:
Rua João Ribeiro, 91 No. Bairro
São Luiz,
Tubarão - SC

CONTEÚDO:
DETALHAMENTO DAS VIGAS
DA COBERTURA

RESP. TÉCNICO:
GABRIELA BRESSAN PEDROSO
Engenheiro Civil CREA-SC 142.195-1
SOFIA LIMA VIEIRA
Engenheiro Civil CREA-SC 138.383-6

DATA:
JULHO / 2025

ESCALA:
Indicada

ÁREA TOTAL
CONSTRUIDA:
755.97 m²

PRANCHA:
18/26



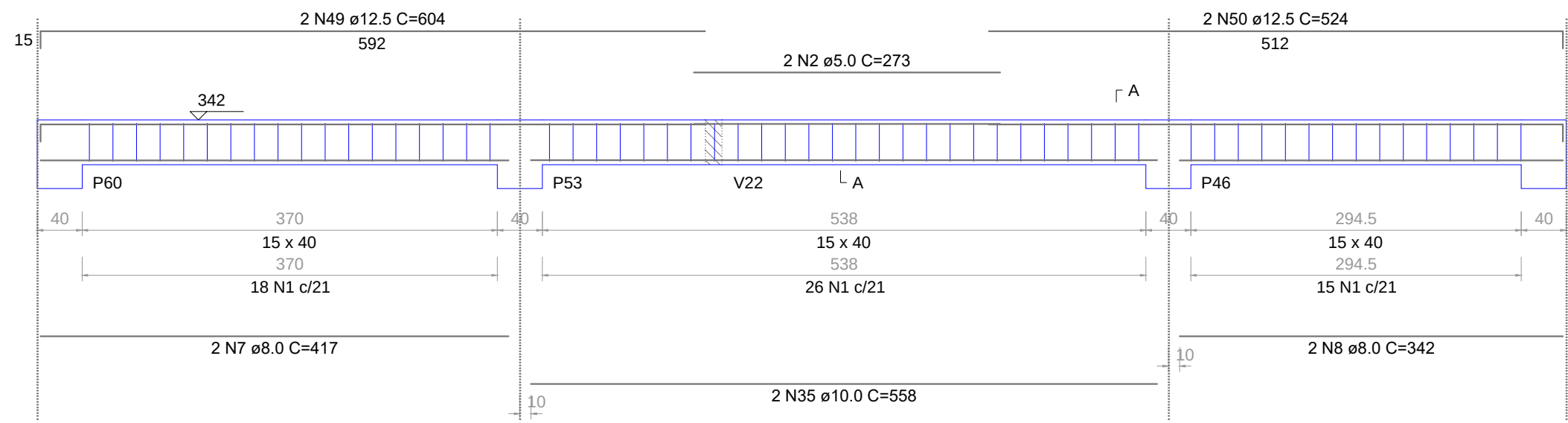
Rua Florianoópolis, 388 - Sala 03
Vila Moema - Tubarão/SC
48 9 3929 3883 / 48 9 3818 5551

PROPRIETÁRIO:

Município de Tubarão
CNPJ 02.928.698/0001-93

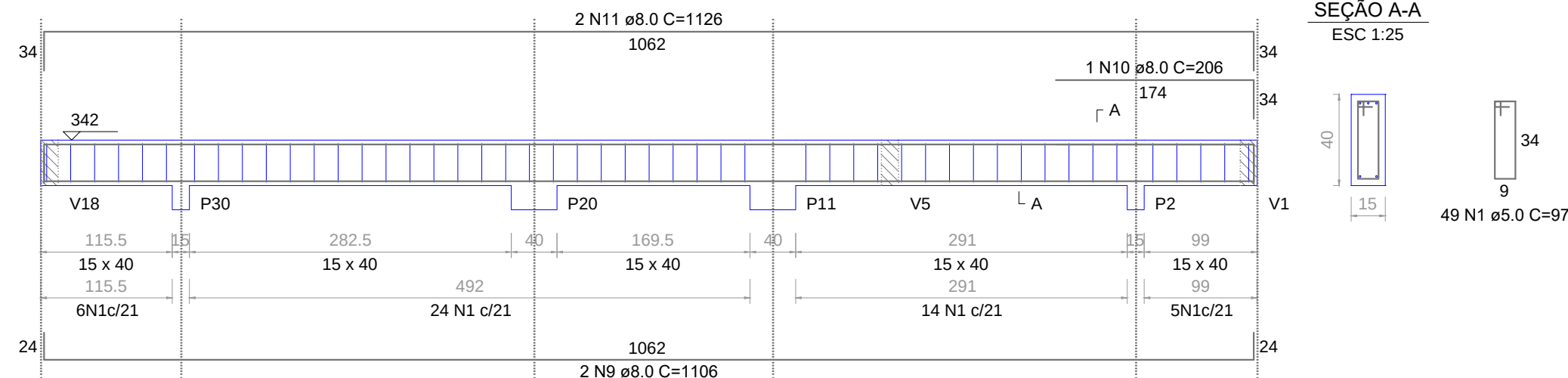
V48

ESC 1:50



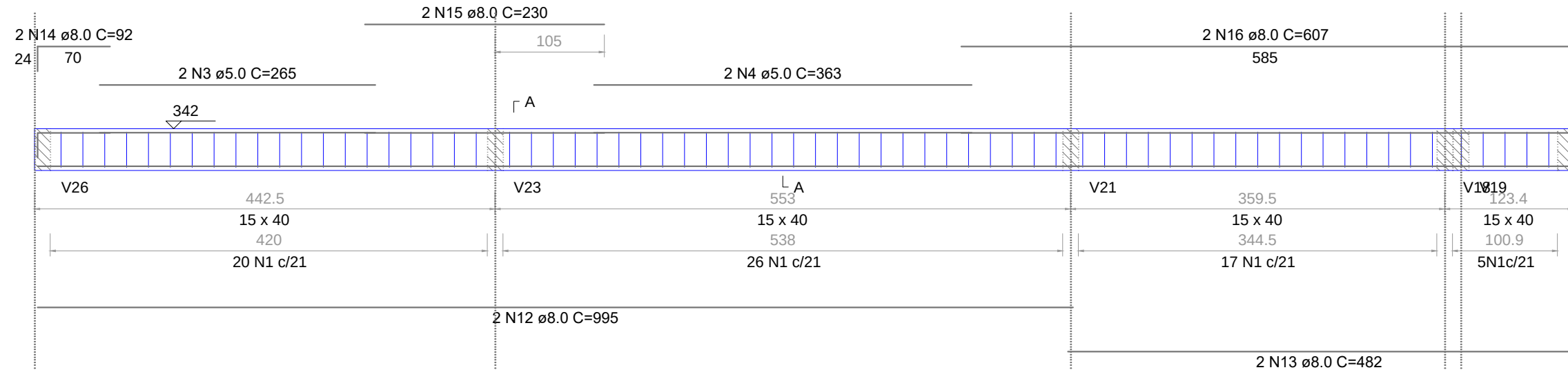
V49

ESC 1:50



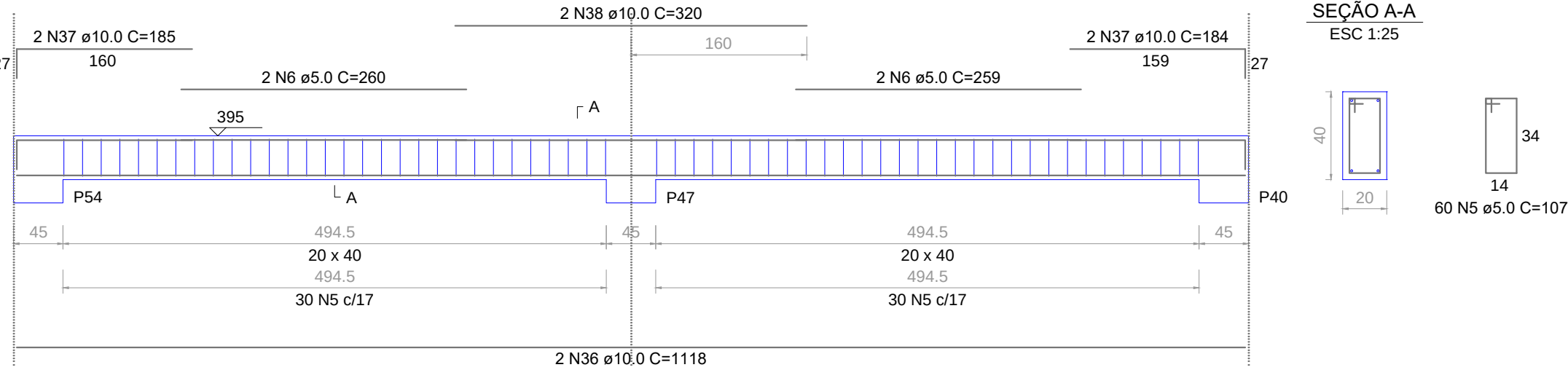
V50

ESC 1:50



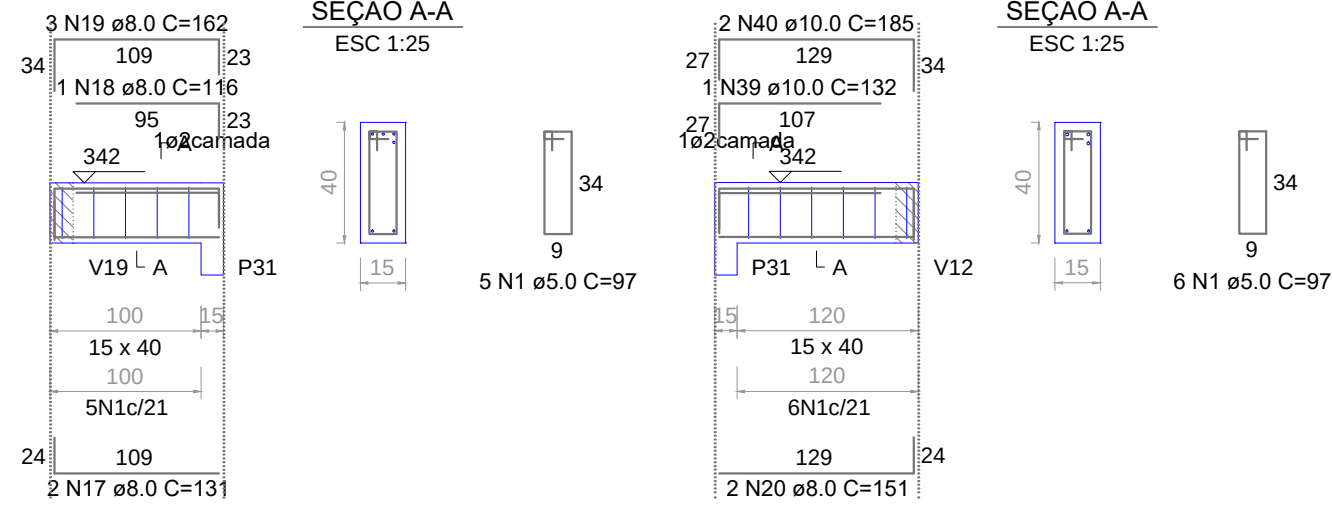
V51

ESC 1:50



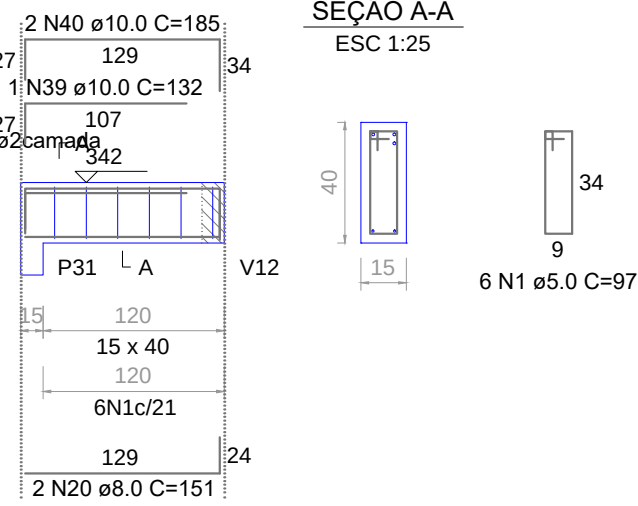
V52

ESC 1:50



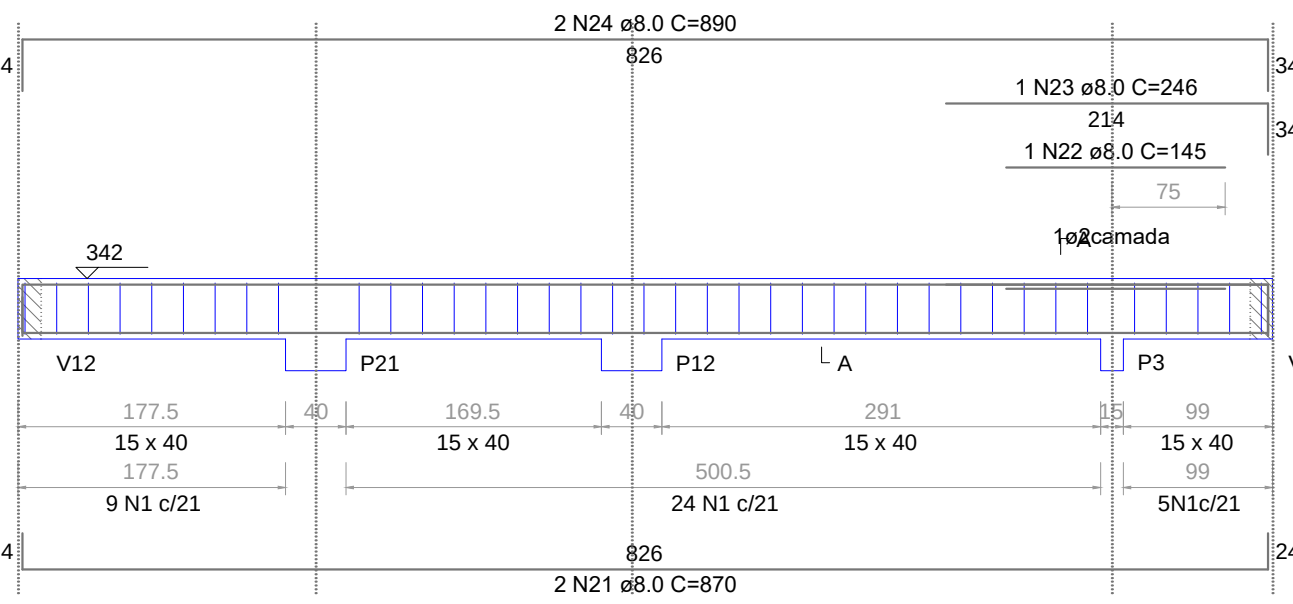
V53

ESC 1:50



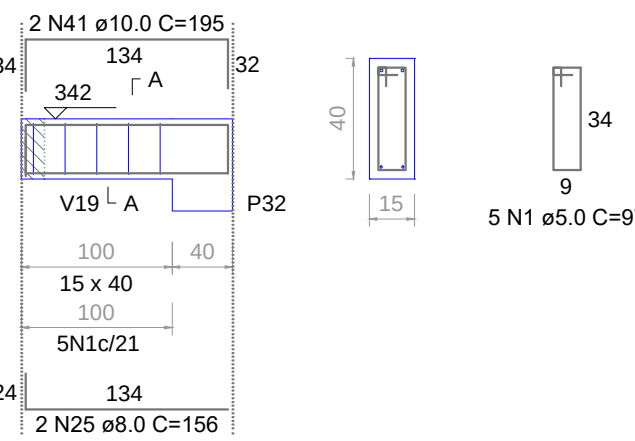
V54

ESC 1:50



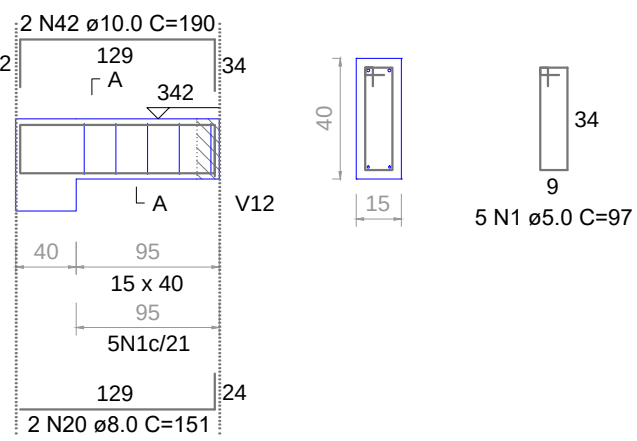
V55

ESC 1:50



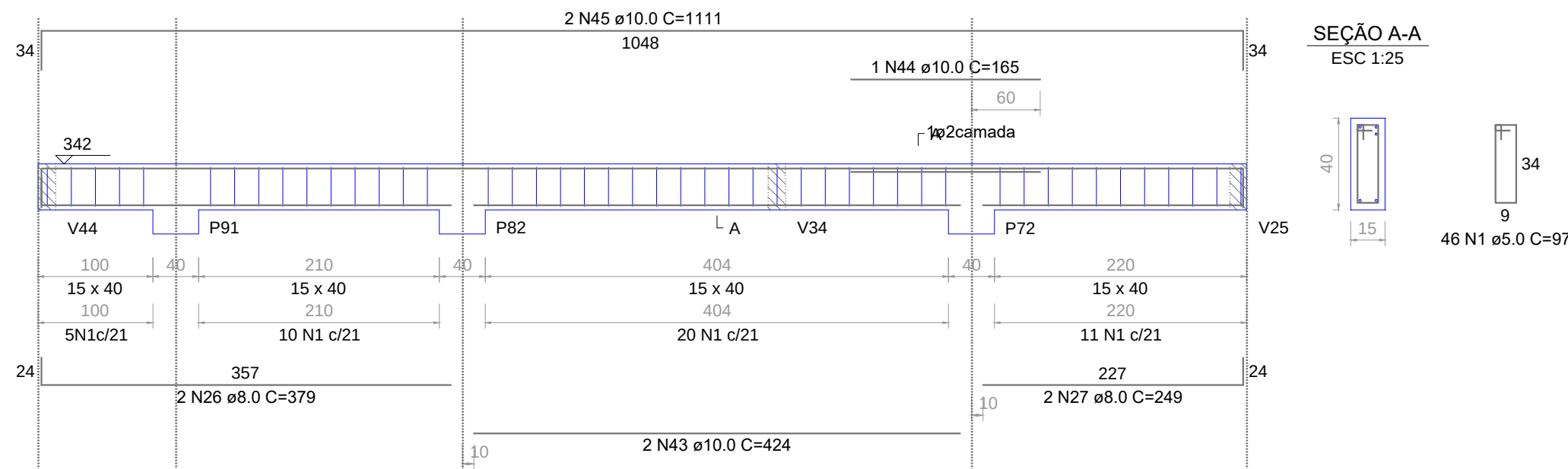
V56

ESC 1:50



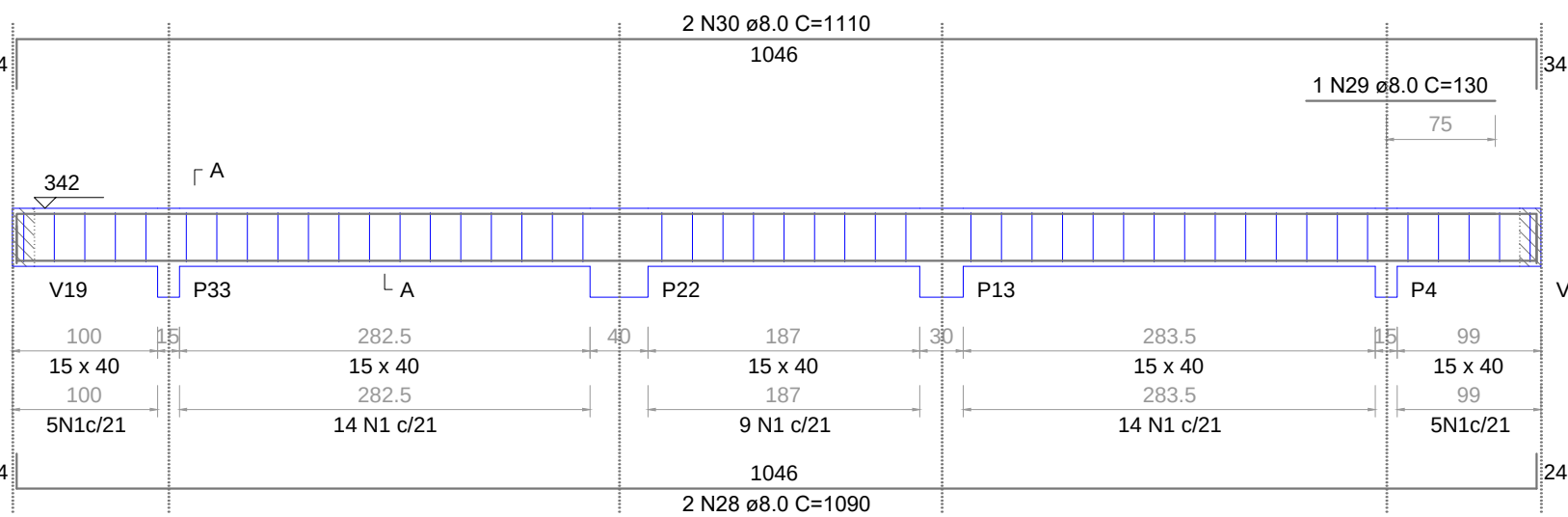
V57

ESC 1:50



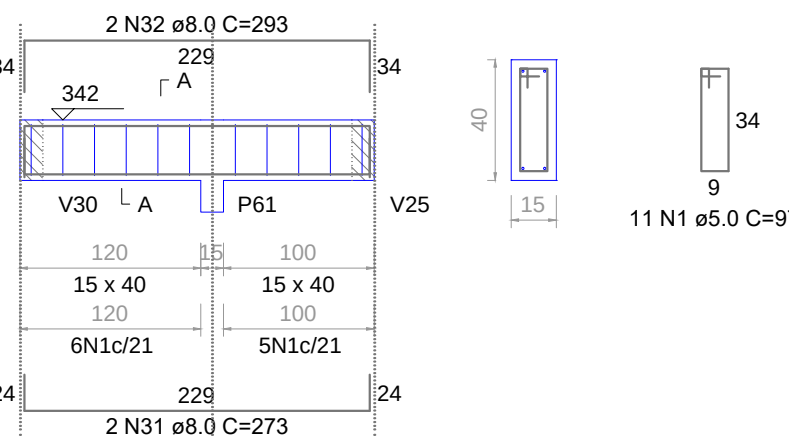
V58

ESC 1:50



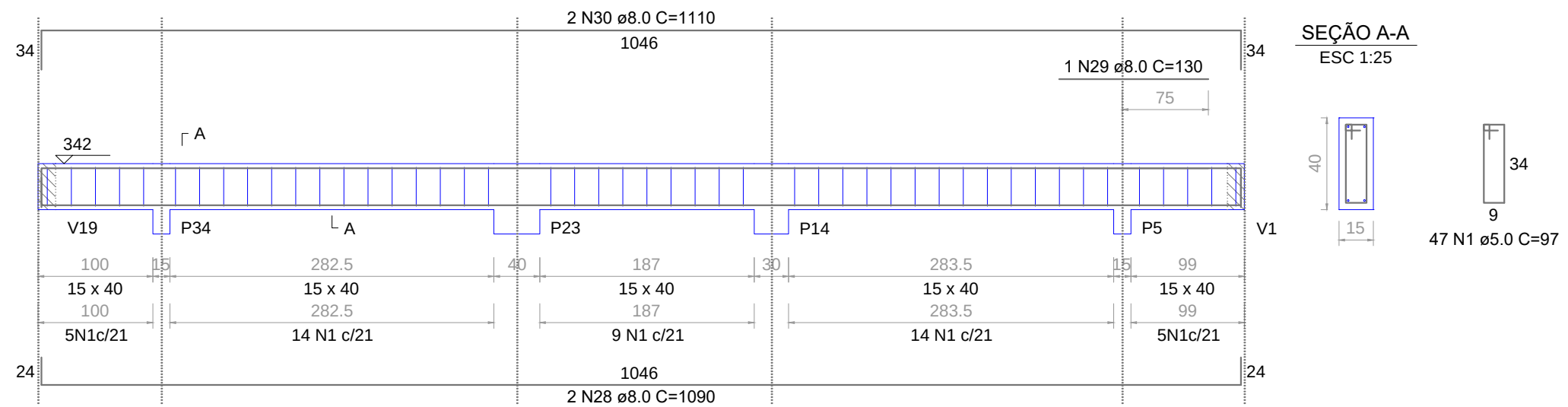
V59

ESC 1:50



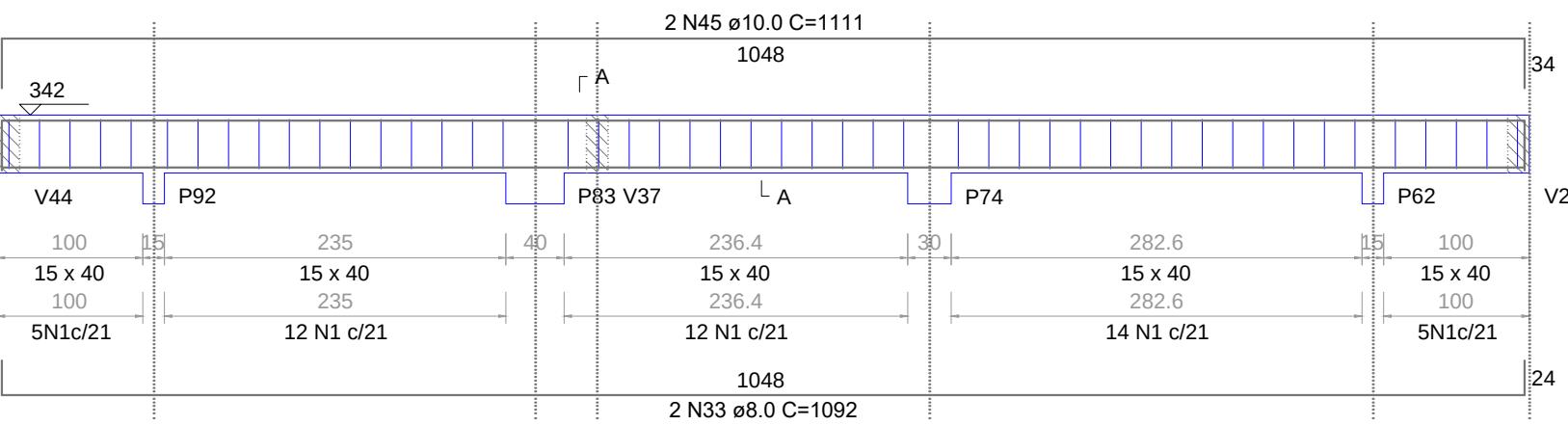
V60

ESC 1:50



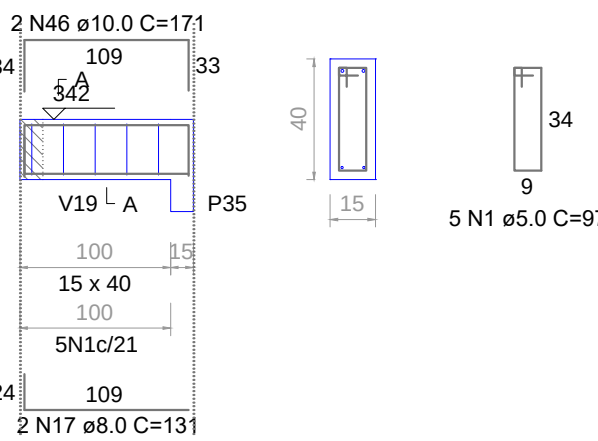
V61

ESC 1:50



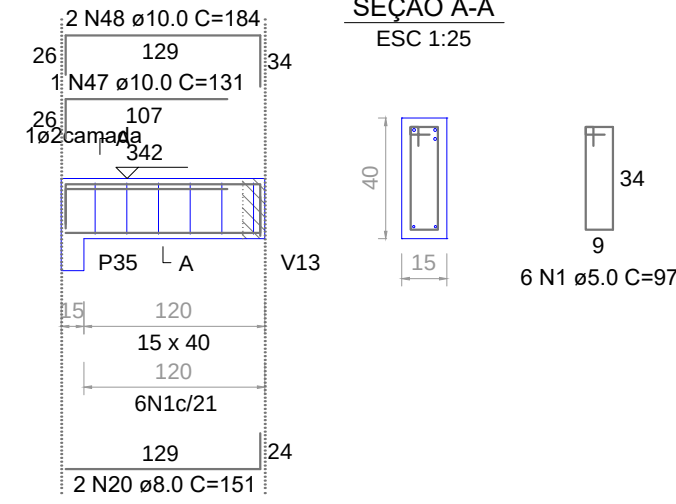
V62

ESC 1:50



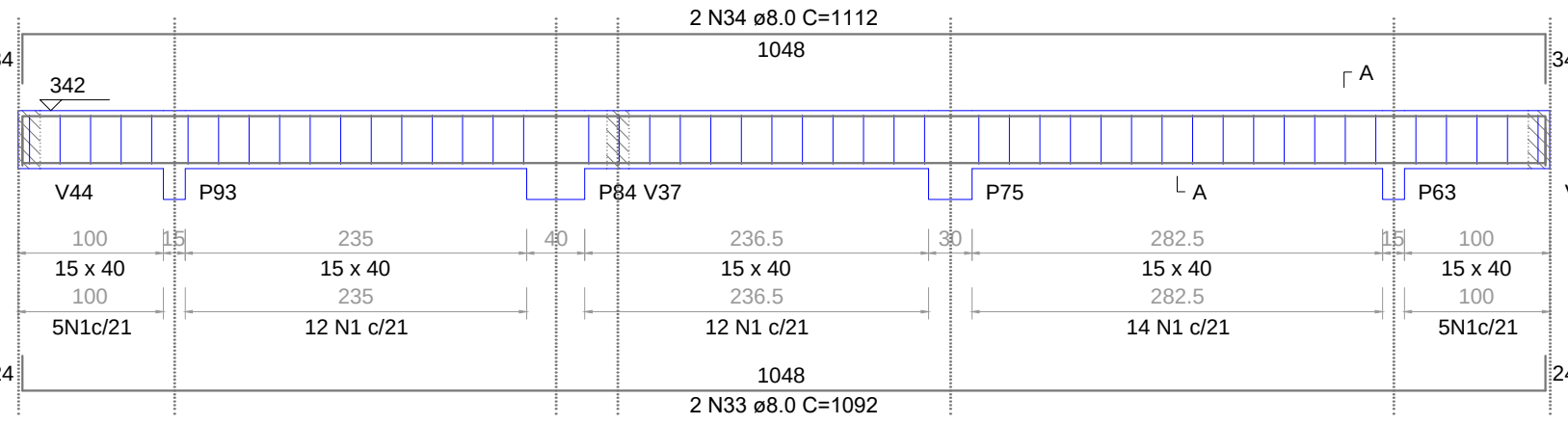
V63

ESC 1:50



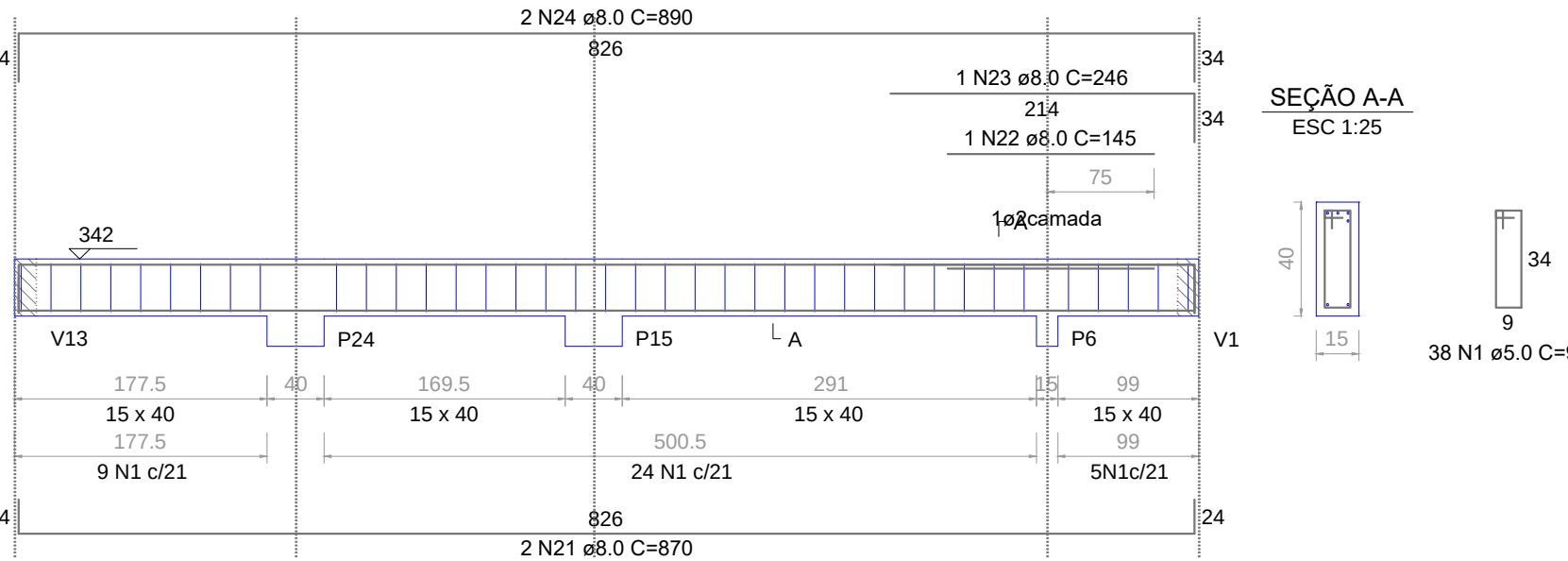
V64

ESC 1:50



V65

ESC 1:50



RELAÇÃO DO AÇO					
AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	531	97	51507
	2	5.0	2	273	546
	3	5.0	2	265	530
	4	5.0	2	363	726
	5	5.0	60	107	6420
	6	5.0	4	260	1040
CA50	7	8.0	2	417	834
	8	8.0	2	342	684
	9	8.0	2	1106	2212
	10	8.0	1	206	206
	11	8.0	2	1126	2252
	12	8.0	2	995	1990
	13	8.0	2	482	964
	14	8.0	2	92	184
	15	8.0	2	230	460
	16	8.0	2	607	1214
	17	8.0	4	131	524
	18	8.0	1	116	116
	19	8.0	3	162	486
	20	8.0	6	151	906
	21	8.0	4	870	3480
	22	8.0	2	145	290
	23	8.0	2	246	492
	24	8.0	4	890	3560
	25	8.0	2	156	312
CA50	26	8.0	2	379	758
	27	8.0	2	249	498
	28	8.0	4	1090	4360
	29	8.0	2	130	260
	30	8.0	4	1110	4440
	31	8.0	2	273	546
	32	8.0	2	293	586
	33	8.0	4	1092	4368
	34	8.0	2	1112	2224
	35	10.0	2	558	1116
	36	10.0	2	1118	2236
	37	10.0	4	185	740
	38	10.0	2	320	640
	39	10.0	1	132	132
CA50	40	10.0	2	185	370
	41	10.0	2	195	390
	42	10.0	2	190	380
	43	10.0	2	424	848
	44	10.0	1	165	165
	45	10.0	4	1111	4444
	46	10.0	2	171	342
	47	10.0	1	131	131
	48	10.0	2	184	368
	49	12.5	2	604	1208
CA60	50	12.5	2	524	1048

RESUMO DO AÇO			
AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	8.0	392.1	170.2
CA60	10.0	123	83.4
CA60	12.5	22.6	23.9
CA60	5.0	607.7	103
PESO TOTAL (kg)			
CA50	277.5		
CA60	103		
Volume de concreto (C-30) = 8.01 m³			
Área de forma = 123.80 m²			

CEI PROF. JOSÉ SANTOS NUNES

Localização:
Rua José Romão, 311 - São Paulo
São Paulo - SP

CONTEÚDO:
DETALHAMENTO DAS VIGAS DA COBERTURA

RESP. TÉCNICO:
GABRIELA BRESSAN PEDROSO
Engenheira Civil CREA-SC 142.195-1
SOFIA LIMA VIEIRA
Engenheira Civil CREA-SC 138.383-6

DATA:
JULHO / 2025

ESCALA:
Indicada

ÁREA TOTAL CONSTRUÍDA:
755,97 m²

PRANCHAS:
20/26

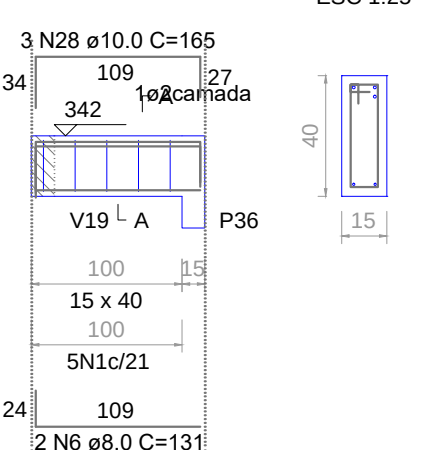


Rua Florianoópolis, 388 - Sala 03
Vila Moema - Tubarão/SC
48 9 3929 9893 / 48 9 3929 5521

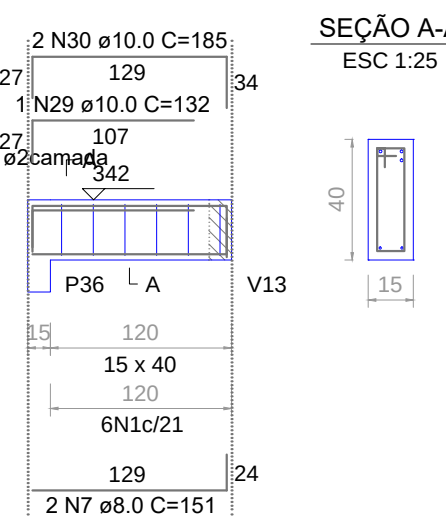
PROPRIETÁRIO:

Município de Tubarão
CNPJ 02.926.698/0001-93

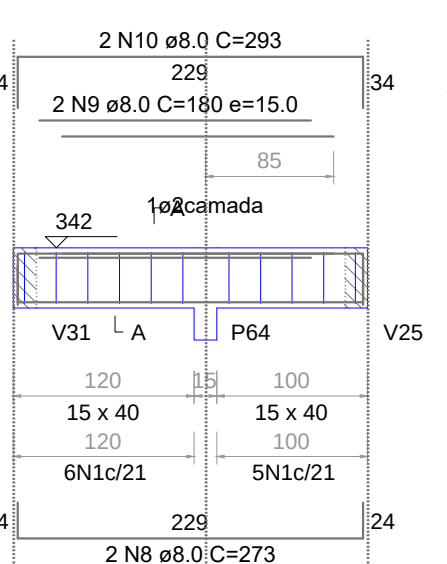
V66
ESC 1:50



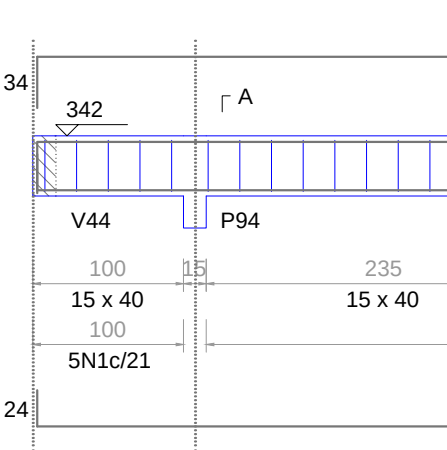
V67
ESC 1:50



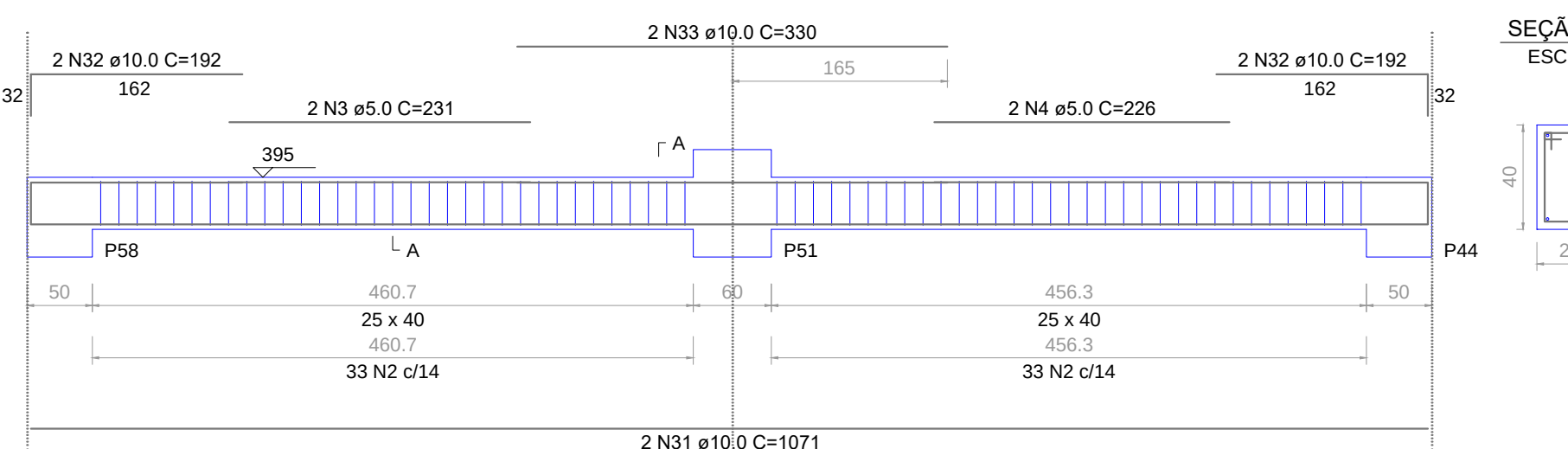
V68
ESC 1:50



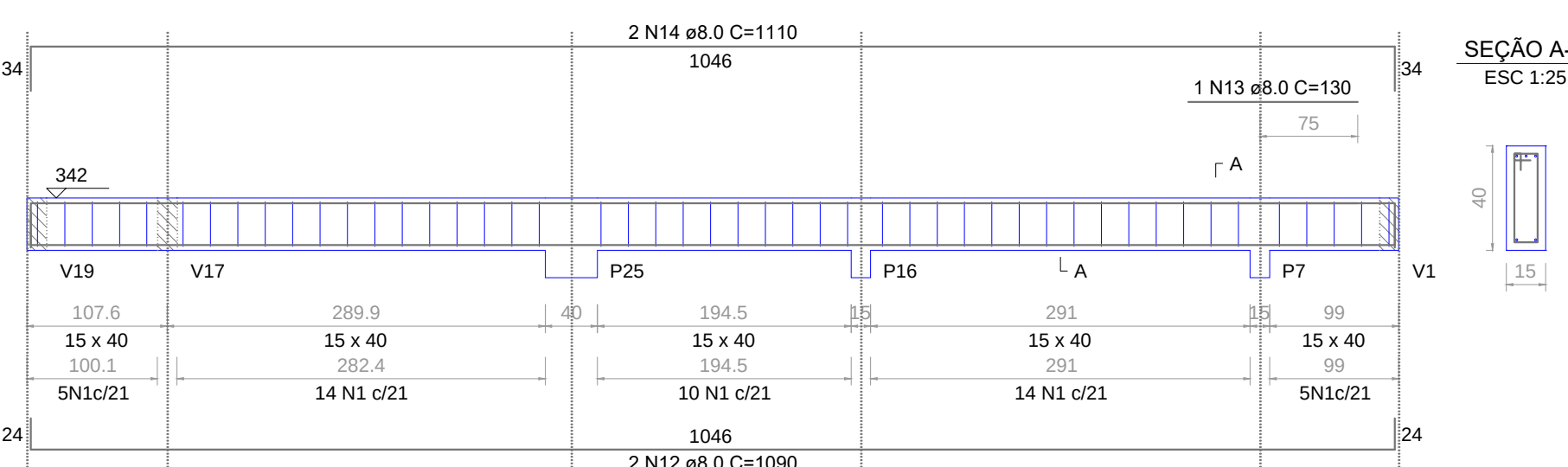
V69
ESC 1:50



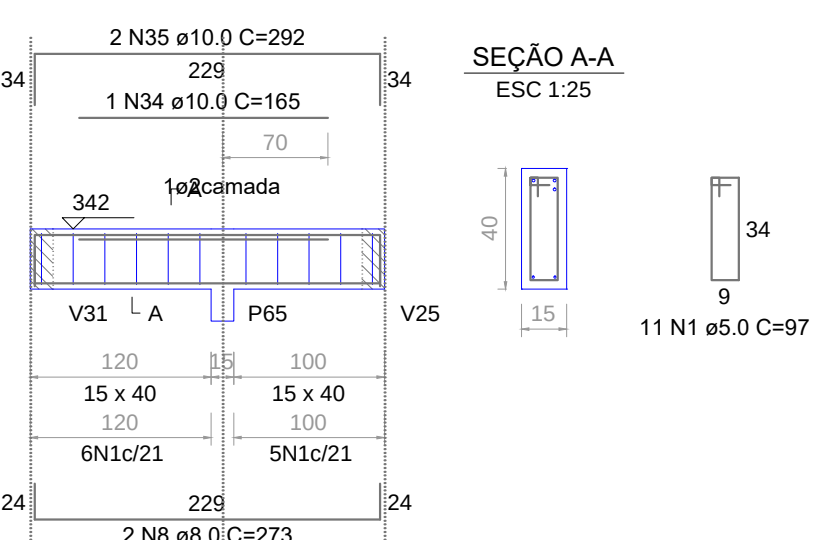
V70
ESC 1:50



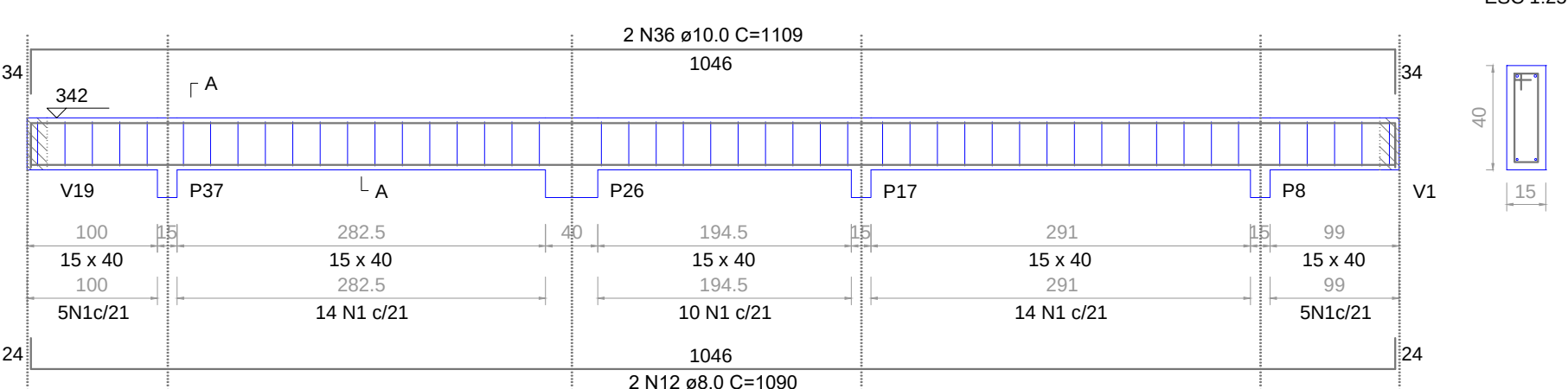
V71
ESC 1:50



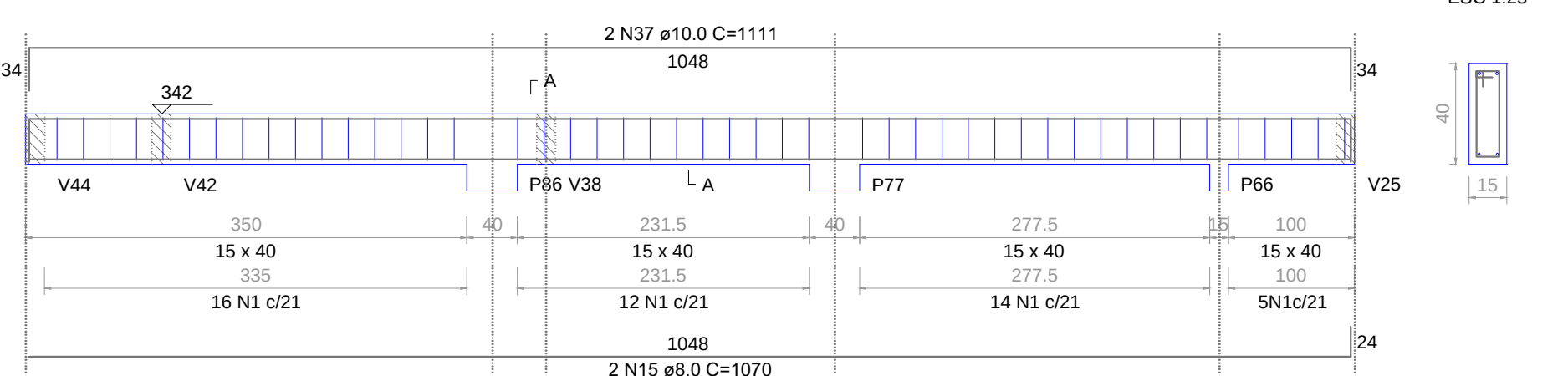
V72
ESC 1:50



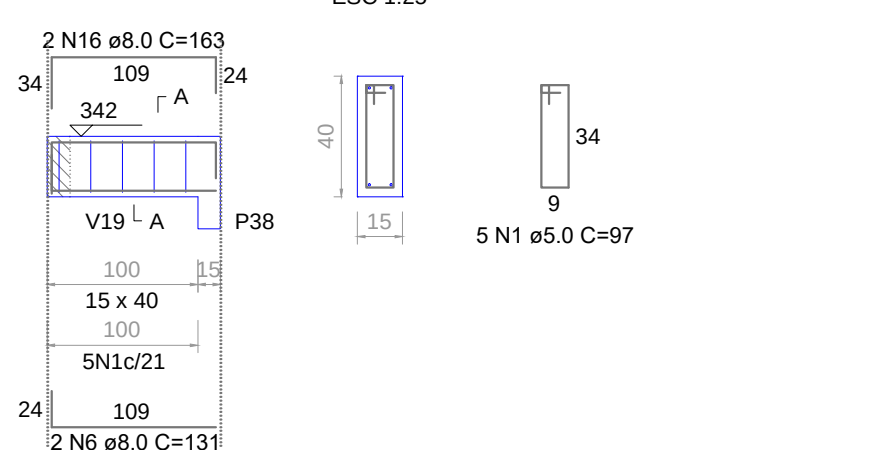
V73
ESC 1:50



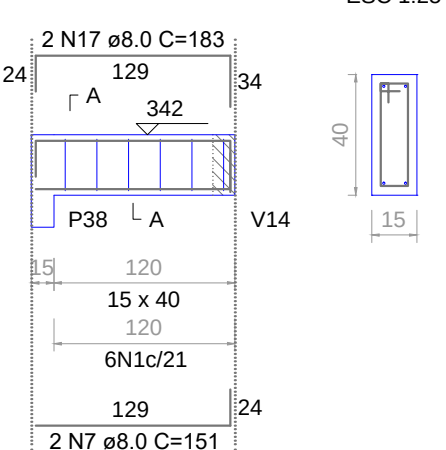
V74
ESC 1:50



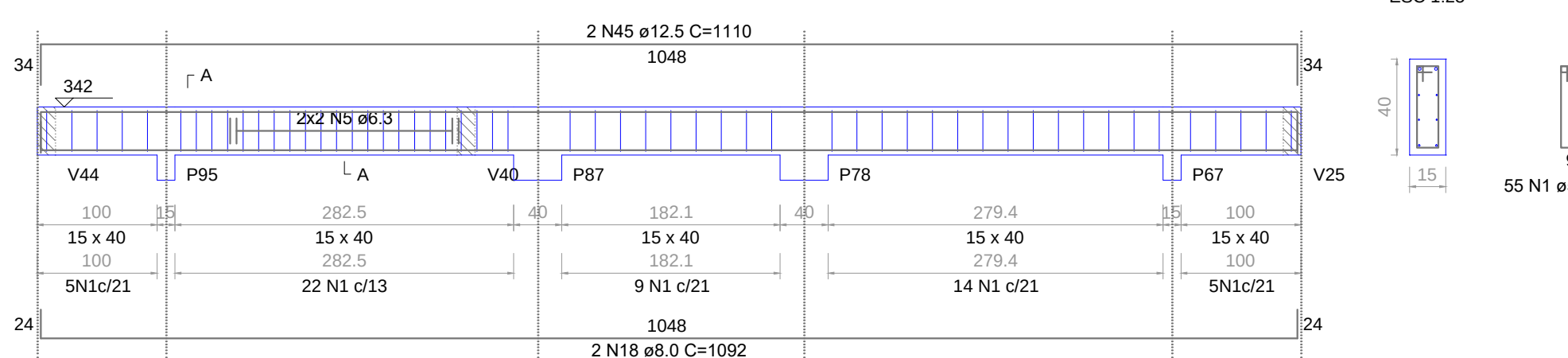
V75
ESC 1:50



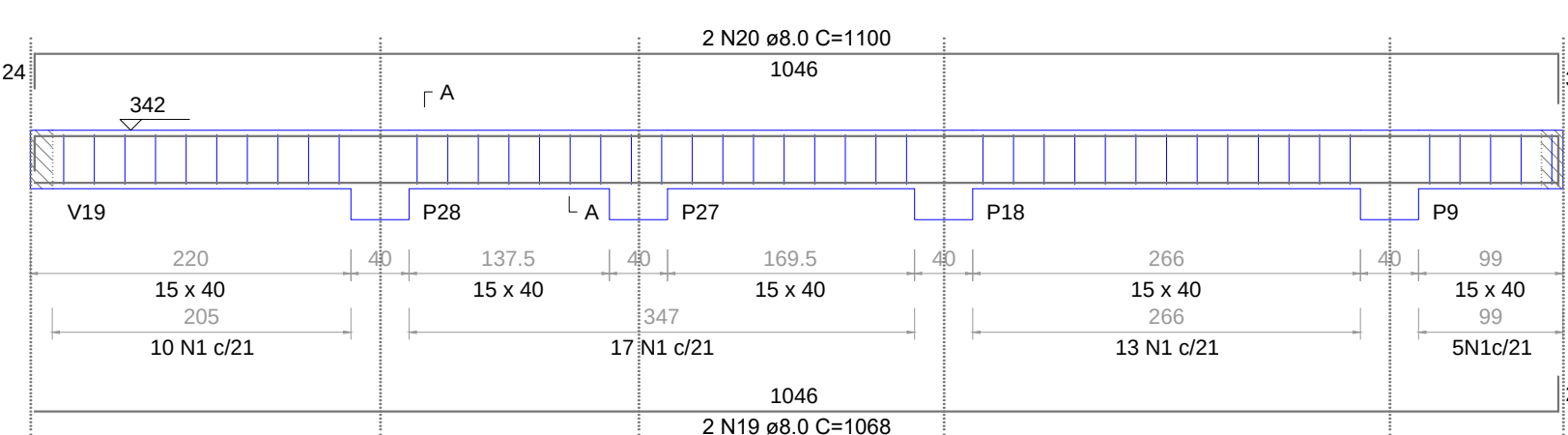
V76
ESC 1:50



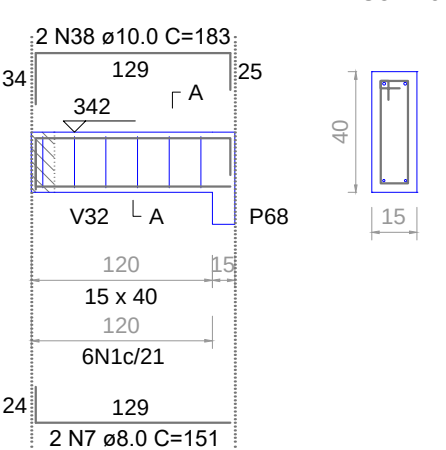
V77
ESC 1:50



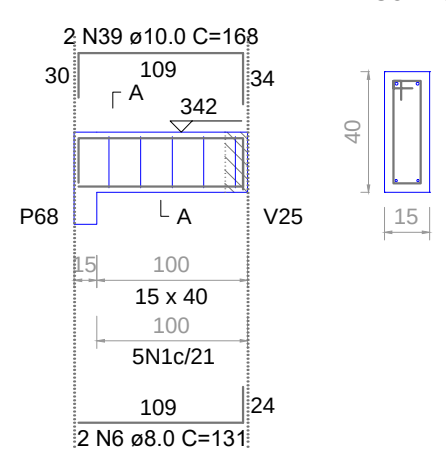
V78
ESC 1:50



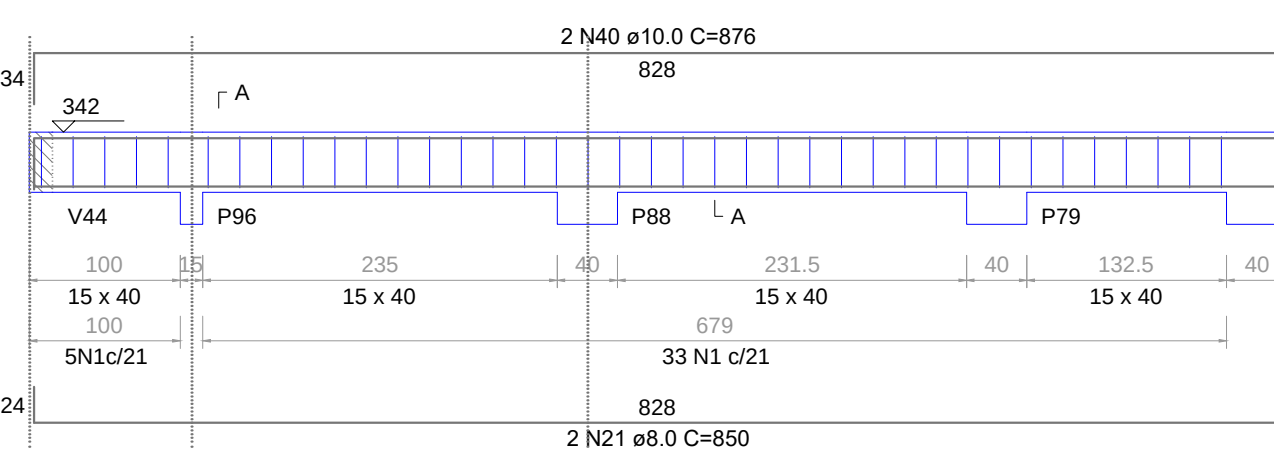
V79
ESC 1:50



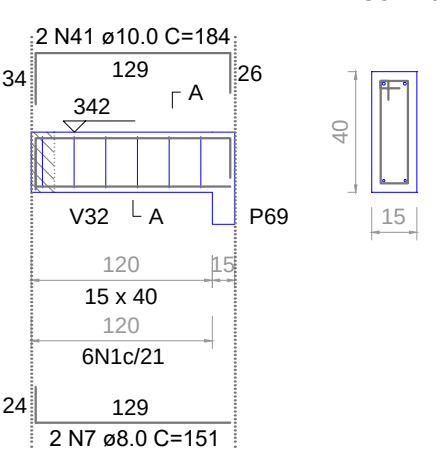
V80
ESC 1:50



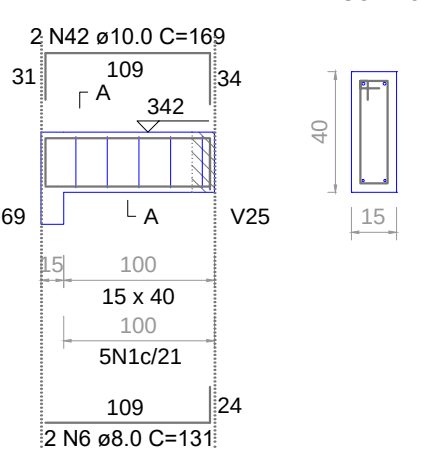
V81
ESC 1:50



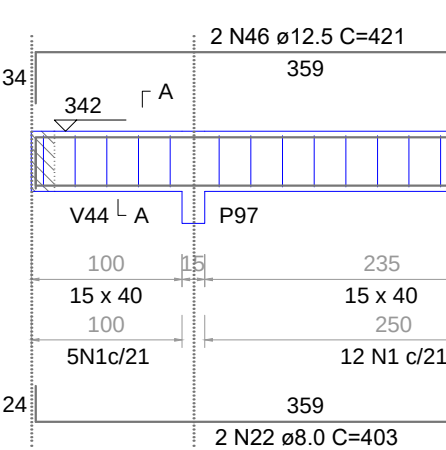
V82
ESC 1:50



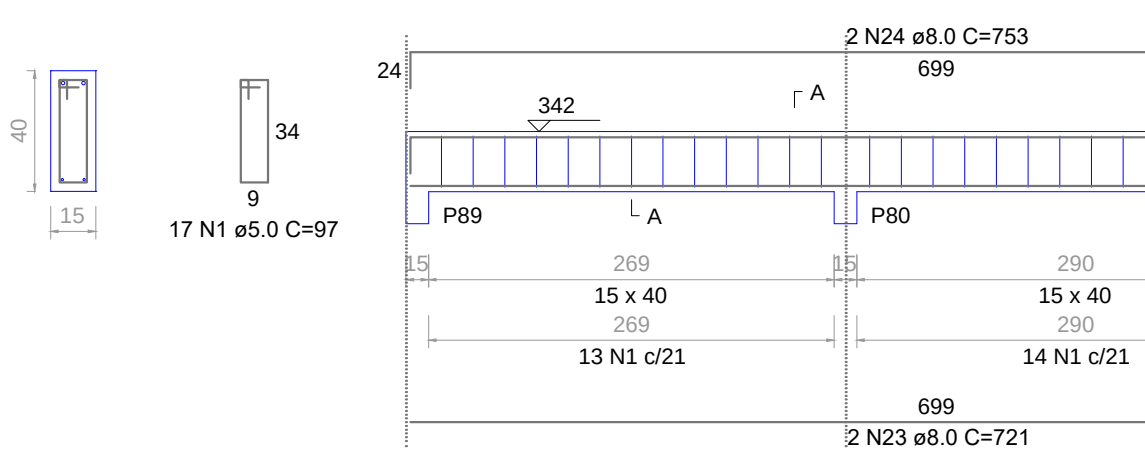
V83
ESC 1:50



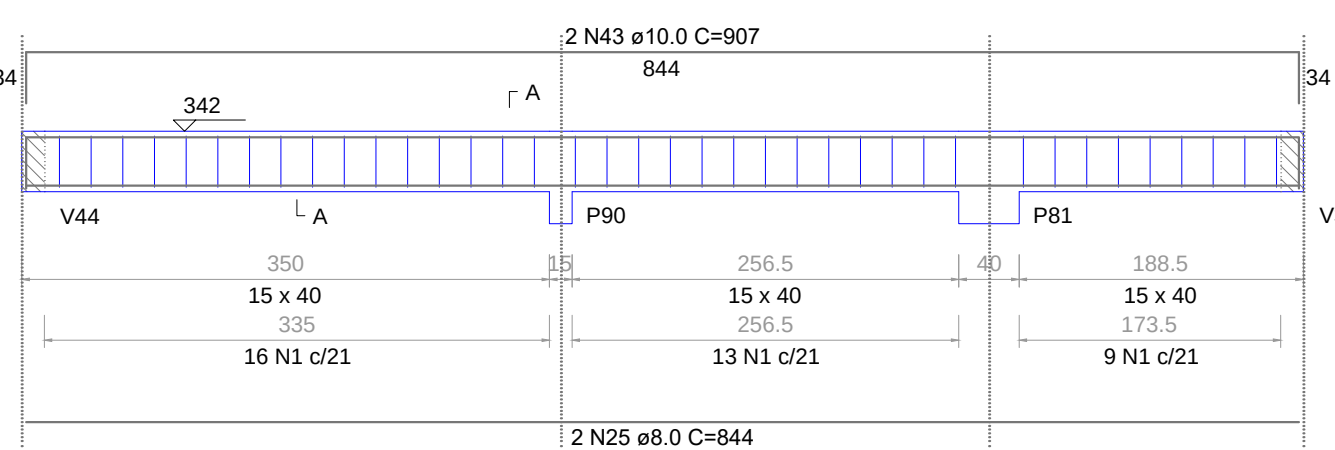
V84
ESC 1:50



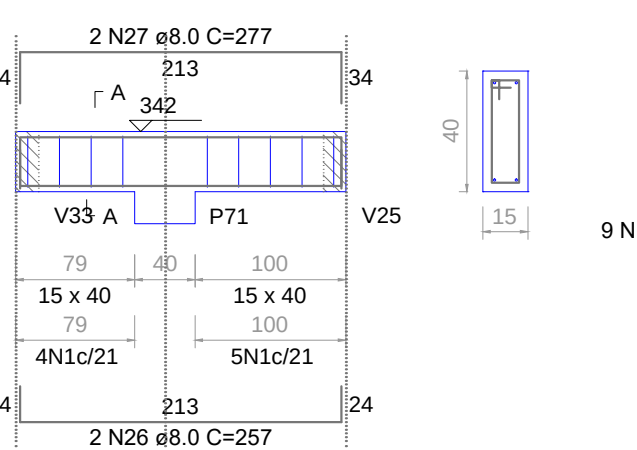
V85
ESC 1:50



V86
ESC 1:50



V87
ESC 1:50



RELAÇÃO DO AÇO					
AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	482	97	46754
	2	5.0	66	117	7722
	3	5.0	2	231	462
	4	5.0	2	226	452
	5	6.3	4	corr	1324
	6	8.0	8	131	1048
	7	8.0	8	151	1208
	8	8.0	4	273	1092
	9	8.0	2	180	360
	10	8.0	2	293	586
CA50	11	8.0	2	872	1744
	12	8.0	4	1090	4360
	13	8.0	1	130	130
	14	8.0	2	1110	2220
	15	8.0	2	1070	2140
	16	8.0	2	163	326
	17	8.0	2	183	366
	18	8.0	2	1092	2184
	19	8.0	2	1068	2136
	20	8.0	2	1100	2200
CA60	21	8.0	2	850	1700
	22	8.0	2	403	806
	23	8.0	2	721	1442
	24	8.0	2	753	1506
	25	8.0	2	844	1688
	26	8.0	2	257	514
	27	8.0	2	277	554
	28	10.0	3	165	495
	29	10.0	1	132	132
	30	10.0	2	185	370
CA50	31	10.0	2	1071	2142
	32	10.0	4	192	768
	33	10.0	2	330	660
	34	10.0	1	165	165
	35	10.0	2	292	584
	36	10.0	2	1109	2218
	37	10.0	2	1111	2222
	38	10.0	2	183	366
	39	10.0	2	168	336
	40	10.0	2	876	1752
CA60	41	10.0	2	184	368
	42	10.0	2	169	338
	43	10.0	2	907	1814
	44	12.5	2	890	1780
	45	12.5	2	1110	2220
	46	12.5	2	421	842

RESUMO DO AÇO			
AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	6.3	13.2	3.6
CA50	8.0	303.1	131.6
CA50	10.0	147.3	99.9
CA50	12.5	48.4	51.3
CA60	5.0	553.9	93.9
PESO TOTAL (kg)			
CA50	286.3		
CA60	93.9		

Volume de concreto (C-30) = 7.40 m³
Área de forma = 111.45 m²

CEI PROF. JOSÉ SANTOS NUNES

Localização:
Rua João Ribeiro, 51 No. Bairro
São Luiz,
Tubarão - SC

CONTEÚDO:
DETALHAMENTO DAS VIGAS
DA COBERTURA

RESP. TÉCNICO:
GABRIELA BRESSAN PEDROSO
Engenheira Civil CREA-SC 142.195-1
SOFIA LIMA VIEIRA
Engenheira Civil CREA-SC 138.383-6

DATA:
JULHO / 2025

ESCALA:
Indicada

ÁREA TOTAL
CONSTRUIDA:
755,97 m²

PRANCHA:
21/26

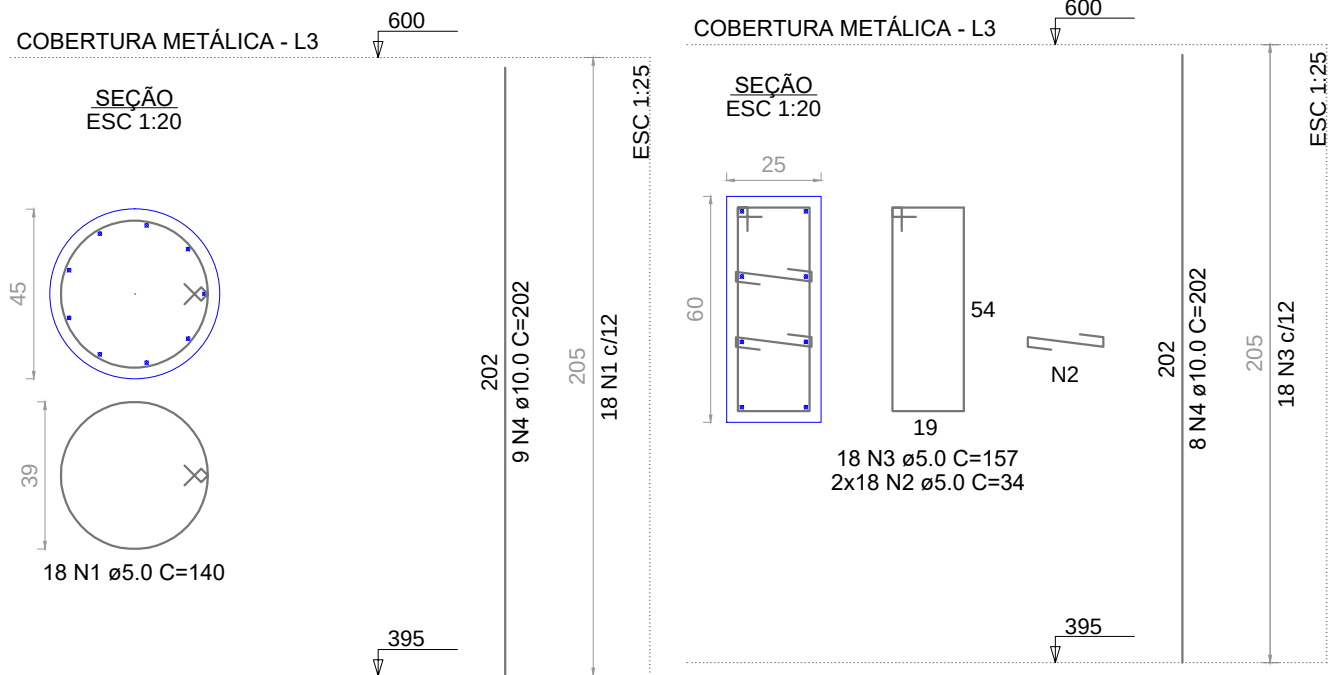
LIBRE
ENGENHARIA

Rua Florianoópolis, 388 - Sala 03
Vila Moema - Tubarão/SC
48 9 3929 9893 / 48 9 3933 5531

Proprietário:

Município de Tubarão
CNPJ 02.926.696/0001-93

P48=P49=P50



RELAÇÃO DO AÇO

3xP48					
P51					
AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	54	140	7560
	2	5.0	36	34	1224
	3	5.0	18	157	2826
CA50	4	10.0	35	202	7070

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	10.0	70.7	47.9
CA60	5.0	116.1	19.7
PESO TOTAL (kg)			
CA50	47.9		
CA60	19.7		

Volume de concreto (C-30) = 1.29 m³

Área de forma = 12.18 m²

CEI PROF. JOSÉ SANTOS NUNES

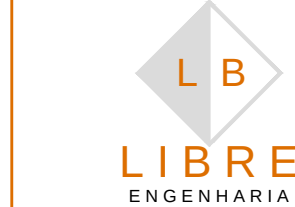
Localização:
Rua João Ribeiro, 51 No. Bairro
São Luiz,
Tubarão - SC

CONTEÚDO:
DETALHAMENTO DOS PILARES DA COBERTURA INCLINADA

RESP. TÉCNICO:
GABRIELA BRESSAN PEDROSO
Engenheiro Civil CREA-SC 142.195-1
SOFIA LIMA VIEIRA
Engenheiro Civil CREA-SC 138.383-6

DATA:
JULHO / 2025

ESCALA:
Indicada



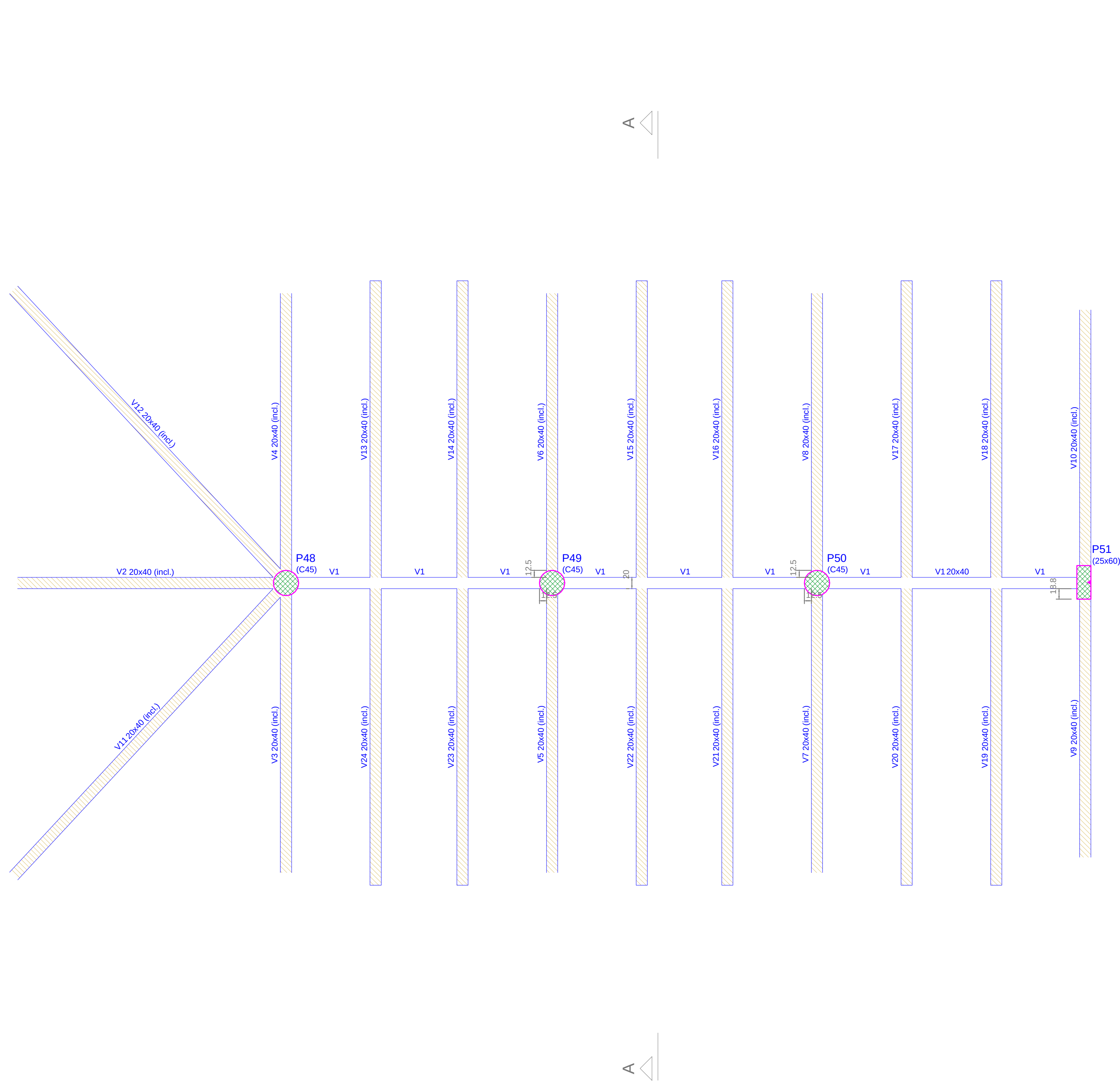
Rua Florianoópolis, 388 - Sala 03
Vila Moema - Tubarão/SC
48 9.9529.9893 / 48 9.9518.5531

PROPRIETÁRIO:

Município de Tubarão
CNPJ 02.926.696/0001-33

ÁREA TOTAL
CONSTRUÍDA:
755,97 m²

PRANCHA:
22/26



Forma do pavimento Cobertura metálica (Nível 600)
escala 1:50

Vigas			
Nome	Seção (cm)	Elevação (cm)	Nível (cm)
V1	20x40	0	600
V2	20x40	0 / -205	600 / 395
V3	20x40	0 / -205	600 / 395
V4	20x40	0 / -205	600 / 395
V5	20x40	0 / -205	600 / 395
V6	20x40	0 / -205	600 / 395
V7	20x40	0 / -205	600 / 395
V8	20x40	0 / -205	600 / 395
V9	20x40	0 / -205	600 / 395
V10	20x40	0 / -205	600 / 395
V11	20x40	0 / -205	600 / 395
V12	20x40	0 / -205	600 / 395
V13	20x40	0 / -205	600 / 395
V14	20x40	0 / -205	600 / 395
V15	20x40	0 / -205	600 / 395
V16	20x40	0 / -205	600 / 395
V17	20x40	0 / -205	600 / 395
V18	20x40	0 / -205	600 / 395
V19	20x40	0 / -205	600 / 395
V20	20x40	0 / -205	600 / 395
V21	20x40	0 / -205	600 / 395
V22	20x40	0 / -205	600 / 395
V23	20x40	0 / -205	600 / 395
V24	20x40	0 / -205	600 / 395

Características dos materiais	
fck (kgf/cm²)	Abatimento (cm)
300	5.00

Dimensão máxima do agregado = 19 mm

Pilares			
Nome	Seção (cm)	Elevação (cm)	Nível (cm)
P48	Circ 45	0	600
P49	Circ 45	0	600
P50	Circ 45	0	600
P51	25x60	0	600

Legenda dos pilares	
	Pilar que morre

Legenda das vigas e paredes	
	Viga
	Viga inclinada

CEI PROF. JOSÉ SANTOS NUNES

Localização:
Rua João Ribeiro, 51 No. Bairro
São Luiz,
Tubarão - SC

CONTEÚDO:
PLANTA DE FORMA DA COBERTURA INCLINADA

RESP. TÉCNICO:
GABRIELA BRESSAN PEDROSO
Engenheiro Civil CREA-SC 142.195-1
SOFIA LIMA VIEIRA
Engenheiro Civil CREA-SC 138.383-6

DATA:
JULHO / 2025

LIBRE
ENGENHARIA

Rua Florianoópolis, 388 - Sala 03
Vila Moema - Tubarão/SC
48 9.9529.9893 / 48 9.9818.5531

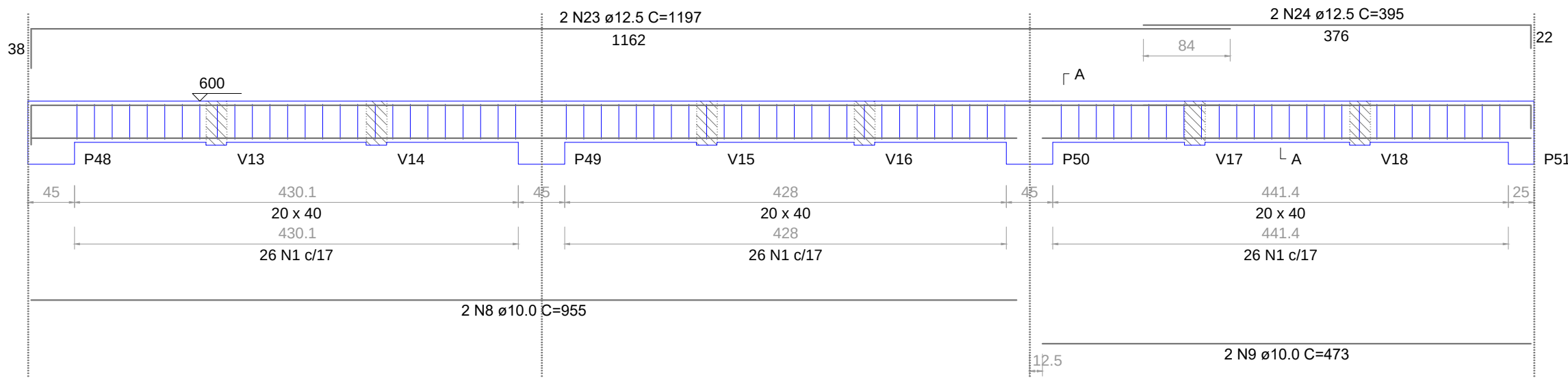
PROPRIETÁRIO:

Município de Tubarão
CNPJ 82.926.698/0001-93

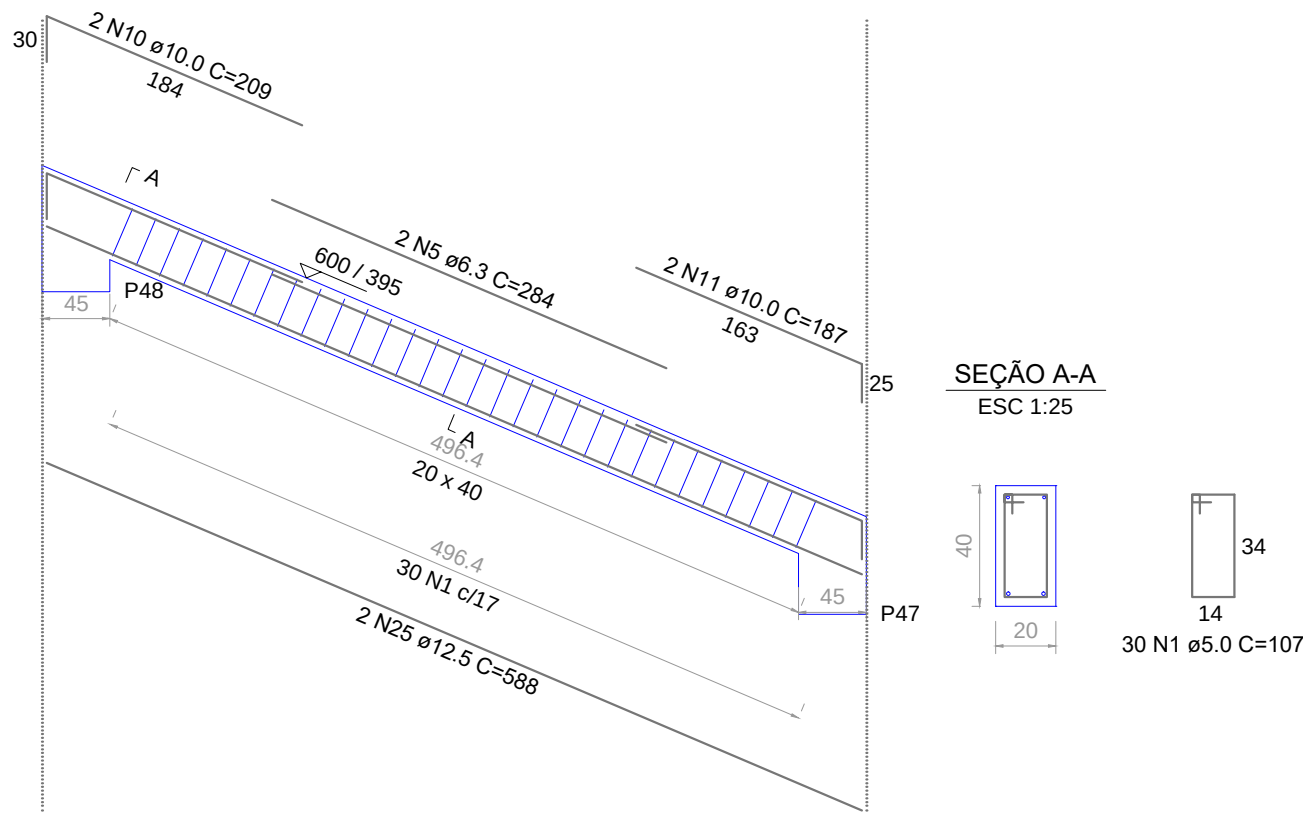
ÁREA TOTAL CONSTRUÍDA:
755,97 m²

PRANCHAS:
23/26

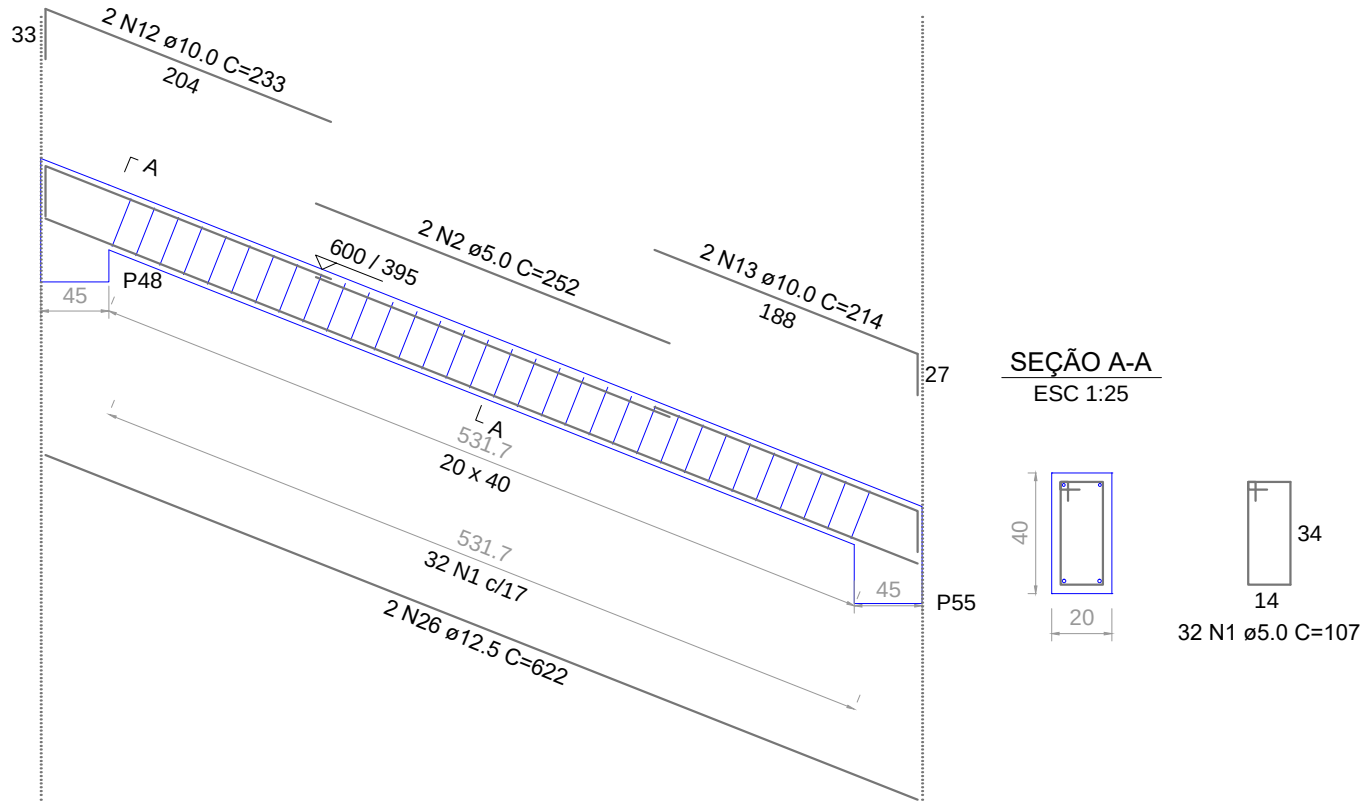
V1
ESC 1:50



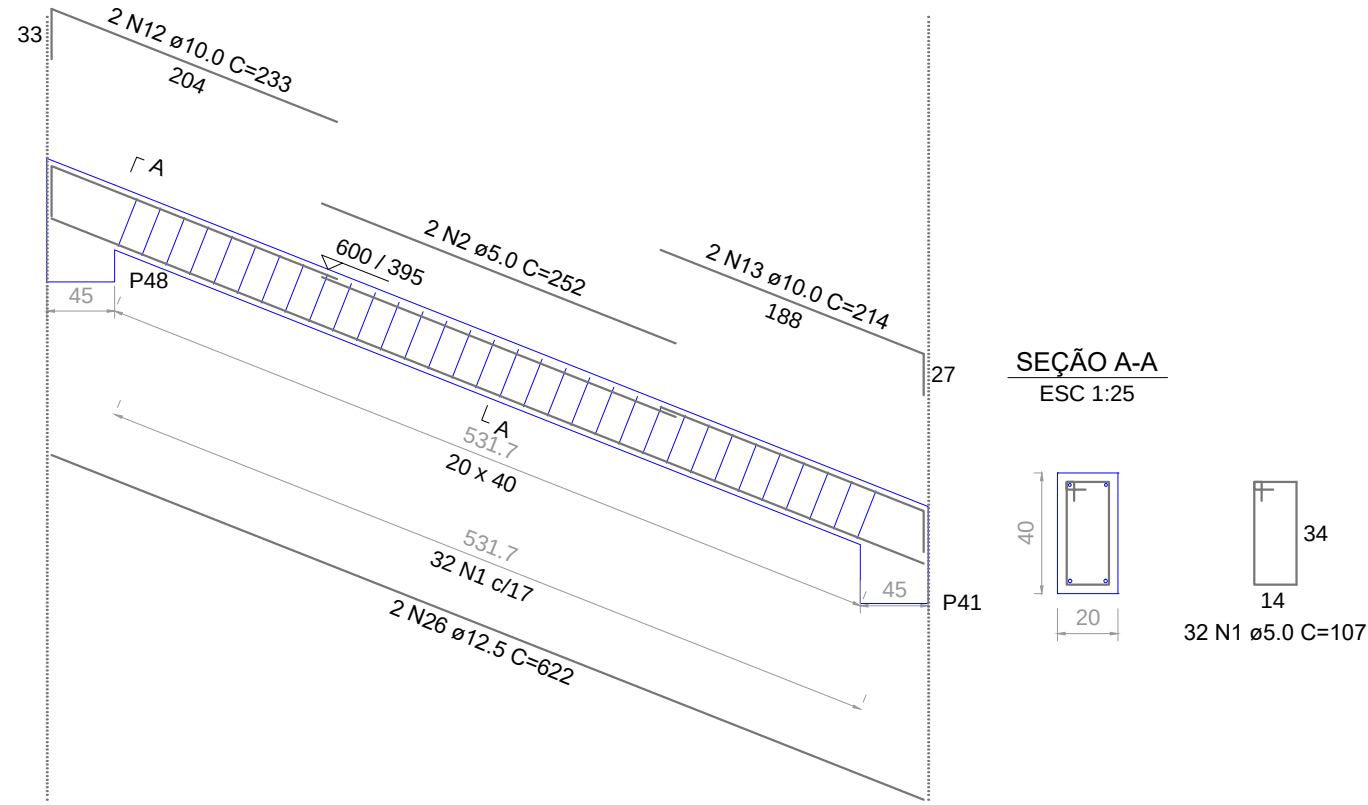
V2
ESC 1:50



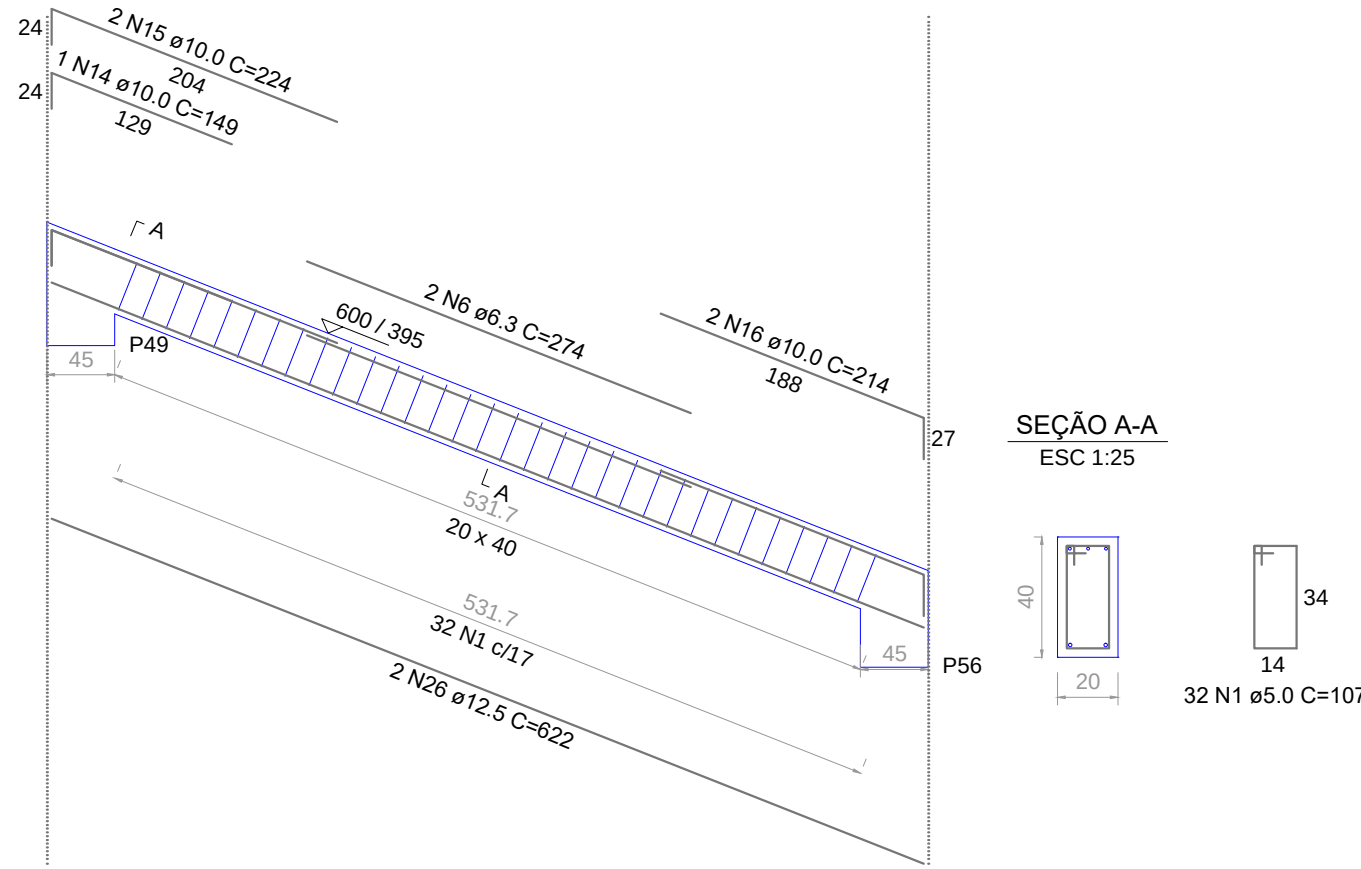
V3
ESC 1:50



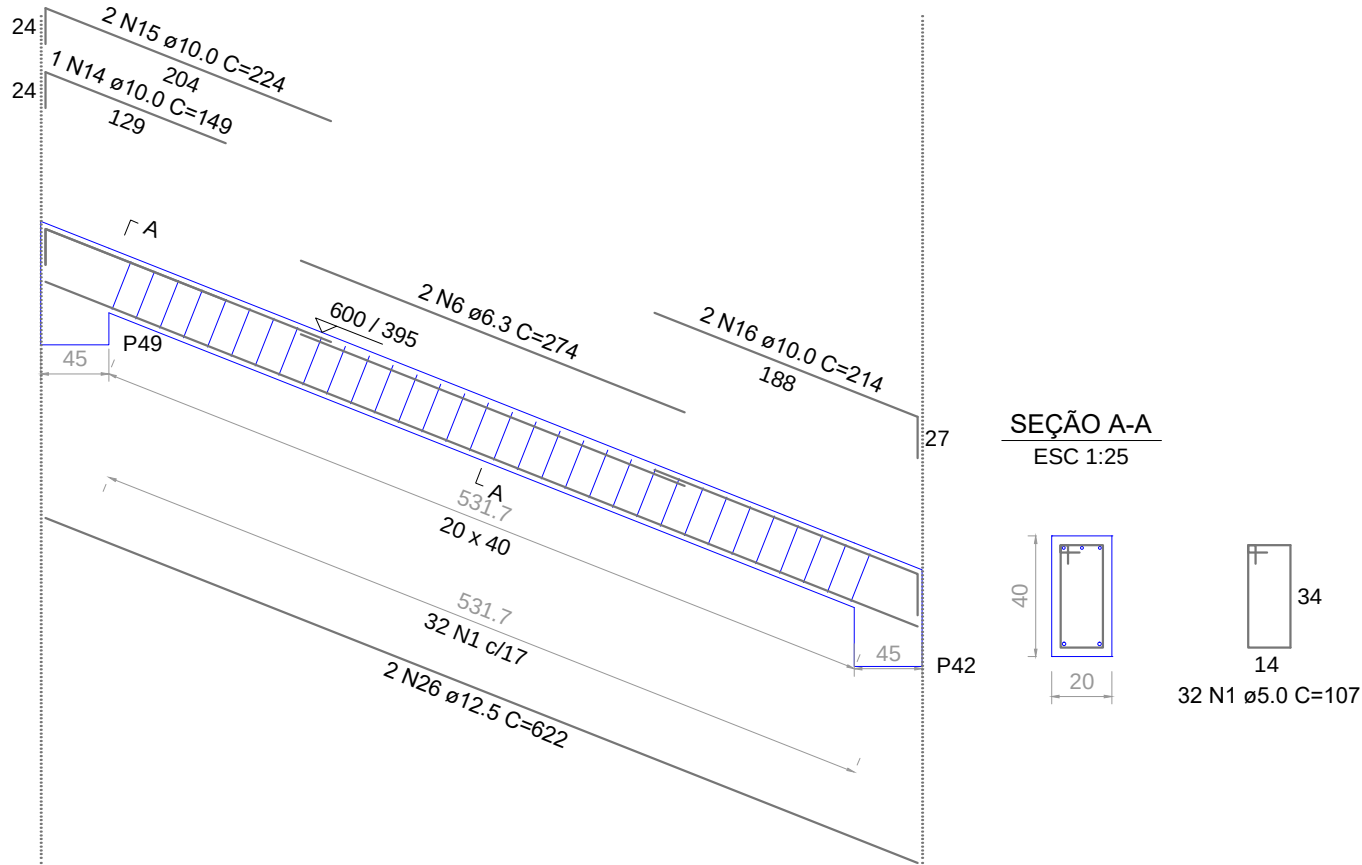
V4
ESC 1:50



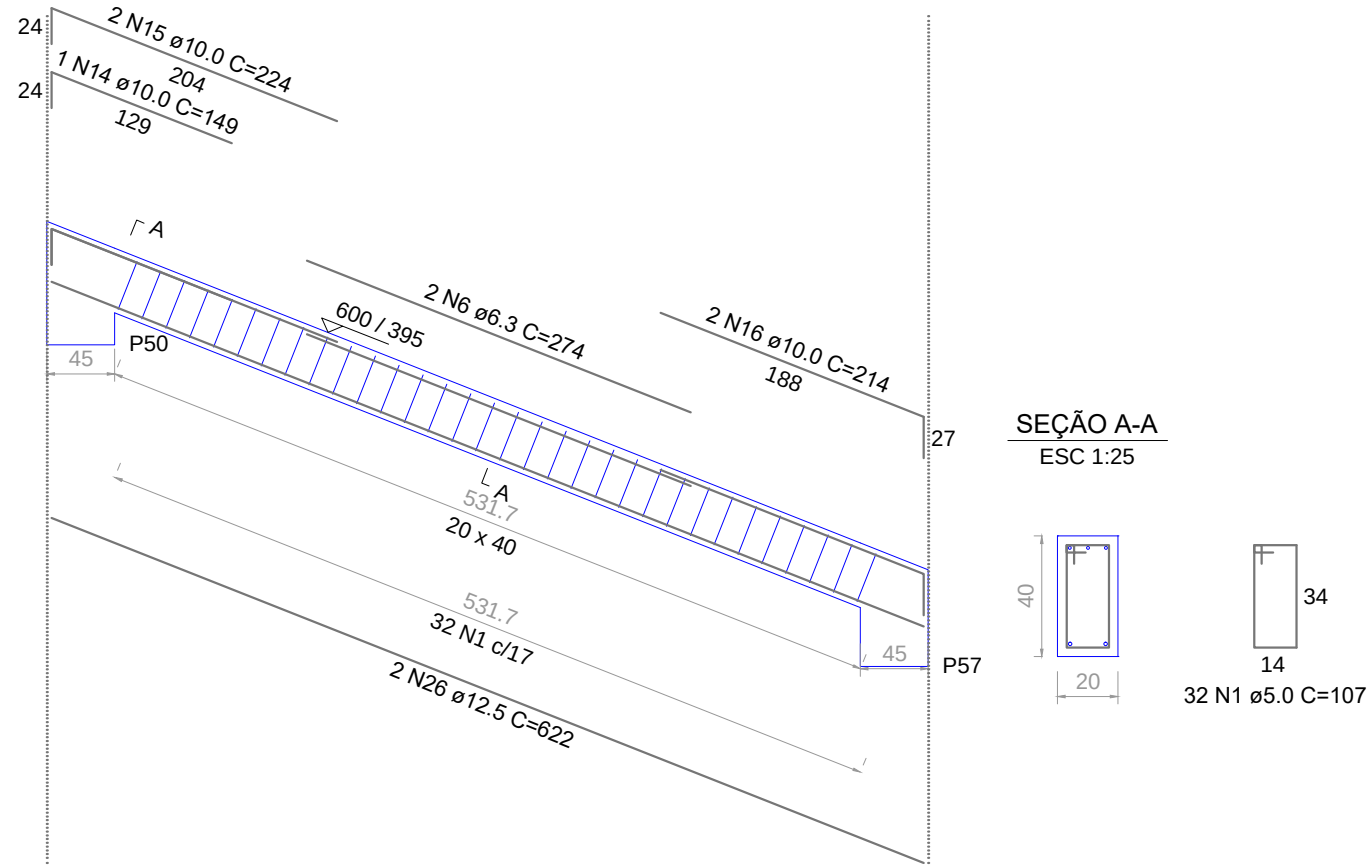
V5
ESC 1:50



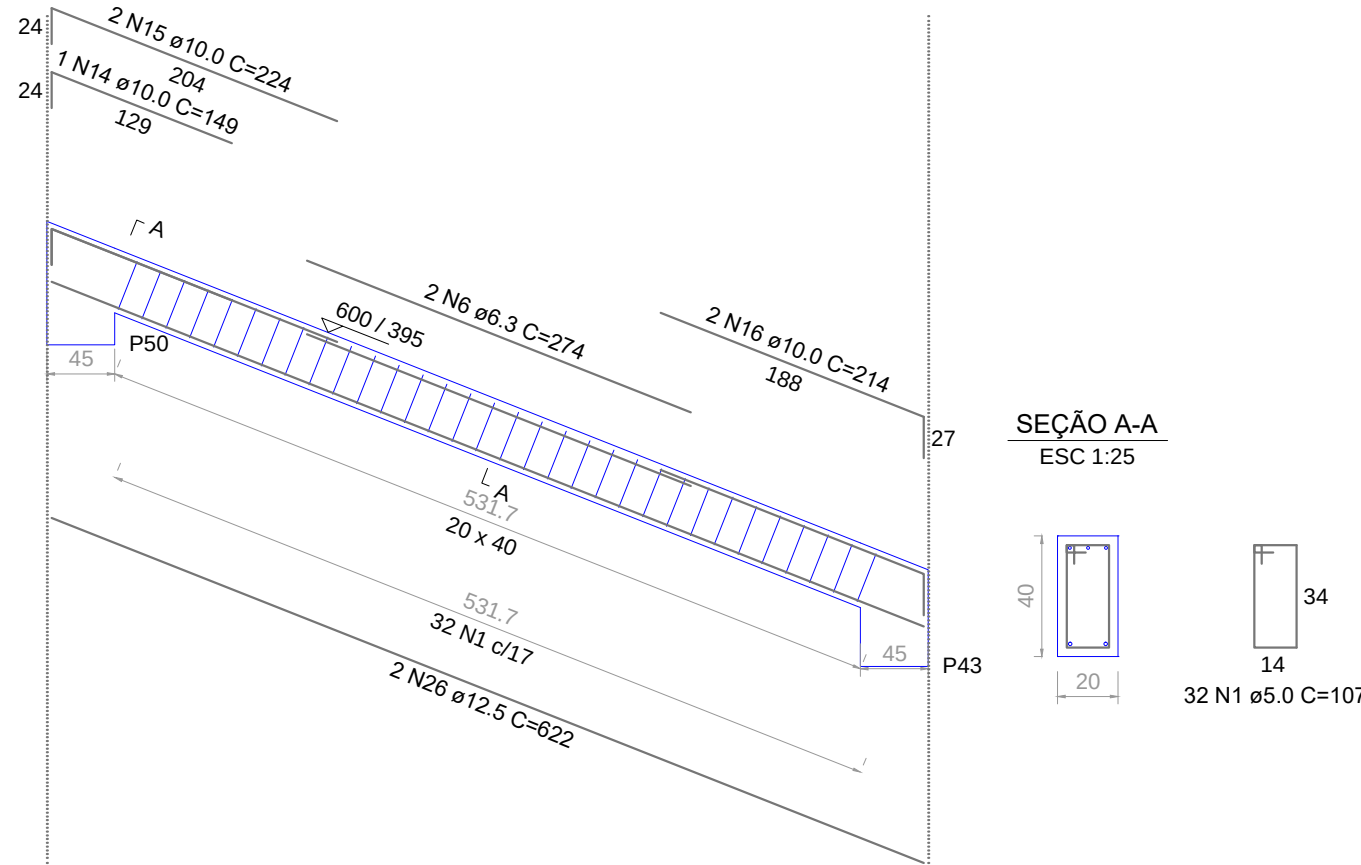
V6
ESC 1:50



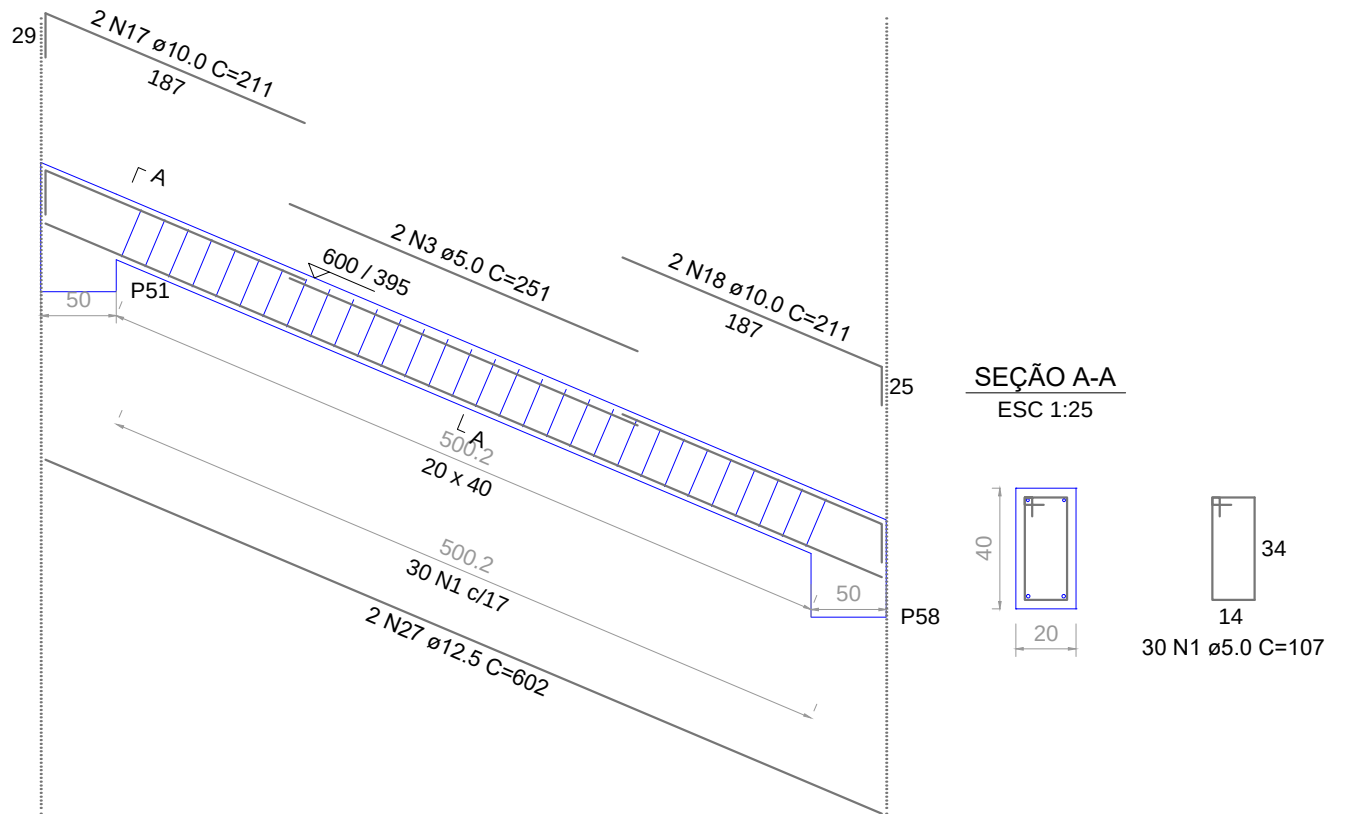
V7
ESC 1:50



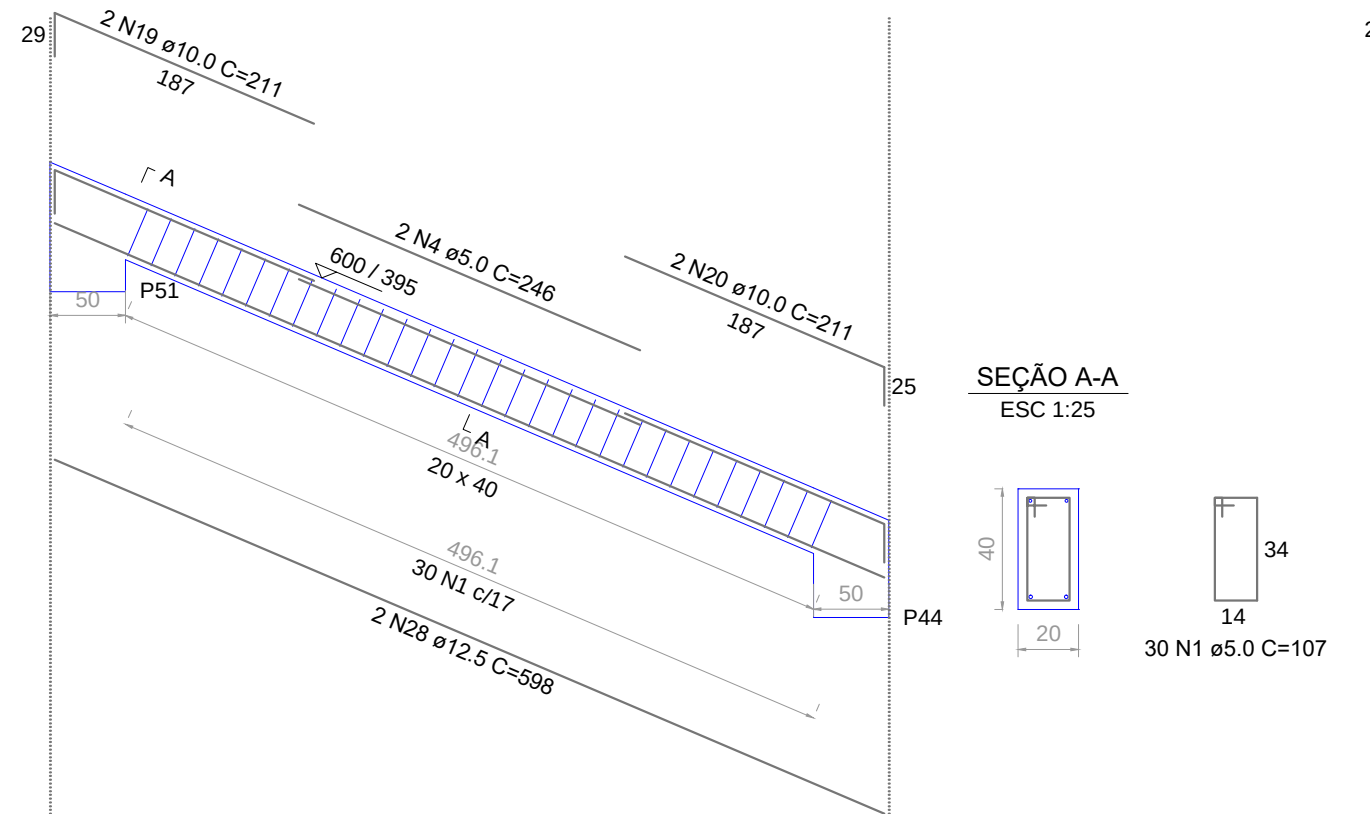
V8
ESC 1:50



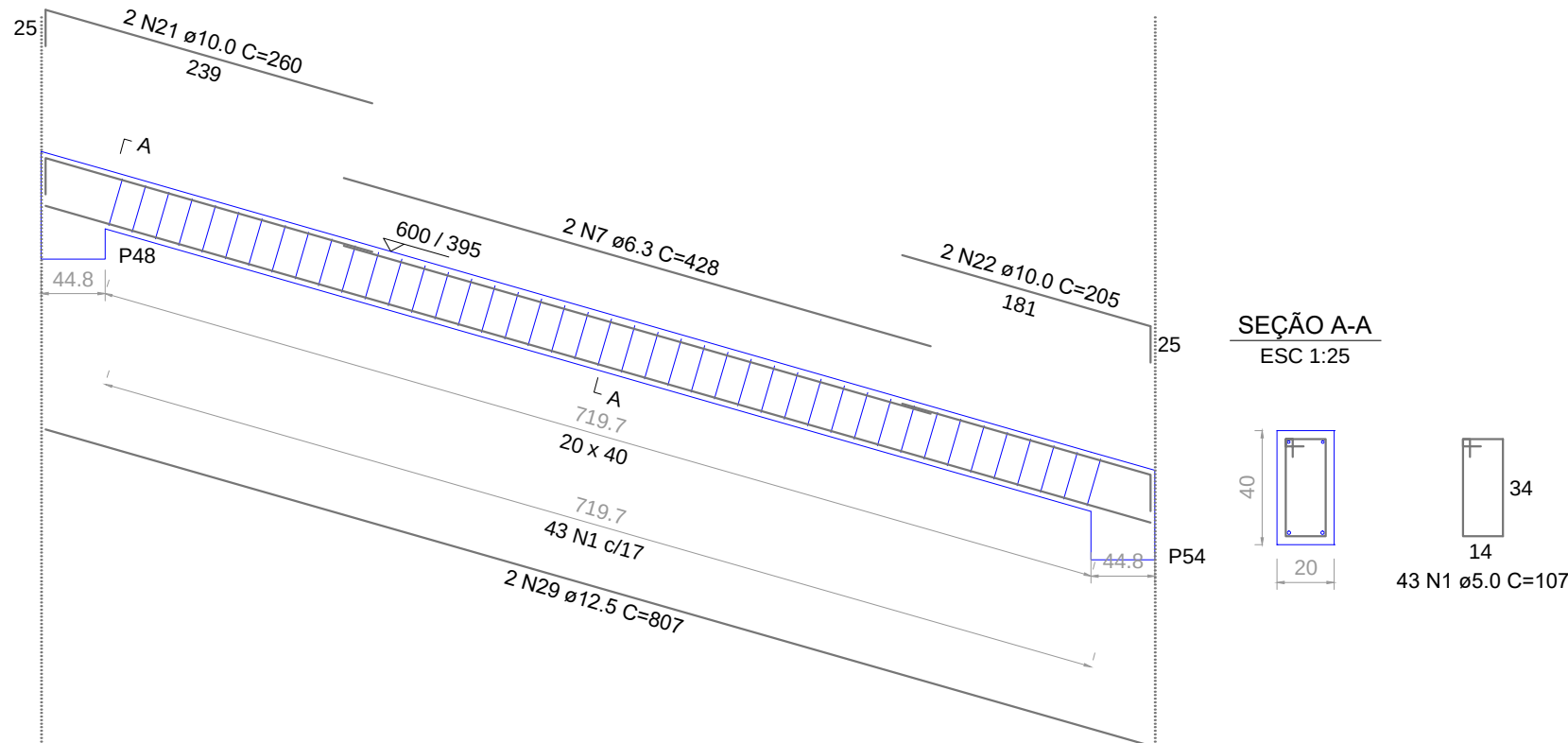
V9
ESC 1:50



V10
ESC 1:50



V11
ESC 1:50



RELAÇÃO DO AÇO					
AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	403	107	43121
	2	5.0	4	252	1008
	3	5.0	2	251	502
	4	5.0	2	246	492
	5	6.3	2	284	568
	6	6.3	8	274	2192
	7	6.3	2	428	856
	8	10.0	2	955	1910
	9	10.0	2	473	946
	10	10.0	2	209	418
	11	10.0	2	187	374
CA50	12	10.0	4	233	932
	13	10.0	4	214	856
	14	10.0	4	149	596
	15	10.0	8	224	1792
	16	10.0	8	214	1712
	17	10.0	2	211	422
	18	10.0	2	211	422
	19	10.0	2	211	422
	20	10.0	2	211	422
	21	10.0	2	260	520
	22	10.0	2	205	410
	23	12.5	2	1197	2394
	24	12.5	2	395	790
	25	12.5	2	588	1176
	26	12.5	12	622	7464
	27	12.5	2	602	1204
	28	12.5	2	598	1196
	29	12.5	2	807	1614

RESUMO DO AÇO			
AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	6.3	36.2	9.7
	10.0	121.5	82.4
	12.5	158.4	167.8
CA60	5.0	451.2	76.5
PESO TOTAL (kg)			
CA50		260	
CA60		76.5	
Volume de concreto (C-30) = 5.93 m³			
Área de forma = 74.11 m²			

CEI PROF. JOSÉ SANTOS NUNES

Localização:
Rua João Ribeiro, 91 No. Bairro
São Luiz,
Tubarão - SC

CONTEÚDO:
DETALHAMENTO DAS VIGAS
DA COBERTURA INCLINADA

RESP. TÉCNICO:
GABRIELA BRESSAN PEDROSO
Engenheiro Civil CREA-SC 142.195-1
SOFIA LIMA VIEIRA
Engenheiro Civil CREA-SC 138.383-6

DATA:
JULHO / 2025

ESCALA:
Indicada

ÁREA TOTAL
CONSTRUIDA:
755.97 m²

PRANCHA:
24/26



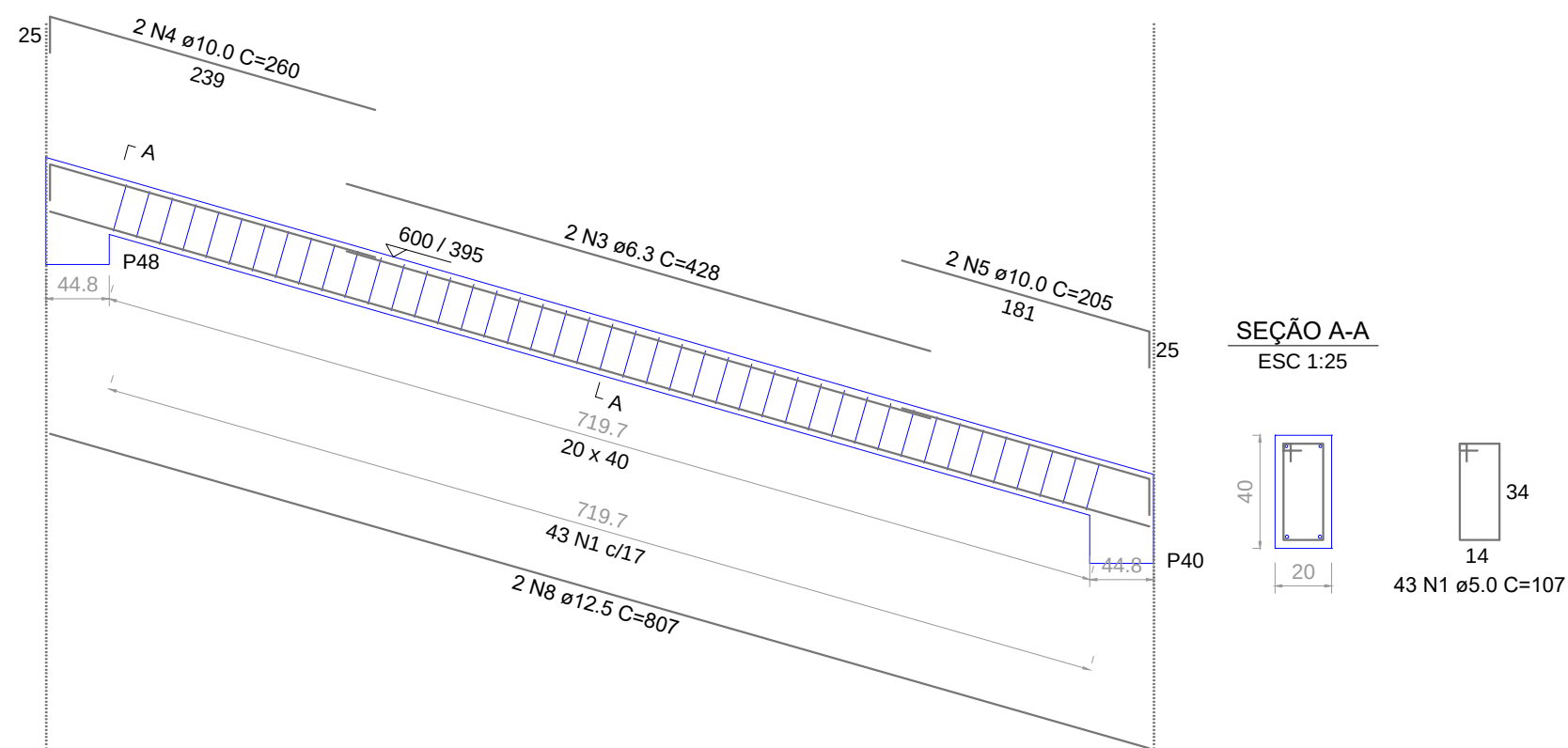
Rua Florianoópolis, 388 - Sala 03
Vila Moema - Tubarão/SC
48 9.9529.9893 / 48 9.9535.5531

PROPRIETÁRIO:

Município de Tubarão
CNPJ 02.926.698/0001-93

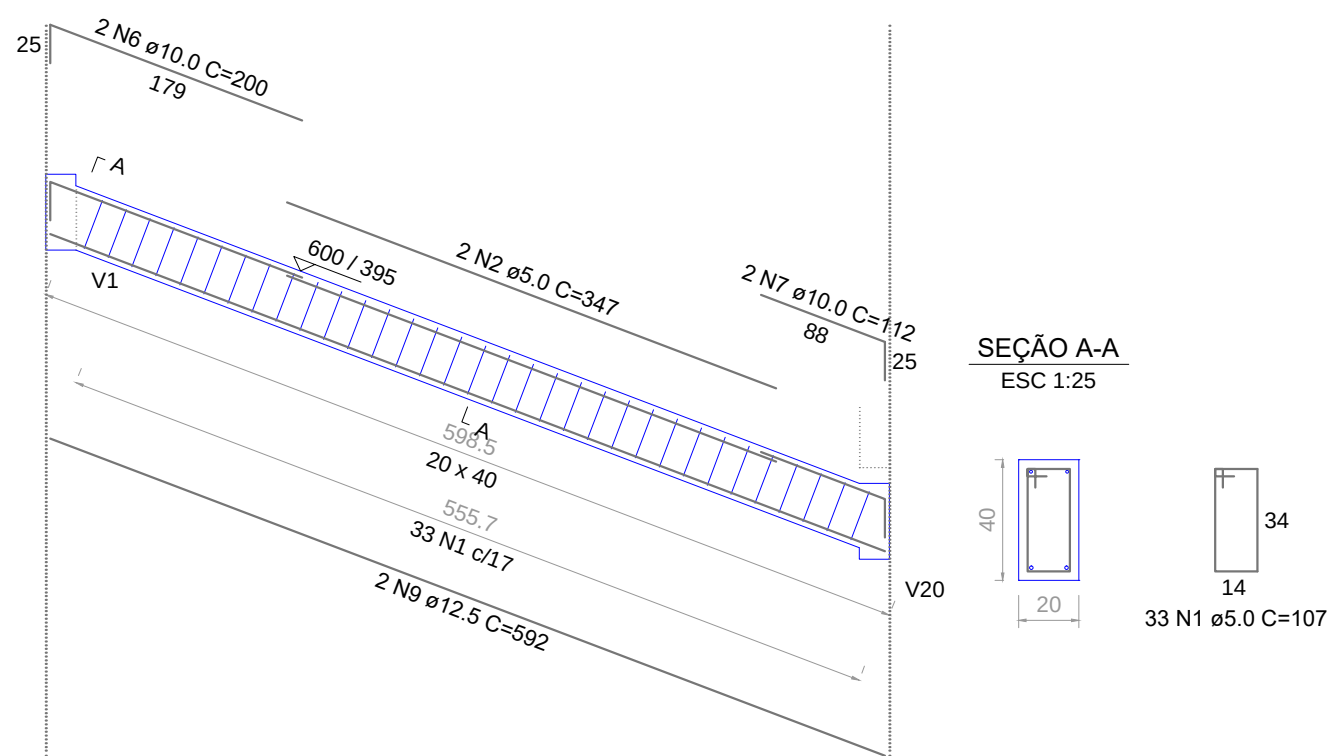
V12

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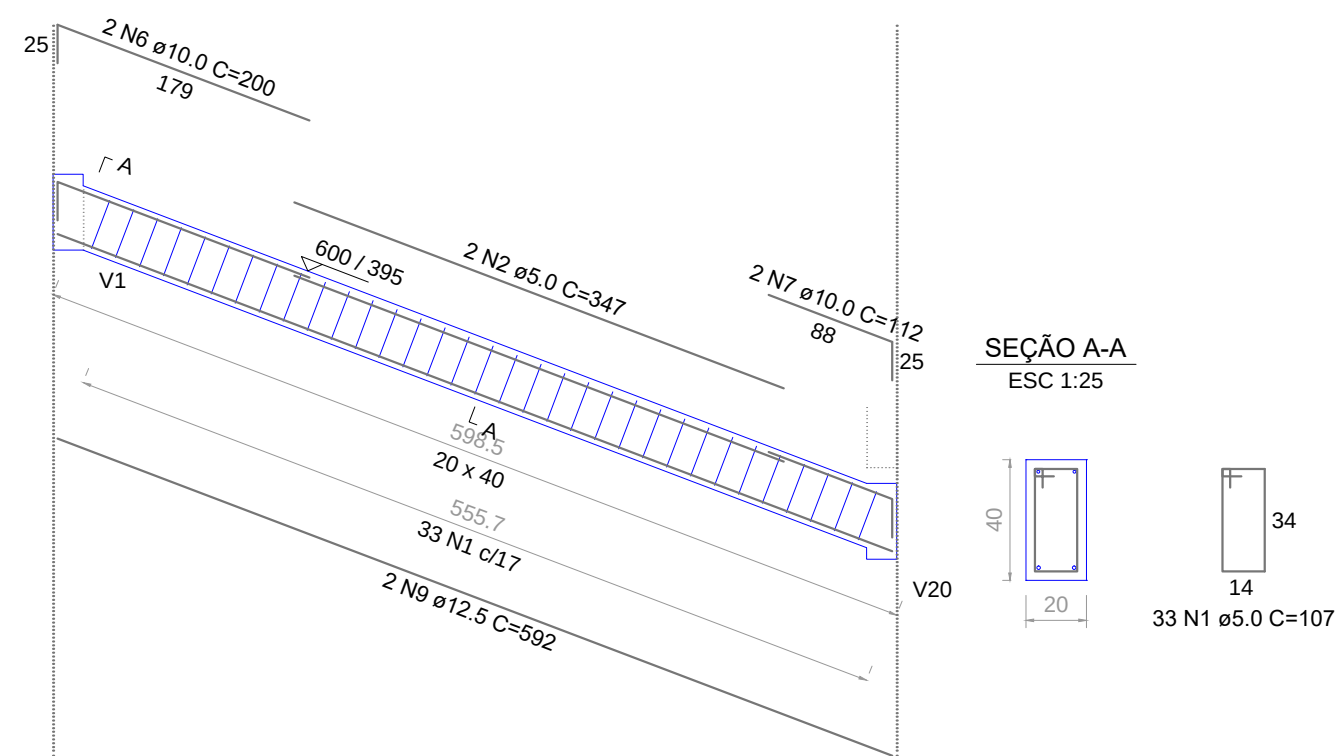
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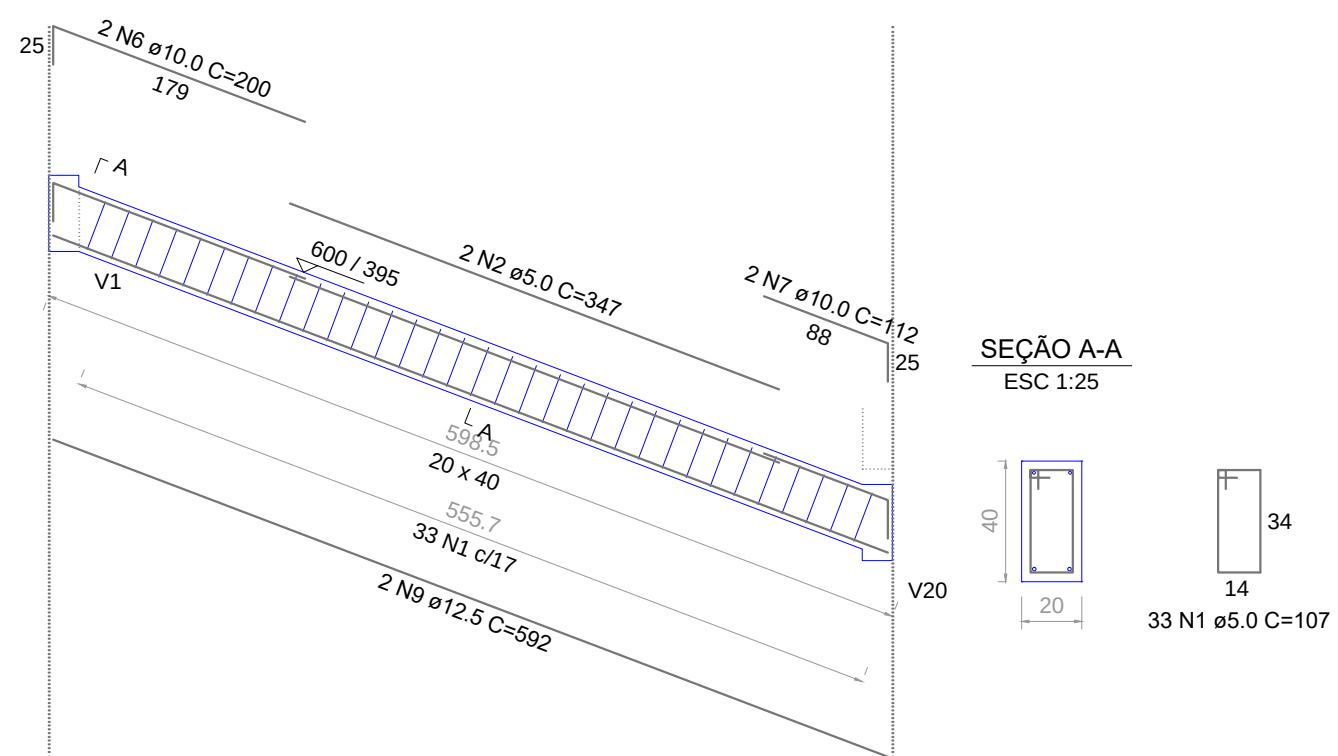
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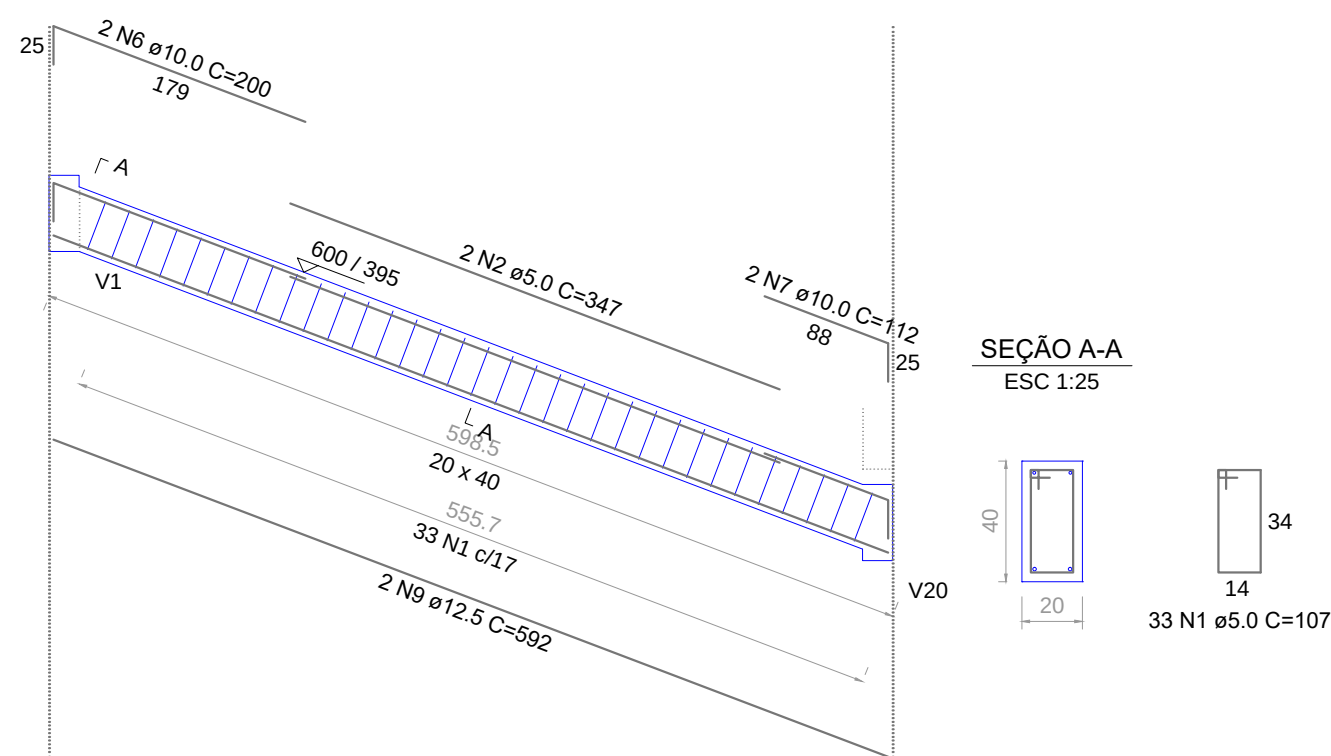
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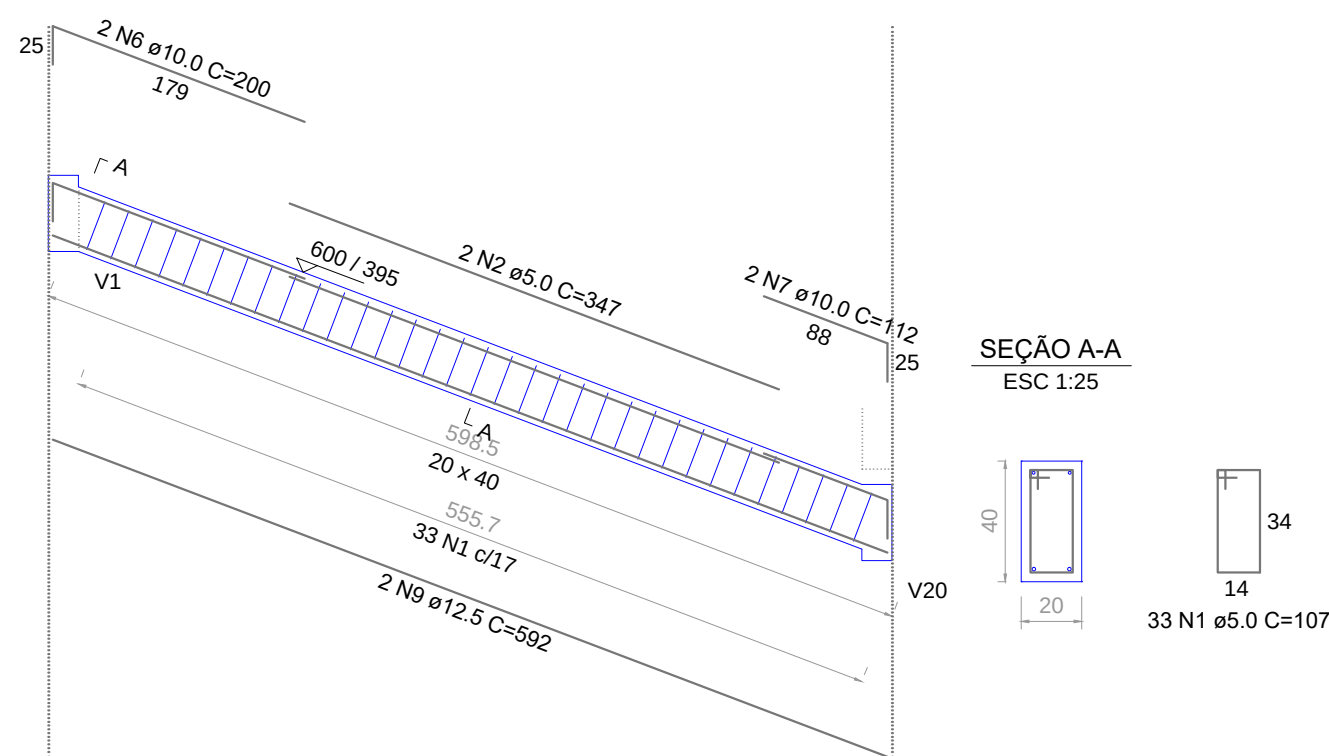
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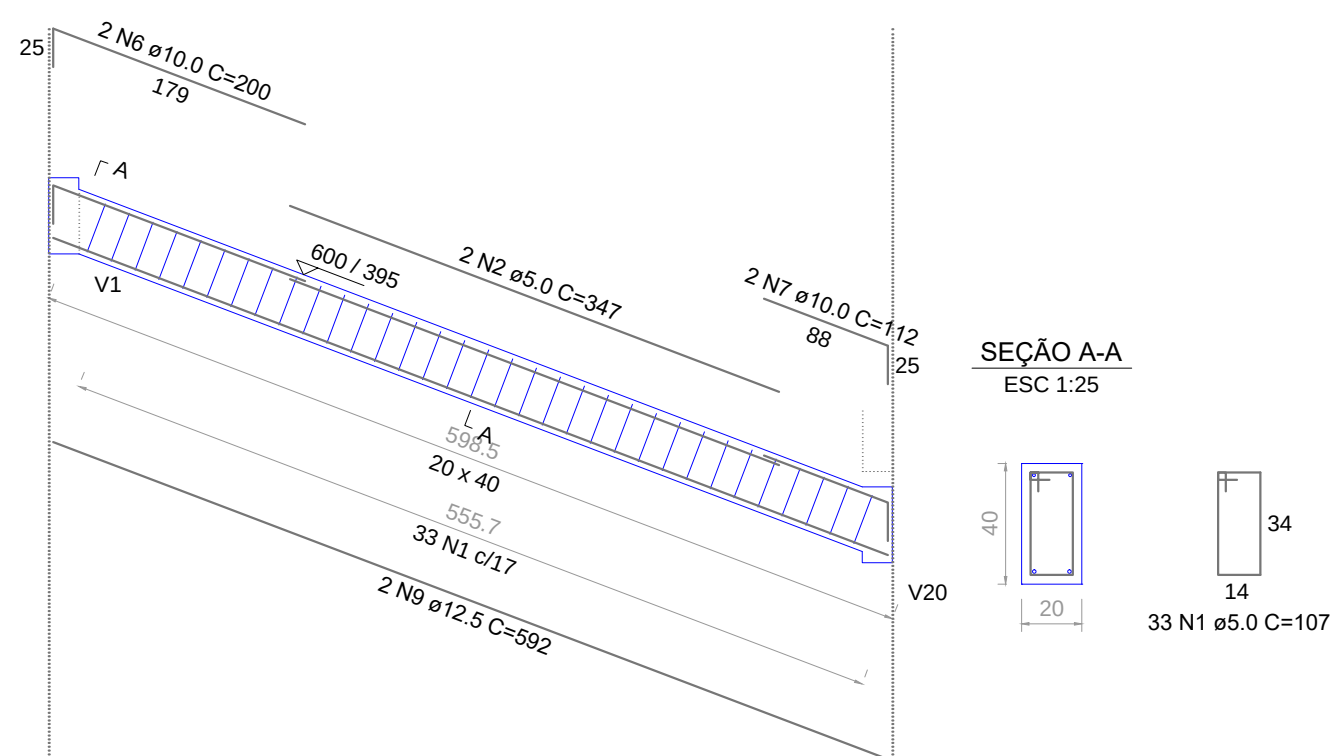
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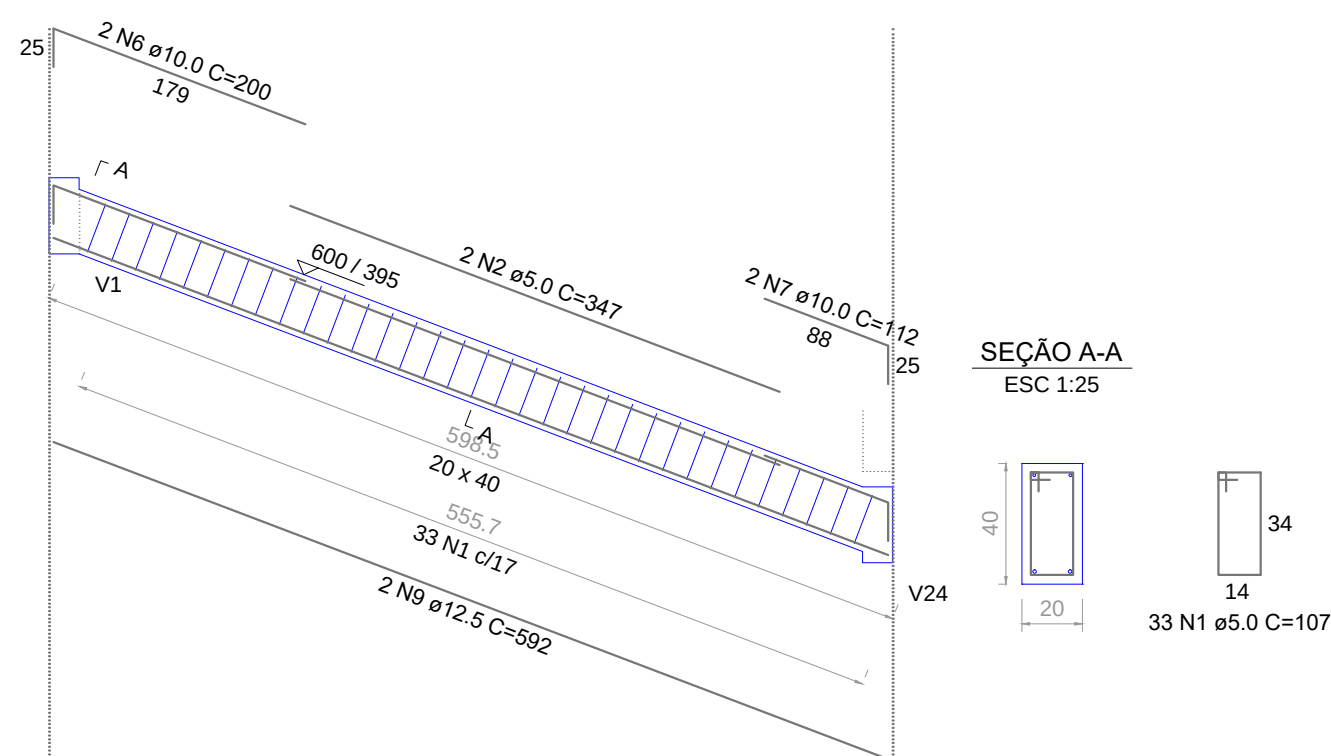
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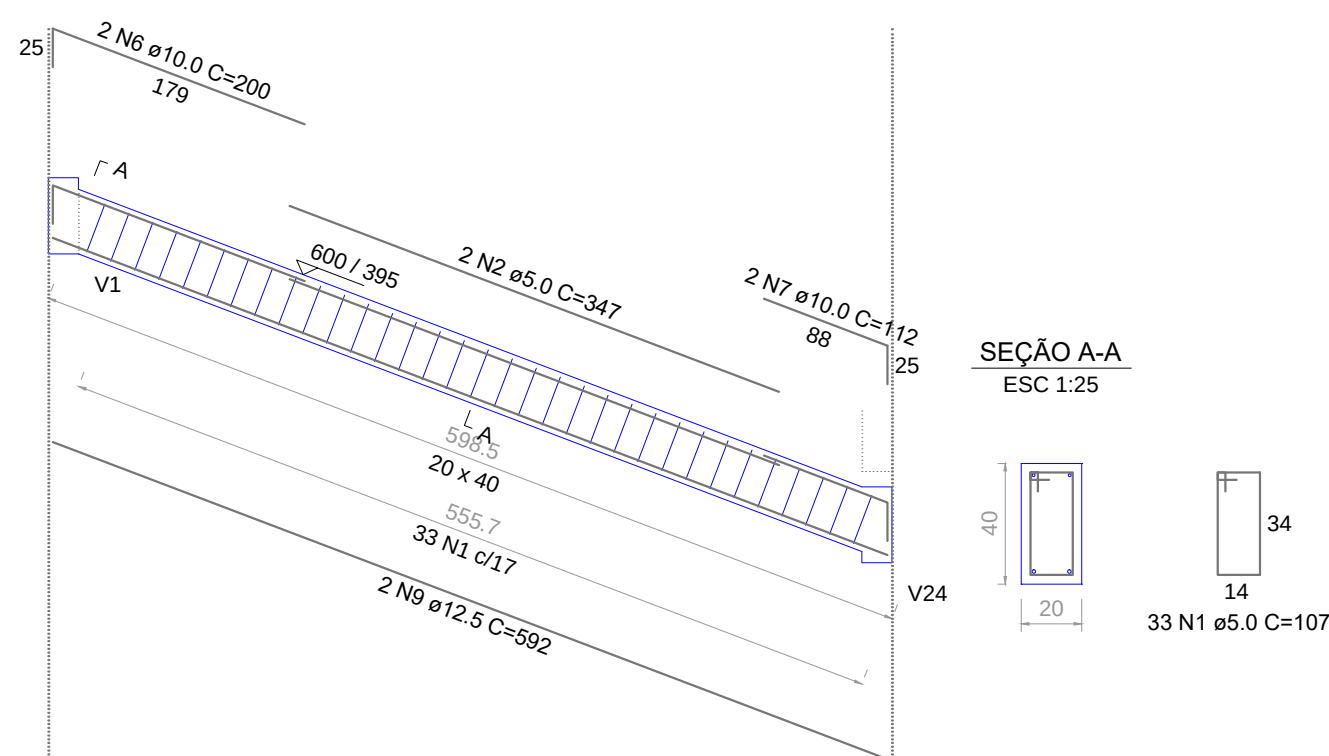
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ESC 1:50



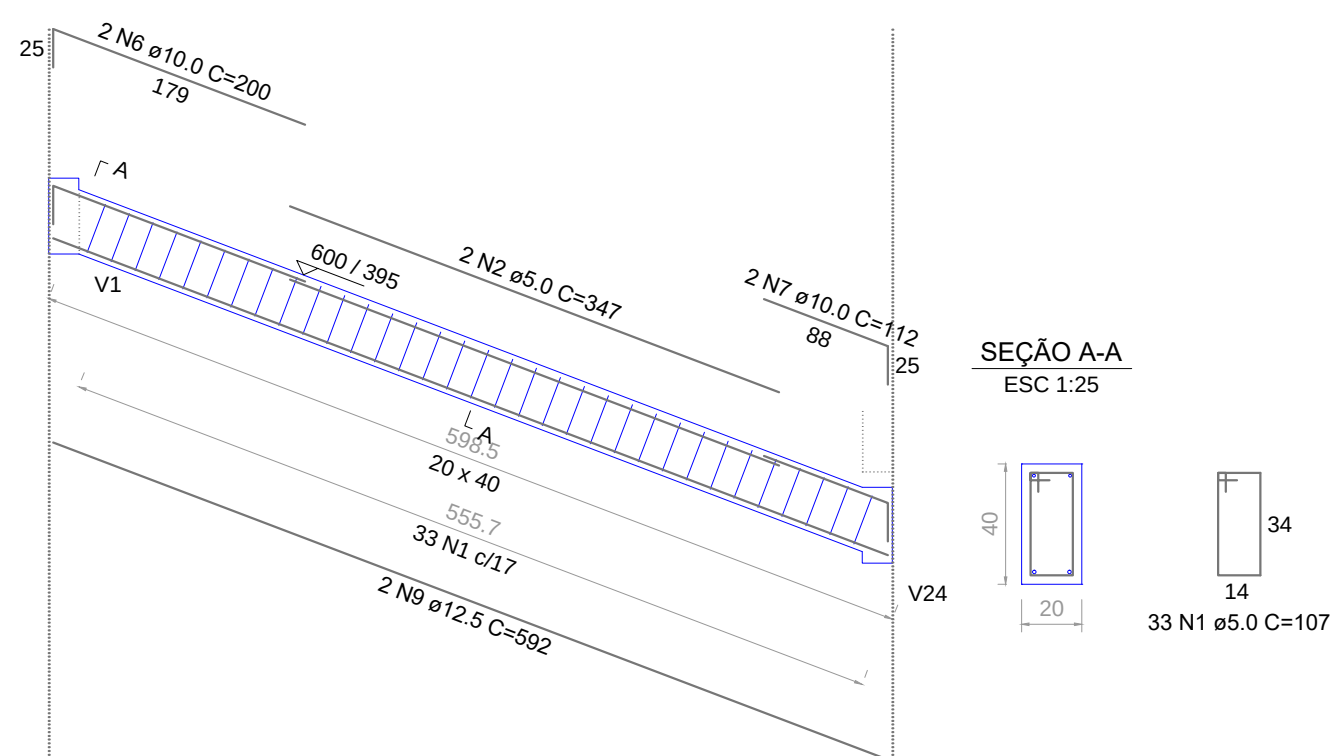
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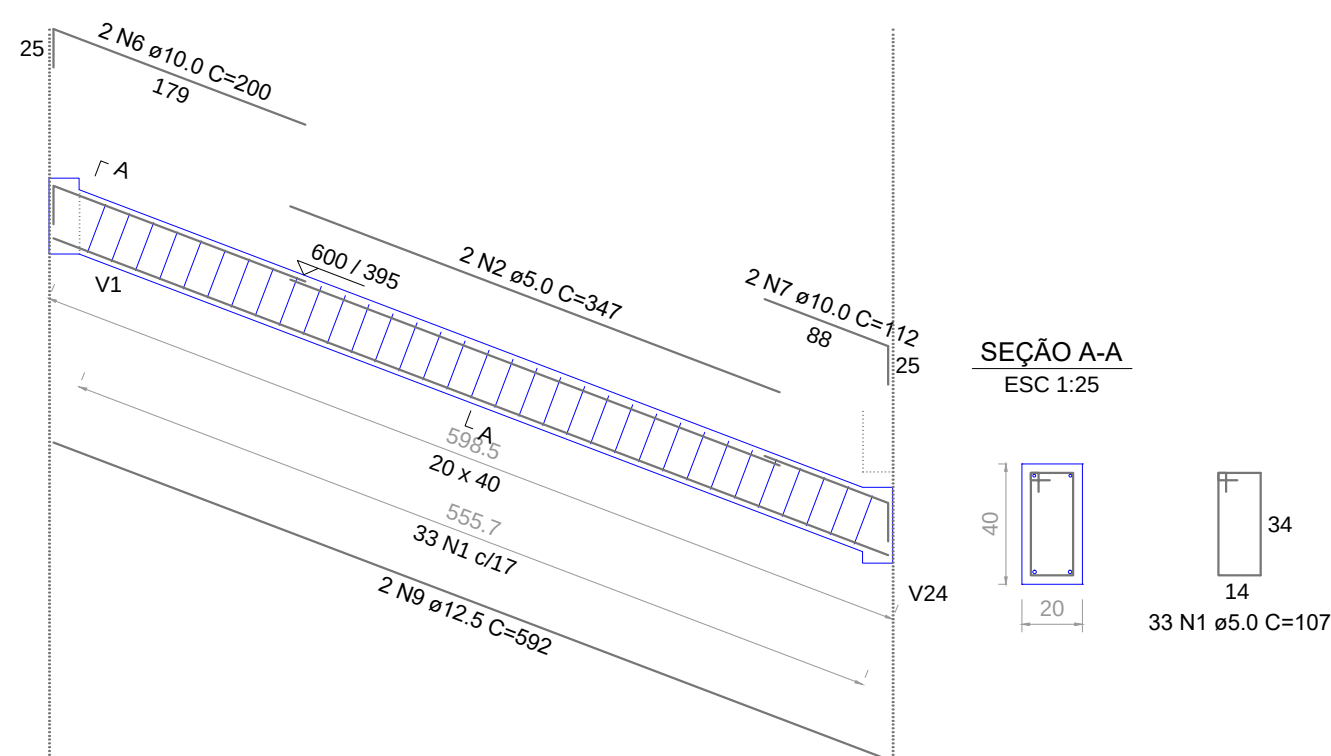
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ESC 1:50



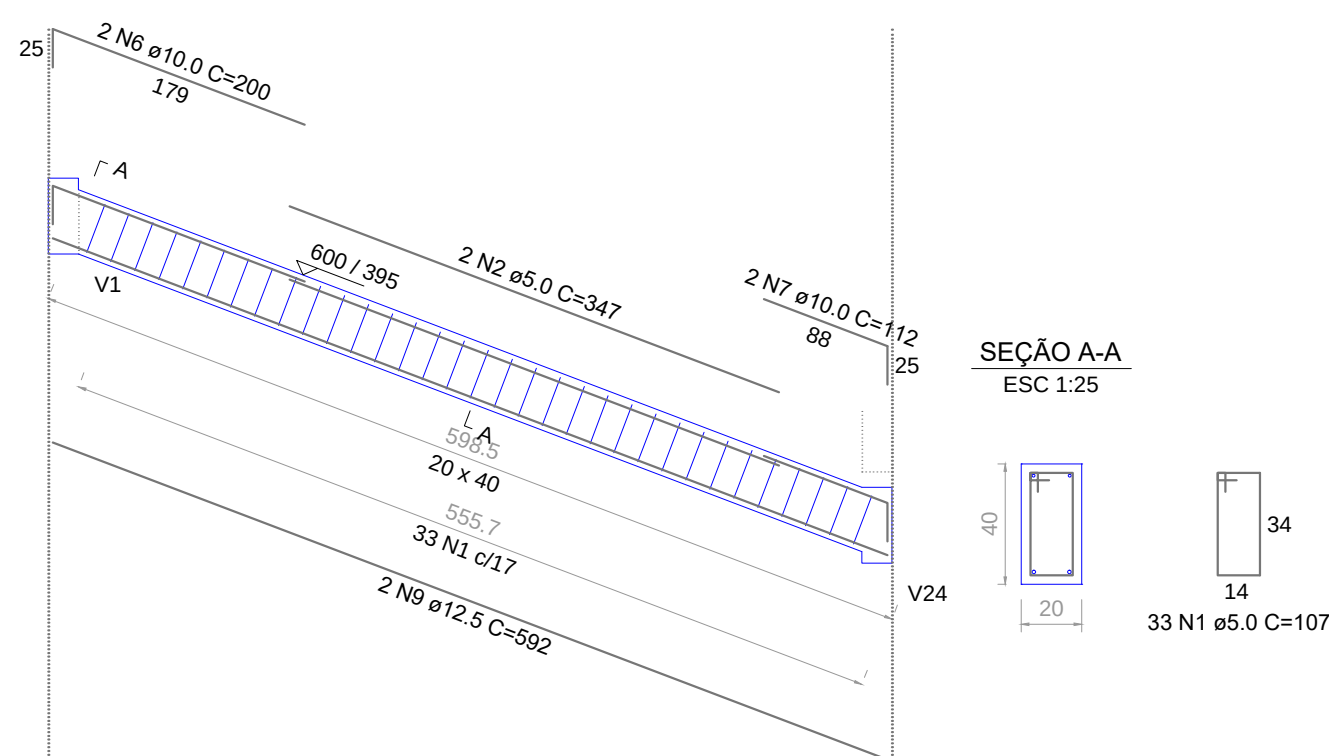
V22

ESC 1:50



V23

ESC 1:50



RELAÇÃO DO AÇO

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	406	107	43442
CA50	2	5.0	22	347	7634
	3	6.3	2	428	856
	4	10.0	2	260	520
	5	10.0	2	205	410
	6	10.0	22	200	4400
	7	10.0	22	112	2464
	8	12.5	2	807	1614
	9	12.5	22	592	13024

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	6.3	8.6	2.3
	10.0	77.9	52.9
CA60	5.0	146.4	155.1
		510.8	86.6
PESO TOTAL (kg)			
CA50	210.3		
CA60	86.6		

Volume de concreto (C-30) = 5.55 m³

Área de forma = 69.36 m²

CEI PROF. JOSÉ SANTOS NUNES

Localização:
Rua São Roberto, 51 - Rio Branco
Belo Horizonte - MG

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RESP. TÉCNICO:
GABRIELA BRESSAN PEDROSO
Engenheira Civil CREA-SC 142.195-1
SOFIA LIMA VIEIRA
Engenheira Civil CREA-SC 138.383-6

DATA:
JULHO / 2025

ESCALA:
Indicada

ÁREA TOTAL CONSTRUÍDA:
755,97 m²

PRANCHA:
25/26

LB

LIBRE ENGENHARIA

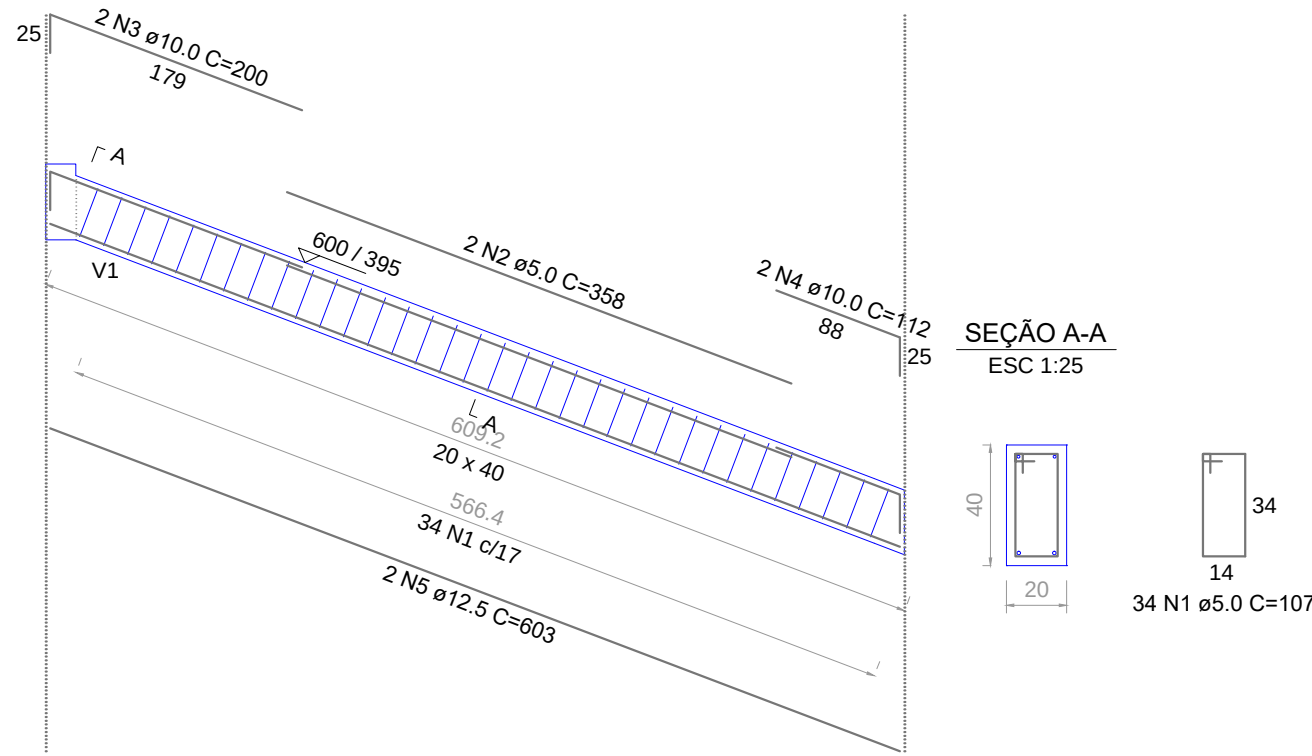
Rua Florianoópolis, 388 - Sala 03
Vila Moema - Tubarão/SC
48 9 3929 9893 / 48 9 3929 5531

PROPRIETÁRIO:

Município de Tubarão
CNPJ 02.926.696/0001-93

V24

ESC 1:50



RELAÇÃO DO AÇO

V24

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	34	107	3638
CA50	2	5.0	2	358	716
	3	10.0	2	200	400
	4	10.0	2	112	224
	5	12.5	2	603	1206

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	10.0	6.2	4.2
CA60	12.5	12.1	12.8
	5.0	43.5	7.4

PESO TOTAL (kg)	
CA50	17
CA60	7.4

Volume de concreto (C-30) = 0.44 m³

Área de forma = 5.50 m²

CEI PROF. JOSÉ SANTOS NUNES

Localização:
Rua João Ribeiro, 51 No. Bairro
São Luiz,
Tubarão - SC

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DATA:
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755,97 m²

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26/26



Rua Florianoópolis, 388 - Sala 03
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48 9.9529.9893 / 48 9.9518.5531

PROPRIETÁRIO:

Município de Tubarão
CNPJ 82.926.696/0001-93