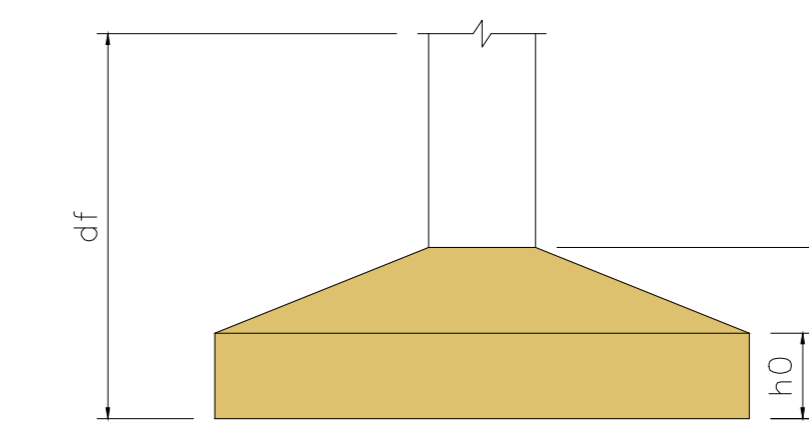


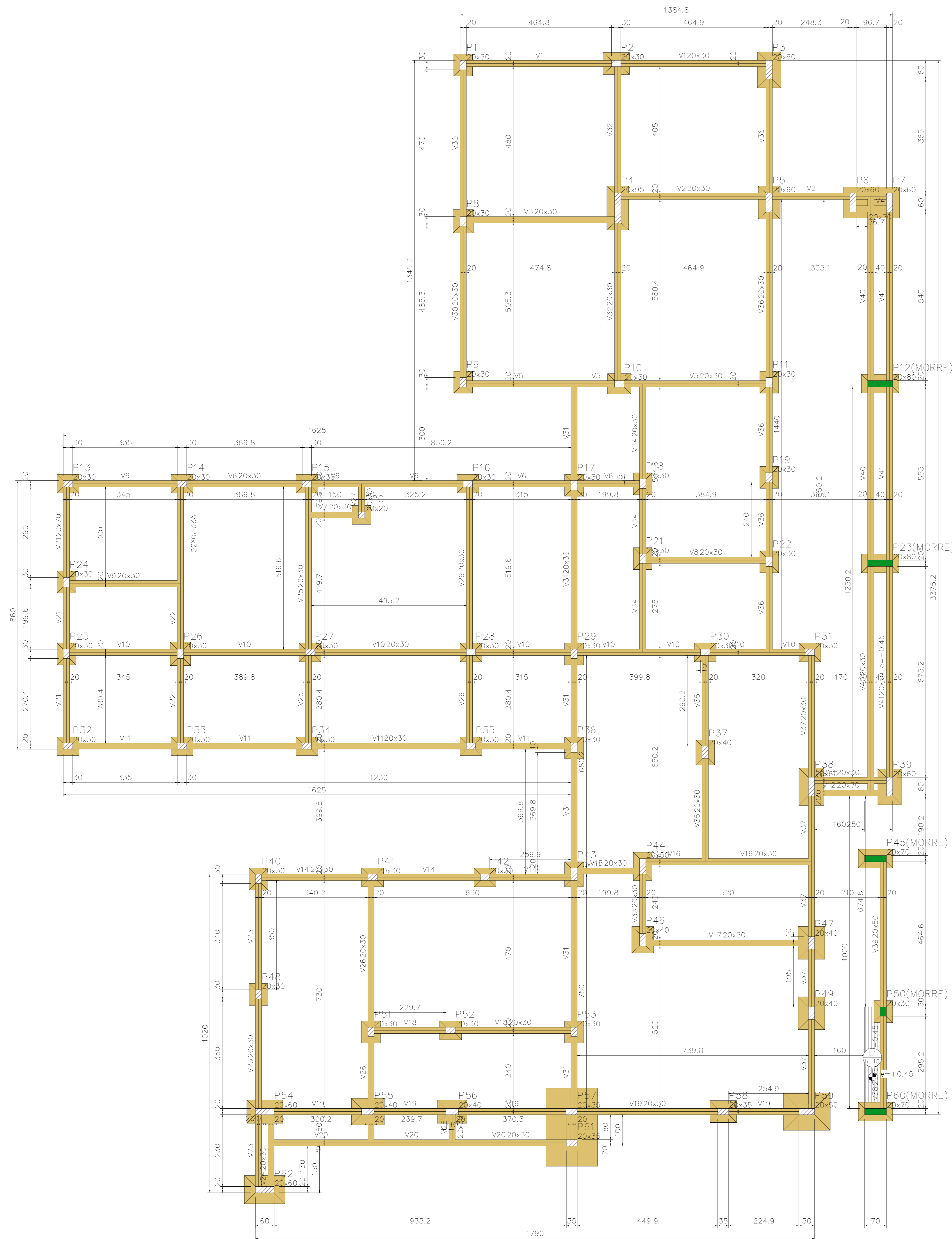
Localização no eixo X		Localização no eixo Y	
Coordenadas (cm)	Nome	Coordenadas (cm)	Nome
22942.68	P24, P25	573.12	P2
22947.68	P13, P32	568.12	P1
23307.68	P26	553.12	P3
23312.67	P14	128.12	P5, P6+P7
23312.68	P33	110.62	P4
23557.49	P40, P48	68.12	P8
23577.49	P54, P62	-447.22	P9
23712.50	P15, P34	-447.23	P11
23722.51	P27	-451.86	P12
23887.51	P20	-452.22	P10
23907.68	P55	-751.86	P19
23917.68	P51	-772.22	P13, P14, P15, P16, P18
23922.68	P41	-777.22	P17
24172.40	P52	-872.16	P20
24177.40	P56	-1011.86	P21
24212.68	P1, P8, P9	-1021.86	P22
24227.68	P16	-1026.86	P23
24237.68	P28, P35	-1087.22	P24
24282.77	P42	-1311.86	P27, P28, P30, P31
24560.04	P57+P61	-1316.86	P25, P26, P29
24567.40	P43, P53	-1612.22	P32, P33, P34, P35
24567.50	P17, P29, P36	-1617.22	P36
24702.51	P2	-1632.06	P37
24707.51	P4	-1742.06	P38, P39
24712.51	P10	-1972.23	P45
24787.50	P18, P21, P44, P46	-1997.06	P44
24987.51	P30	-2022.06	P43
24987.50	P37	-2032.06	P41, P42
25045.10	P58	-2037.06	P40
25192.42	P5, P11, P19, P22	-2232.05	P46
25192.43	P3	-2242.05	P47
25312.51	P59	-2407.06	P48
25322.51	P31	-2461.85	P50
25327.51	P38, P47, P49	-2467.05	P49
25519.14	P6+P7	-2522.06	P52
25532.51	P45, P60	-2527.06	P51, P53
25547.51	P12, P23	-2782.06	P54, P55, P56, P58, P59, P60
25557.51	P50	-2832.06	P57+P61
25577.51	P39	-3032.06	P62



PLANTA DE LOCAÇÃO

Escala 1:100

	PROPRIETÁRIO:	PREFEITURA MUNICIPAL DE VARGEM GRANDE - MA	
	OBJETO:	CONSTRUÇÃO DE UBS TIPO II, NOVO PAC MARIA C. B. BEZERRA NO MUNICÍPIO DE VARGEM GRANDE - MA	
TÍTULO:	PROJETO ESTRUTURAL	PRANCHA:	
ESCALA:	INDICADA	DATA:	FEV/2025
		DESENHISTA:	
		RESP. TÉCNICO	
			01/22



Vigas			
Nome	Seção (cm)	Elevação (m)	Nível (m)
V1	20x30	0.00	0.15
V2	20x30	0.00	0.15
V3	20x30	0.00	0.15
V4	20x30	0.00	0.15
V5	20x30	0.00	0.15
V6	20x30	0.00	0.15
V7	20x30	0.00	0.15
V8	20x30	0.00	0.15
V9	20x30	0.00	0.15
V10	20x30	0.00	0.15
V11	20x30	0.00	0.15
V12	20x30	0.00	0.15
V13	20x30	0.00	0.15
V14	20x30	0.00	0.15
V15	20x30	0.00	0.15
V16	20x30	0.00	0.15
V17	20x30	0.00	0.15
V18	20x30	0.00	0.15
V19	20x30	0.00	0.15
V20	20x30	0.00	0.15
V21	20x70	0.00	0.15
V22	20x30	0.00	0.15
V23	20x30	0.00	0.15
V24	20x30	0.00	0.15
V25	20x30	0.00	0.15
V26	20x30	0.00	0.15
V27	20x30	0.00	0.15
V28	20x30	0.00	0.15
V29	20x30	0.00	0.15
V30	20x30	0.00	0.15
V31	20x30	0.00	0.15
V32	20x30	0.00	0.15
V33	20x30	0.00	0.15
V34	20x30	0.00	0.15
V35	20x30	0.00	0.15
V36	20x30	0.00	0.15
V37	20x30	0.00	0.15
V38	20x50	0.45	0.60
V39	20x50	0.00	0.15
V40	20x30	0.00	0.15
V41	20x50	0.45	0.60

Lojes								
Nome	Tipo	Altura (cm)	Dados			Sobrecarga (kN/m²)		
			Elevação (m)	Nível (m)	Peso próprio (kN/m²)	Adicional	Acidental	Localizada
L1	Maciça	15	0.45	0.6	3.75	0.00	0.00	-

Características dos materiais

f _{cd} (MPa)	E _{cs} (MPa)
35	29403

Dimensão máxima do agregado = 19 mm

Pilares			
Nome	Seção (cm)	Elevação (m)	Nível (m)
P1	20x30	0.00	0.15
P2	20x30	0.00	0.15
P3	20x60	0.00	0.15
P4	20x95	0.00	0.15
P5	20x60	0.00	0.15
P6	20x60	0.00	0.15
P7	20x60	0.00	0.15
P8	20x30	0.00	0.15
P9	20x30	0.00	0.15
P10	20x30	0.00	0.15
P11	20x30	0.00	0.15
P12	20x80	0.00	0.15
P13	20x30	0.00	0.15
P14	20x30	0.00	0.15
P15	20x30	0.00	0.15
P16	20x30	0.00	0.15
P17	20x30	0.00	0.15
P18	20x30	0.00	0.15
P19	20x30	0.00	0.15
P20	20x20	0.00	0.15
P21	20x30	0.00	0.15
P22	20x30	0.00	0.15
P23	20x80	0.00	0.15
P24	20x30	0.00	0.15
P25	20x30	0.00	0.15
P26	20x30	0.00	0.15
P27	20x30	0.00	0.15
P28	20x30	0.00	0.15
P29	20x30	0.00	0.15
P30	20x30	0.00	0.15
P31	20x30	0.00	0.15
P32	20x30	0.00	0.15
P33	20x30	0.00	0.15
P34	20x30	0.00	0.15
P35	20x30	0.00	0.15
P36	20x30	0.00	0.15
P37	20x40	0.00	0.15
P38	20x60	0.00	0.15
P39	20x60	0.00	0.15
P40	20x30	0.00	0.15
P41	20x30	0.00	0.15
P42	20x30	0.00	0.15
P43	20x40	0.00	0.15
P44	20x50	0.00	0.15
P45	20x70	0.00	0.15
P46	20x40	0.00	0.15
P47	20x40	0.00	0.15
P48	20x30	0.00	0.15
P49	20x40	0.00	0.15
P50	20x30	0.45	0.60
P51	20x30	0.00	0.15
P52	20x30	0.00	0.15
P53	20x30	0.00	0.15
P54	20x60	0.00	0.15
P55	20x40	0.00	0.15
P56	20x40	0.00	0.15
P57	20x35	0.00	0.15
P58	20x35	0.00	0.15
P59	20x50	0.00	0.15
P60	20x70	0.45	0.60
P61	20x35	0.00	0.15
P62	20x60	0.00	0.15

Legenda dos pilares	
	Pilar que morre
	Pilar que passa

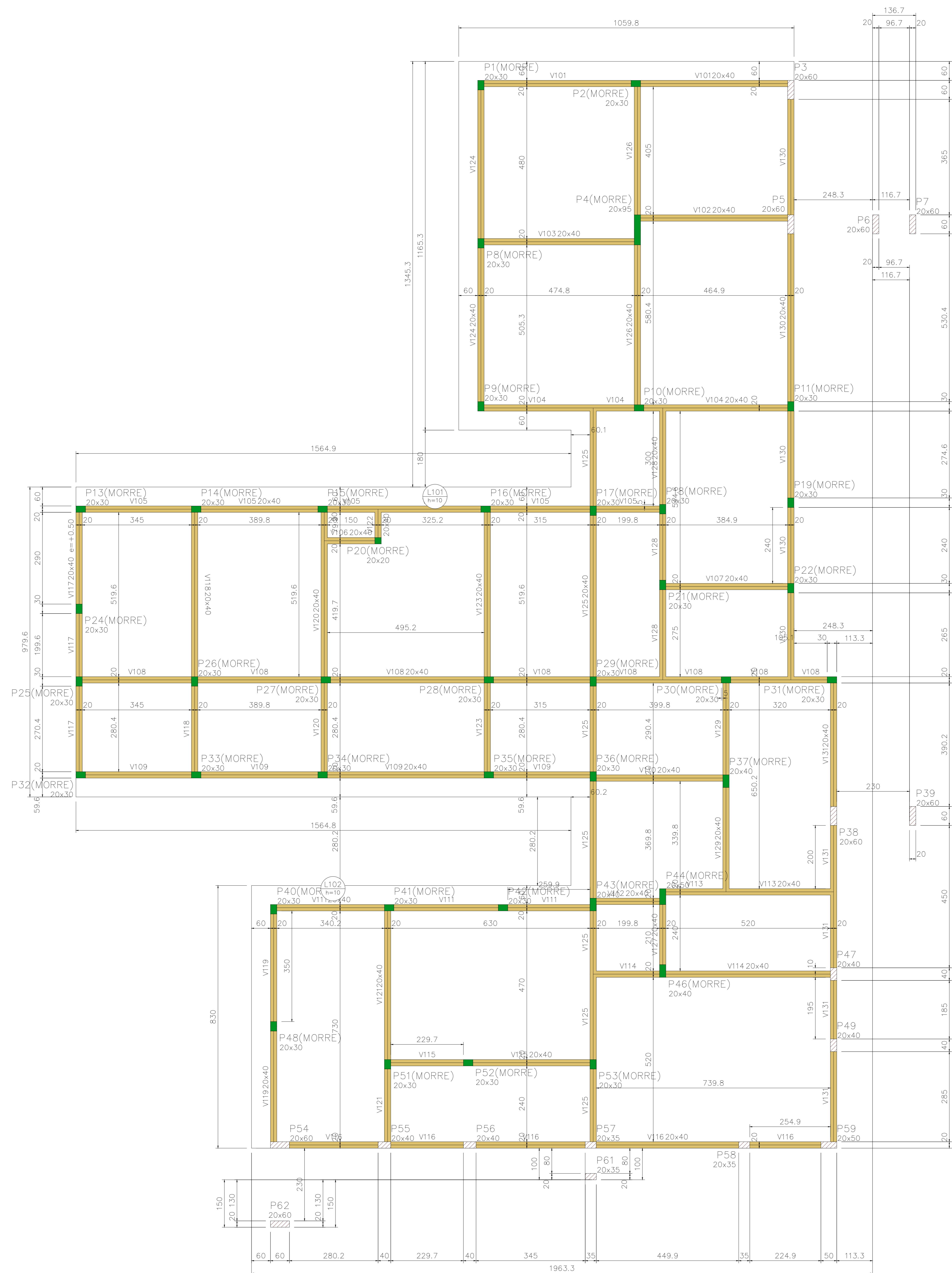
Legenda das vigas e paredes	
	Viga

FORMA DO PAVIMENTO TÉRREO (NÍVEL 0.15)
Escala: 1:75

PROPRIETÁRIO:
PREFEITURA MUNICIPAL DE VARGEM GRANDE - MA

OBJETO:
**CONSTRUÇÃO DE UBS TIPO II, NOVO PAC
MARIA C. B. BEZERRA NO MUNICÍPIO DE VARGEM GRANDE - MA**

TÍTULO: PROJETO ESTRUTURAL	PRANCHA: 02/22
ESCALA: INDICADA	DATA: FEV/2025
DESENHISTA: RESP. TÉCNICO	



Vigas			
Nome	Seção (cm)	Elevação (m)	Nível (m)
V101	20x40	0.00	3.65
V102	20x40	0.00	3.65
V103	20x40	0.00	3.65
V104	20x40	0.00	3.65
V105	20x40	0.00	3.65
V106	20x40	0.00	3.65
V107	20x40	0.00	3.65
V108	20x40	0.00	3.65
V109	20x40	0.00	3.65
V110	20x40	0.00	3.65
V111	20x40	0.00	3.65
V112	20x40	0.00	3.65
V113	20x40	0.00	3.65
V114	20x40	0.00	3.65
V115	20x40	0.00	3.65
V116	20x40	0.00	3.65
V117	20x40	0.50	4.15
V118	20x40	0.00	3.65
V119	20x40	0.00	3.65
V120	20x40	0.00	3.65
V121	20x40	0.00	3.65
V122	20x40	0.00	3.65
V123	20x40	0.00	3.65
V124	20x40	0.00	3.65
V125	20x40	0.00	3.65
V126	20x40	0.00	3.65
V127	20x40	0.00	3.65
V128	20x40	0.00	3.65
V129	20x40	0.00	3.65
V130	20x40	0.00	3.65
V131	20x40	0.00	3.65

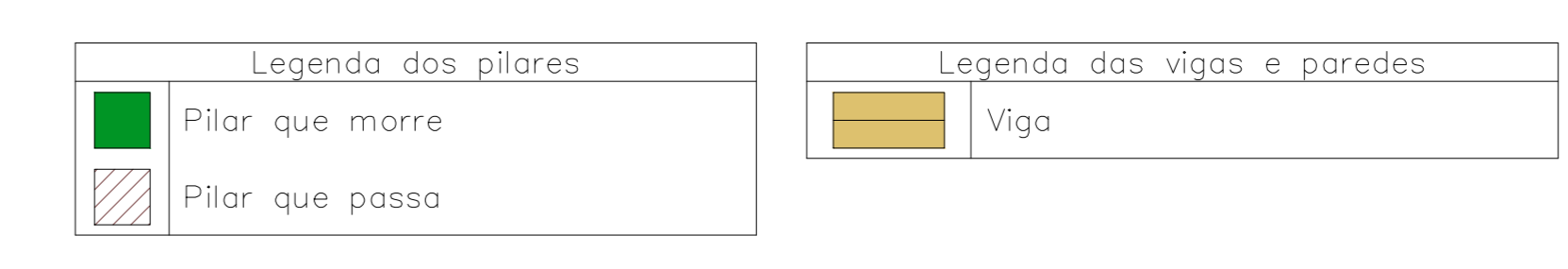
Lajes								
Nome	Tipo	Dados			Sobrecarga (kN/m²)			
		Altura (cm)	Elevação (m)	Nível (m)	Peso própria (kN/m²)	Adicional	Acidental	Localizada
L101	Maciça	10	0.00	3.65	2.50	0.00	0.00	-
L102	Maciça	10	0.00	3.65	2.50	0.00	0.00	-

Características dos materiais

f _{ck} (MPa)	E _{cs} (MPa)
35	23403


Dimensão máxima do agregado = 19 mm

Pilares			
Nome	Seção (cm)	Elevação (m)	Nível (m)
P1	20x30	0.00	3.65
P2	20x30	0.00	3.65
P3	20x60	0.00	3.65
P4	20x95	0.00	3.65
P5	20x60	0.00	3.65
P6	20x60	0.00	3.65
P7	20x60	0.00	3.65
P8	20x30	0.00	3.65
P9	20x30	0.00	3.65
P10	20x30	0.00	3.65
P11	20x30	0.00	3.65
P13	20x30	0.50	4.15
P14	20x30	0.00	3.65
P15	20x30	0.00	3.65
P16	20x30	0.00	3.65
P17	20x30	0.00	3.65
P18	20x30	0.00	3.65
P19	20x30	0.00	3.65
P20	20x20	0.00	3.65
P21	20x30	0.00	3.65
P22	20x30	0.00	3.65
P24	20x30	0.50	4.15
P25	20x30	0.50	4.15
P26	20x30	0.00	3.65
P27	20x30	0.00	3.65
P28	20x30	0.00	3.65
P29	20x30	0.00	3.65
P30	20x30	0.00	3.65
P31	20x30	0.00	3.65
P32	20x30	0.50	4.15
P33	20x30	0.00	3.65
P34	20x30	0.00	3.65
P35	20x30	0.00	3.65
P36	20x30	0.00	3.65
P37	20x40	0.00	3.65
P38	20x60	0.00	3.65
P39	20x60	0.00	3.65
P40	20x30	0.00	3.65
P41	20x30	0.00	3.65
P42	20x30	0.00	3.65
P43	20x40	0.00	3.65
P44	20x50	0.00	3.65
P46	20x40	0.00	3.65
P47	20x40	0.00	3.65
P48	20x30	0.00	3.65
P49	20x40	0.00	3.65
P51	20x30	0.00	3.65
P52	20x30	0.00	3.65
P53	20x30	0.00	3.65
P54	20x60	0.00	3.65
P55	20x40	0.00	3.65
P56	20x40	0.00	3.65
P57	20x35	0.00	3.65
P58	20x35	0.00	3.65
P59	20x50	0.00	3.65
P61	20x35	0.00	3.65
P62	20x60	0.00	3.65



FORMA DO PAVIMENTO COBERTURA (NÍVEL 3.65)

Escala: 1:75



FVSM
ENGENHARIA

PROPRIETÁRIO:
PREFEITURA MUNICIPAL DE VARGEM GRANDE - MA

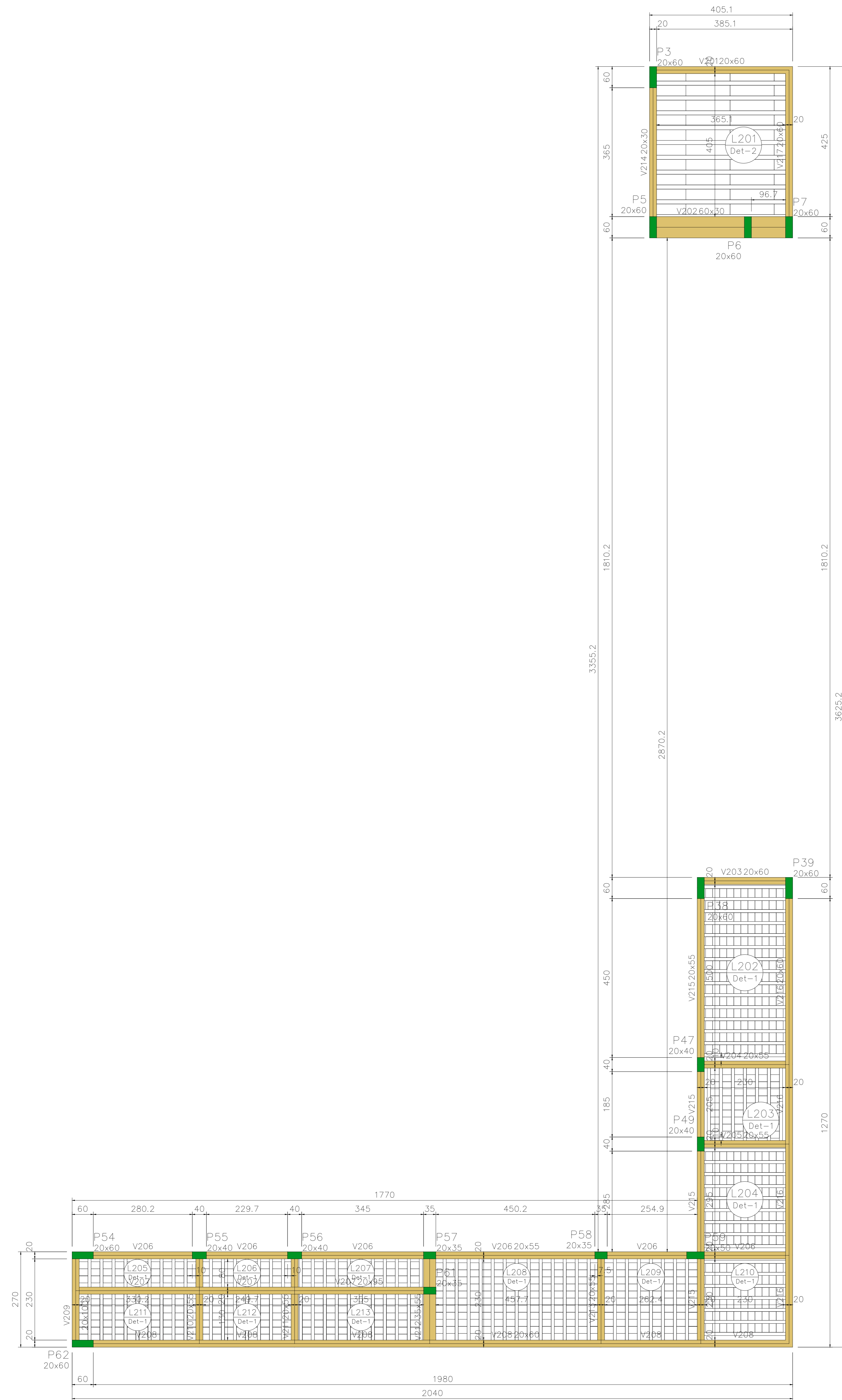
OBJETO:
**CONSTRUÇÃO DE UBS TIPO II, NOVO PAC
MARIA C. B. BEZERRA NO MUNICÍPIO DE VARGEM GRANDE - MA**

TÍTULO: **PROJETO ESTRUTURAL**

ESCALA: **INDICADA** DATA: **FEV/2025** DESENHISTA: _____

PRANCHA: **03/22**

RESP. TÉCNICO: _____



Vigas			
Nome	Seção (cm)	Elevação (m)	Nível (m)
V201	20x60	0.00	5.25
V202	60x30	0.00	5.25
V203	20x60	0.00	5.25
V204	20x55	0.00	5.25
V205	20x55	0.00	5.25
V206	20x55	0.00	5.25
V207	20x95	0.00	5.25
V208	20x60	0.00	5.25
V209	20x100	0.00	5.25
V210	20x55	0.00	5.25
V211	20x55	0.00	5.25
V212	35x55	0.00	5.25
V213	20x55	0.00	5.25
V214	20x30	0.00	5.25
V215	20x55	0.00	5.25
V216	20x60	0.00	5.25
V217	20x60	0.00	5.25

Lojes								
Nome	Tipo	Dados			Sobrecarga (kN/m ²)			
		Altura (cm)	Elevação (m)	Nível (m)	Peso próprio (kN/m ²)	Adicional	Acidental	Localizada
L201	Pré-moldada	14	0.00	5.25	2.08	0.00	0.00	-
L202	Treliçada ID	14	0.00	5.25	3.09	0.00	0.00	-
L203	Treliçada ID	14	0.00	5.25	3.09	0.00	0.00	-
L204	Treliçada ID	14	0.00	5.25	3.09	0.00	0.00	-
L205	Treliçada ID	14	0.00	5.25	3.09	0.00	0.00	-
L206	Treliçada ID	14	0.00	5.25	3.09	0.00	0.00	-
L207	Treliçada ID	14	0.00	5.25	3.09	0.00	0.00	-
L208	Treliçada ID	14	0.00	5.25	3.09	0.00	0.00	-
L209	Treliçada ID	14	0.00	5.25	3.09	0.00	0.00	-
L210	Treliçada ID	14	0.00	5.25	3.09	0.00	0.00	-
L211	Treliçada ID	14	0.00	5.25	3.09	0.00	0.00	-
L212	Treliçada ID	14	0.00	5.25	3.09	0.00	0.00	-
L213	Treliçada ID	14	0.00	5.25	3.09	0.00	0.00	-

Características dos materiais

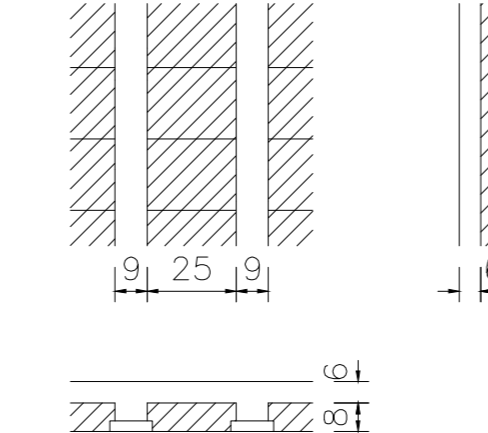
fck (MPa)	Ecs (MPa)
35	29403

Dimensão máxima do agregado = 19 mm

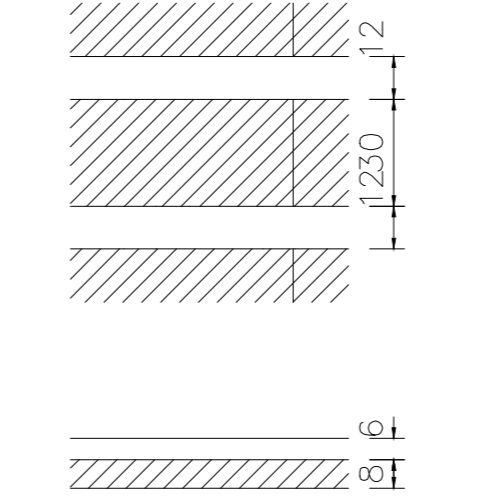
Pilares			
Nome	Seção (cm)	Elevação (m)	Nível (m)
P3	20x60	0.00	5.25
P5	20x60	0.00	5.25
P6	20x60	0.00	5.25
P7	20x60	0.00	5.25
P38	20x60	0.00	5.25
P39	20x60	0.00	5.25
P47	20x40	0.00	5.25
P49	20x40	0.00	5.25
P54	20x60	0.00	5.25
P55	20x40	0.00	5.25
P56	20x40	0.00	5.25
P57	20x35	0.00	5.25
P58	20x35	0.00	5.25
P59	20x50	0.00	5.25
P61	20x35	0.00	5.25
P62	20x60	0.00	5.25

Legenda dos pilares		Legenda das vigas e paredes	
	Pilar que morre		Viga

Detalhe 1 (esc. 1:30)



Detalhe 2 (esc. 1:30)

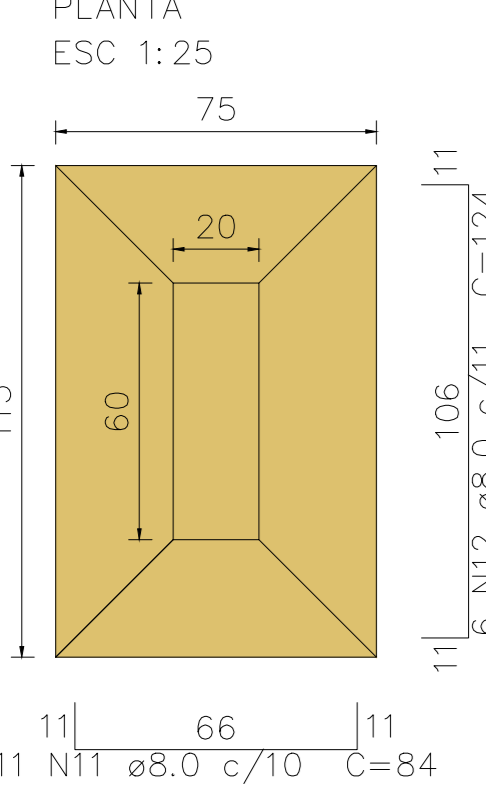


FORMA DO PAVIMENTO PLATIBANDA (NÍVEL 5.25)

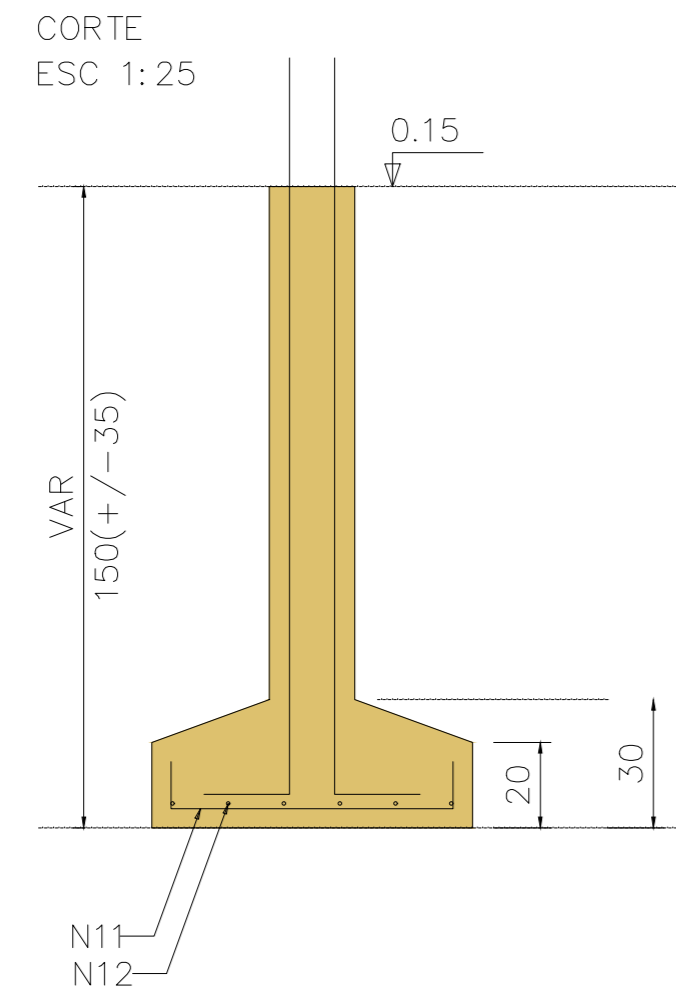
Escala 1:75

	PROPRIETÁRIO:	PREFEITURA MUNICIPAL DE VARGEM GRANDE - MA
	OBJETO:	CONSTRUÇÃO DE UBS TIPO II, NOVO PAC MARIA C. B. BEZERRA NO MUNICÍPIO DE VARGEM GRANDE - MA
TÍTULO:	PROJETO ESTRUTURAL	PRANCHA:
ESCALA:	INDICADA	DATA:
	FEV/2025	DESENHISTA:
		RESP. TÉCNICO
		04/22

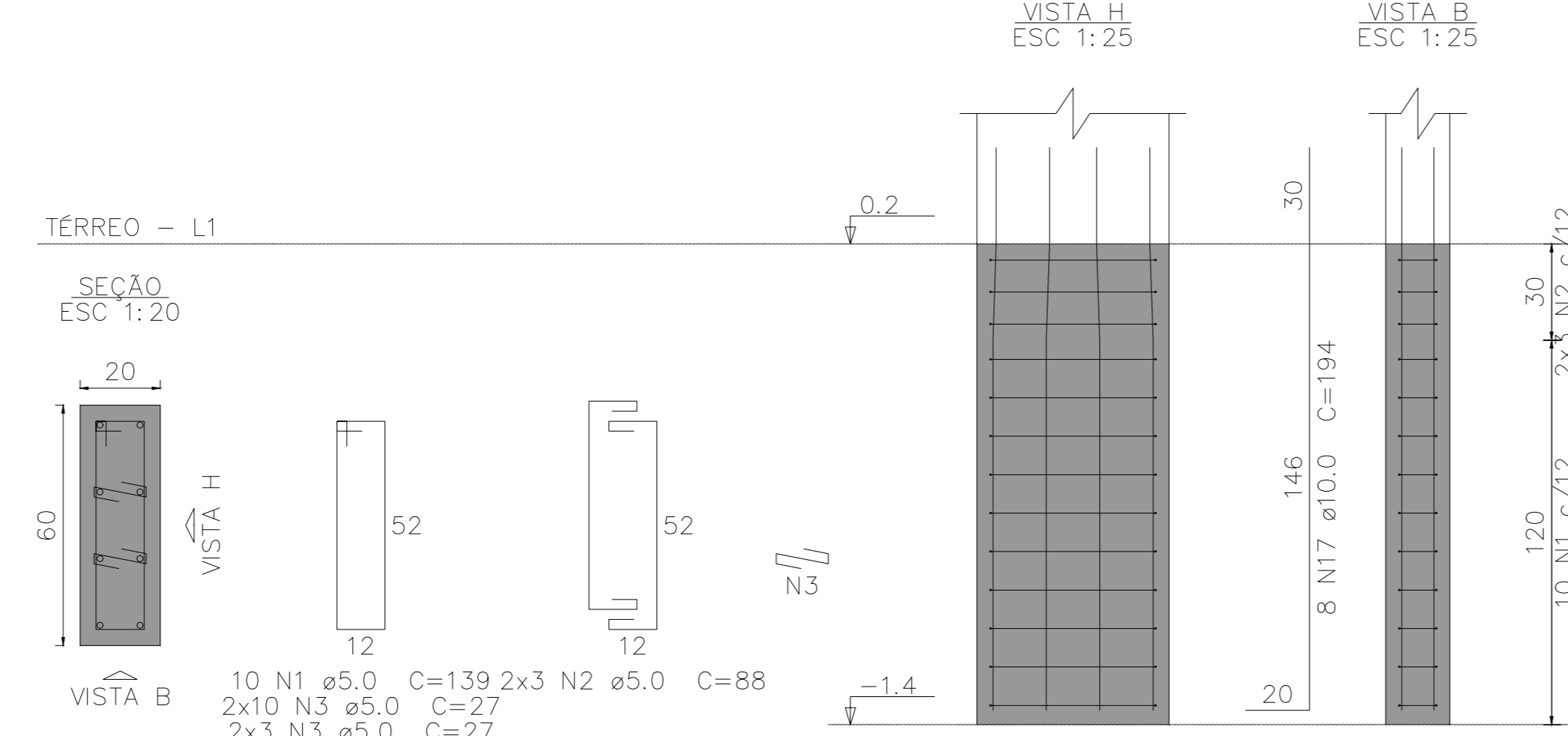
S3=S39=S54



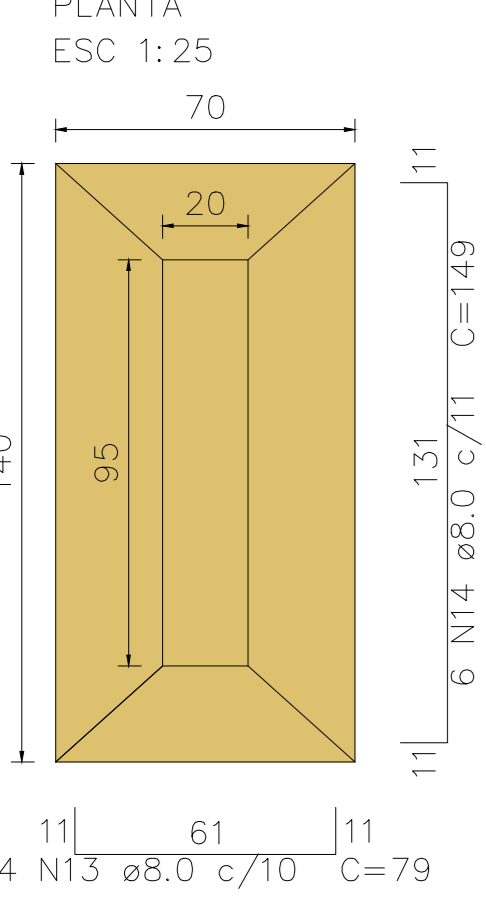
Solo com capacidade de suporte > 150.00 kN/m²
Solo compactado sobre a sapata
peso específico > 16.00 kN/m³



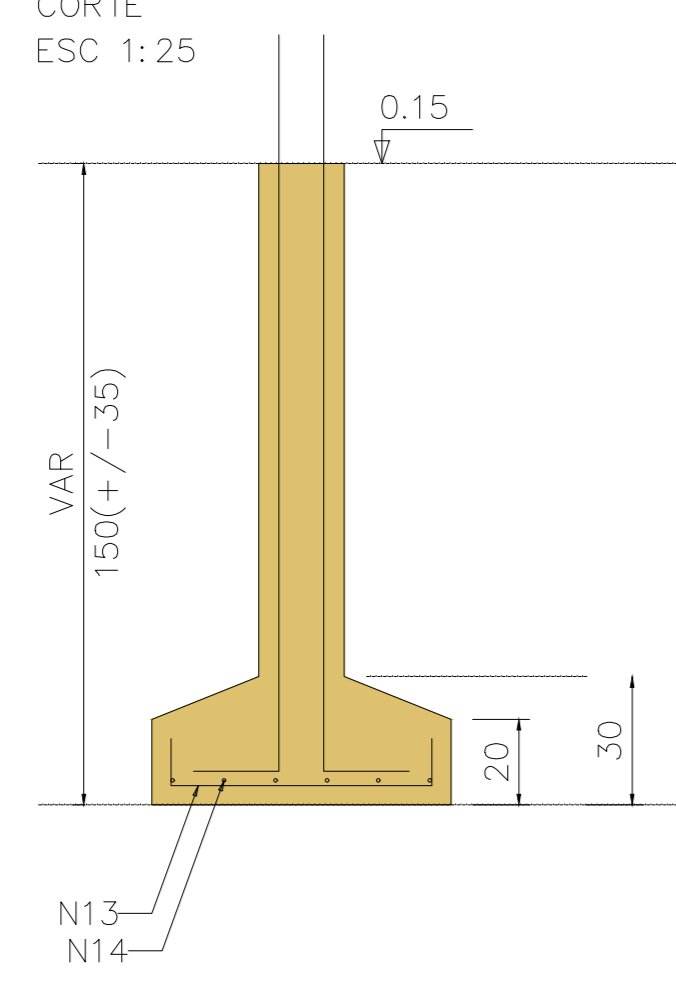
P3=P39=P54



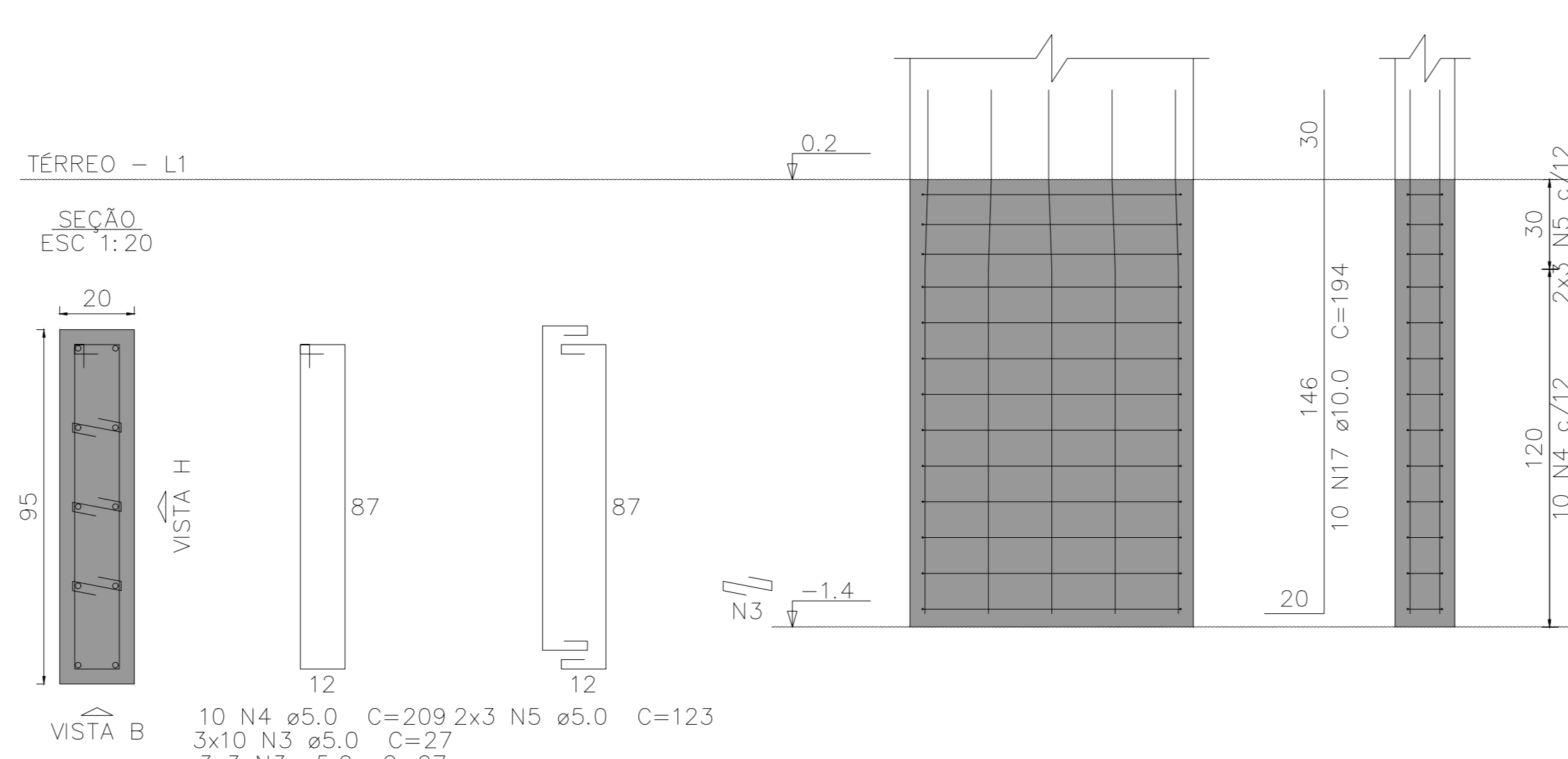
S4



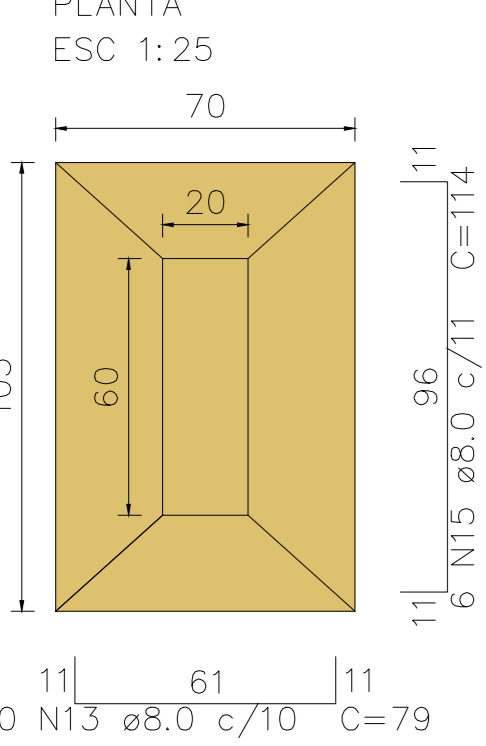
Solo com capacidade de suporte > 150.00 kN/m²
Solo compactado sobre a sapata
peso específico > 16.00 kN/m³



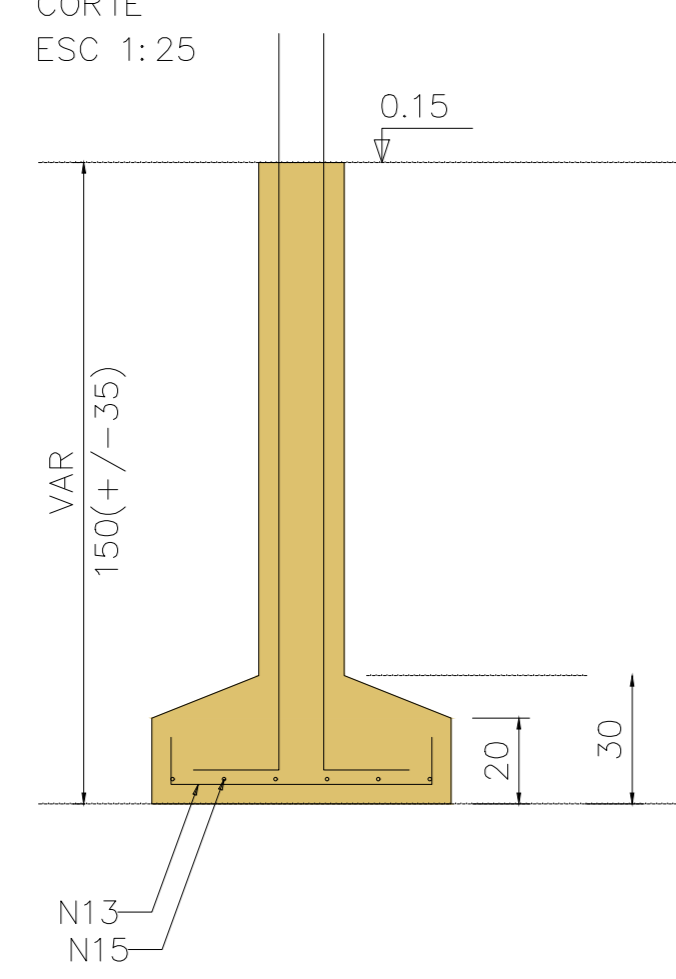
P4



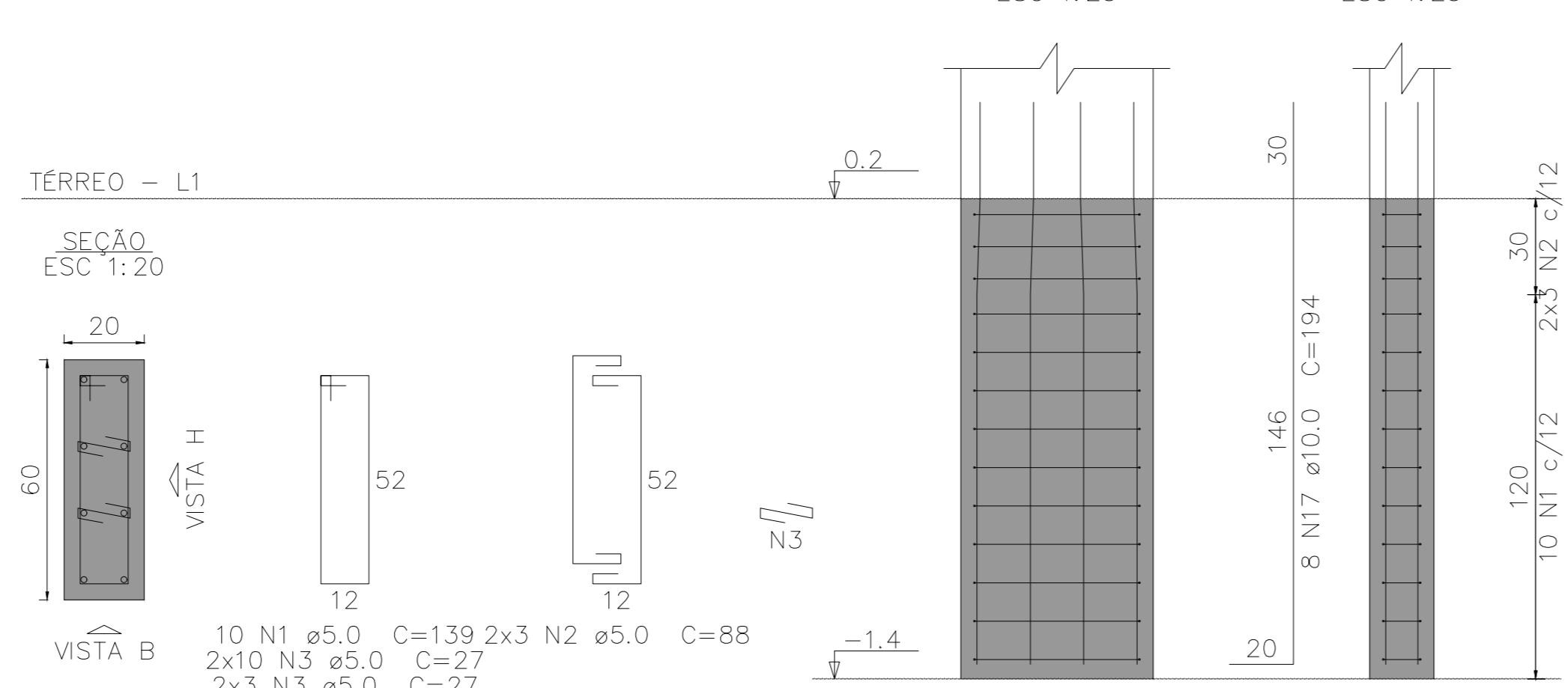
S5



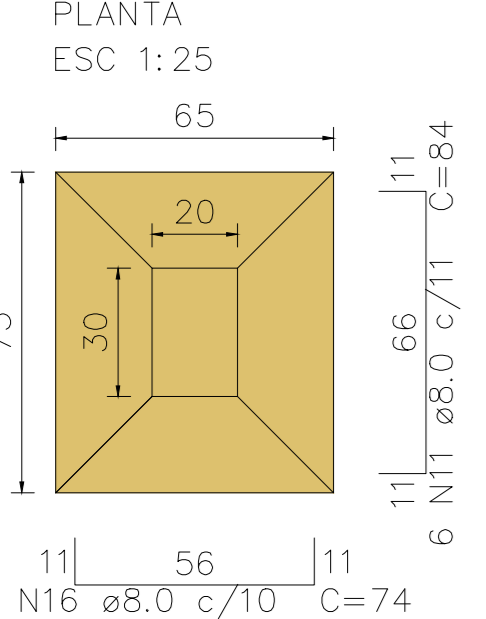
Solo com capacidade de suporte > 150.00 kN/m²
Solo compactado sobre a sapata
peso específico > 16.00 kN/m³



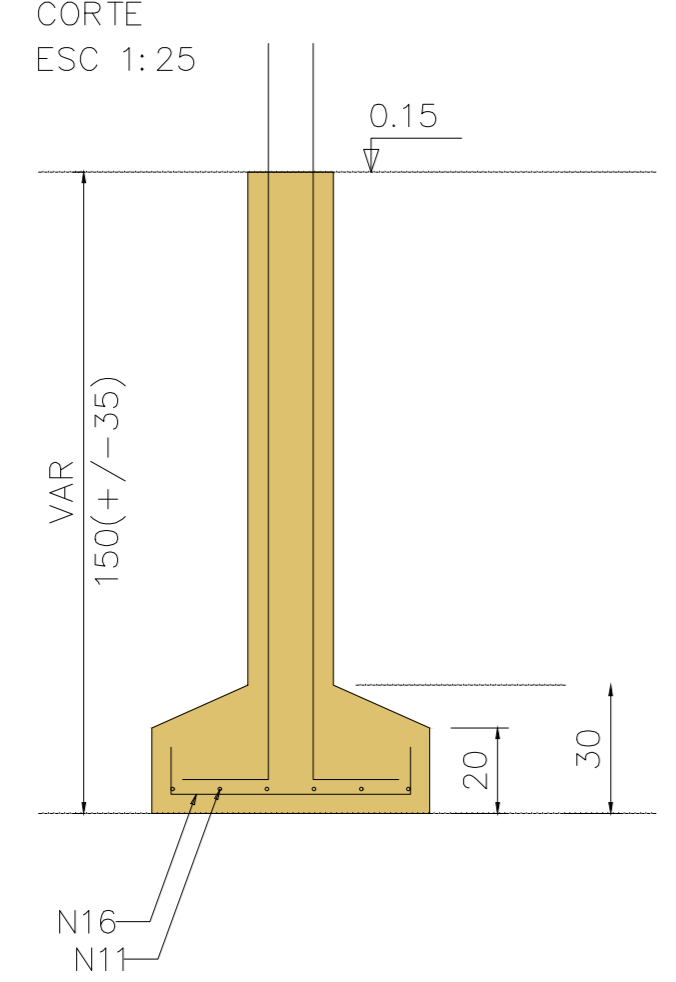
P5



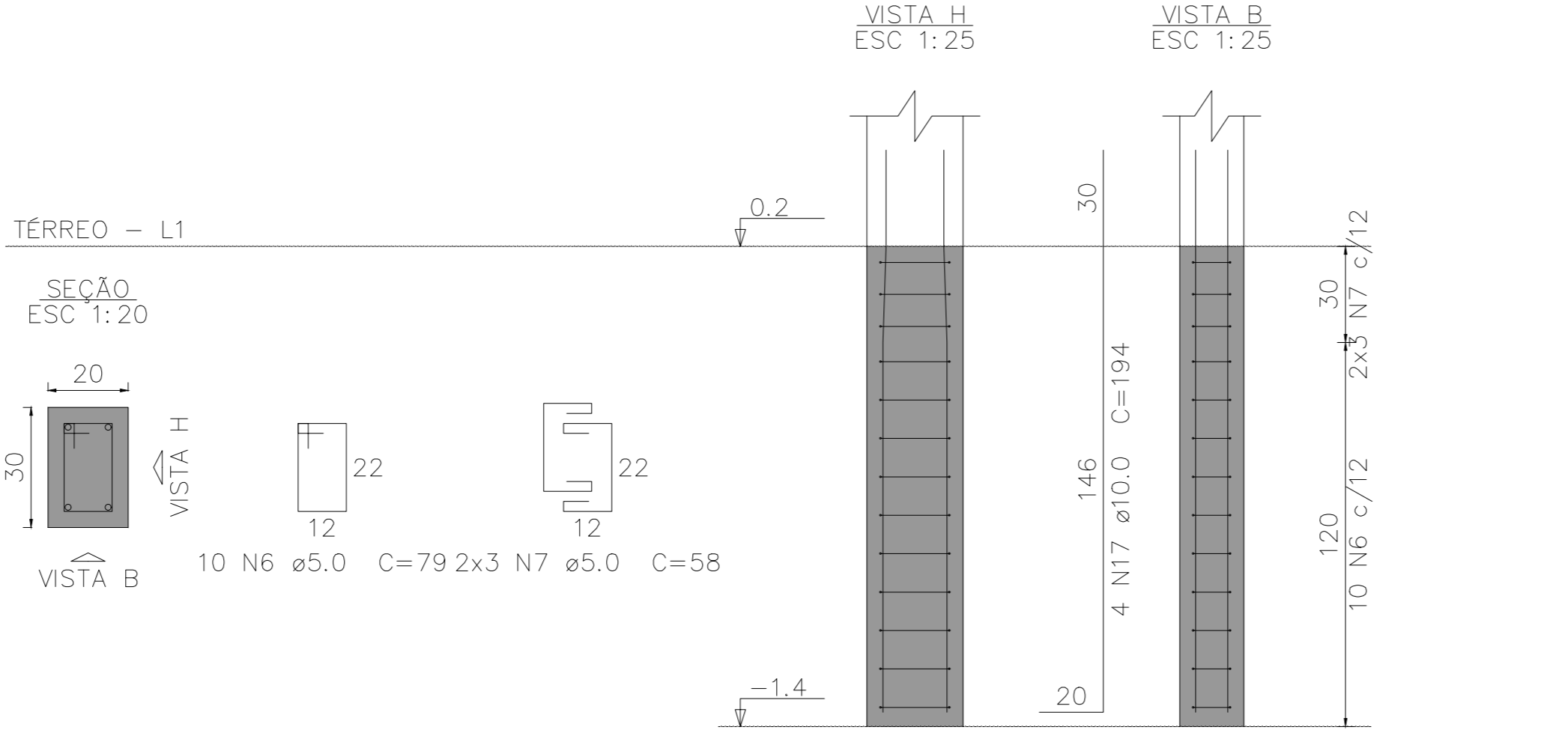
S8=S10=S26



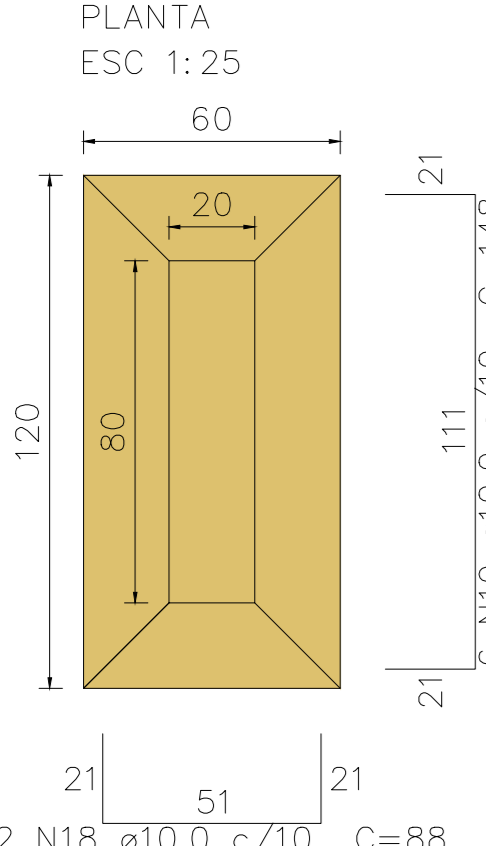
Solo com capacidade de suporte > 150.00 kN/m²
Solo compactado sobre a sapata
peso específico > 16.00 kN/m³



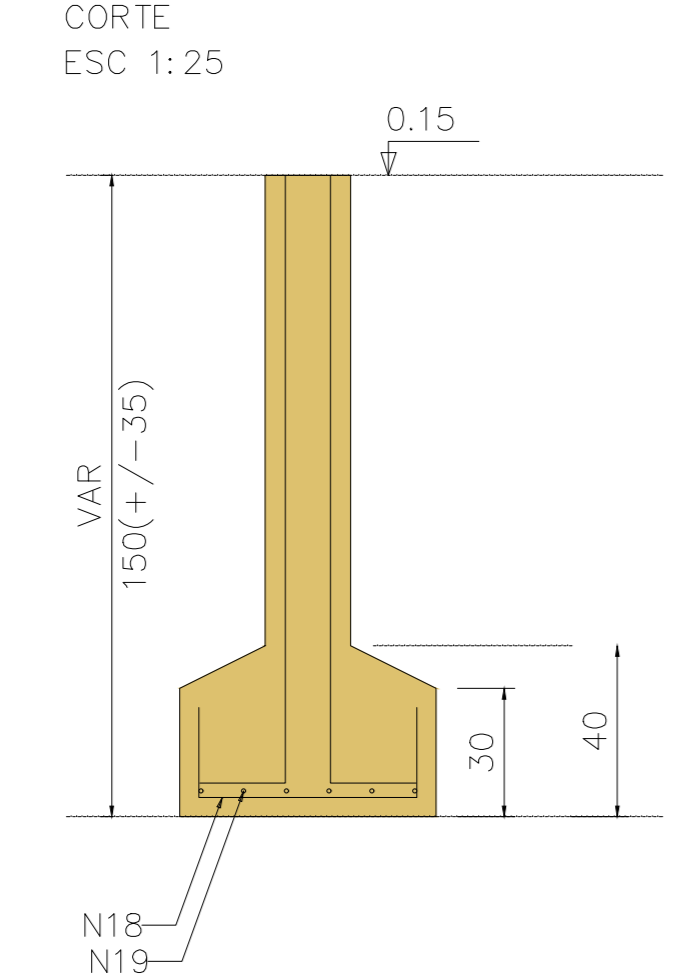
P8=P10=P26



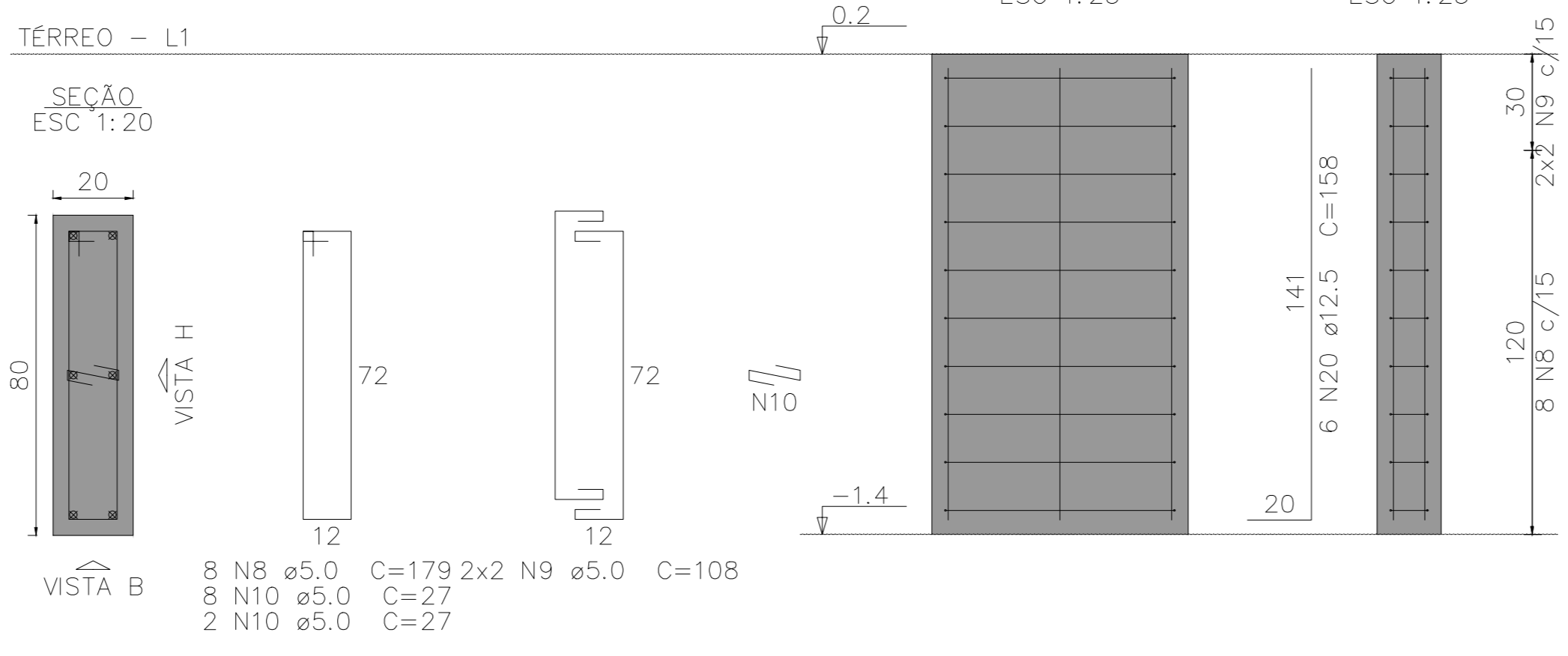
S12=S23



Solo com capacidade de suporte > 150.00 kN/m²
Solo compactado sobre a sapata
peso específico > 16.00 kN/m³



P12=P23



Relação do aço

AÇO	N	DIAM (mm)	QUANT	Relação do aço	
				S4 2xS12	S5 3xS10
CA60	1	5.0	40	139	5560
	2	5.0	24	88	2112
	3	5.0	143	27	3861
	4	5.0	10	209	2090
	5	5.0	16	123	738
	6	5.0	30	79	2370
	7	5.0	18	58	1044
	8	5.0	16	179	2864
	9	5.0	8	108	864
	10	5.0	20	27	540
CA50	11	8.0	51	84	4284
	12	8.0	18	124	2232
	13	8.0	24	79	1896
	14	8.0	6	149	894
	15	8.0	6	114	684
	16	8.0	21	74	1554
	17	10.0	54	194	10476
	18	10.0	24	88	2112
	19	10.0	12	148	1776
	20	12.5	12	158	1896

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	8.0	115.5	50.1
CA50	10.0	143.7	97.4
CA60	12.5	19	20.1
CA60	5.0	220.5	37.4
PESO TOTAL (kg)			
CA50			167.6
CA60			37.4

Volume de concreto (C-35) = 3.33 m³
Área de forma = 26.1 m²

FVSM
ENGENHARIA

PROPRIETÁRIO:
PREFEITURA MUNICIPAL DE VARGEM GRANDE - MA

OBJETO:
**CONSTRUÇÃO DE UBS TIPO II, NOVO PAC
MARIA C. B. BEZERRA NO MUNICÍPIO DE VARGEM GRANDE - MA**

TÍTULO:
PROJETO ESTRUTURAL

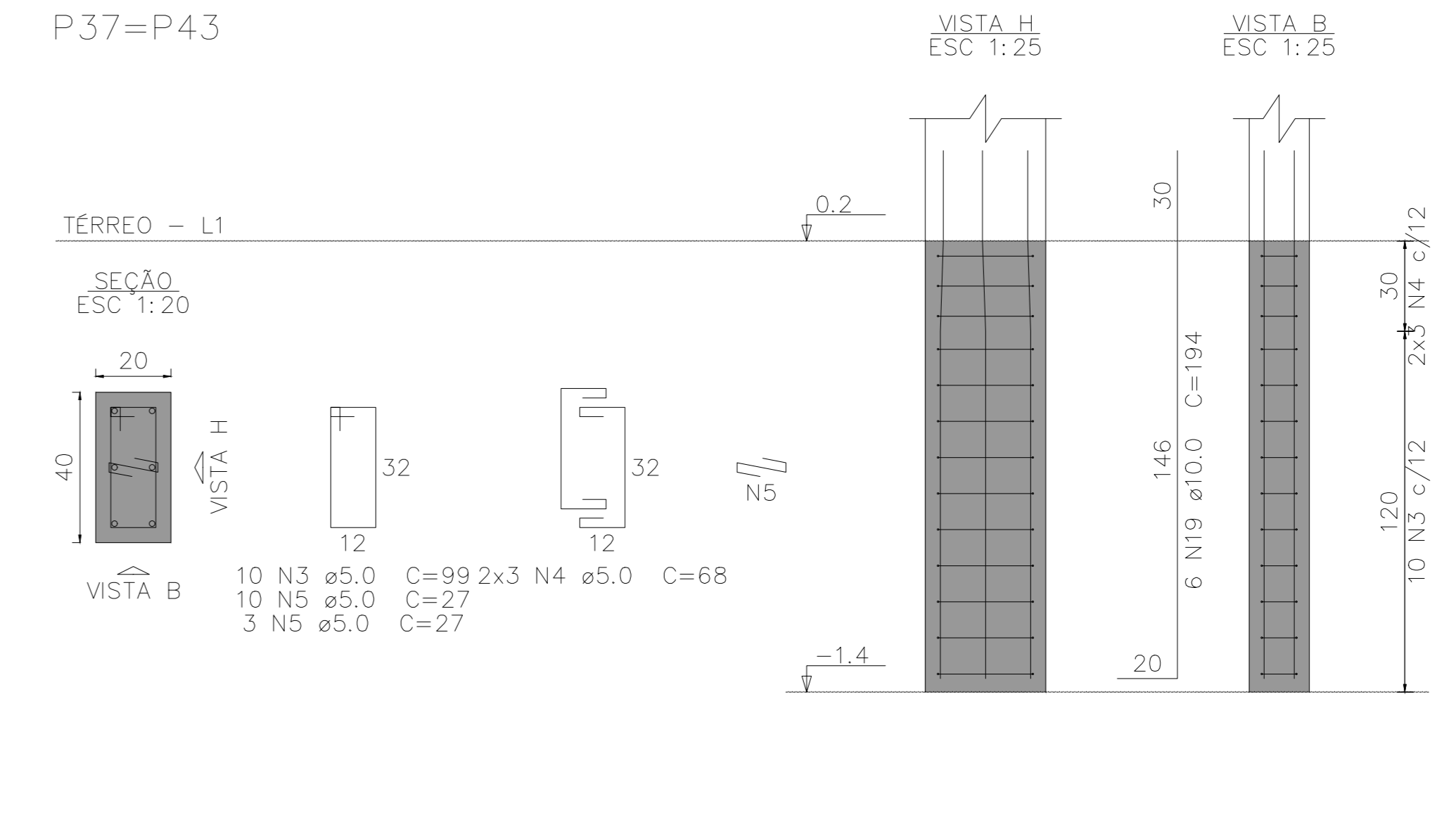
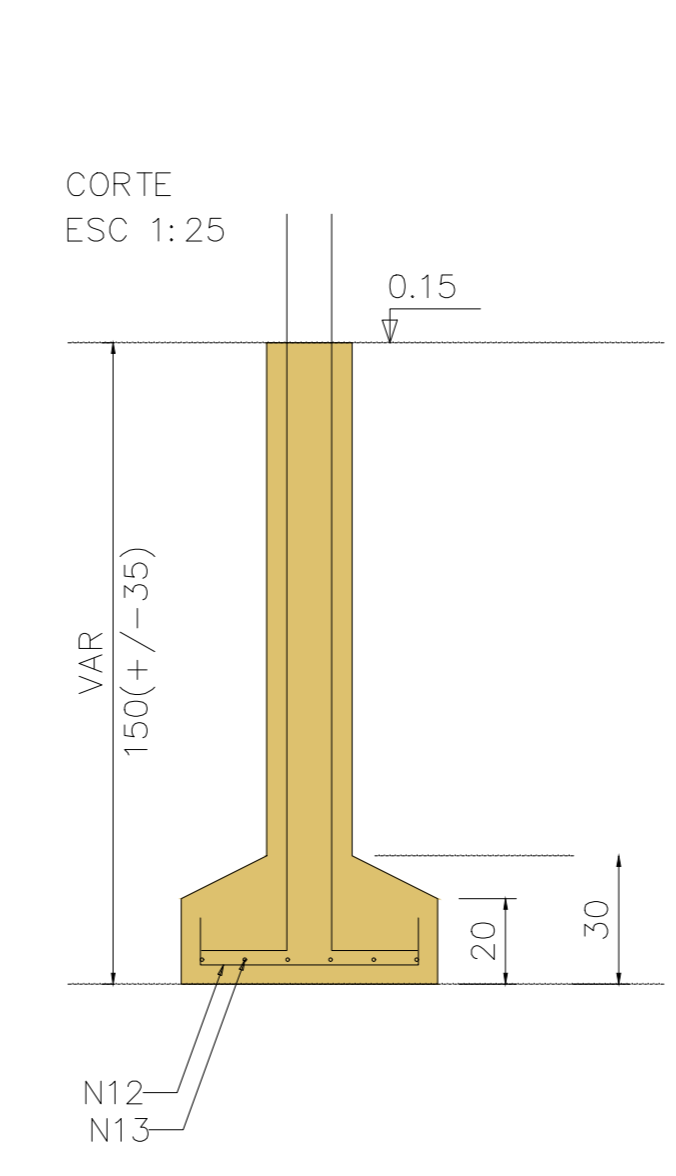
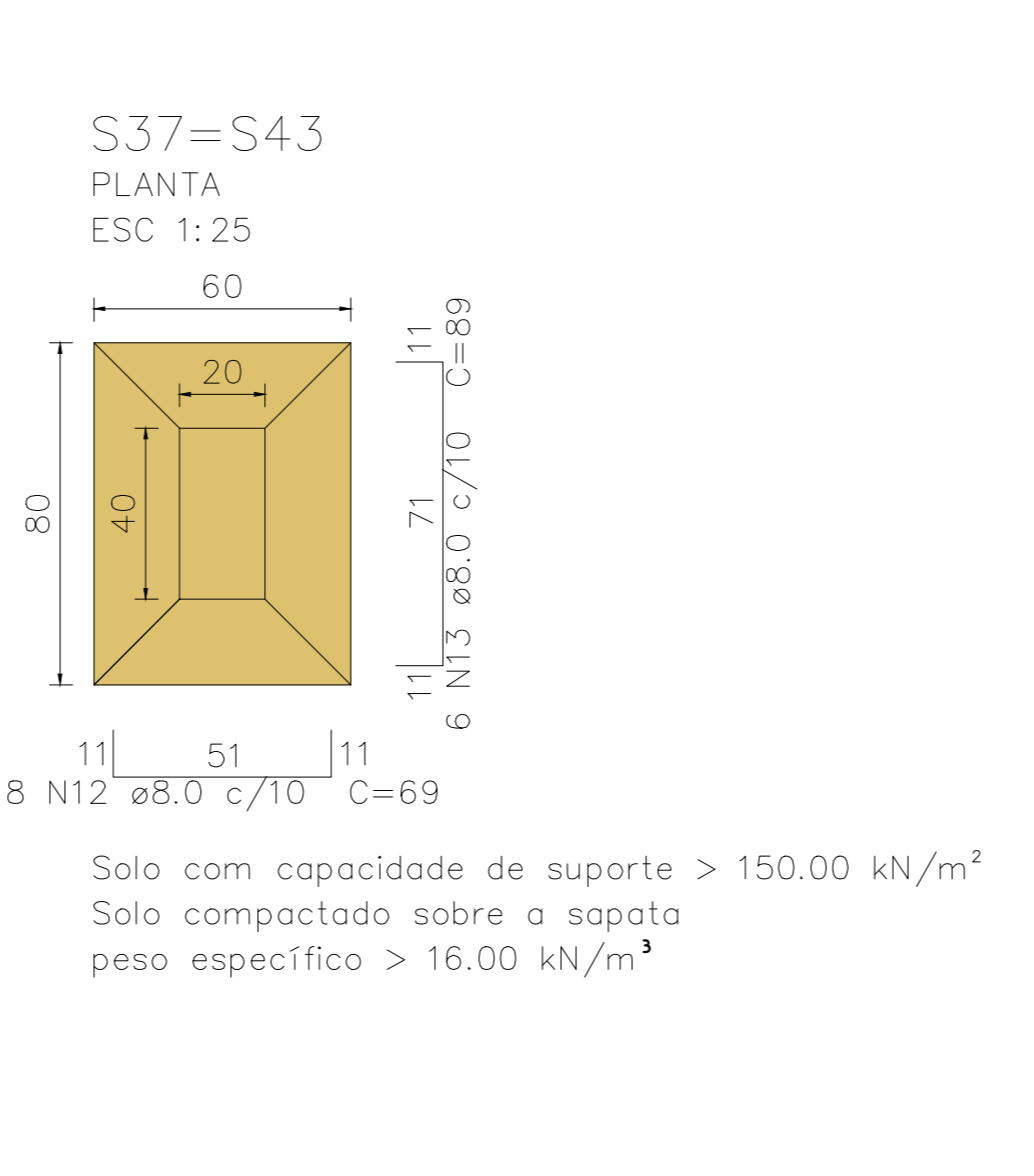
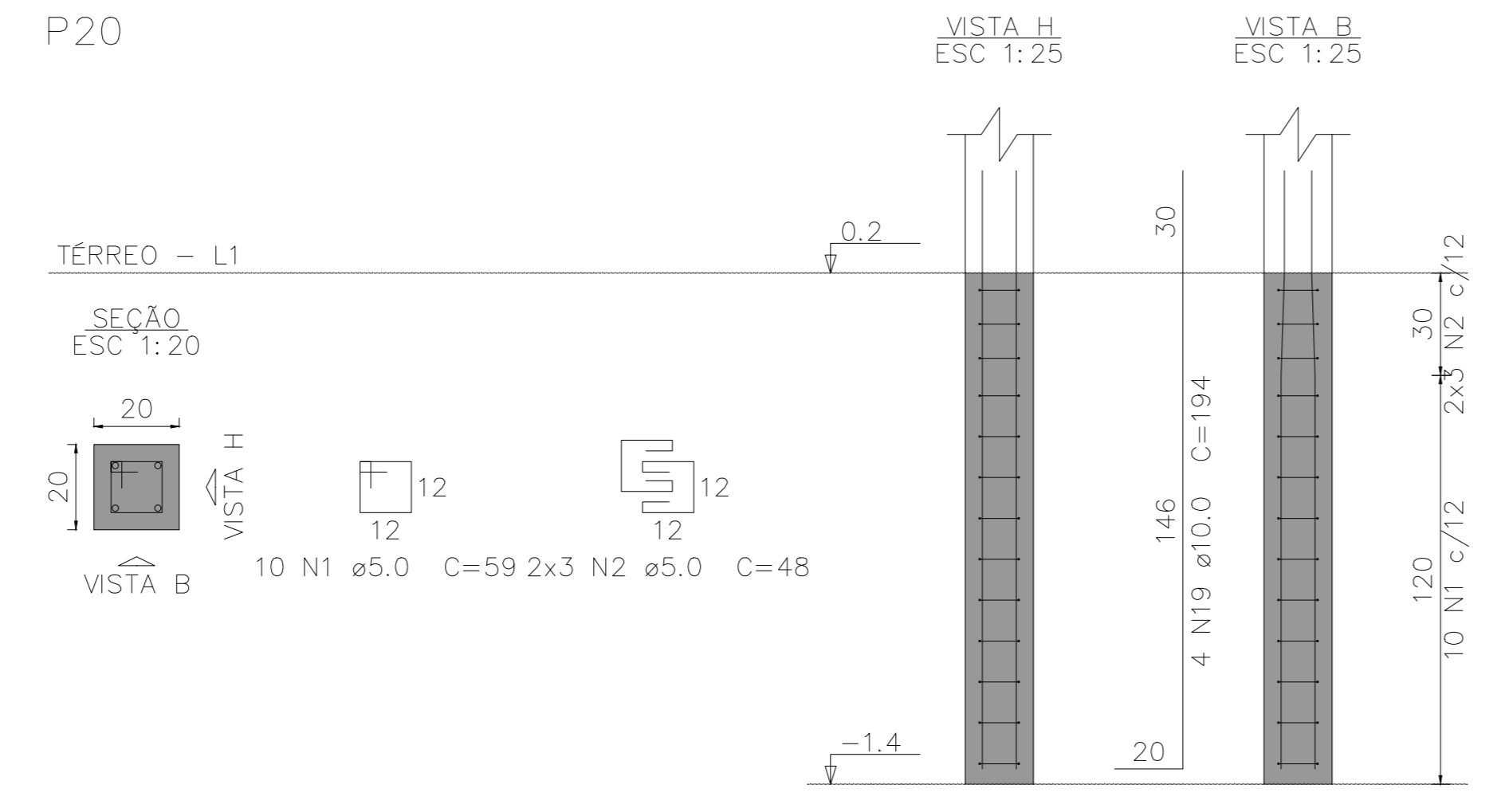
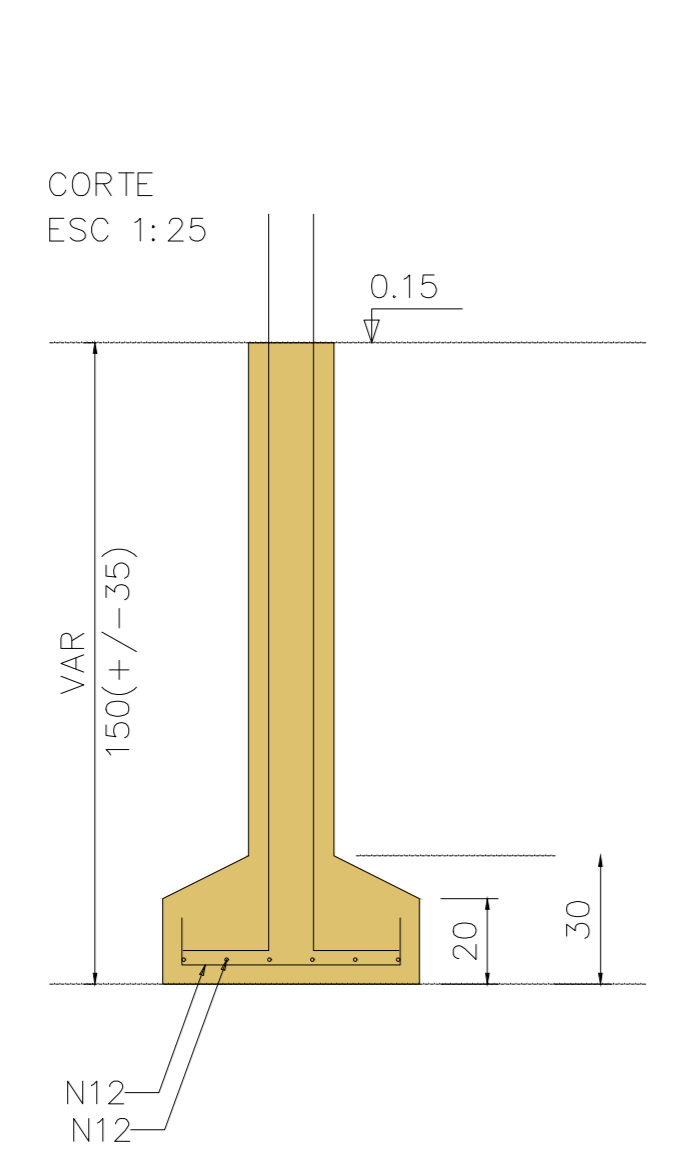
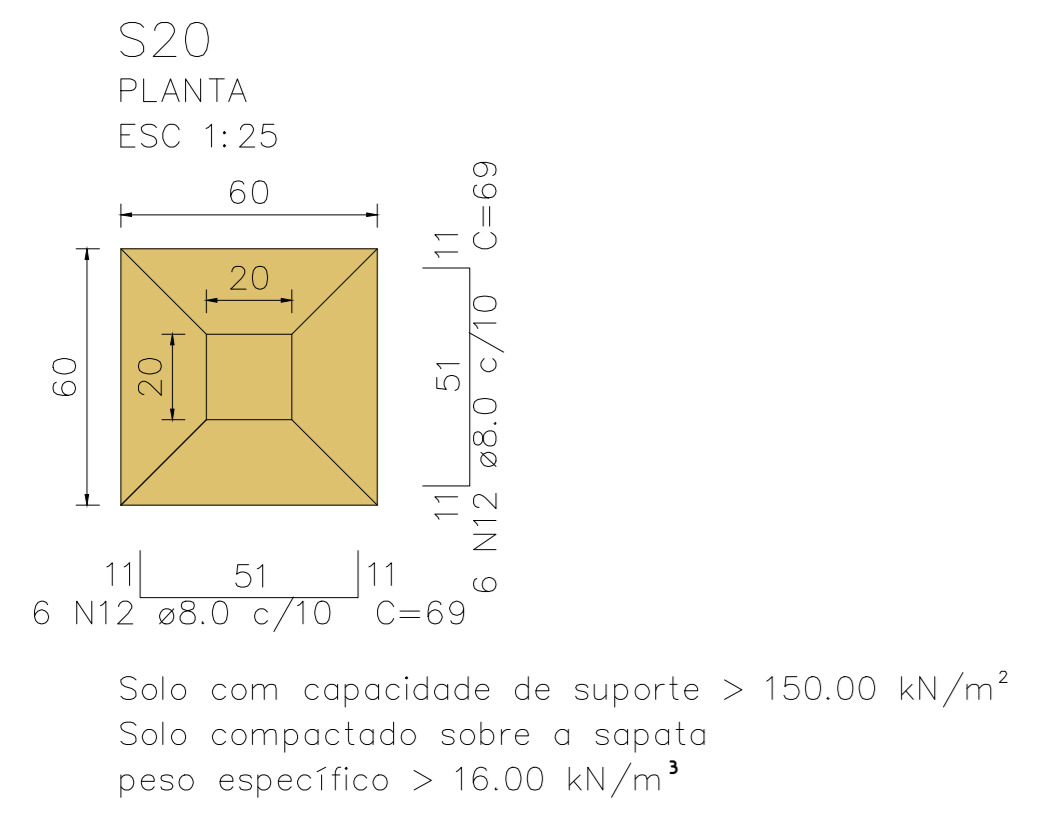
ESCALA:
INDICADA

DATA:
FEV/2025

DESENHISTA:

PRANCHA:
05/22

RESP. TÉCNICO



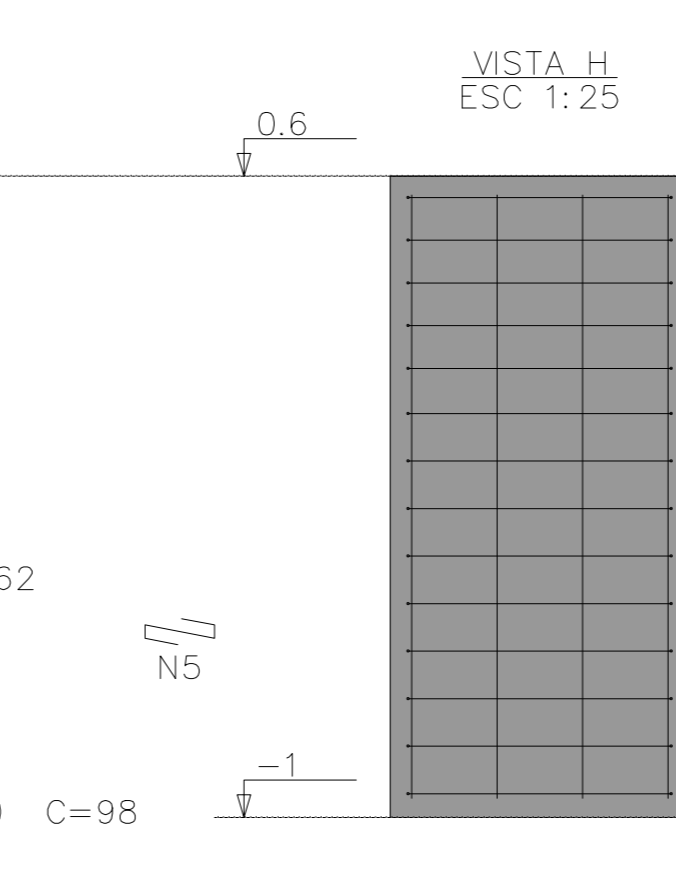
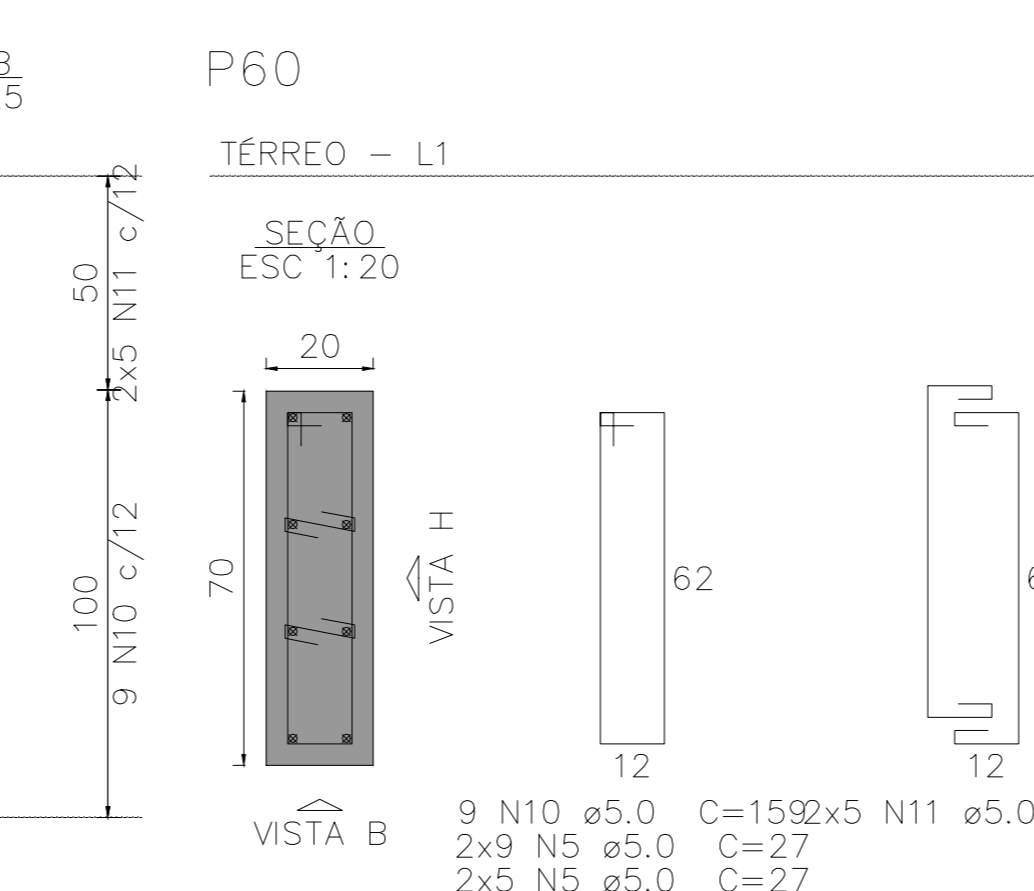
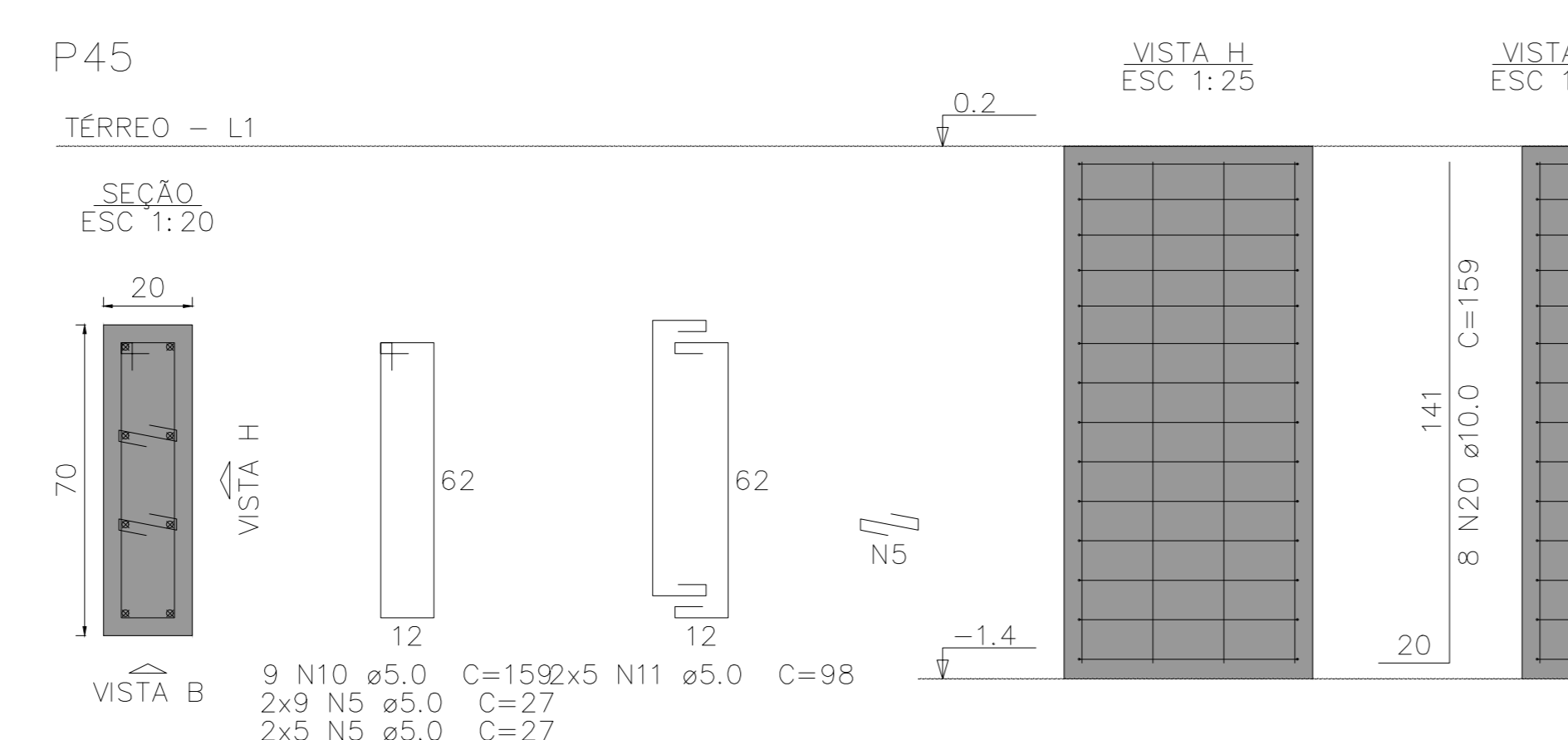
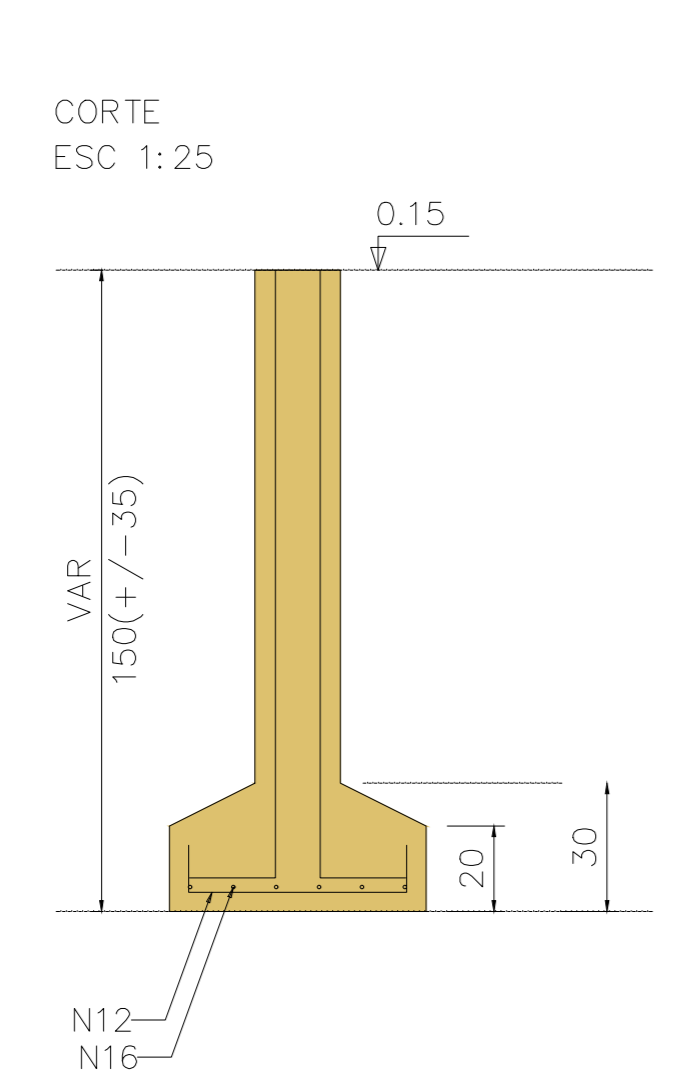
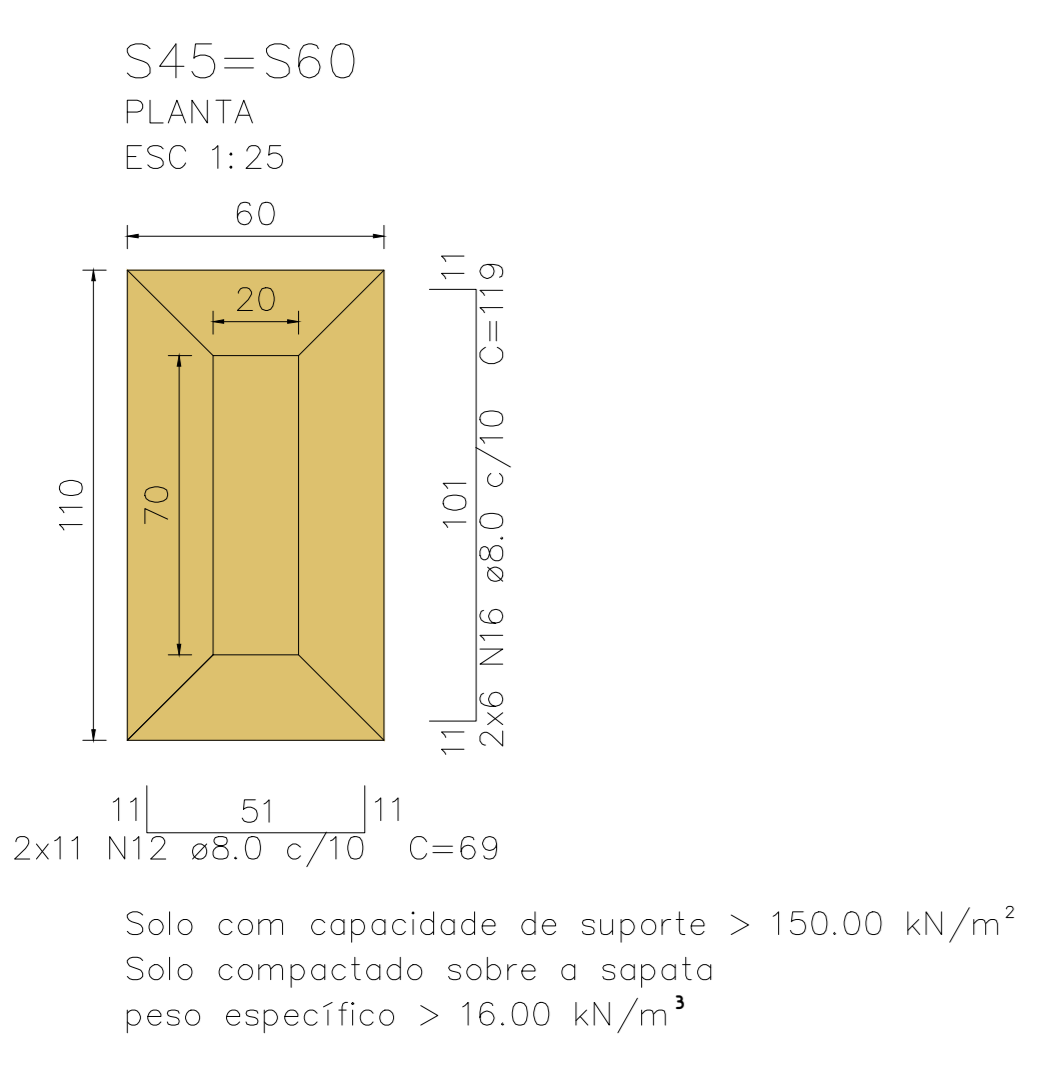
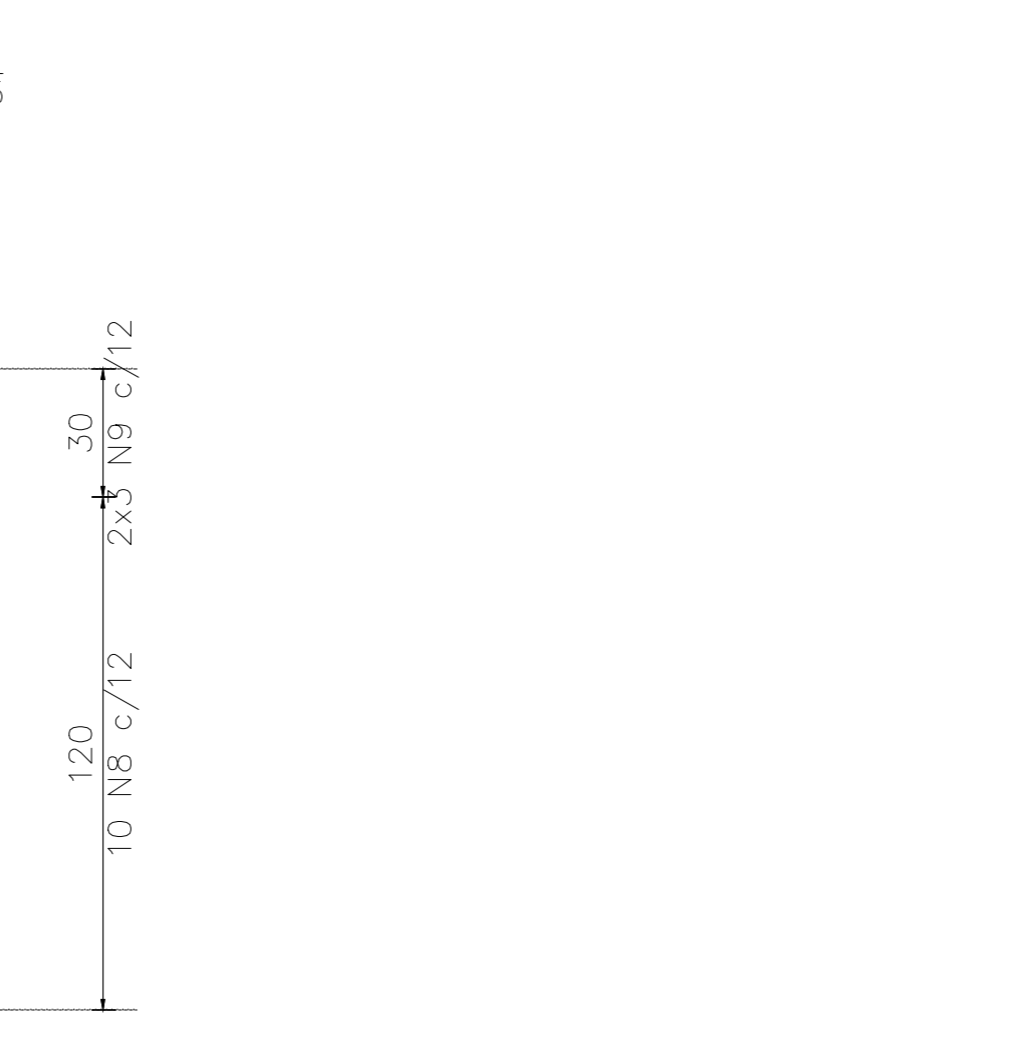
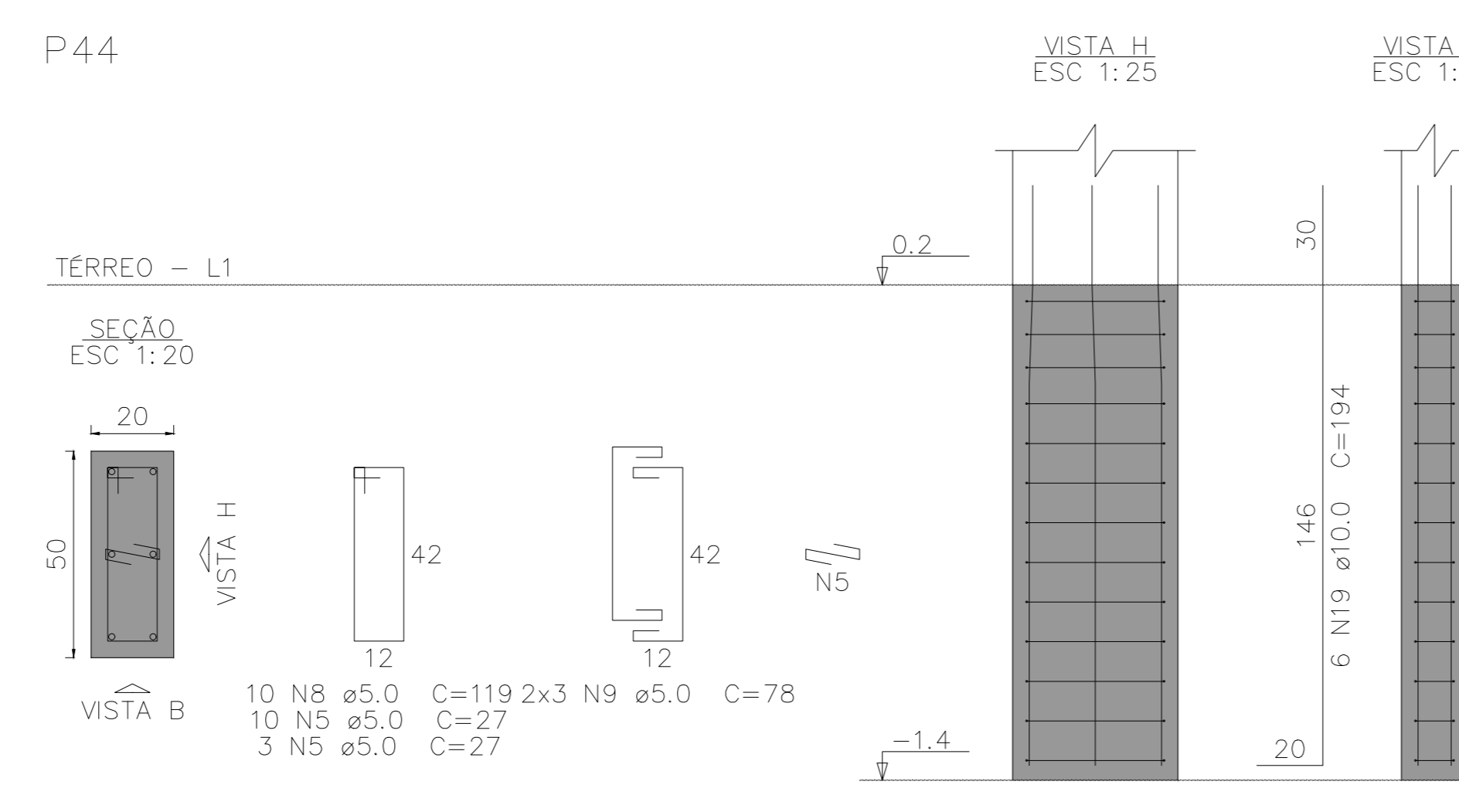
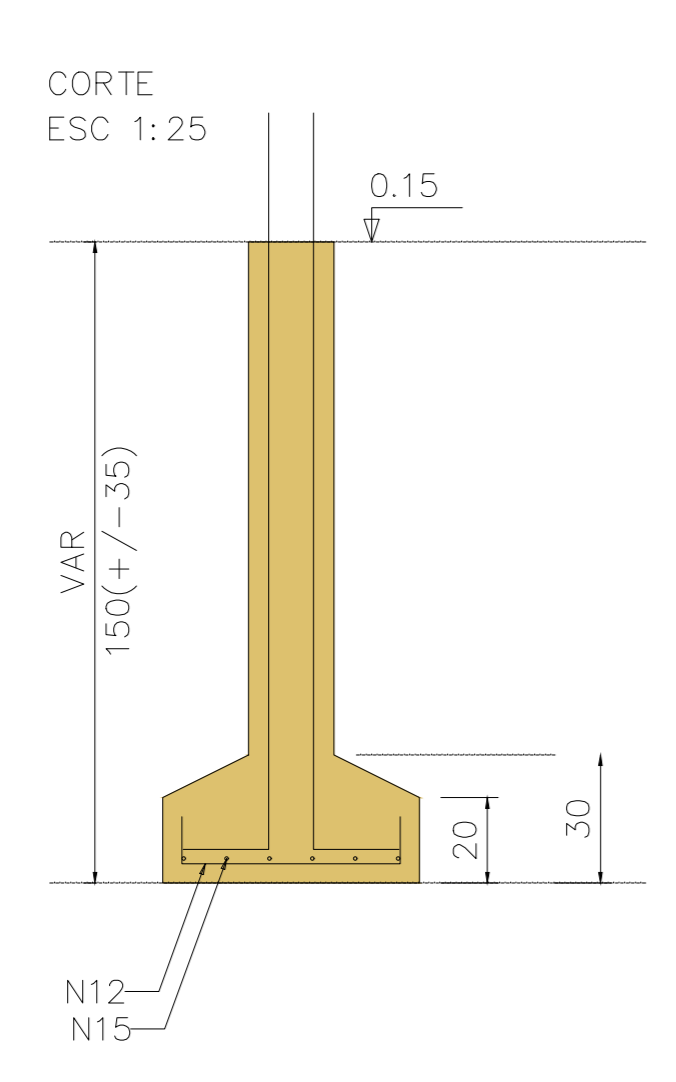
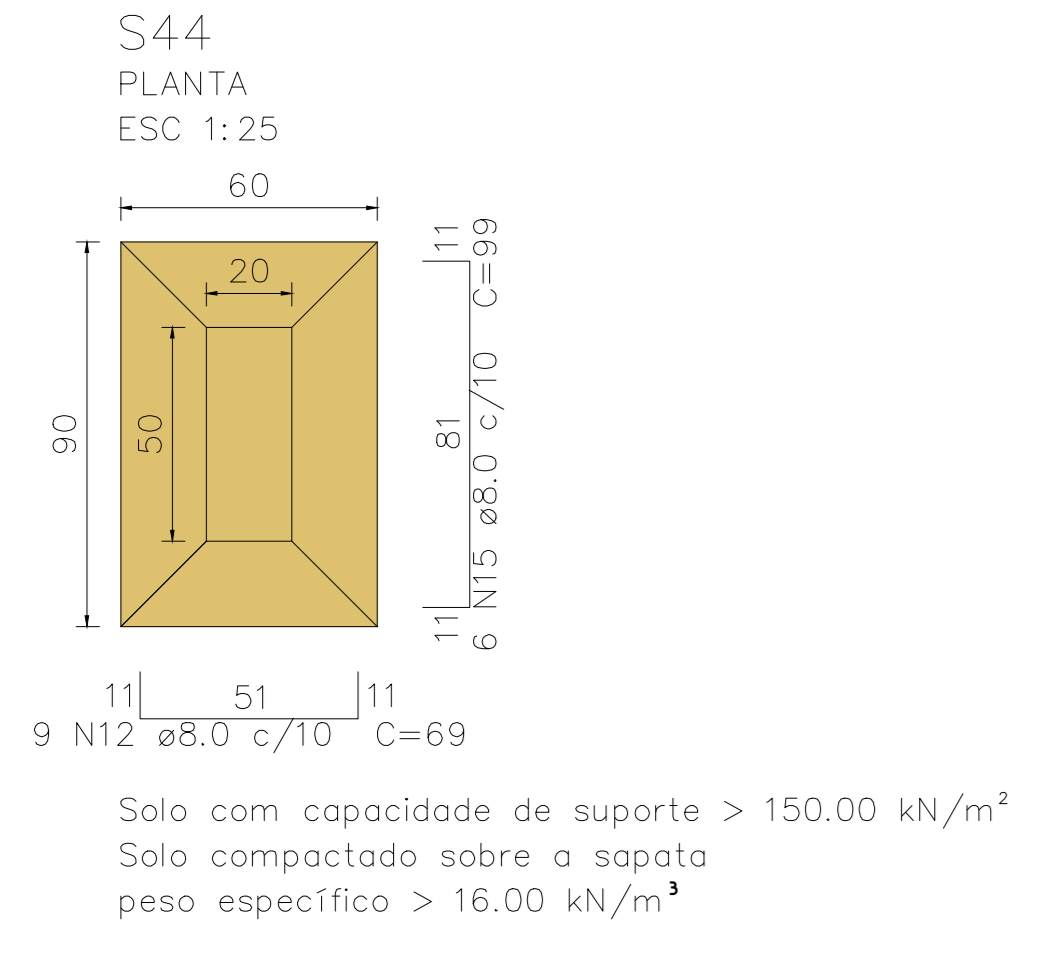
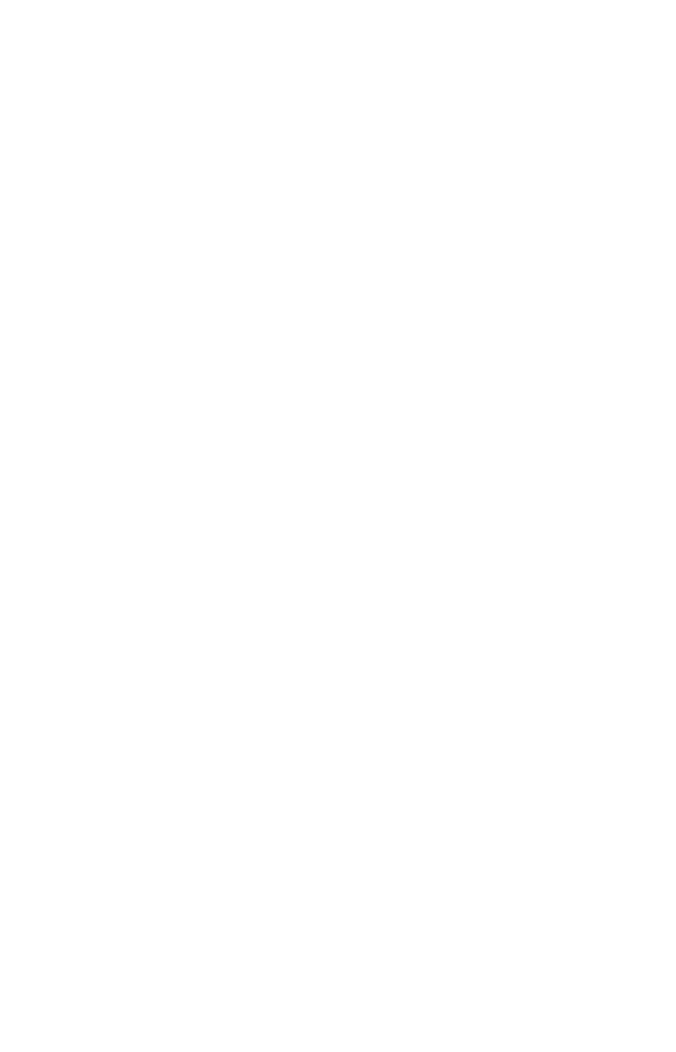
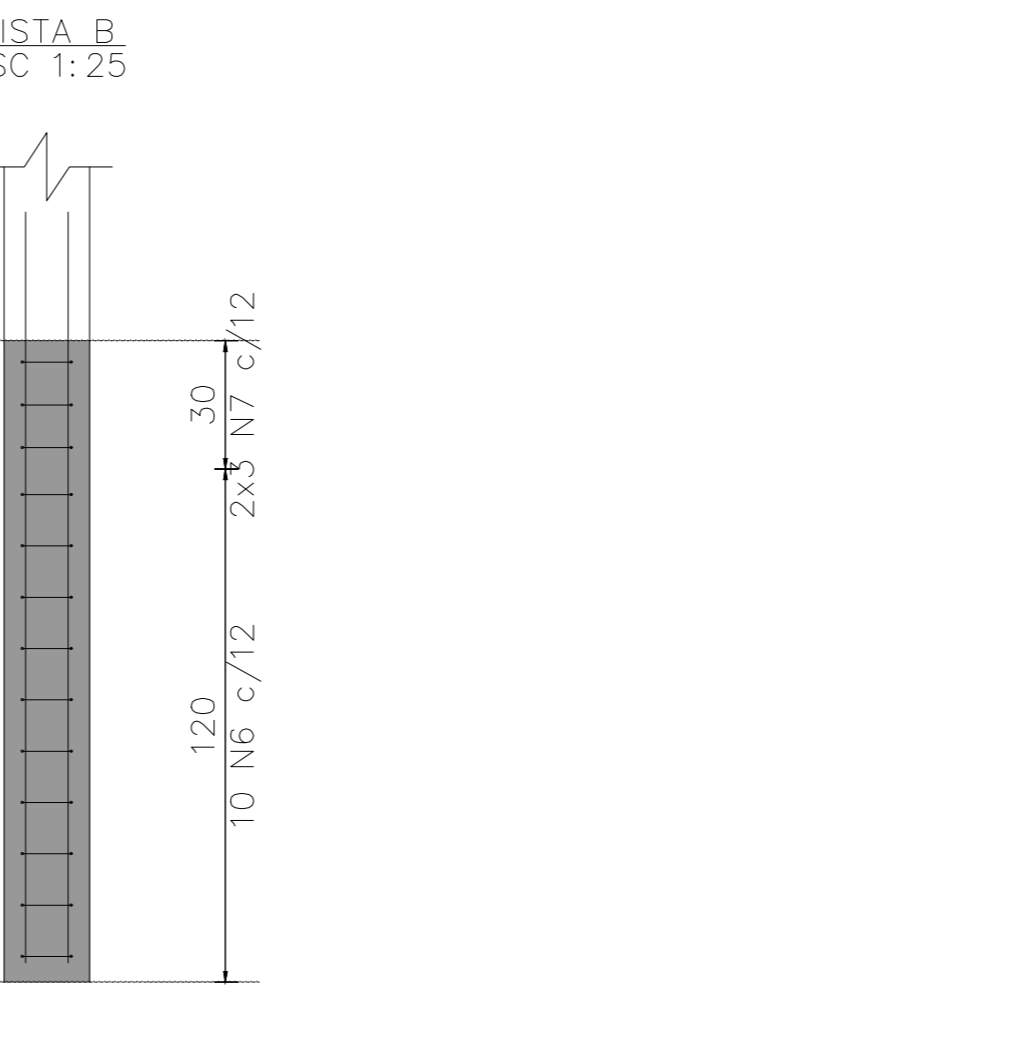
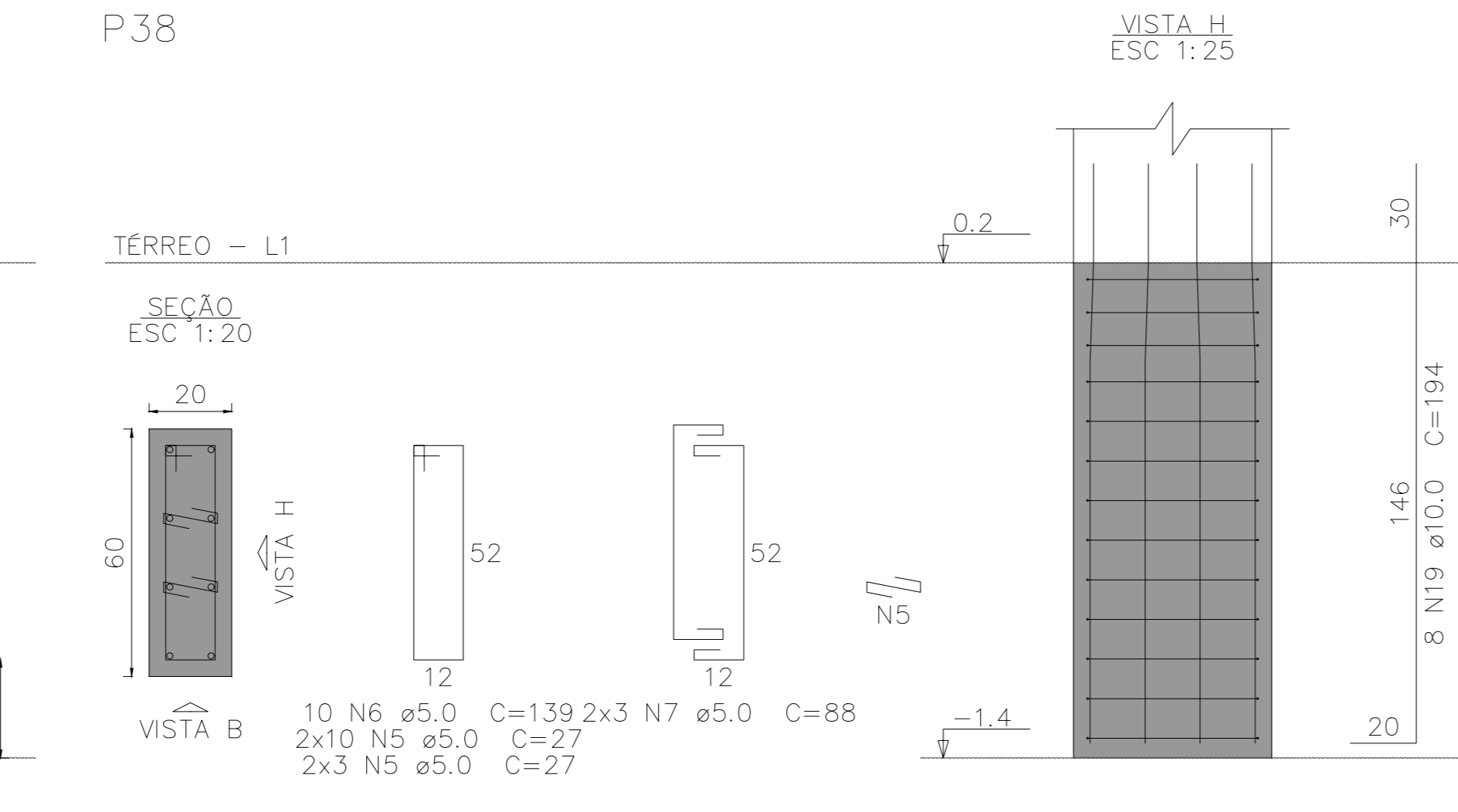
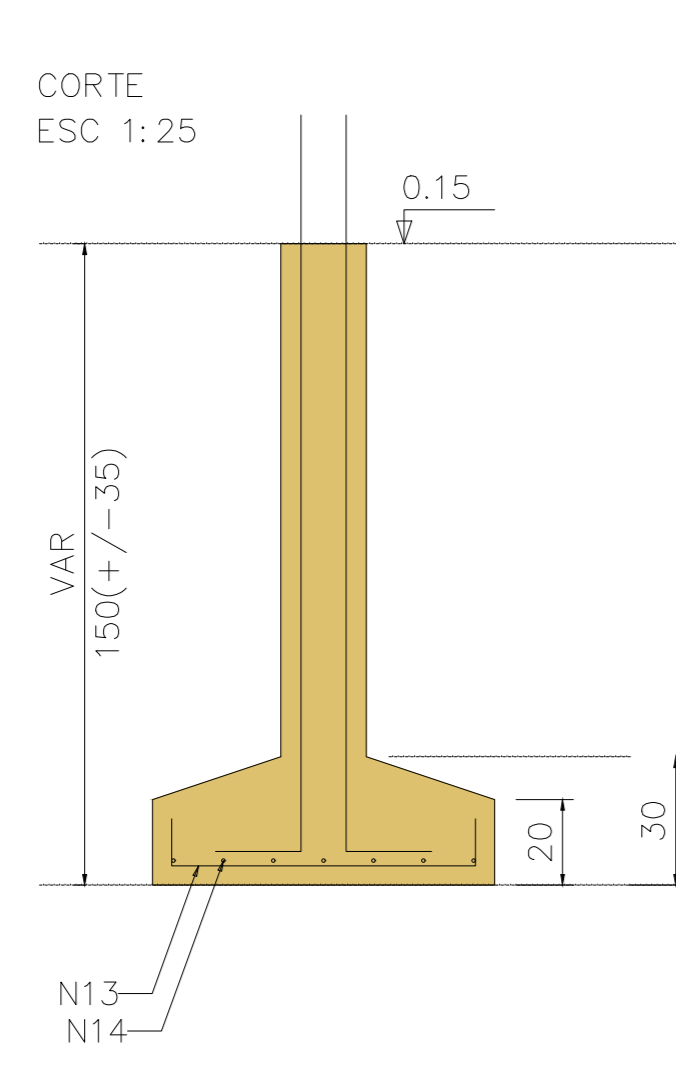
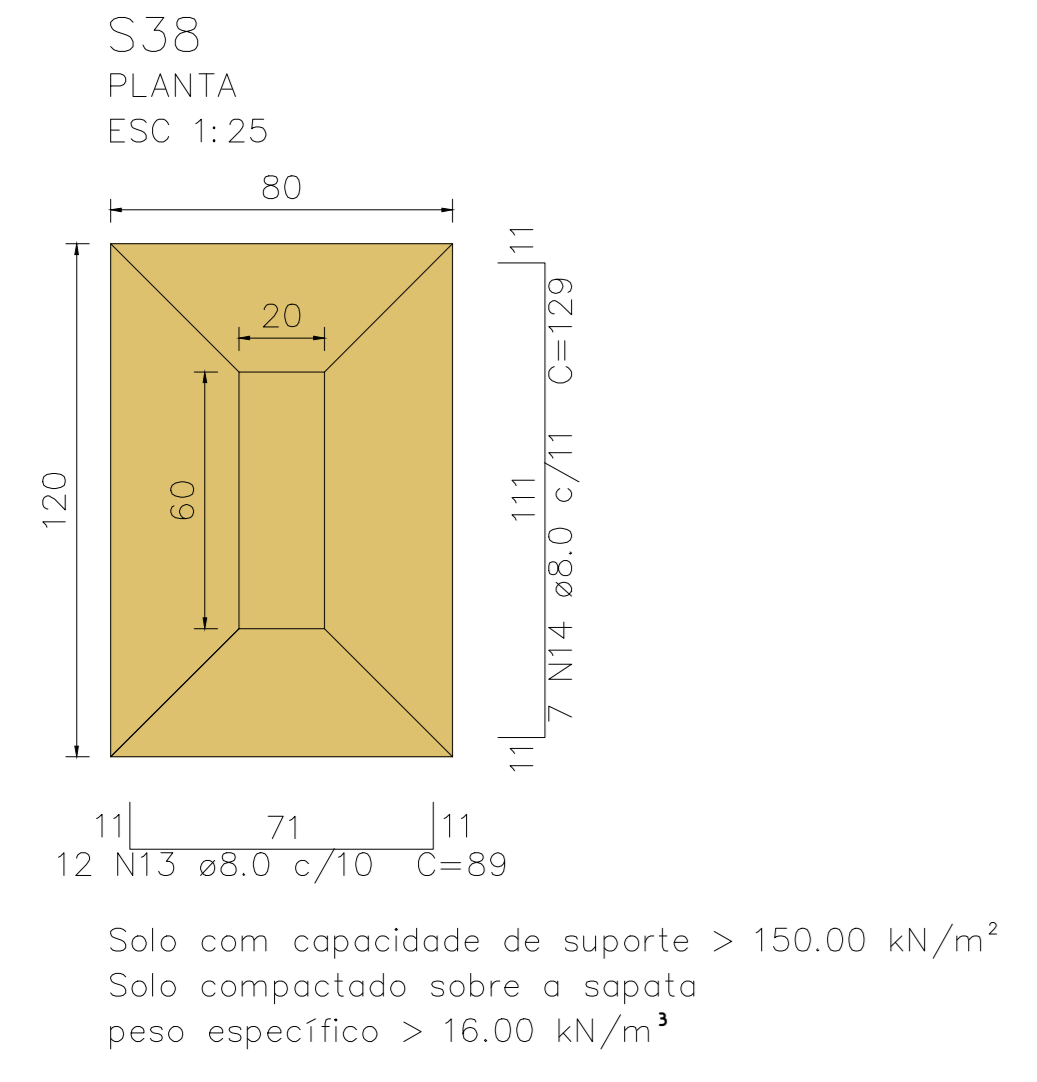
Relação do aço

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	10	59	590
	2	5.0	6	48	288
	3	5.0	50	99	4950
	4	5.0	30	68	2040
	5	5.0	160	27	4320
	6	5.0	10	139	1390
	7	5.0	6	88	528
	8	5.0	10	119	1190
	9	5.0	6	78	468
	10	5.0	18	159	2862
CA50	11	5.0	20	98	1960
	12	8.0	59	69	4071
	13	8.0	24	89	2136
	14	8.0	7	129	903
	15	8.0	6	99	594
	16	8.0	12	119	1428
	17	8.0	30	94	2820
	18	8.0	21	114	2394
	19	10.0	48	194	9312
	20	10.0	16	159	2544

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	8.0	143.5	62.3
CA60	10.0	118.6	80.4
PESO TOTAL (kg)			205.9
CA50		142.7	
CA60		34.9	

Volume de concreto (C-35) = 2.83 m³
Área de forma = 22.72 m²



FVSM ENGENHARIA

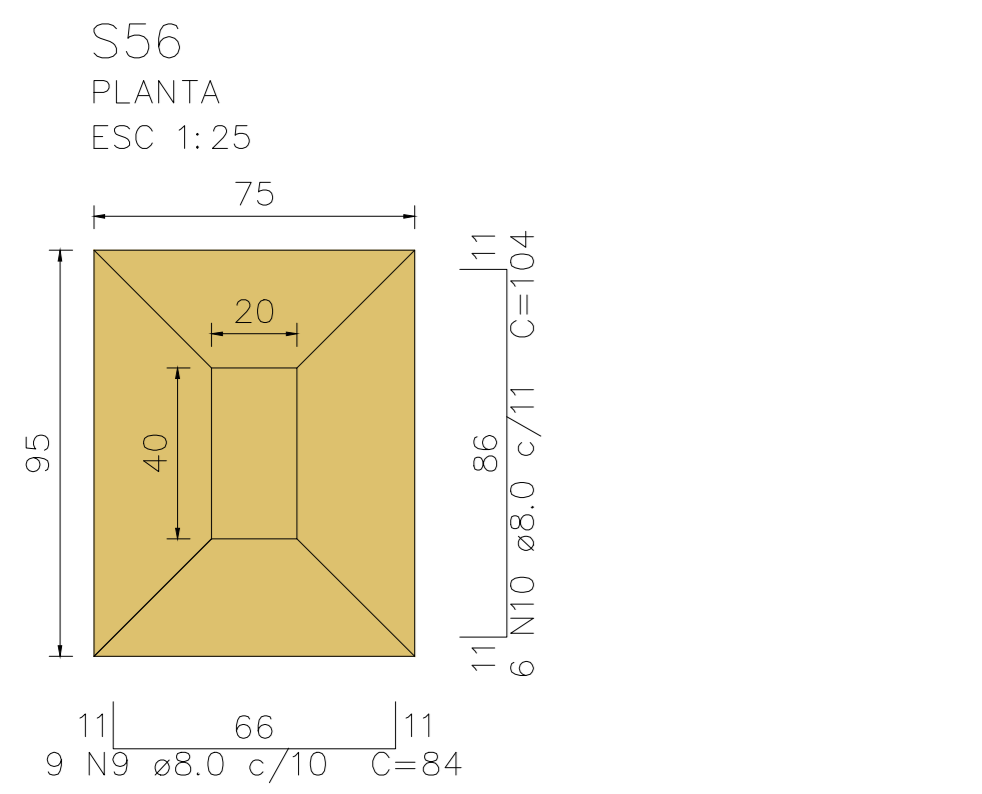
PROPRIETÁRIO:
PREFEITURA MUNICIPAL DE VARGEM GRANDE - MA

OBJETO:
**CONSTRUÇÃO DE UBS TIPO II, NOVO PAC
MARIA C. B. BEZERRA NO MUNICÍPIO DE VARGEM GRANDE - MA**

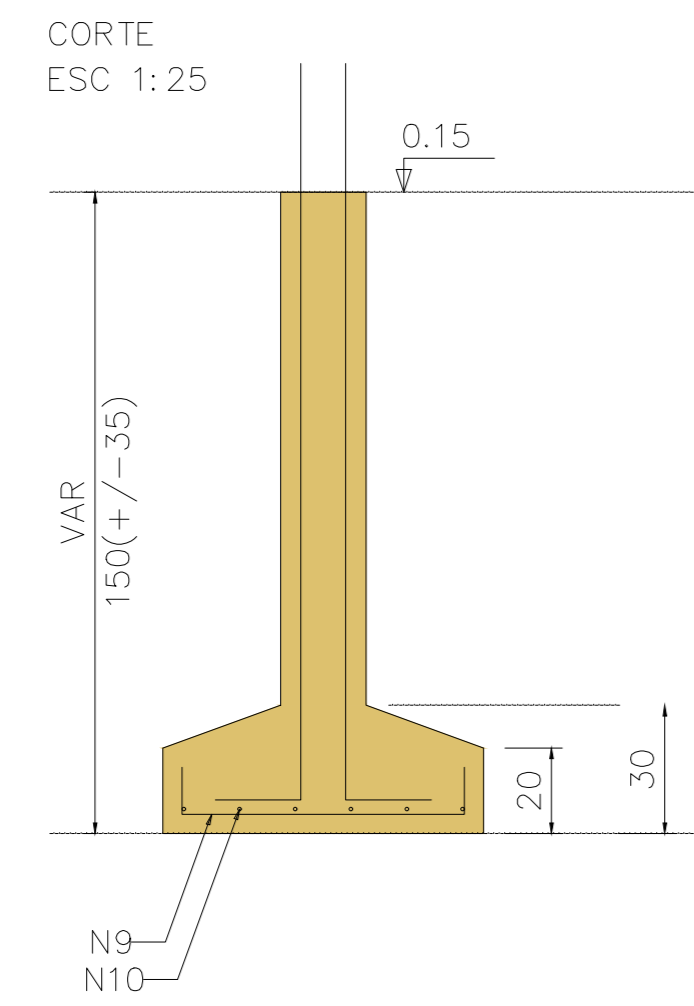
TÍTULO:
PROJETO ESTRUTURAL

ESCALA: INDICADA DATA: FEV/2025 DESENHISTA: RESP. TÉCNICO

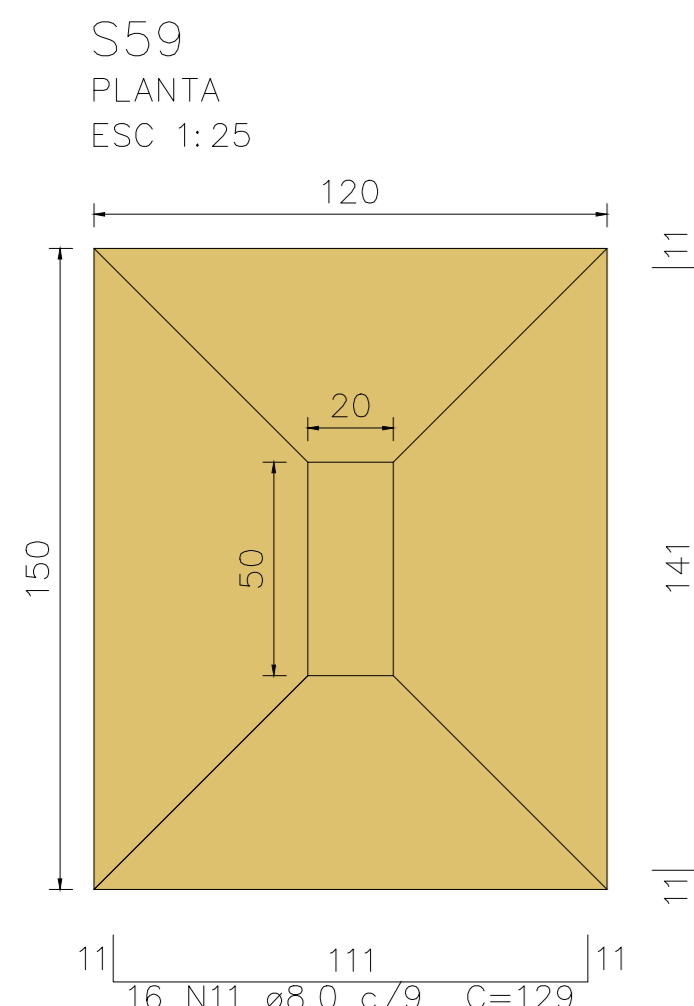
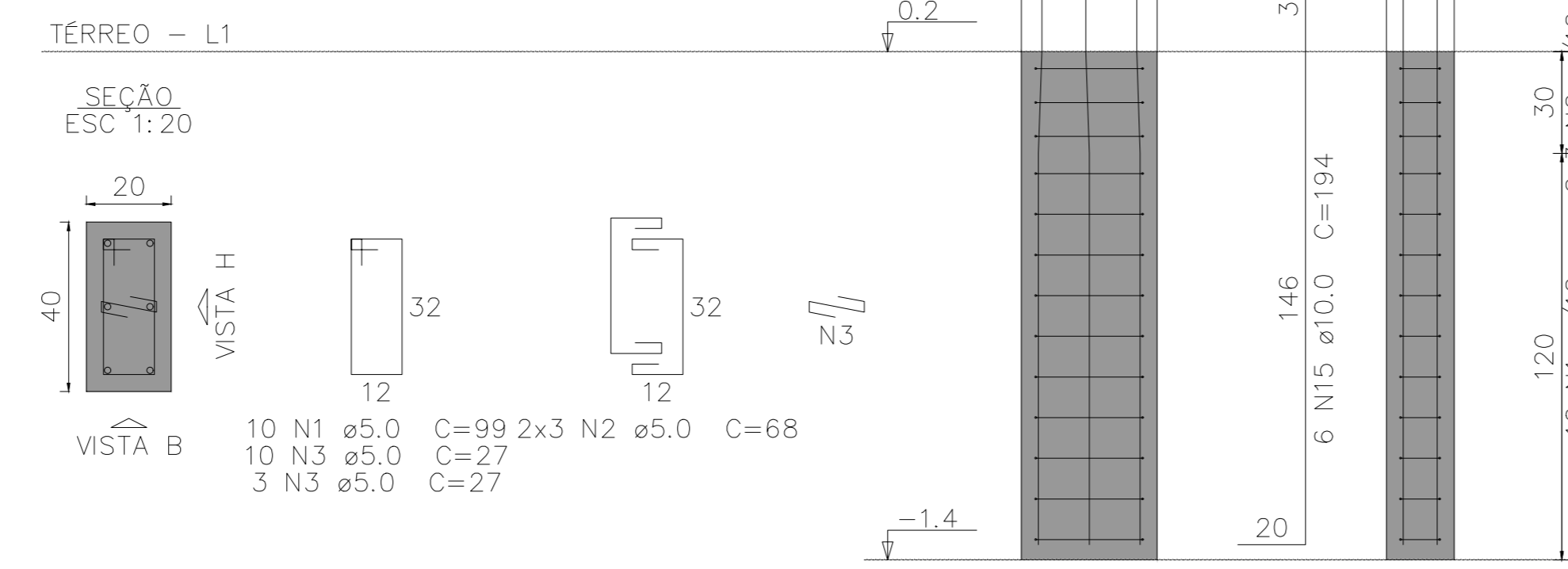
PRANCHA:
06/22



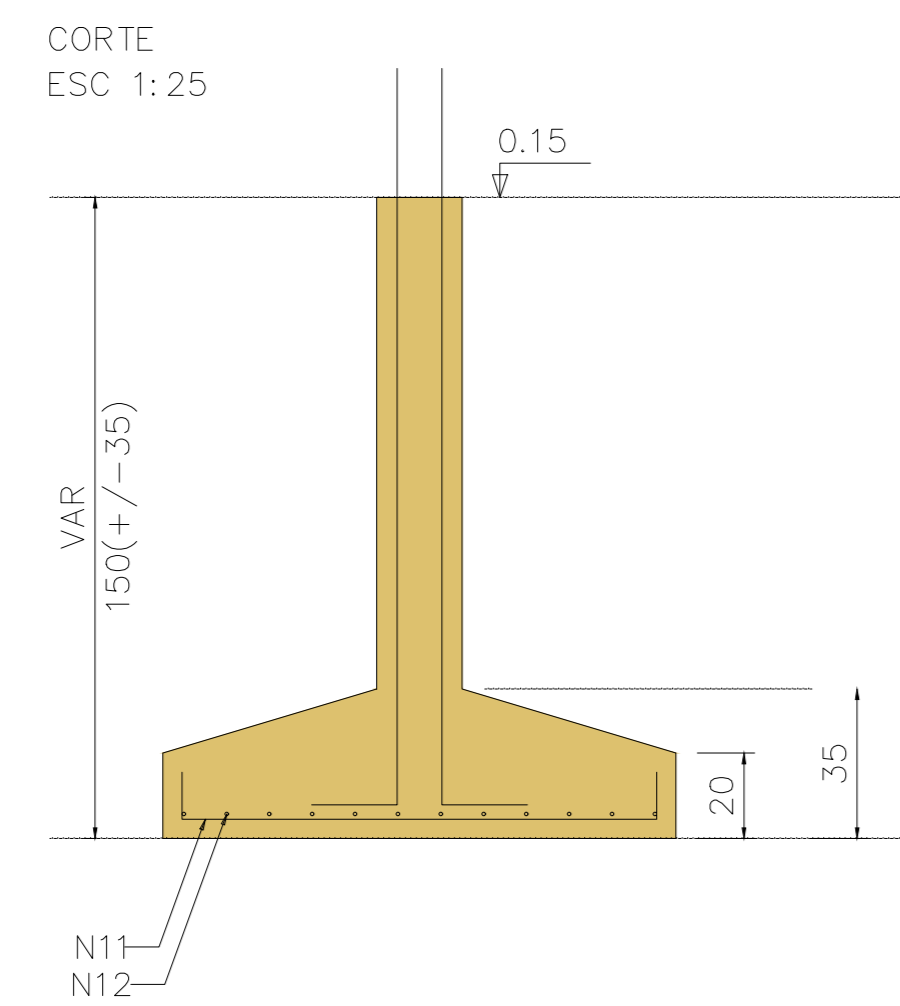
Solo com capacidade de suporte > 150,00 kN/m²
Solo compactado sobre a sapata
peso específico > 16,00 kN/m³



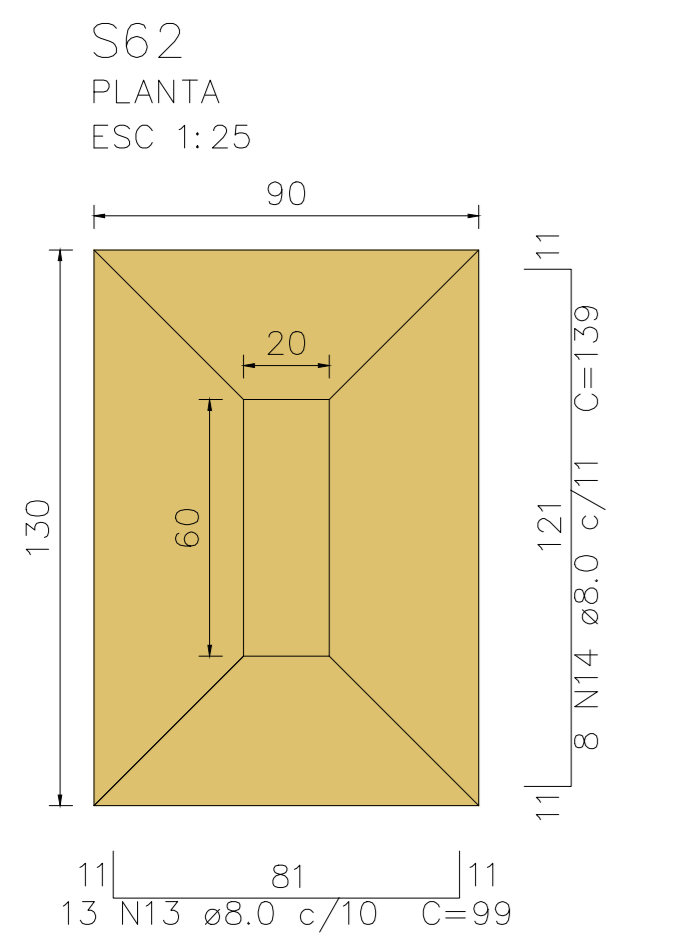
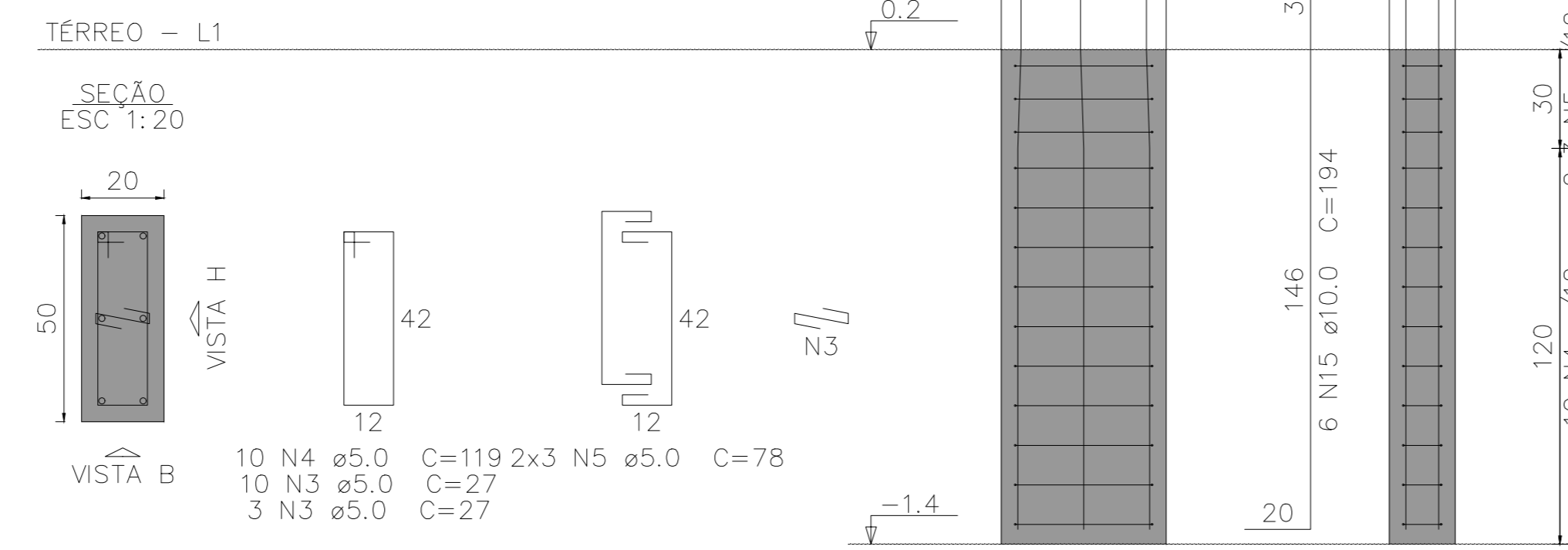
P56



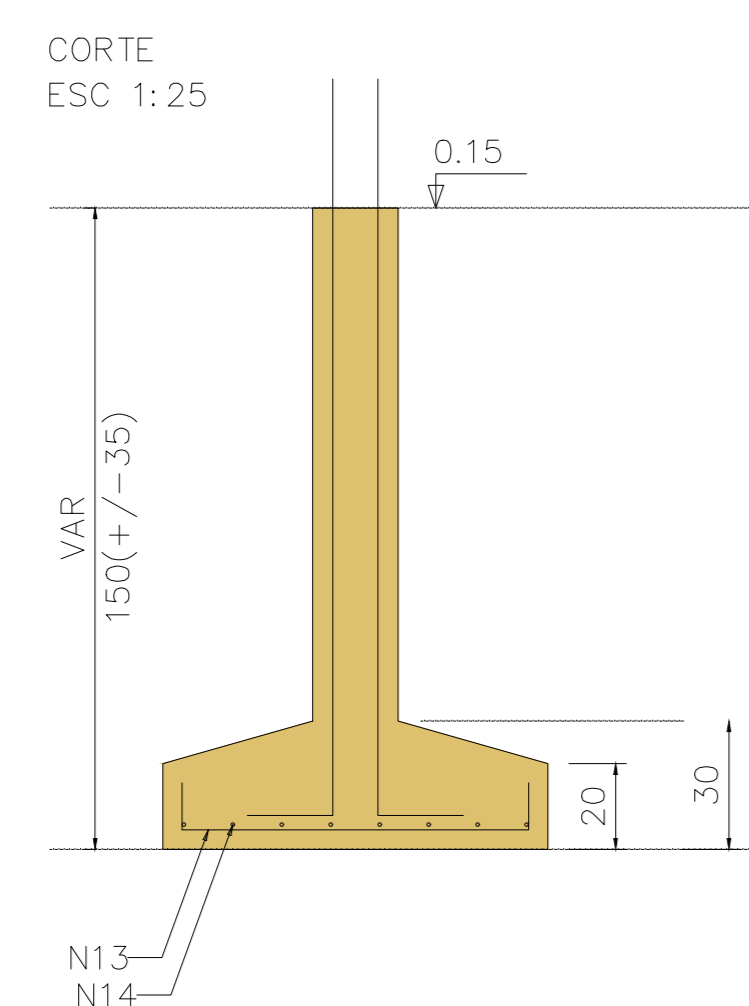
Solo com capacidade de suporte > 150,00 kN/m²
Solo compactado sobre a sapata
peso específico > 16,00 kN/m³



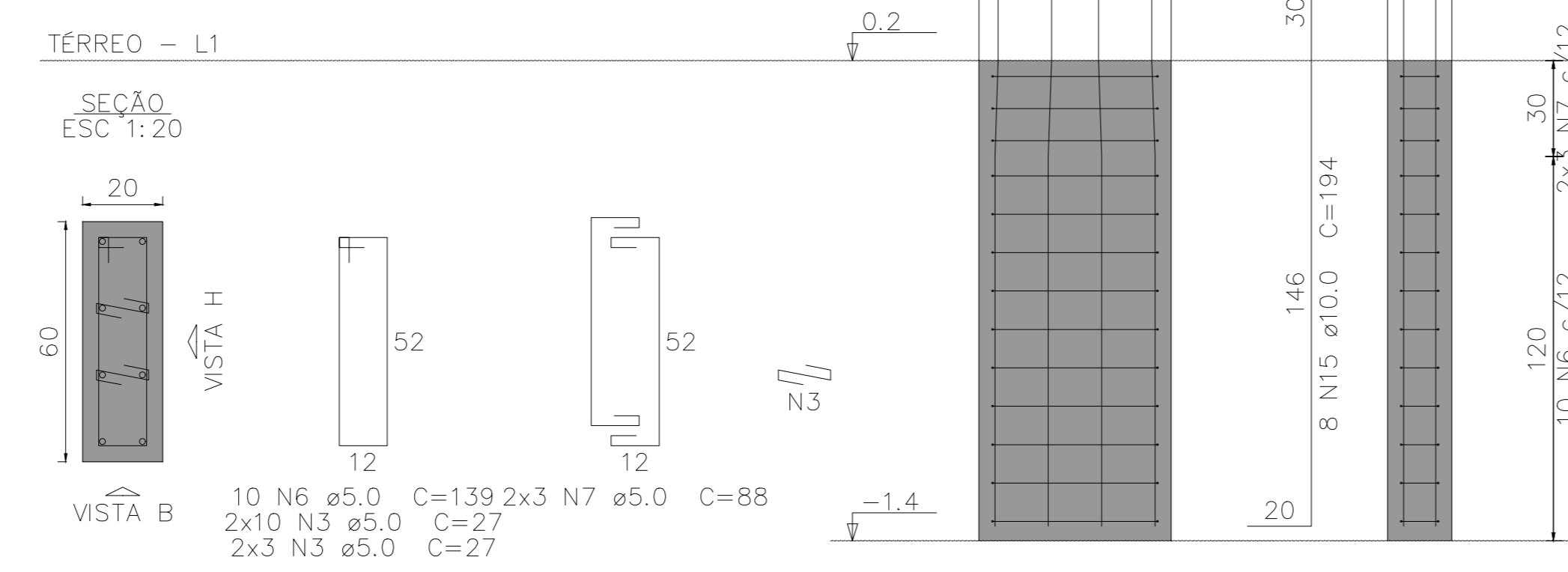
P59



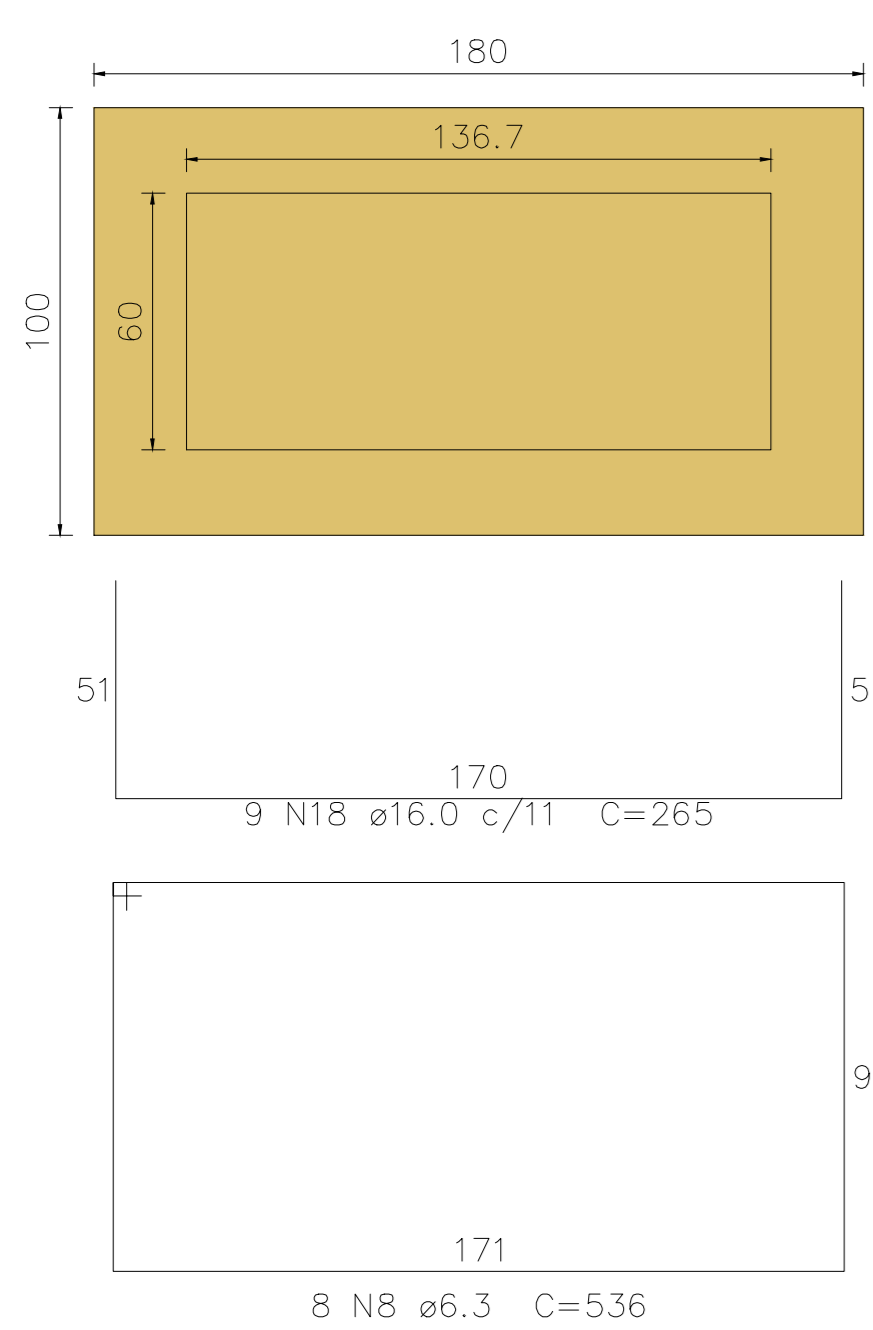
Solo com capacidade de suporte > 150,00 kN/m²
Solo compactado sobre a sapata
peso específico > 16,00 kN/m³



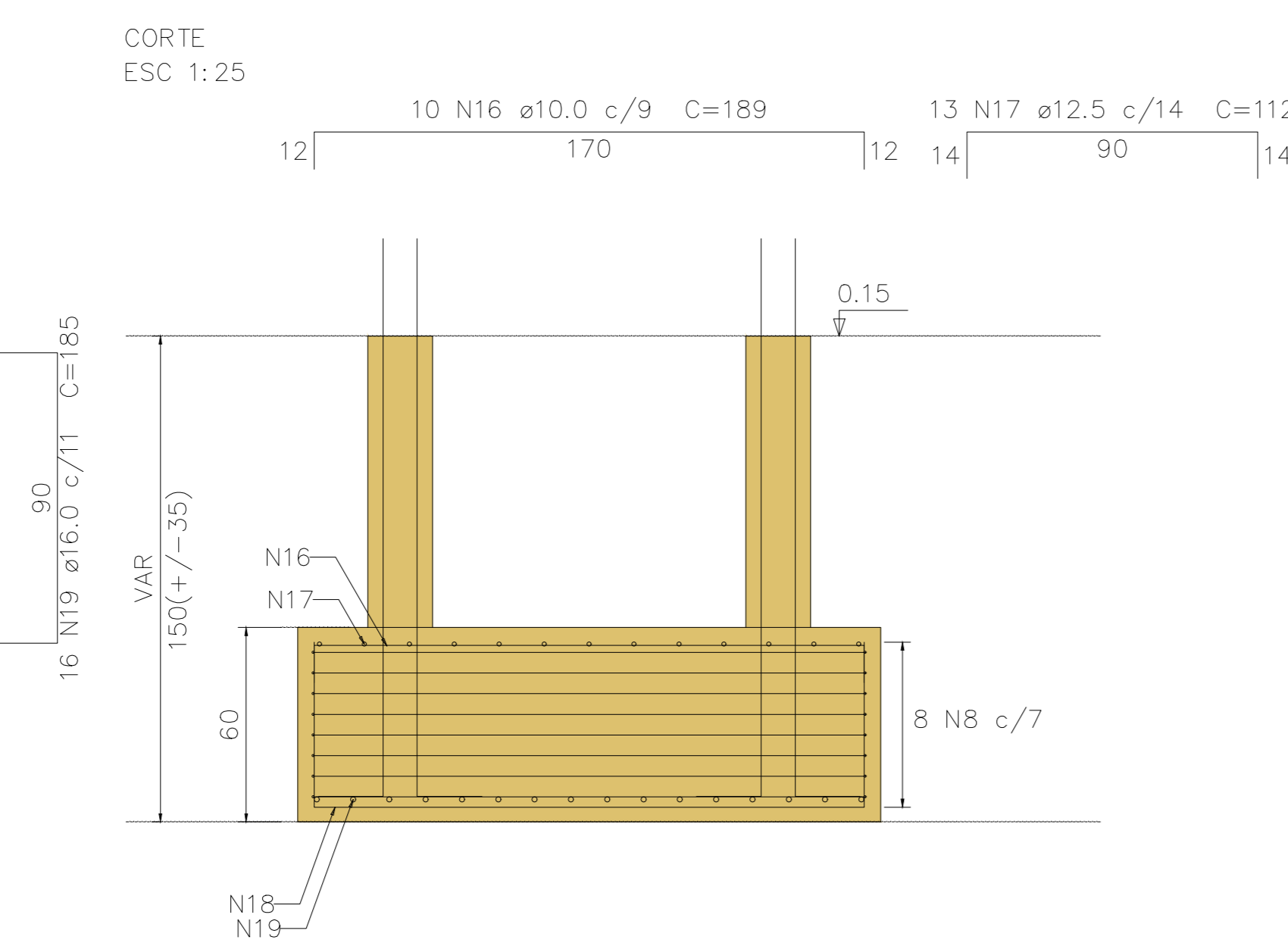
P62



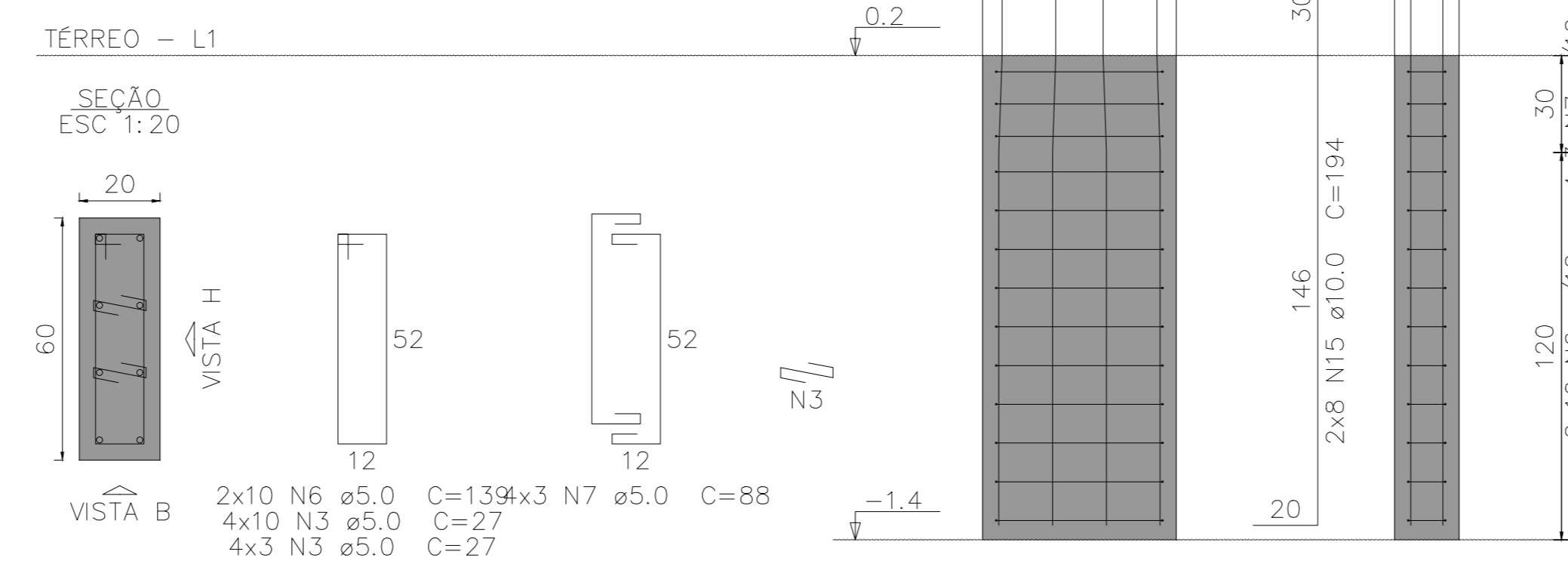
S6-7
PLANTA
ESC 1:25



Solo com capacidade de suporte > 150,00 kN/m²
Solo compactado sobre a sapata
peso específico > 16,00 kN/m³



P6=P7



Relação do aço

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5,0	10	99	990
	2	5,0	6	68	408
	3	5,0	104	27	2808
	4	5,0	10	119	1190
	5	5,0	6	78	468
	6	5,0	30	139	4170
	7	5,0	18	88	1584
CA50	8	6,3	8	536	4288
	9	8,0	9	84	756
	10	8,0	6	104	624
	11	8,0	16	129	2064
	12	8,0	12	159	1908
	13	8,0	13	99	1287
	14	8,0	8	139	1112
	15	10,0	36	194	6984
	16	10,0	10	189	1890
	17	12,5	13	112	1456
	18	16,0	9	265	2385
	19	16,0	16	185	2960

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6,3	42,9	11,5
	8,0	77,6	33,6
	10,0	88,8	60,2
	12,5	14,6	15,4
	16,0	53,5	92,8
CA60	5,0	116,2	19,7

PESO TOTAL (kg)

CA50	213,6
CA60	19,7

Volume de concreto (C-35) = 2,59 m³
Área de forma = 13,85 m²

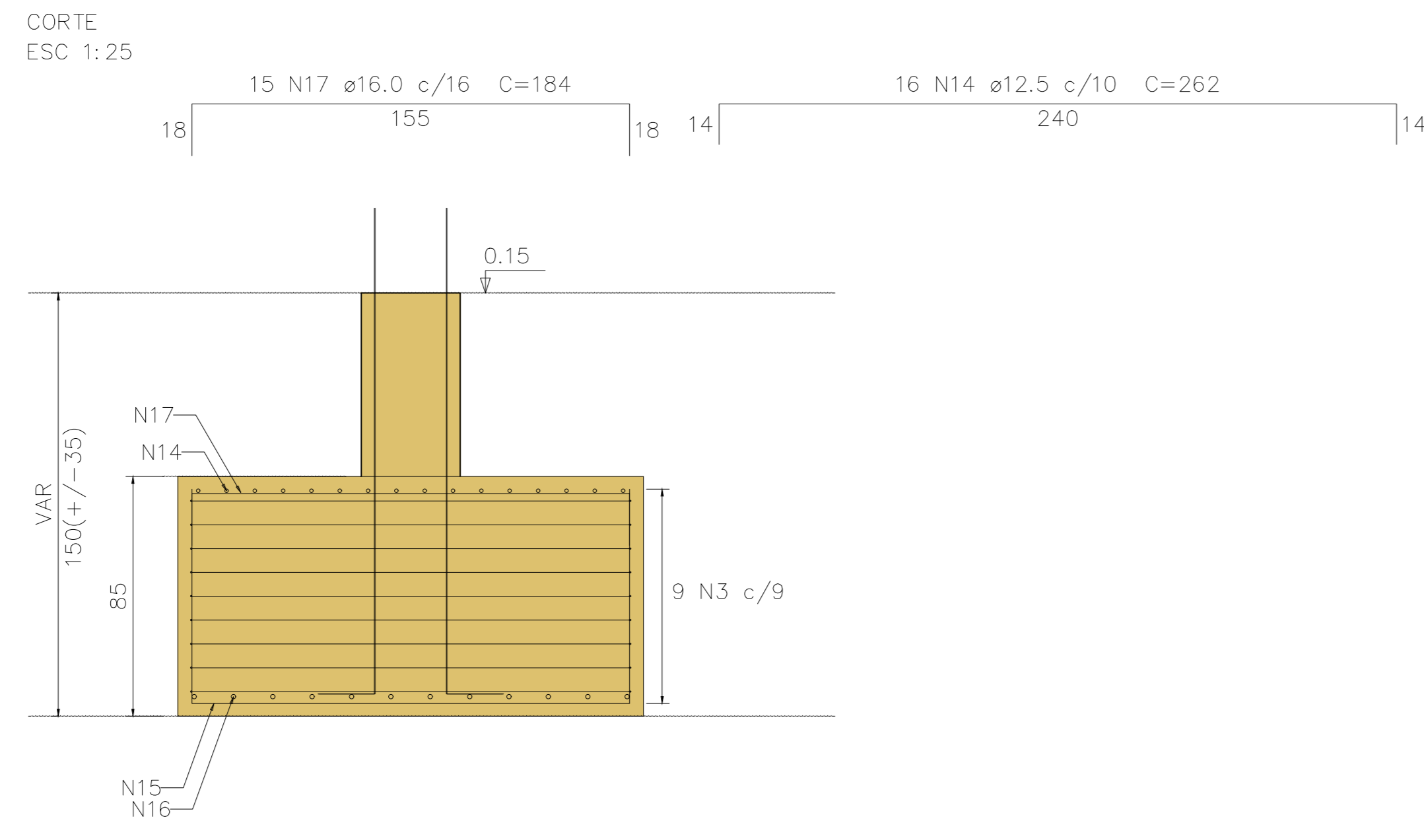
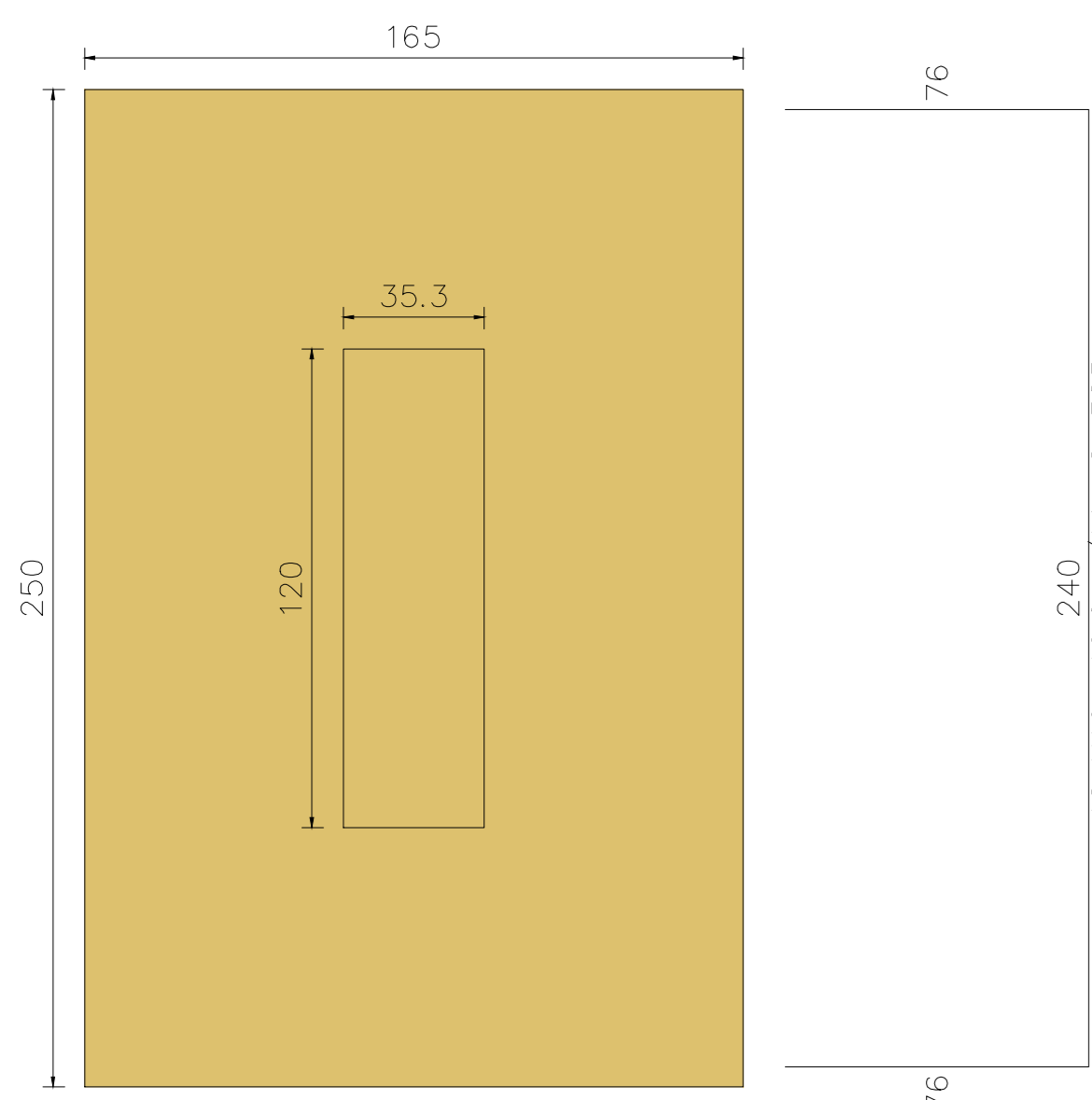
FVSM
ENGENHARIA

PROPRIETÁRIO:
PREFEITURA MUNICIPAL DE VARGEM GRANDE - MA

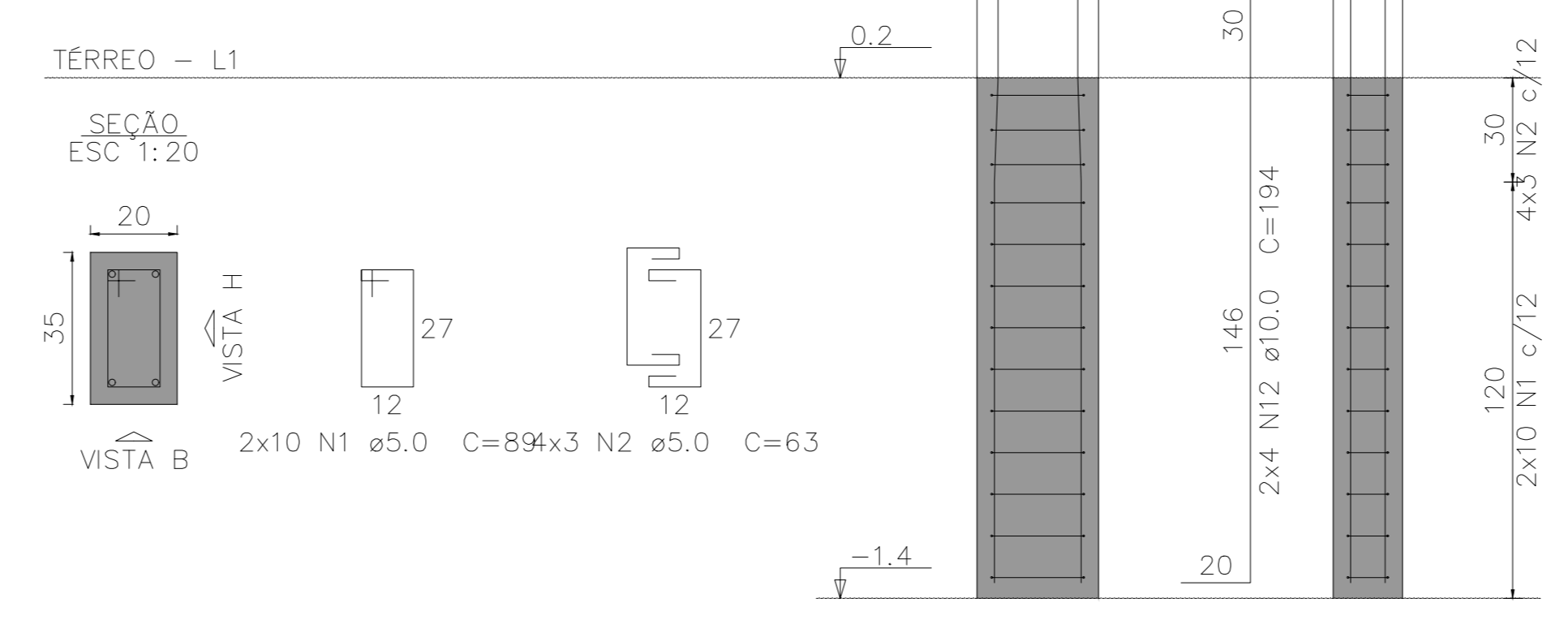
OBJETO:
**CONSTRUÇÃO DE UBS TIPO II, NOVO PAC
MARIA C. B. BEZERRA NO MUNICÍPIO DE VARGEM GRANDE - MA**

TÍTULO: PROJETO ESTRUTURAL	PRANCHA: 07/22
ESCALA: INDICADA	DATA: FEV/2025
DESENHISTA:	RESP. TÉCNICO

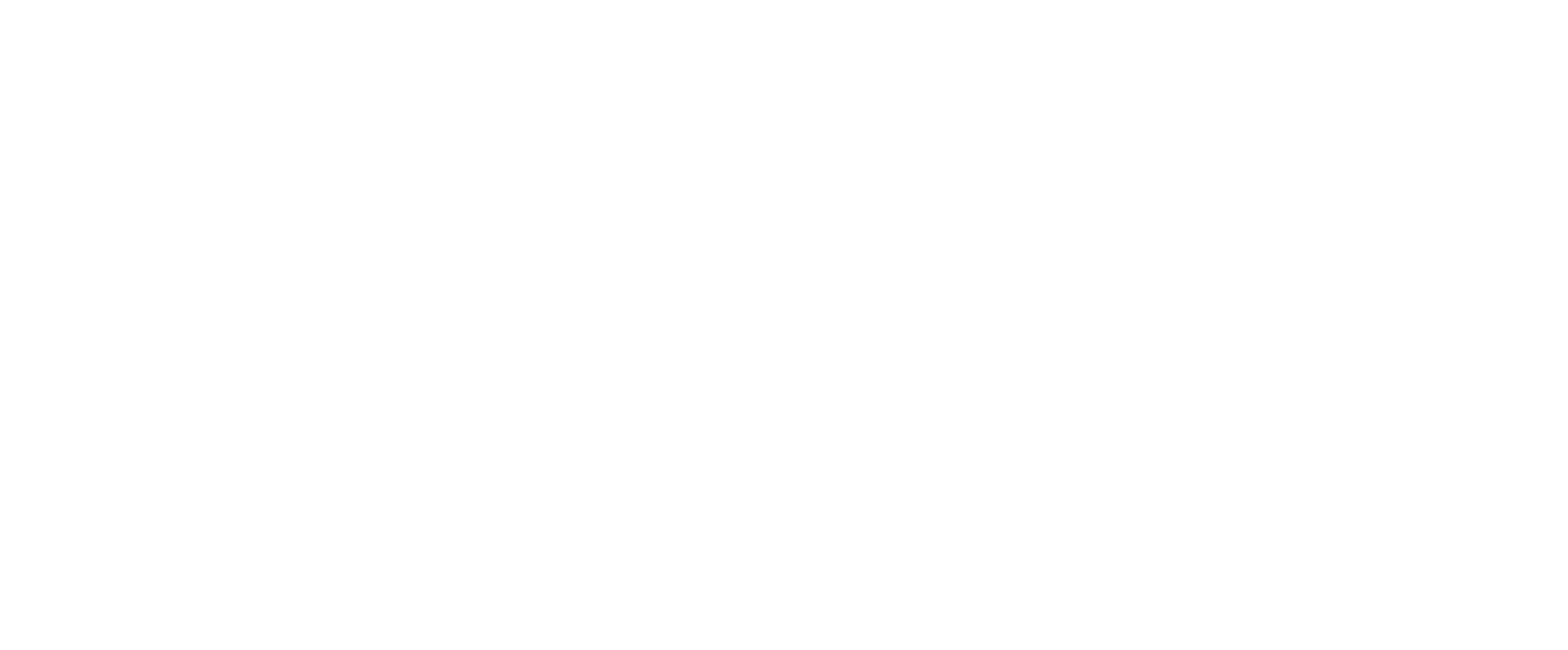
S57-61
PLANTA
ESC 1:25



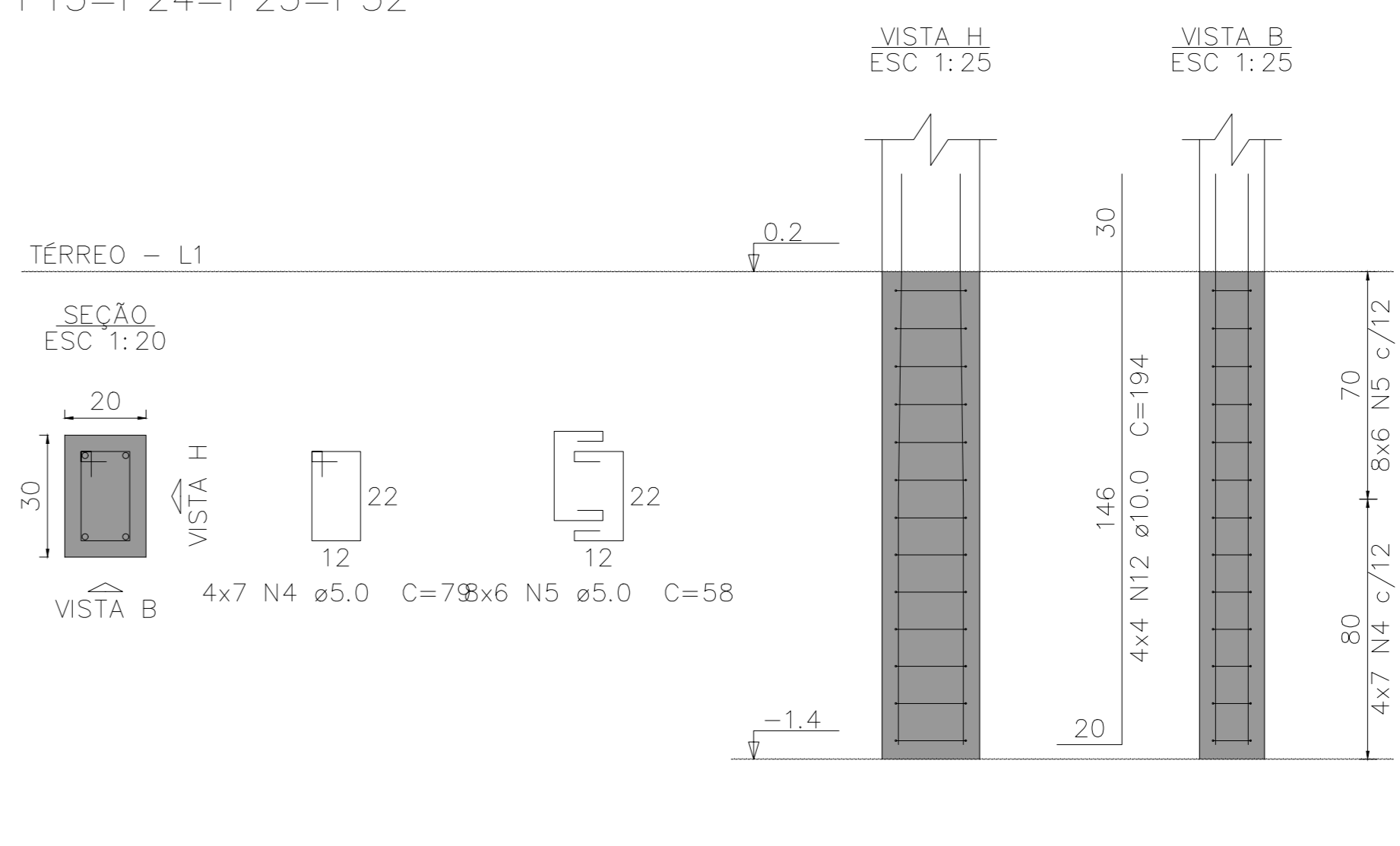
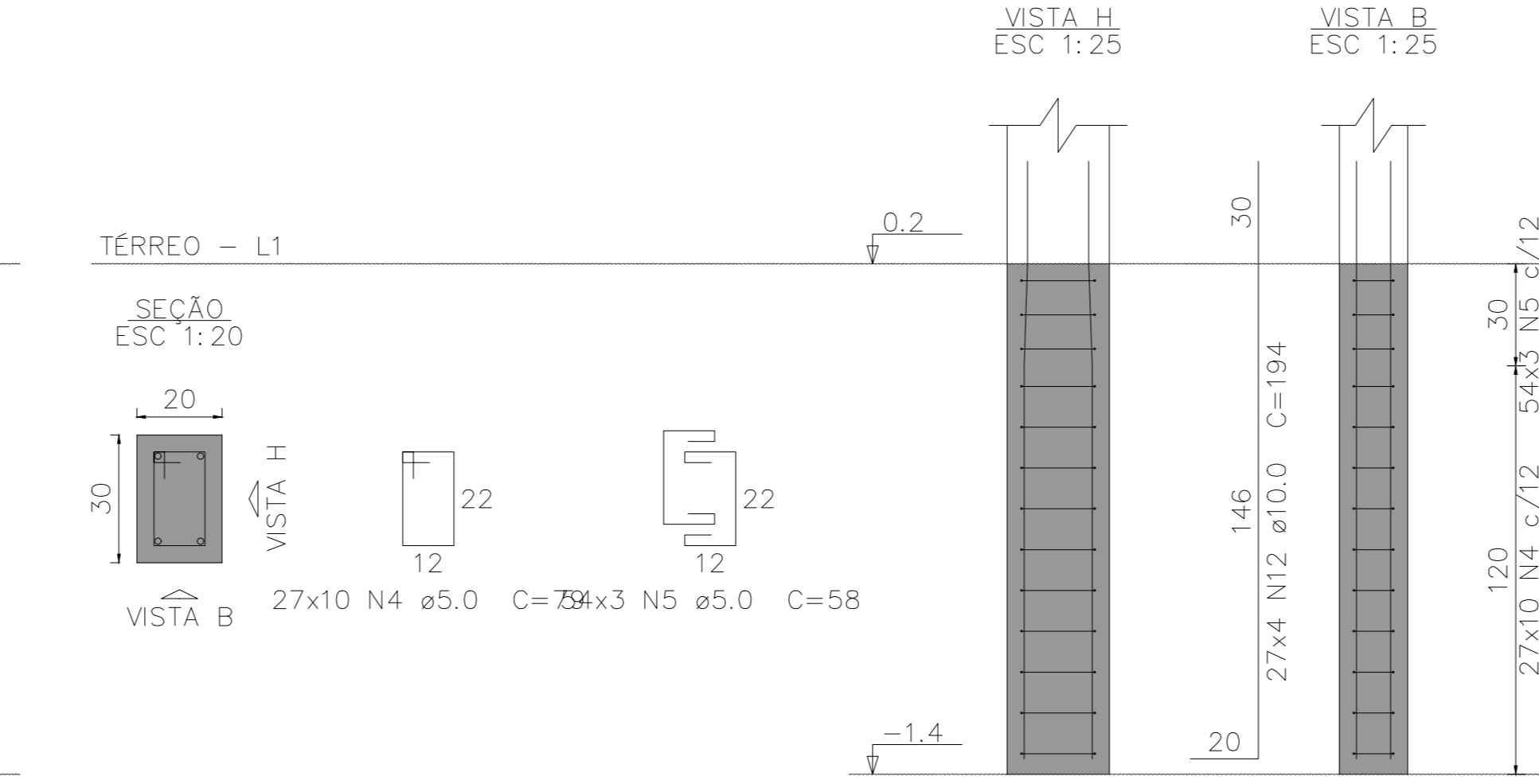
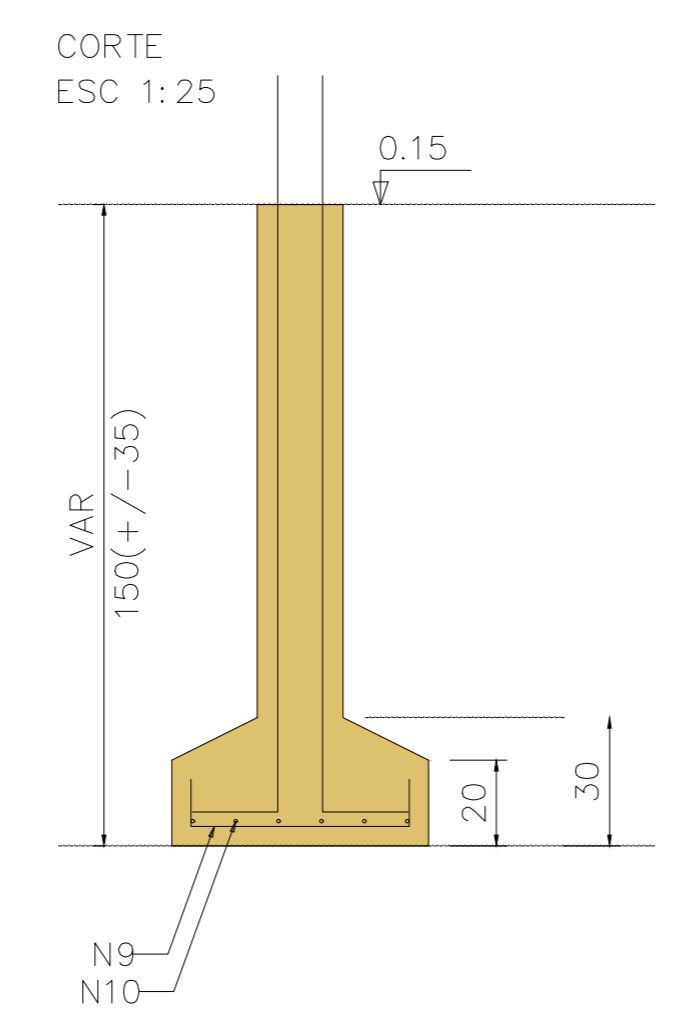
P57=P61



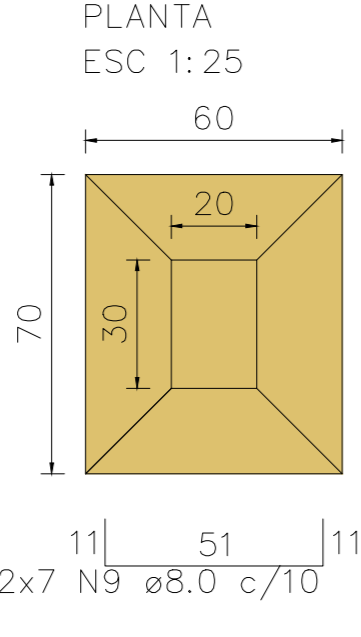
P13=P24=P25=P32



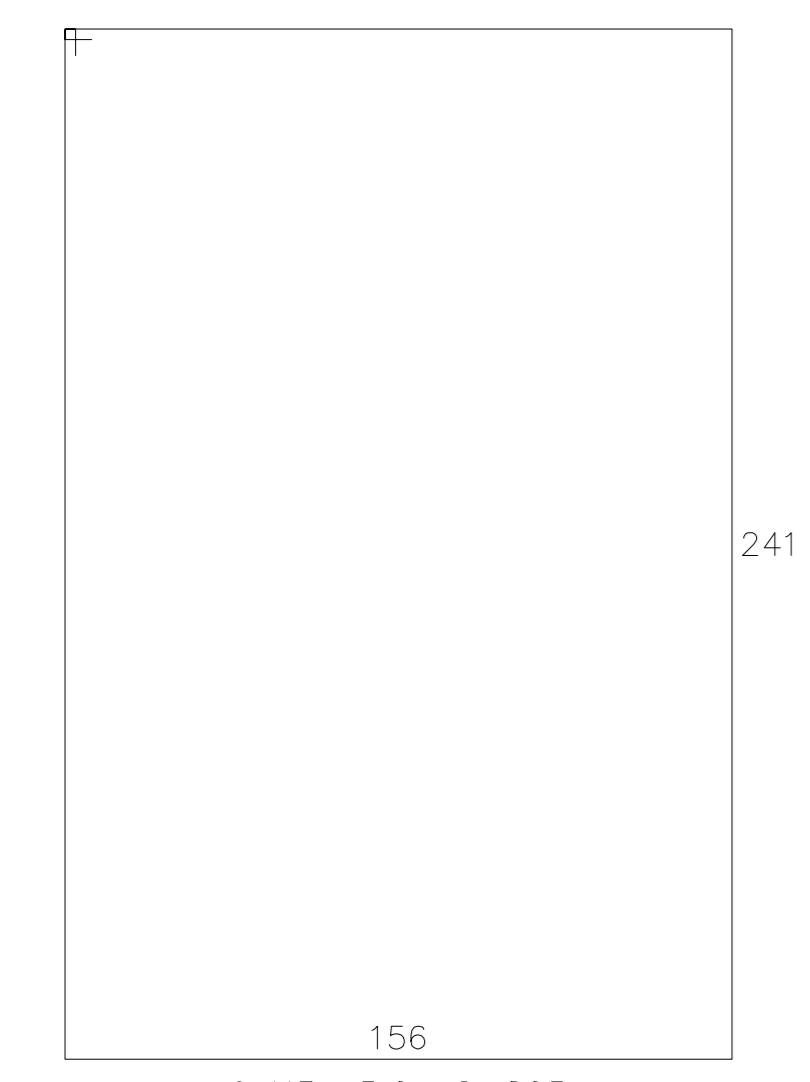
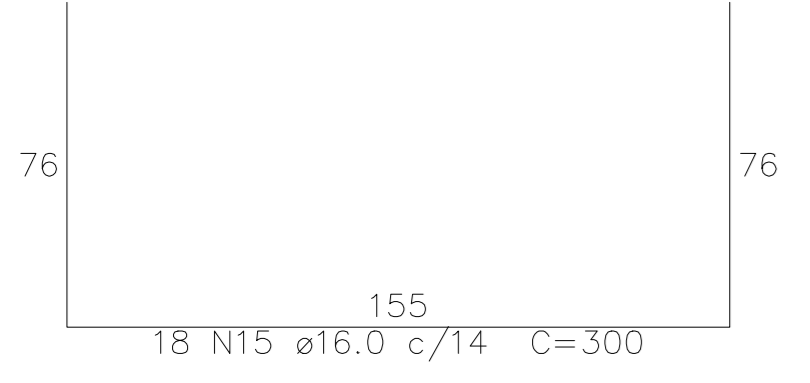
P1=P9=P11=P14=P15=P16=P17=P18=P19=P21=
=P22=P27=P28=P29=P30=P31=P33=P34=P35=P36=
=P40=P41=P42=P48=P51=P52=P53



S1=S9=S11=S13=S14=S15=S16=S17=S18=S19
=S21=S22=S24=S25=S27=S28=S29=S30=S31
=S32=S33=S34=S35=S36=S40=S41=S42=S48
=S50=S51=S52=S53

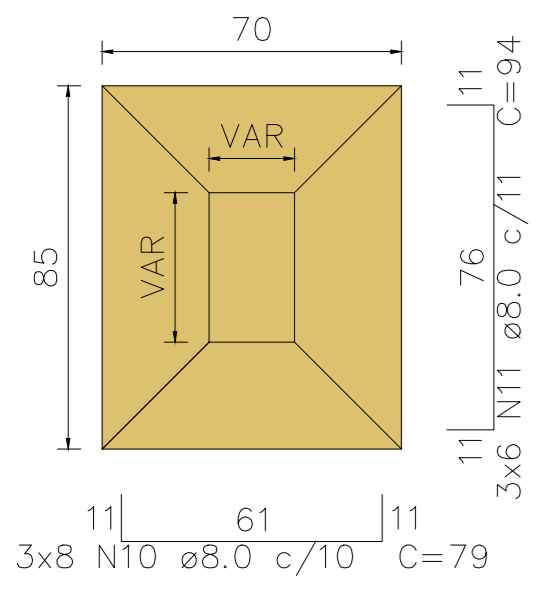


Solo com capacidade de suporte > 150.00 kN/m²
Solo compactado sobre a sapata
peso específico > 16.00 kN/m³

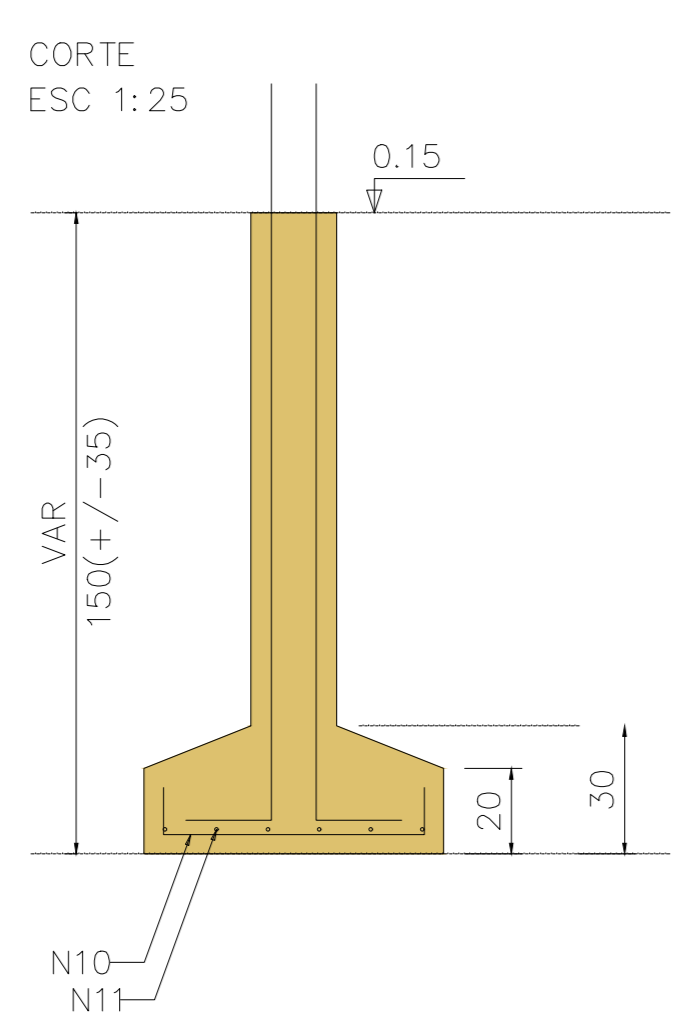


Solo com capacidade de suporte > 150.00 kN/m²
Solo compactado sobre a sapata
peso específico > 16.00 kN/m³

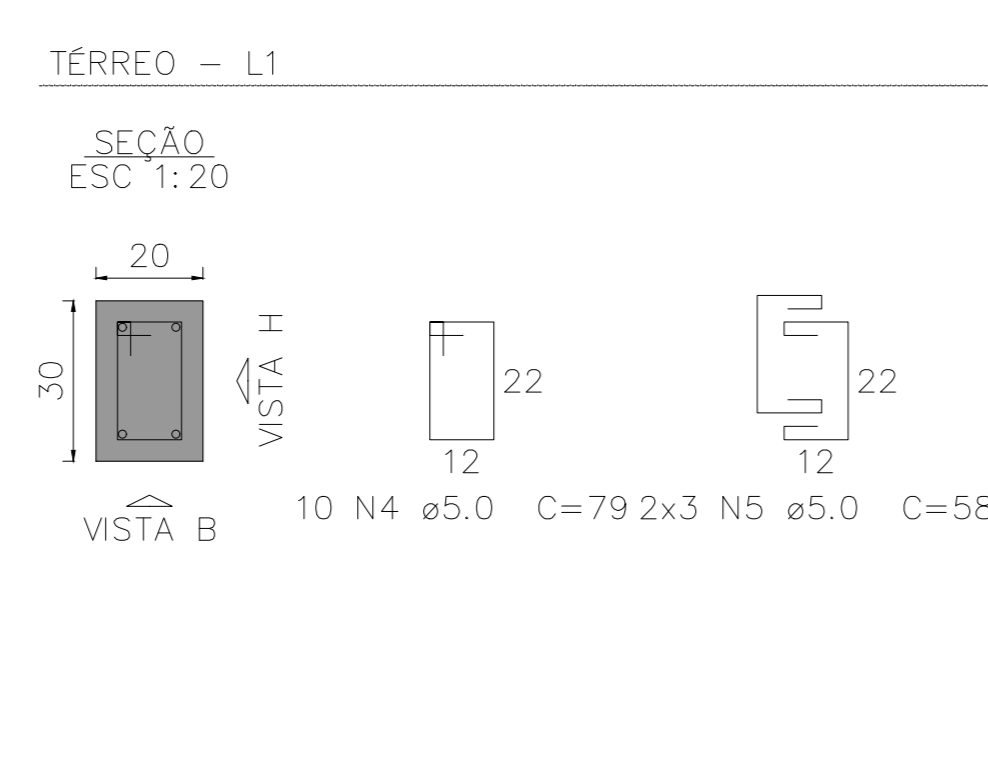
S2=S46=S58
PLANTA
ESC 1:25



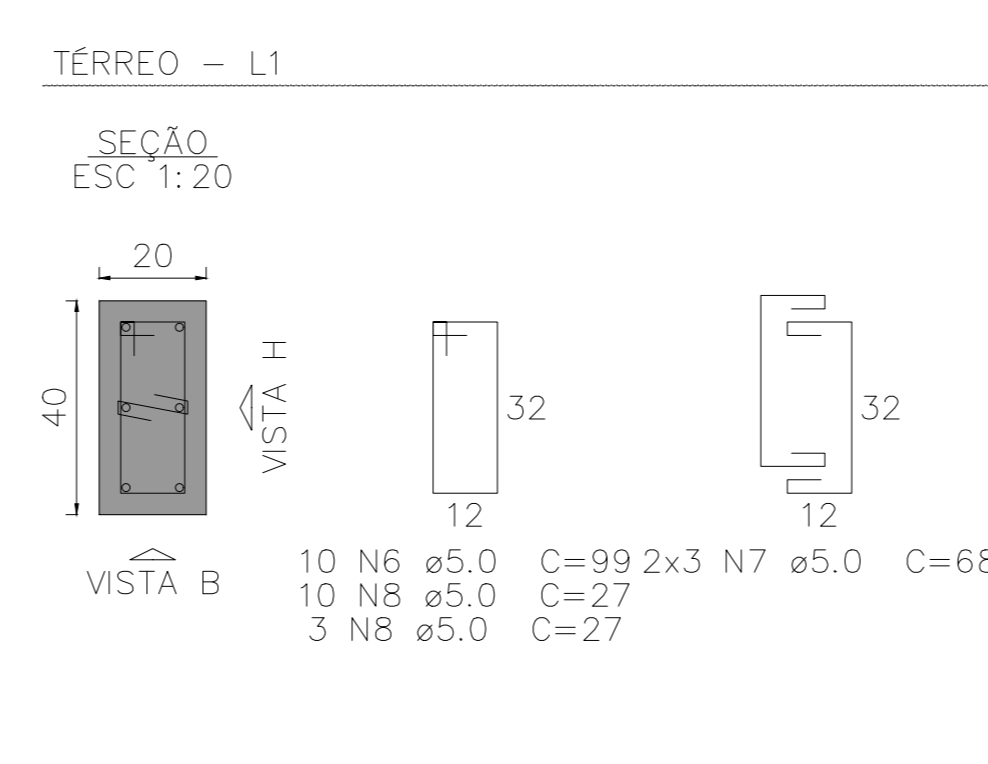
Solo com capacidade de suporte > 150.00 kN/m²
Solo compactado sobre a sapata
peso específico > 16.00 kN/m³



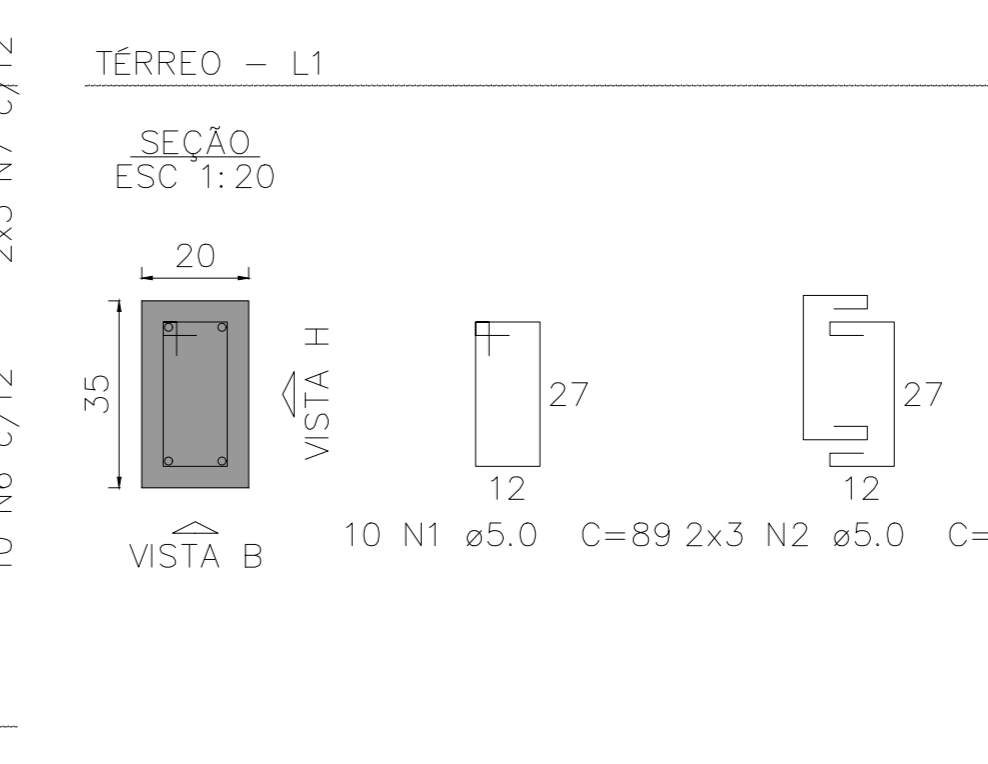
P2



P46



P58



Relação do aço

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	30	89	2670
	2	5.0	18	63	1134
	3	5.0	9	805	7245
	4	5.0	313	79	24727
	5	5.0	232	58	13456
	6	5.0	10	99	990
	7	5.0	6	68	408
	8	5.0	13	27	351
CA50	9	8.0	224	69	15456
	10	8.0	216	79	17064
	11	8.0	18	94	1692
	12	10.0	146	194	28324
	13	10.0	4	159	636
	14	12.5	16	262	4192
	15	16.0	18	300	5400
	16	16.0	12	385	4620
	17	16.0	15	184	2760

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	8.0	342.2	148.5
	10.0	289.6	196.4
	12.5	42	44.4
	16.0	127.8	221.9
CA60	5.0	509.9	86.4
PESO TOTAL (kg)			
CA50		611.2	
CA60		86.4	

Volume de concreto (C-35) = 9.97 m³
Área de forma = 69.34 m²

FVSM
ENGENHARIA

PROPRIETÁRIO:
PREFEITURA MUNICIPAL DE VARGEM GRANDE - MA

OBJETO:
**CONSTRUÇÃO DE UBS TIPO II, NOVO PAC
MARIA C. B. BEZERRA NO MUNICÍPIO DE VARGEM GRANDE - MA**

TÍTULO:
PROJETO ESTRUTURAL

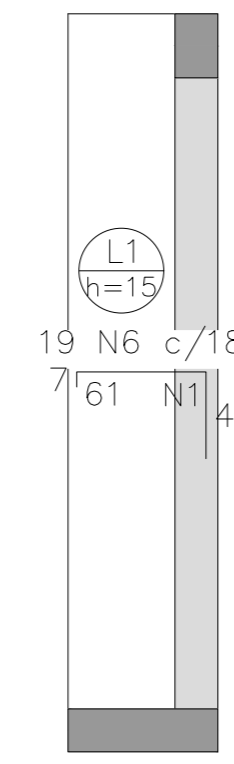
ESCALA:
INDICADA

DATA:
FEV/2025

DESENHISTA:

PRANCHA:
08/22

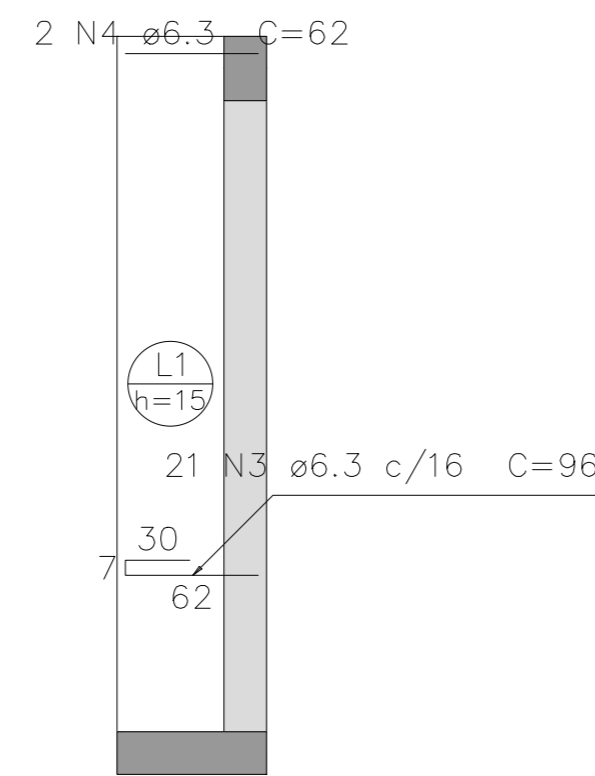
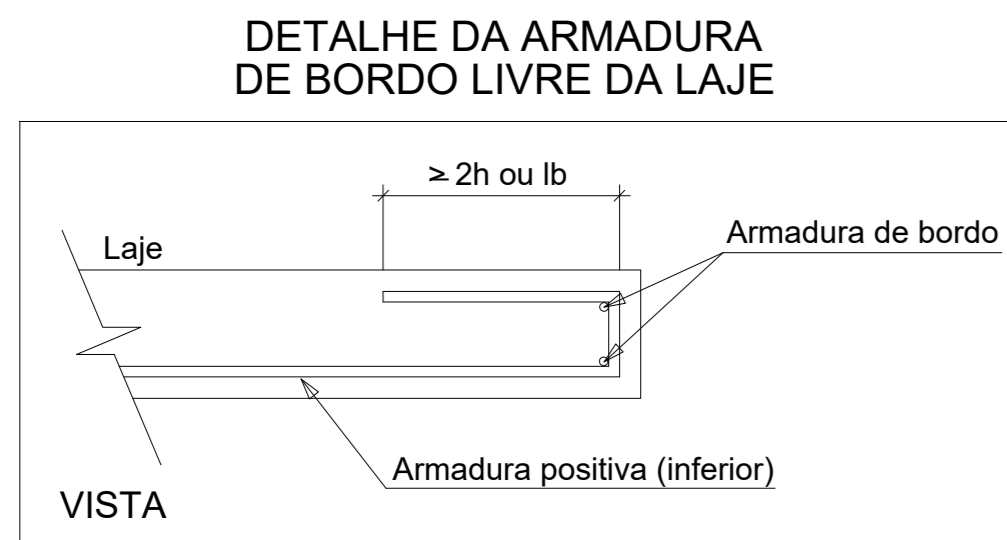
RESP. TÉCNICO



Armaduras de distribuição	
Armadura	Armadura de distribuição
N6	4 N1 ø5.0 c/17 C=335

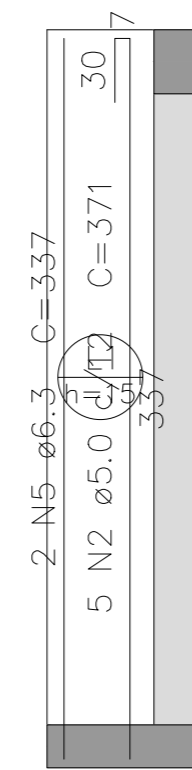
ARMAÇÃO NEGATIVA DAS LAJES DO PAVIMENTO TÉRREO (EIXO X)

Escala 1:50



ARMAÇÃO POSITIVA DAS LAJES DO PAVIMENTO TÉRREO (EIXO X)

Escala 1:50



ARMAÇÃO POSITIVA DAS LAJES DO PAVIMENTO TÉRREO (EIXO Y)

Escala 1:50

Relação do aço

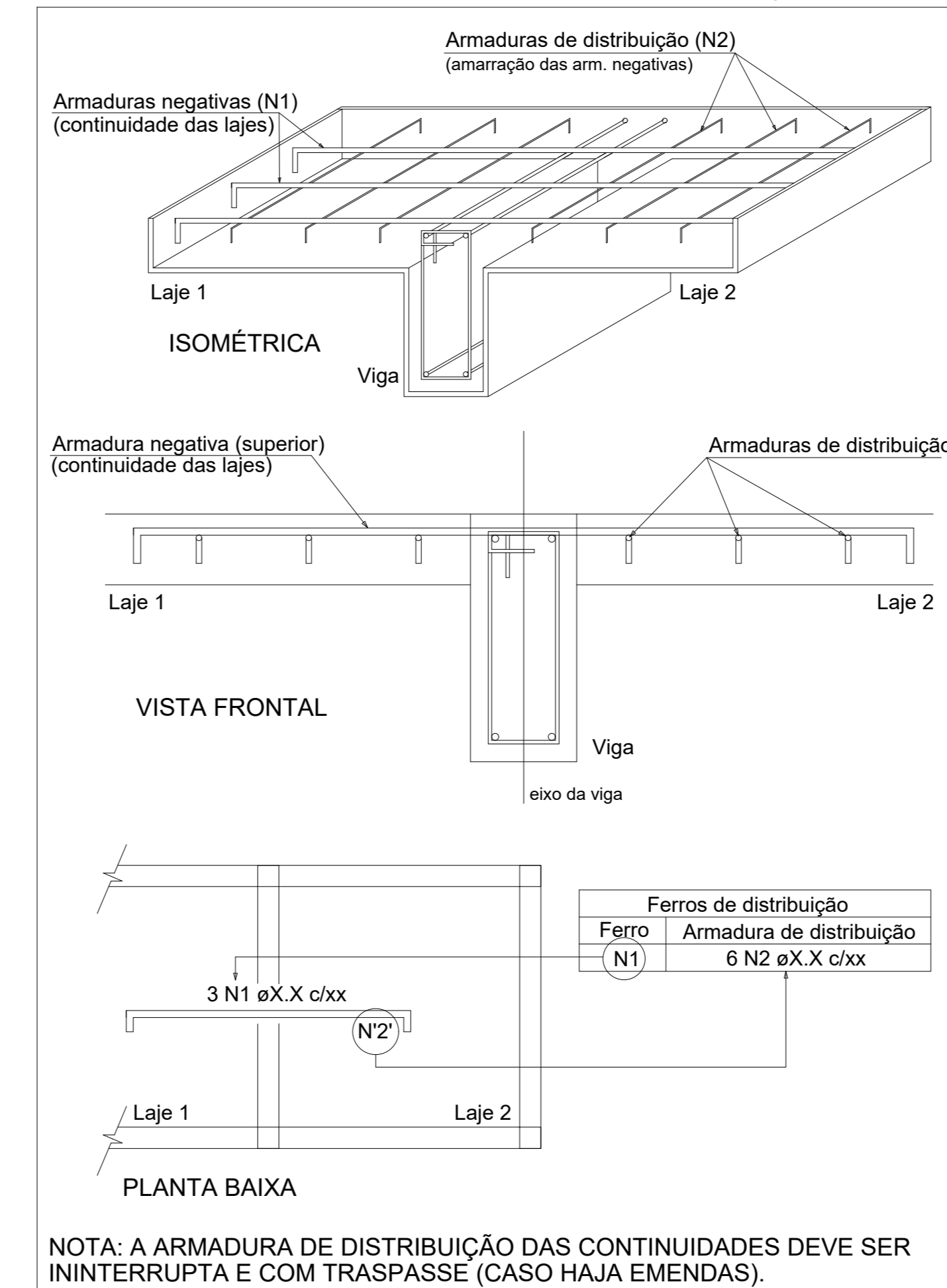
Negativos X		Positivos X		Positivos Y	
AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	4	335	1340
	2	5.0	5	371	1855
CA50	3	6.3	21	96	2016
	4	6.3	2	62	124
	5	6.3	2	337	674
	6	8.0	19	105	1995

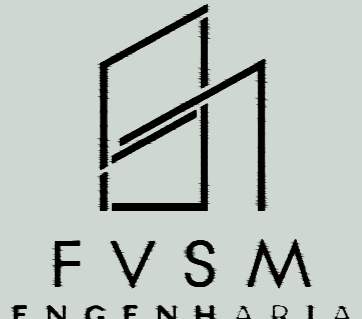
Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6.3	28.2	7.6
CA60	8.0	20	8.7
CA60	5.0	32	5.4
PESO TOTAL (kg)			
CA50	16.2		
CA60	5.4		

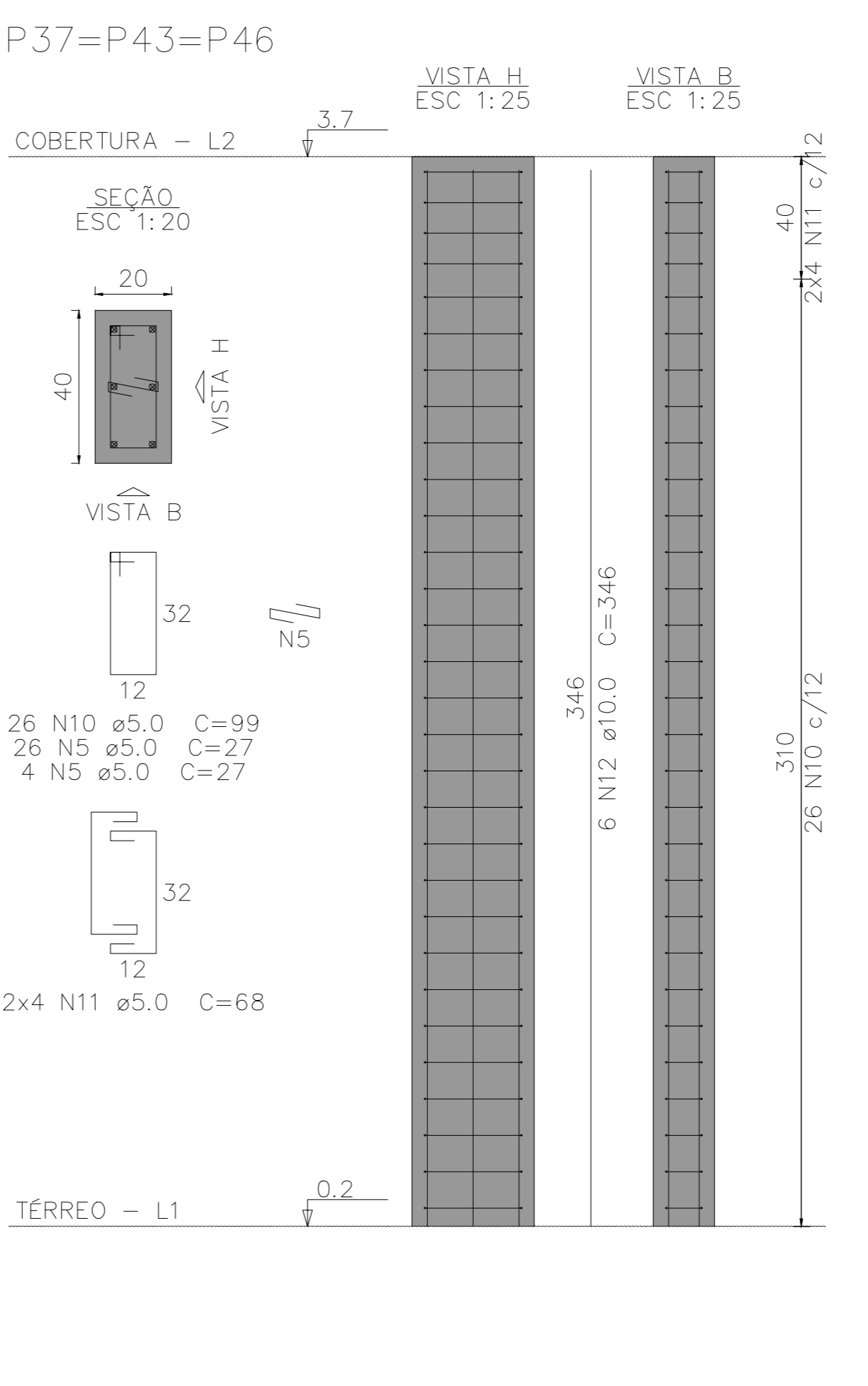
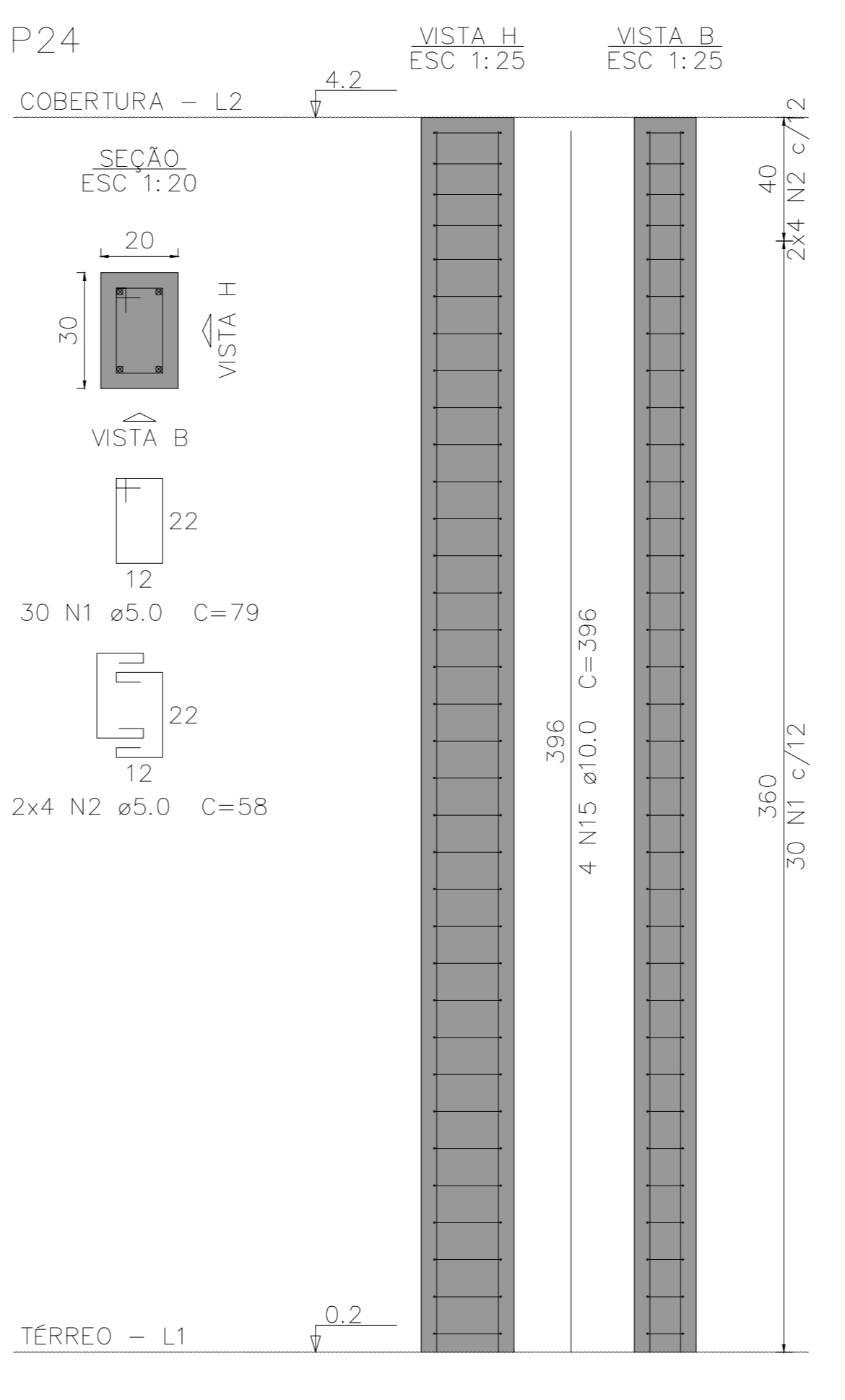
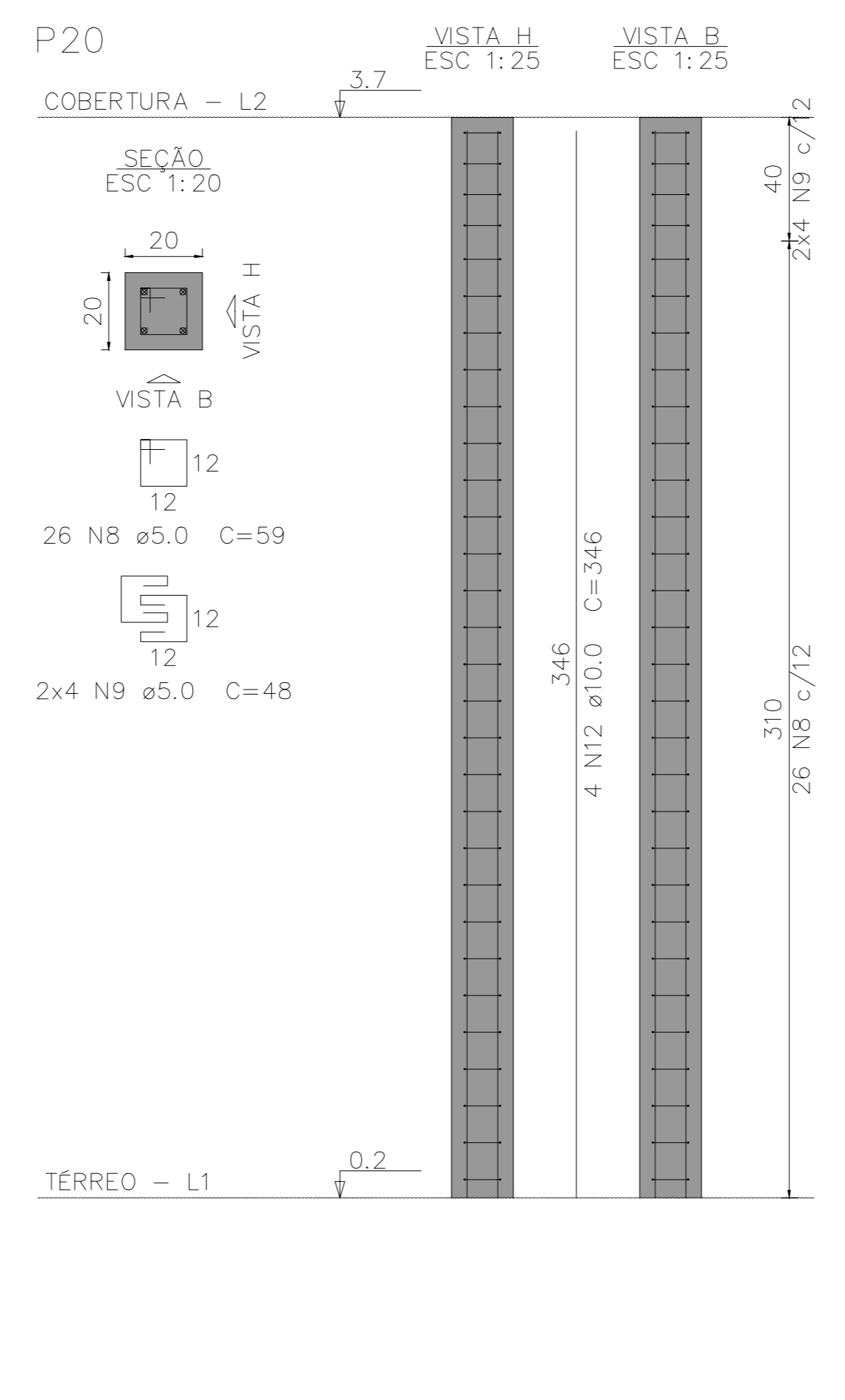
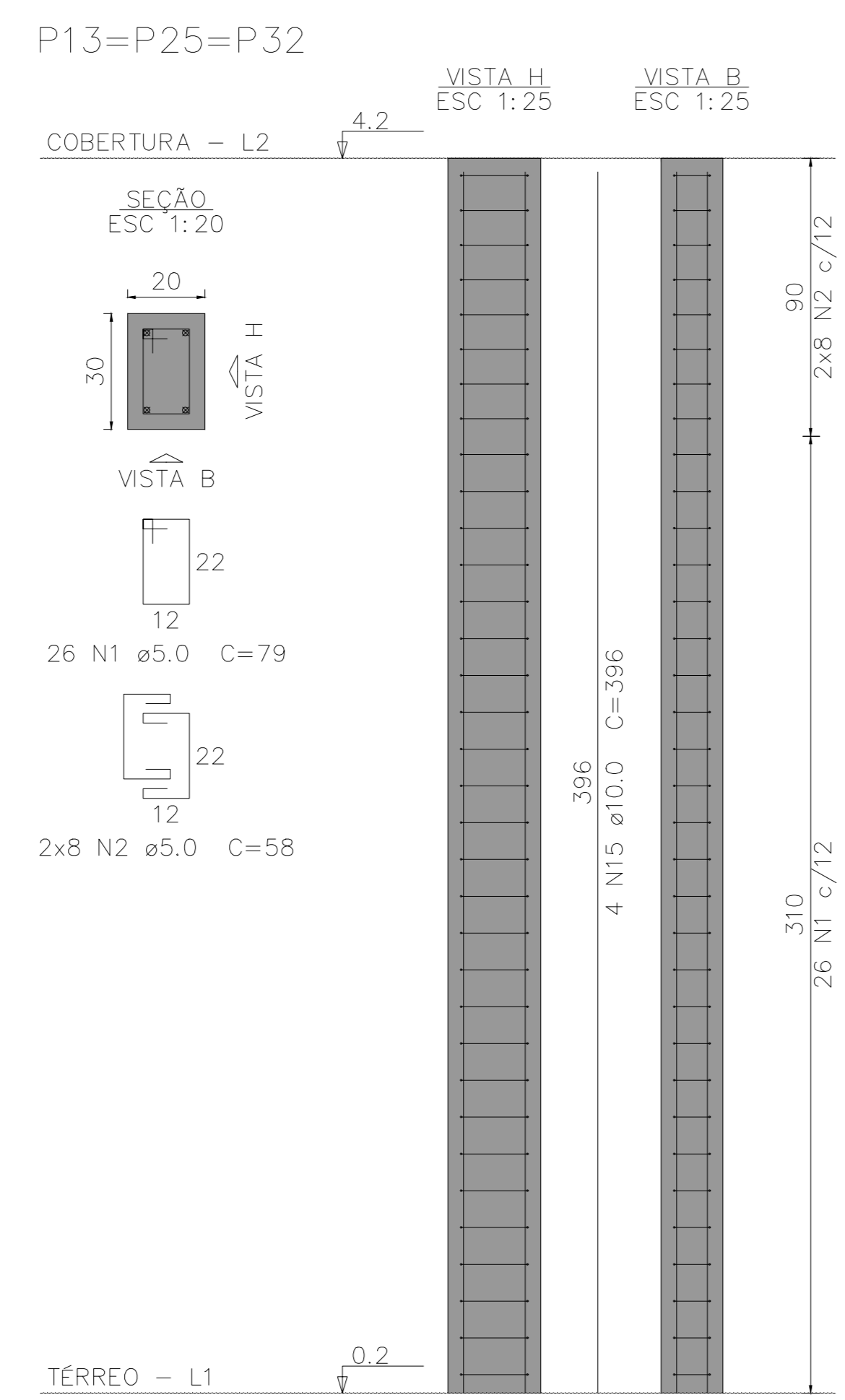
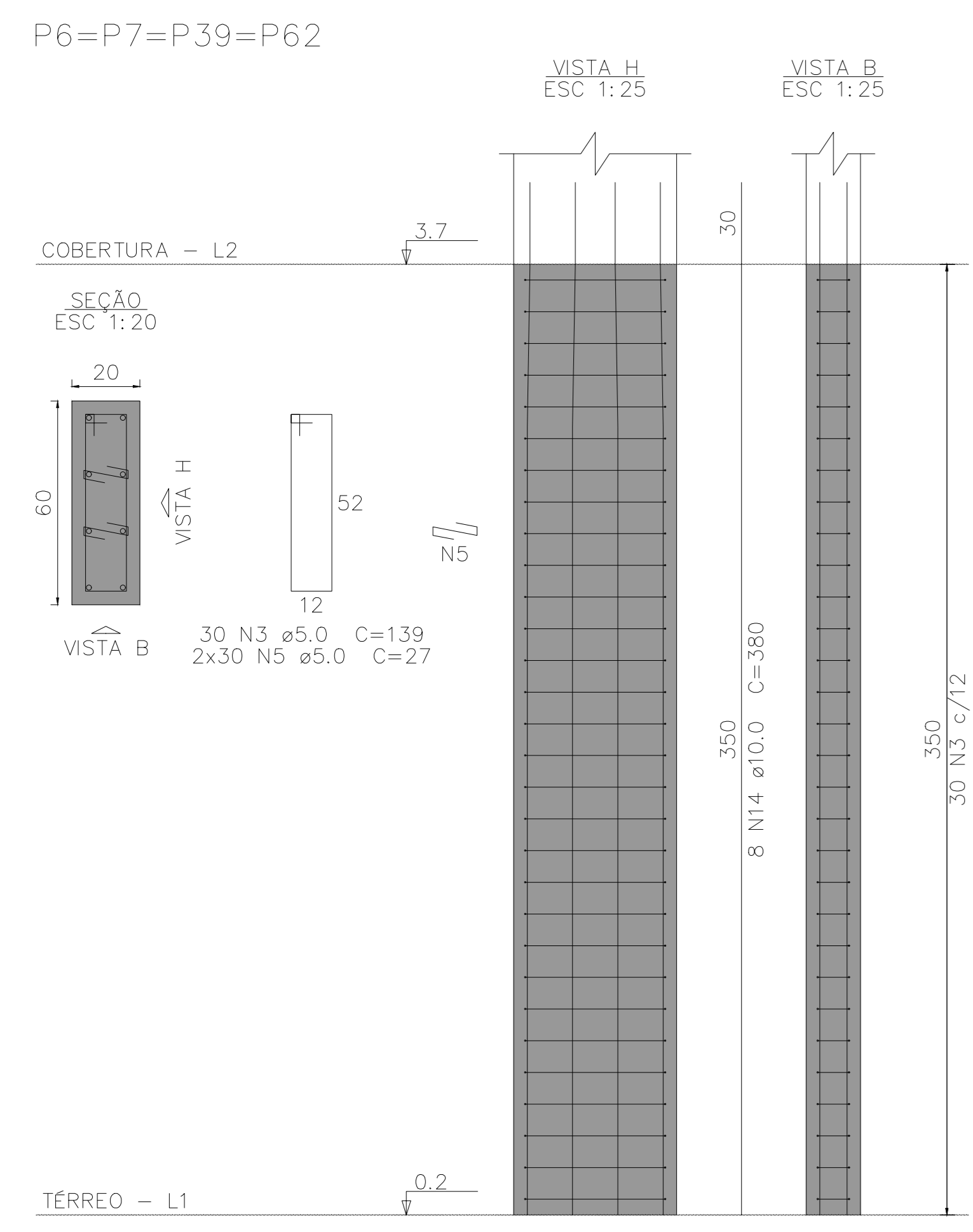
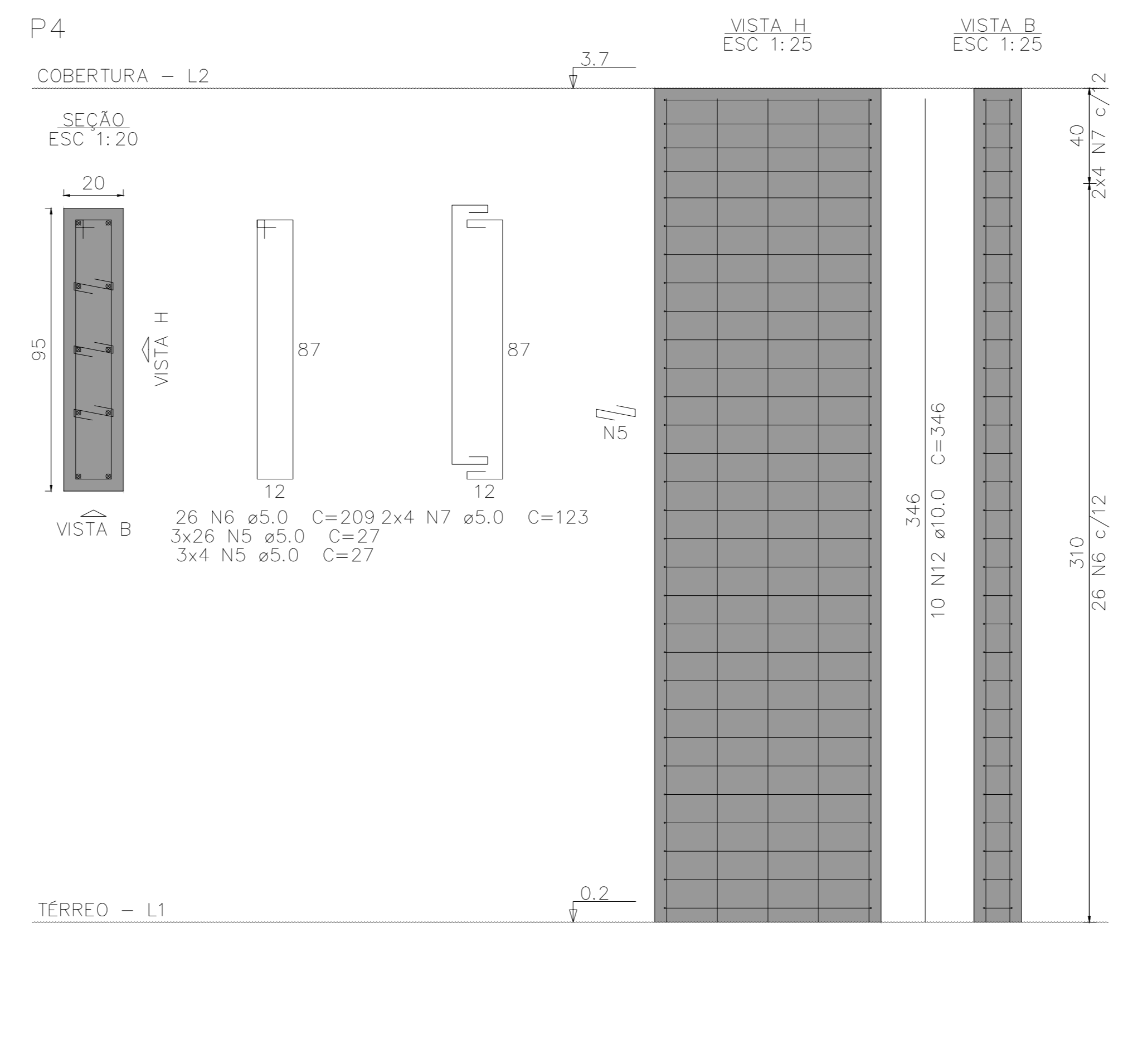
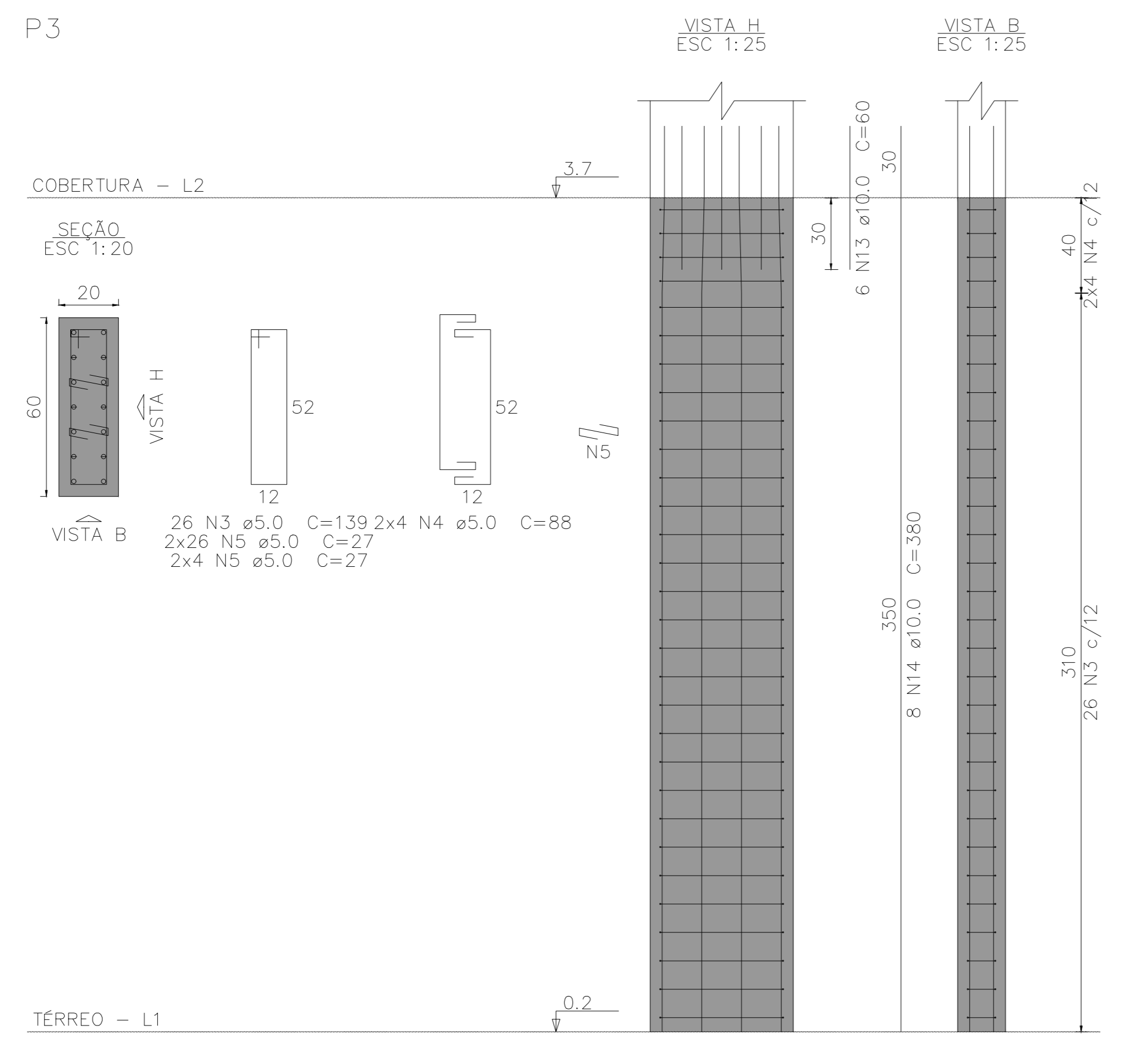
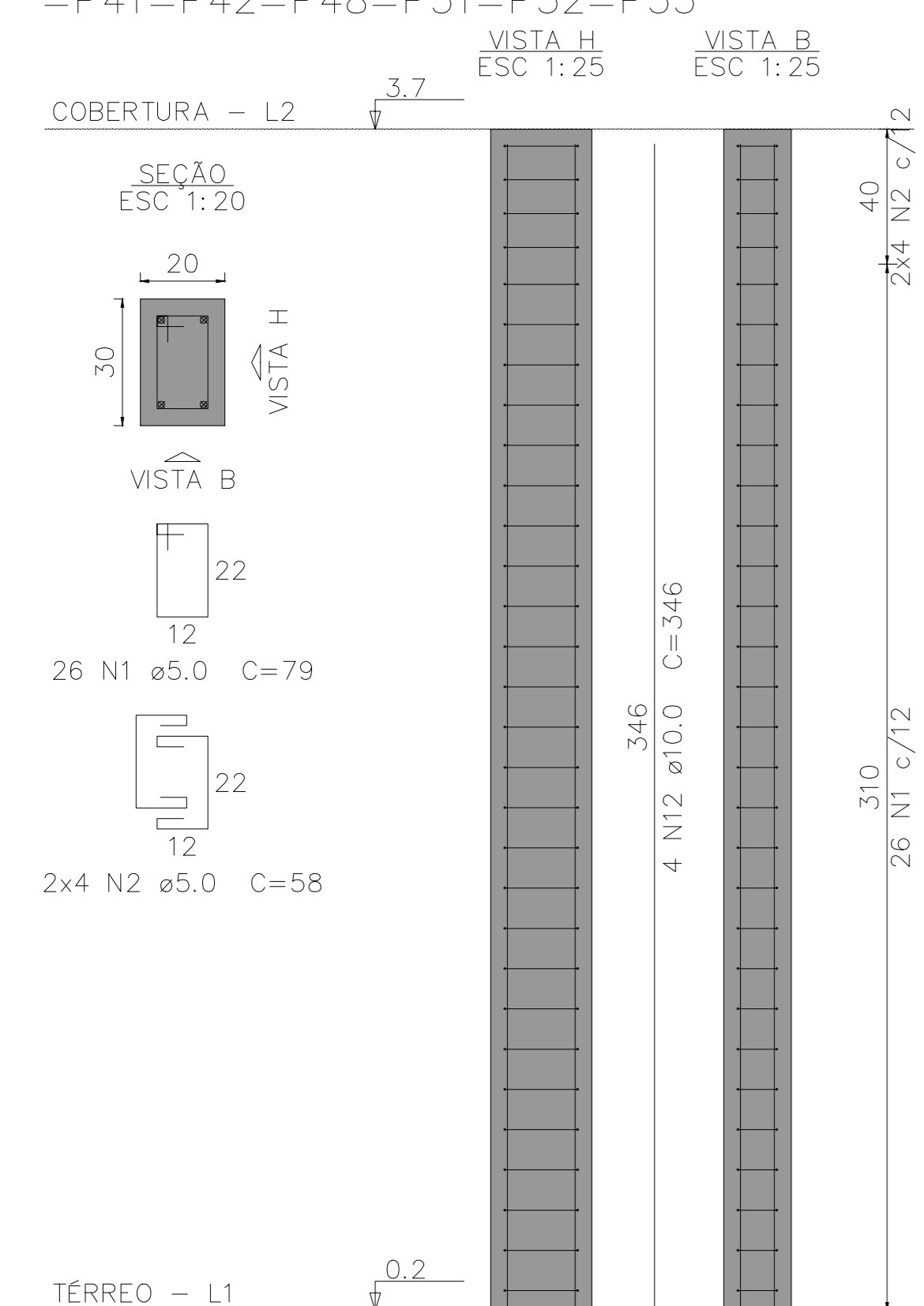
Volume de concreto (C=35) = 0.24 m³
Área de forma = 2.19 m²

DETALHE DA ARMADURA SUPERIOR DE CONTINUIDADE DA LAJE E MONTAGEM DA ARMADURA DE DISTRIBUIÇÃO



	PROPRIETÁRIO:	PREFEITURA MUNICIPAL DE VARGEM GRANDE - MA
	OBJETO:	CONSTRUÇÃO DE UBS TIPO II, NOVO PAC MARIA C. B. BEZERRA NO MUNICÍPIO DE VARGEM GRANDE - MA
TÍTULO:	PROJETO ESTRUTURAL	PRANCHA:
ESCALA:	INDICADA	DATA:
DESENHISTA:	FEV/2025	RESP. TÉCNICO:
		09/22

P1=P2=P8=P9=P10=P11=P14=
 =P15=P16=P17=P18=P19=P21=
 =P22=P26=P27=P28=P29=P30=
 =P31=P33=P34=P35=P36=P40=
 =P41=P42=P48=P51=P52=P53




Relação do aço

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	914	79	72206
	2	5.0	304	58	17632
	3	5.0	224	139	31136
	4	5.0	32	88	2816
	5	5.0	660	27	17820
	6	5.0	26	209	5434
	7	5.0	8	123	984
	8	5.0	26	59	1534
	9	5.0	8	48	384
	10	5.0	78	99	7722
	11	5.0	24	68	1632
CA50	12	10.0	156	346	53976
	13	10.0	6	60	360
	14	10.0	64	380	24320
	15	10.0	16	396	6336

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	10.0	850	576.4
CA60	5.0	1593	270.1
PESO TOTAL (kg)			
CA50	576.4		
CA60	270.1		

Volume de concreto (C-35) = 12.47 m³
 Área de forma = 192.75 m²



FVSM
ENGENHARIA

PROPRIETÁRIO:
PREFEITURA MUNICIPAL DE VARGEM GRANDE - MA

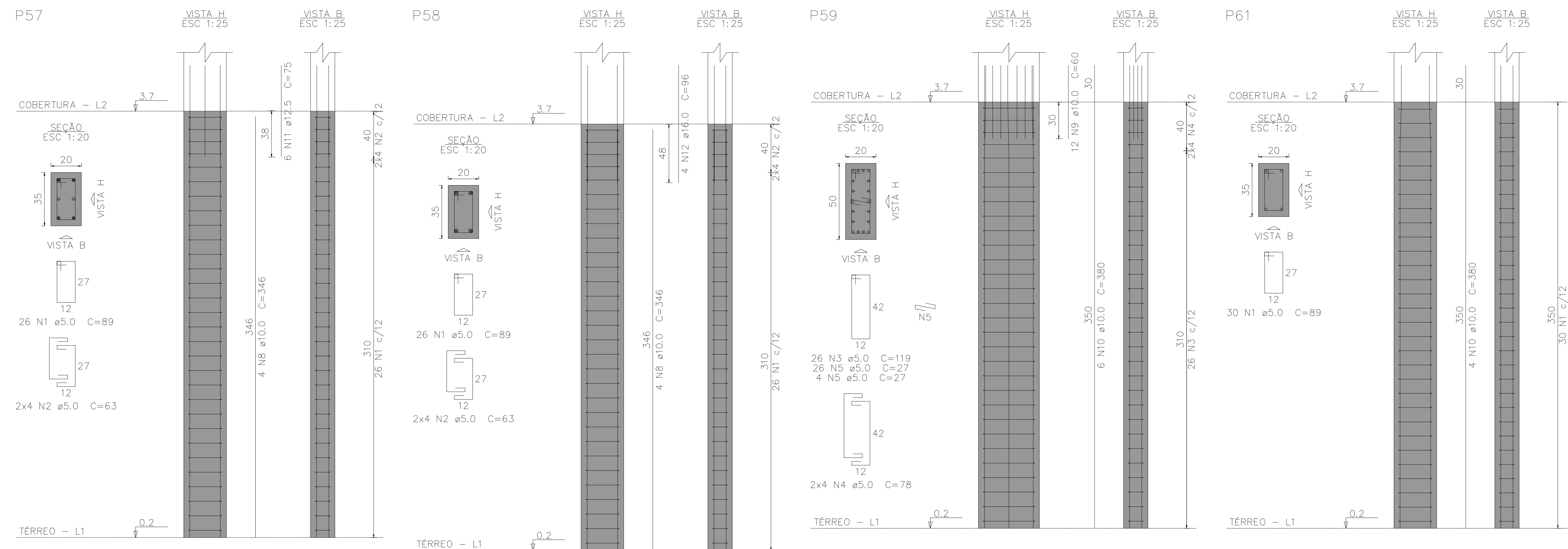
OBJETO:
**CONSTRUÇÃO DE UBS TIPO II, NOVO PAC
MARIA C. B. BEZERRA NO MUNICÍPIO DE VARGEM GRANDE - MA**

TÍTULO: **PROJETO ESTRUTURAL**

ESCALA: **INDICADA** DATA: **FEV/2025** DESENHISTA:

PRANCHA: **10/22**

RESP. TÉCNICO



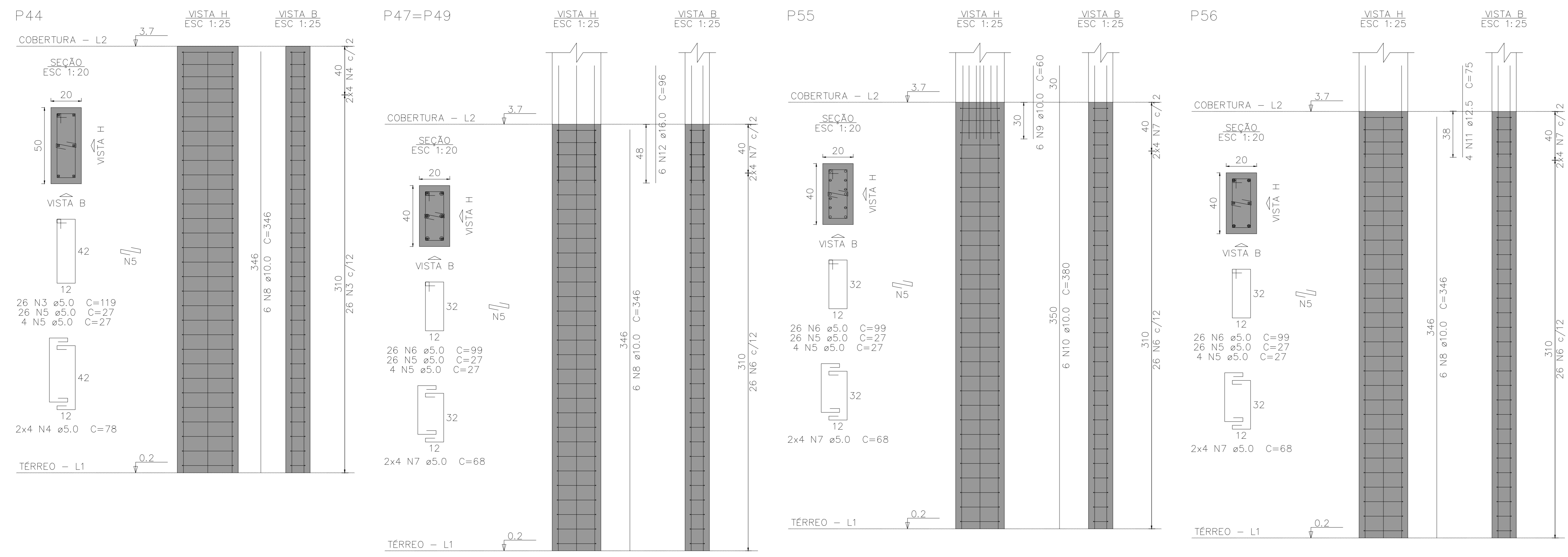
Relação do aço


AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	82	89	7298
	2	5.0	16	63	1008
	3	5.0	52	119	6188
	4	5.0	16	78	1248
	5	5.0	180	27	4860
CA50	6	5.0	104	99	10296
	7	5.0	32	68	2176
	8	10.0	32	546	11072
	9	10.0	18	60	1080
	10	10.0	16	380	6080
	11	12.5	10	75	750
	12	16.0	16	96	1536

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	10.0	182.4	123.6
	12.5	7.5	7.9
	16.0	15.4	26.7
CA60	5.0	330.8	56.1
PESO TOTAL (kg)			
CA50		158.3	
CA60		56.1	

Volume de concreto (C=35) = 2.55 m³
Área de forma = 38.15 m²



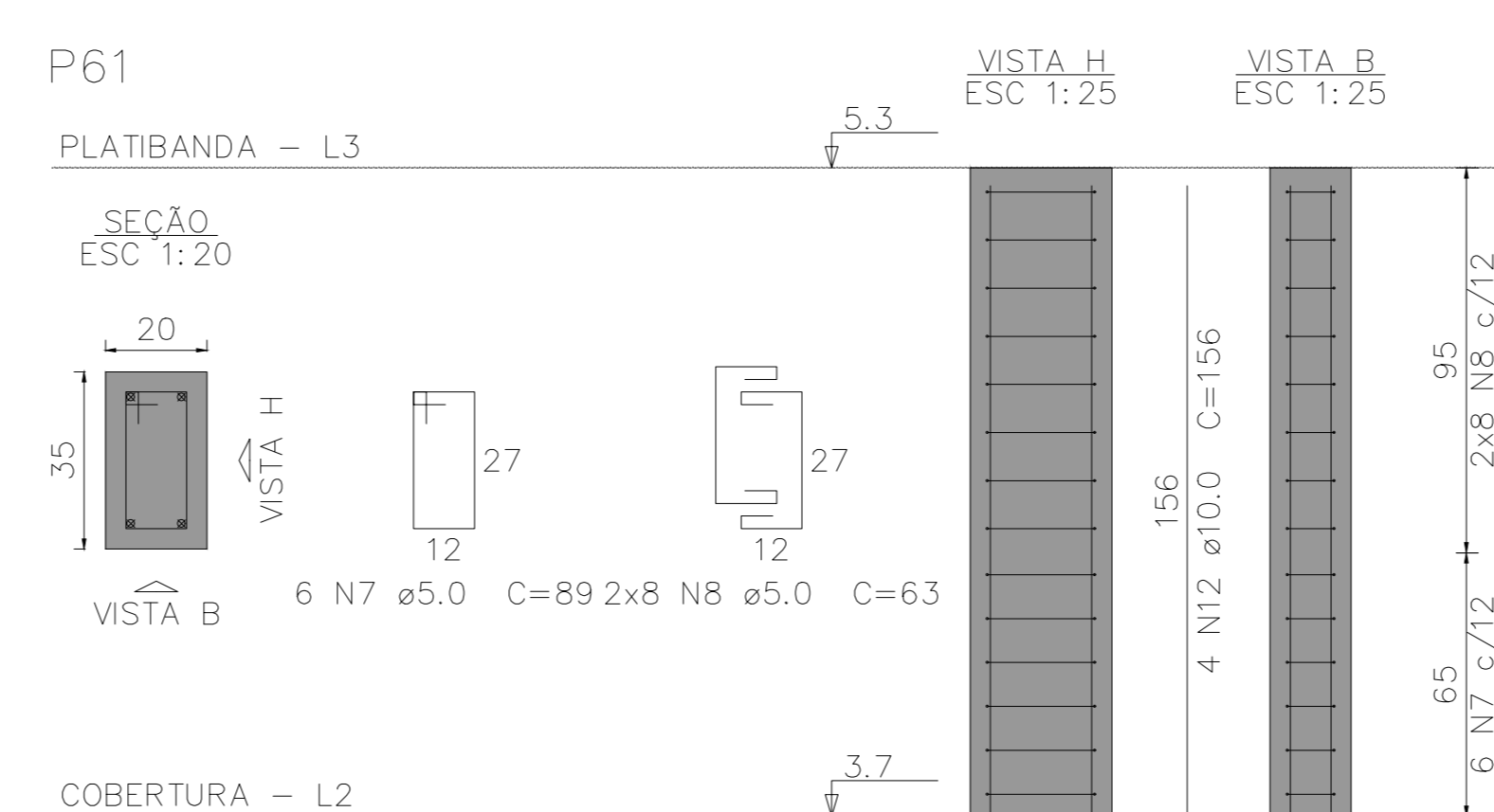
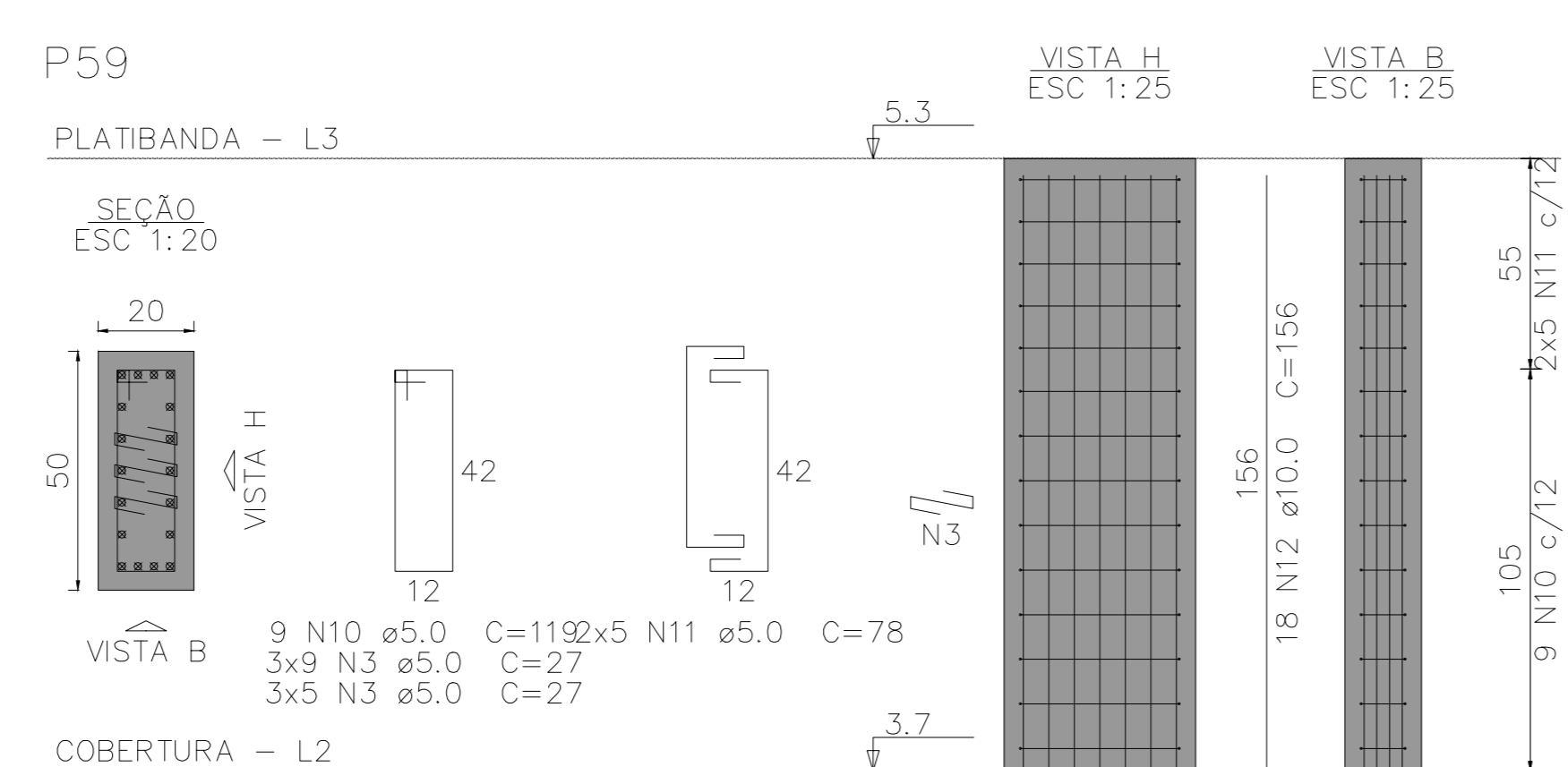
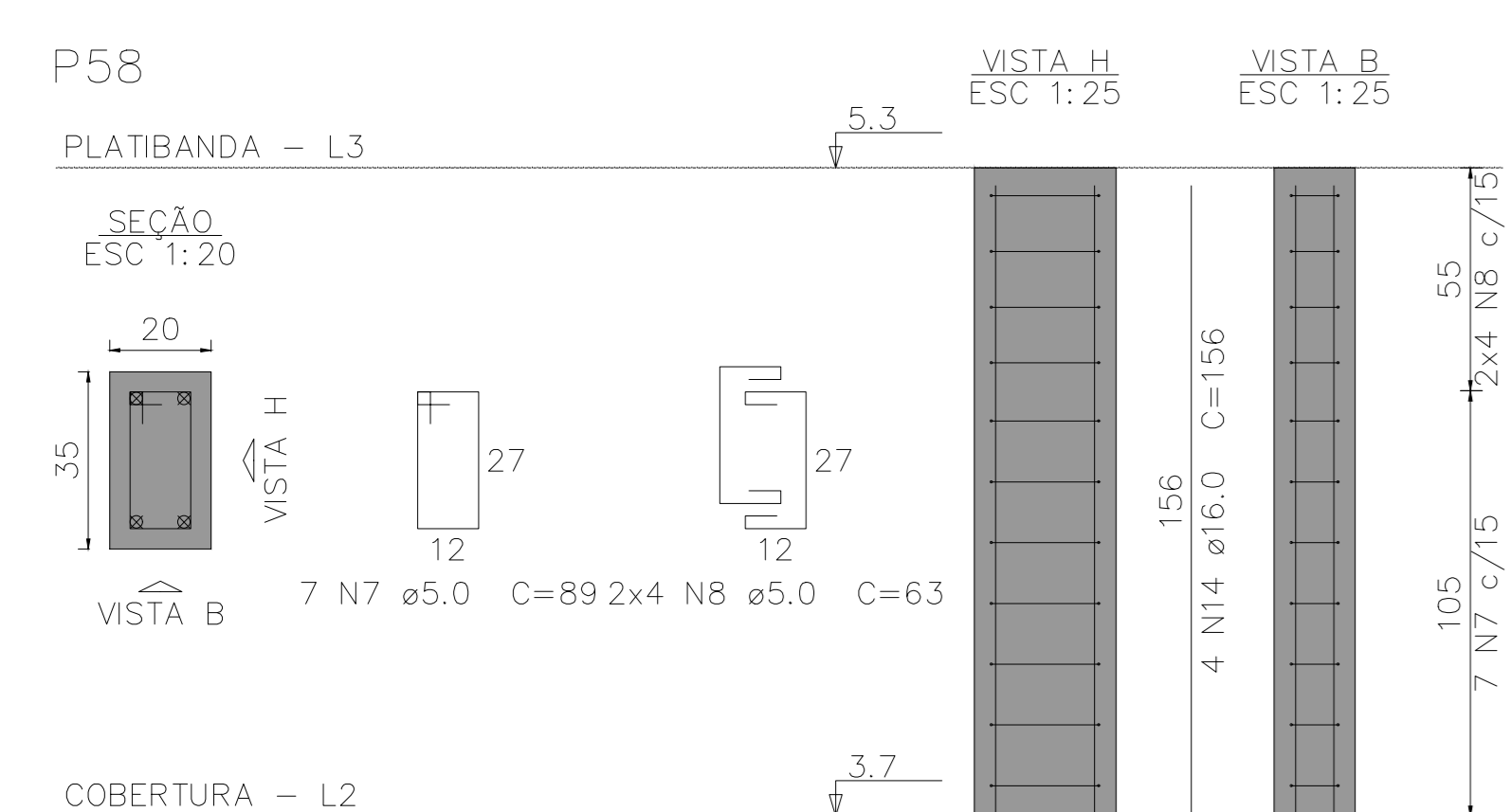
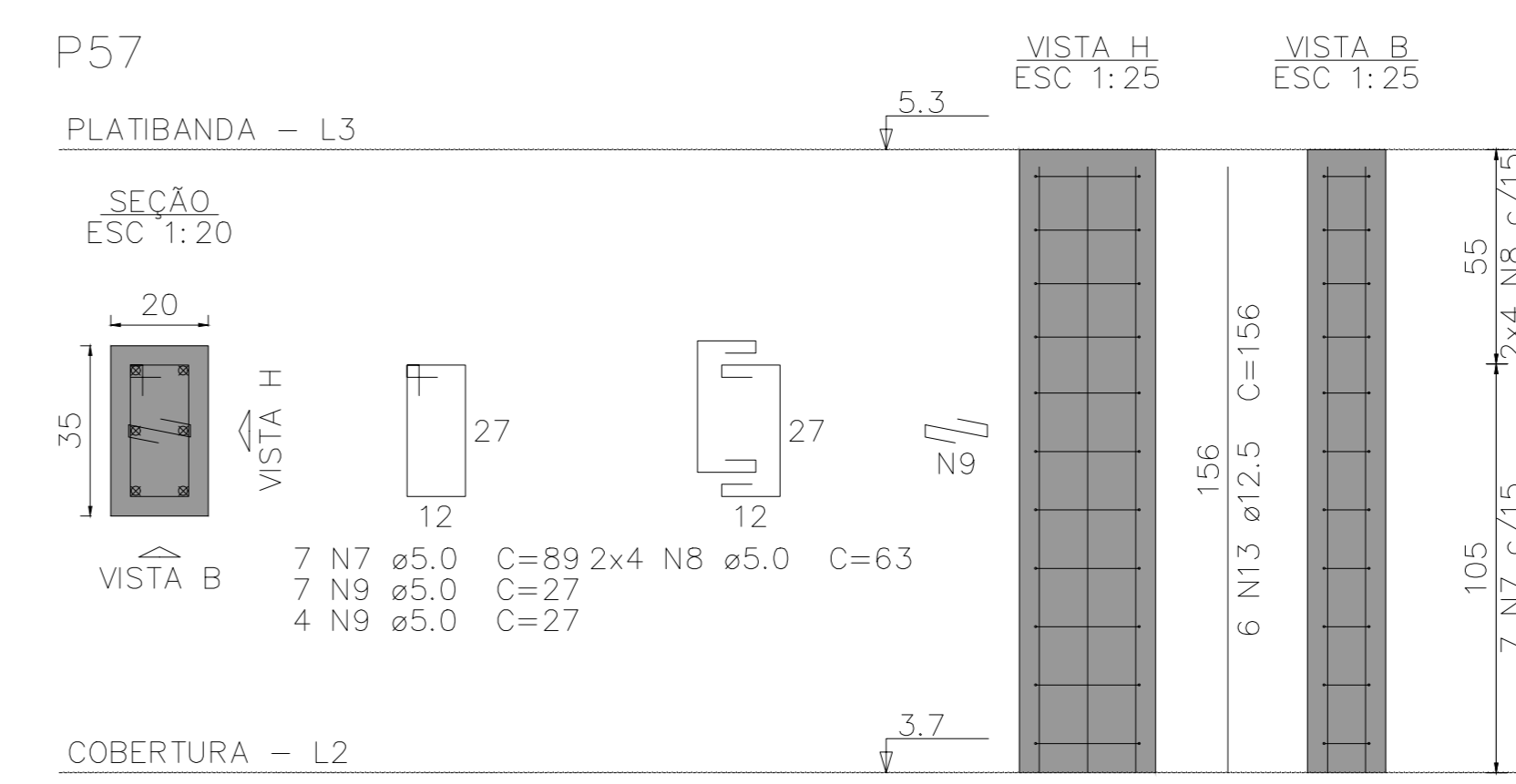
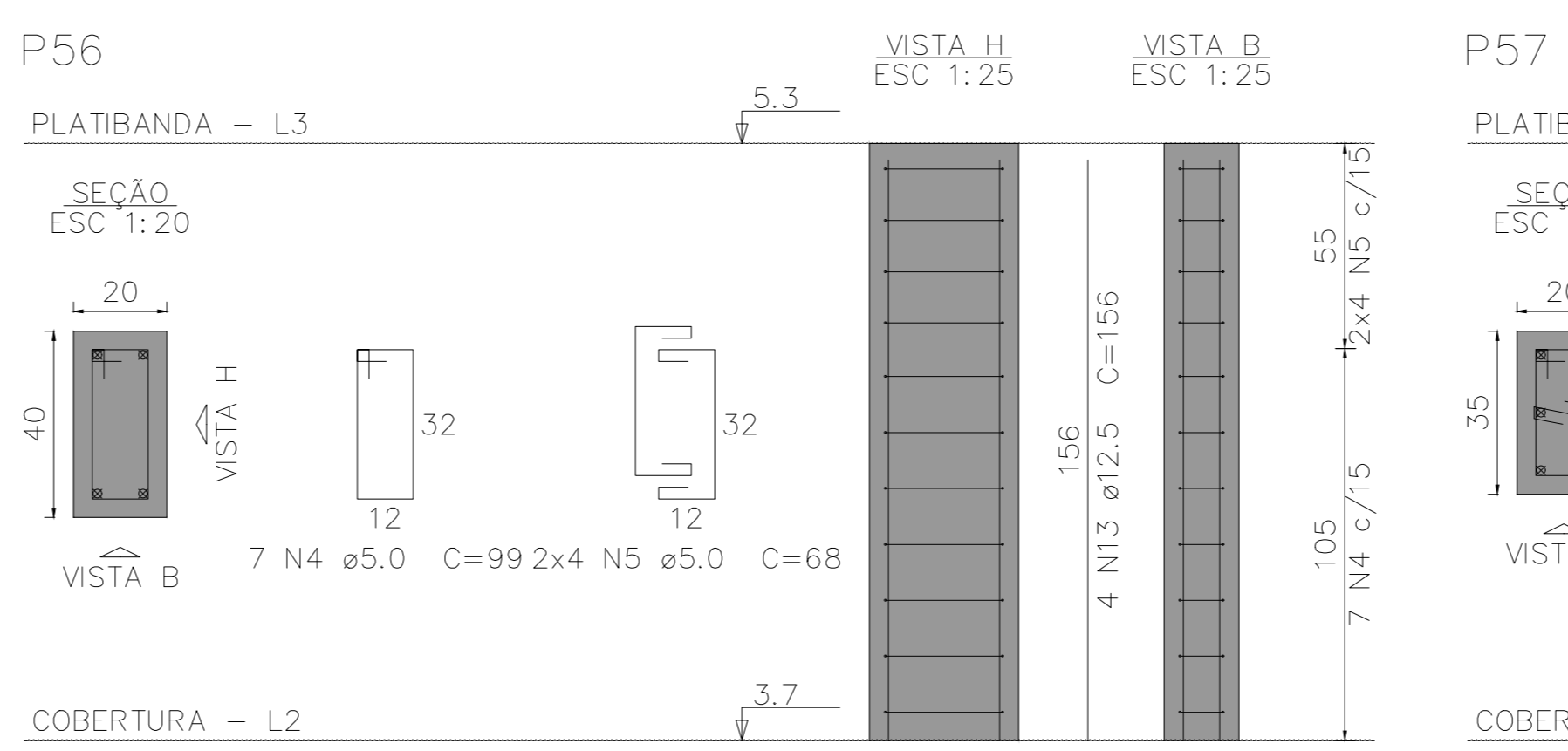
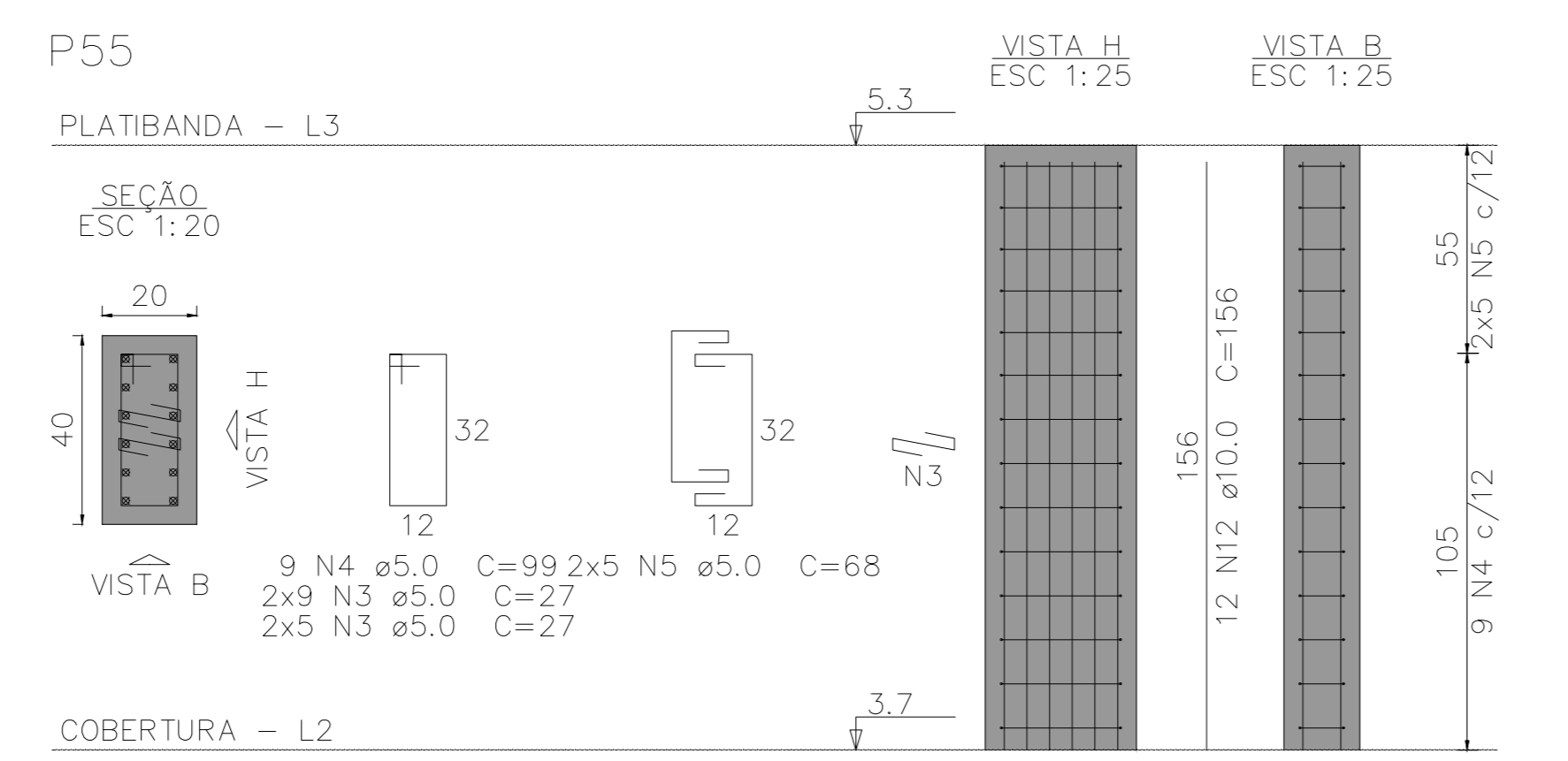
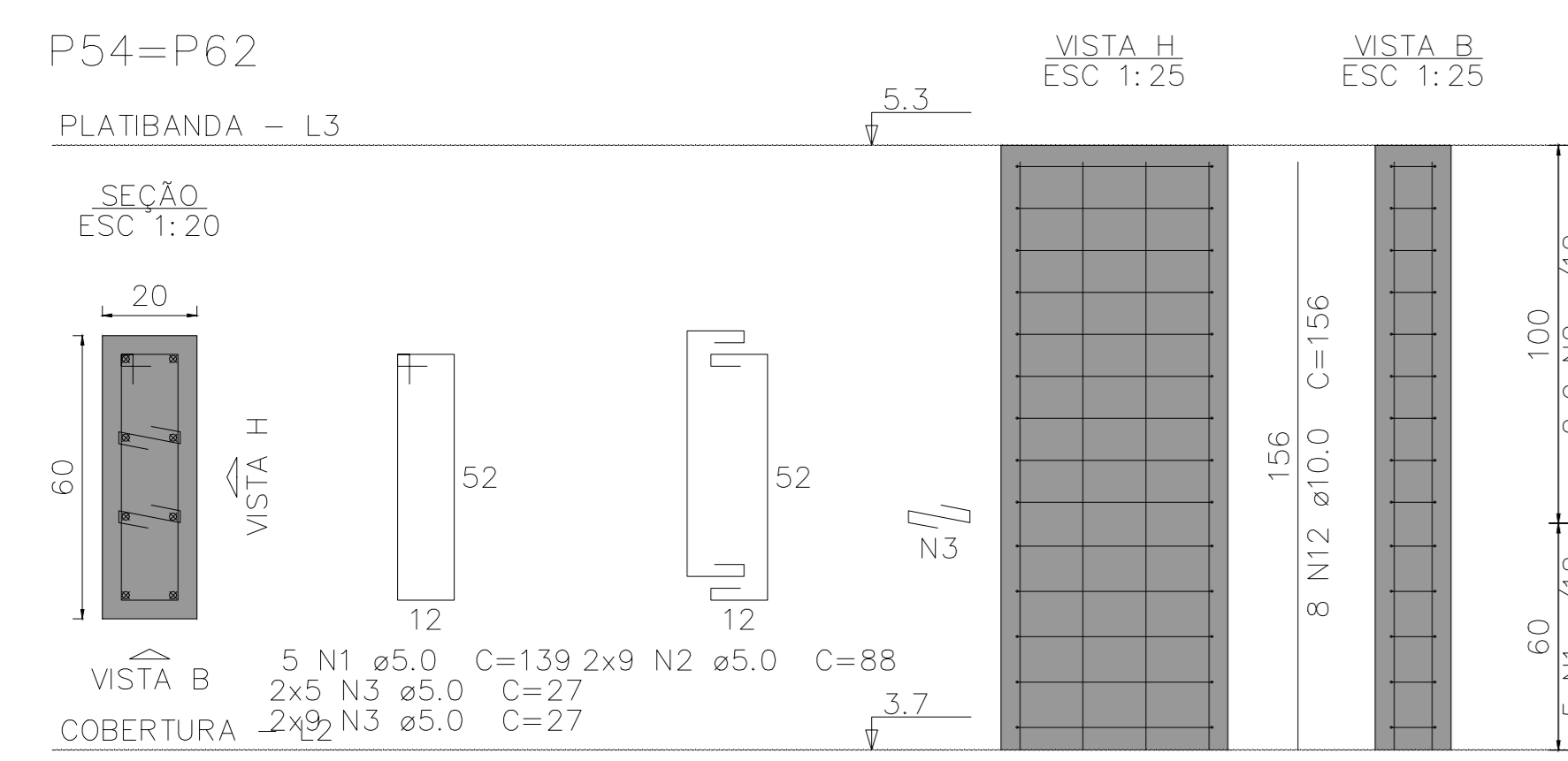
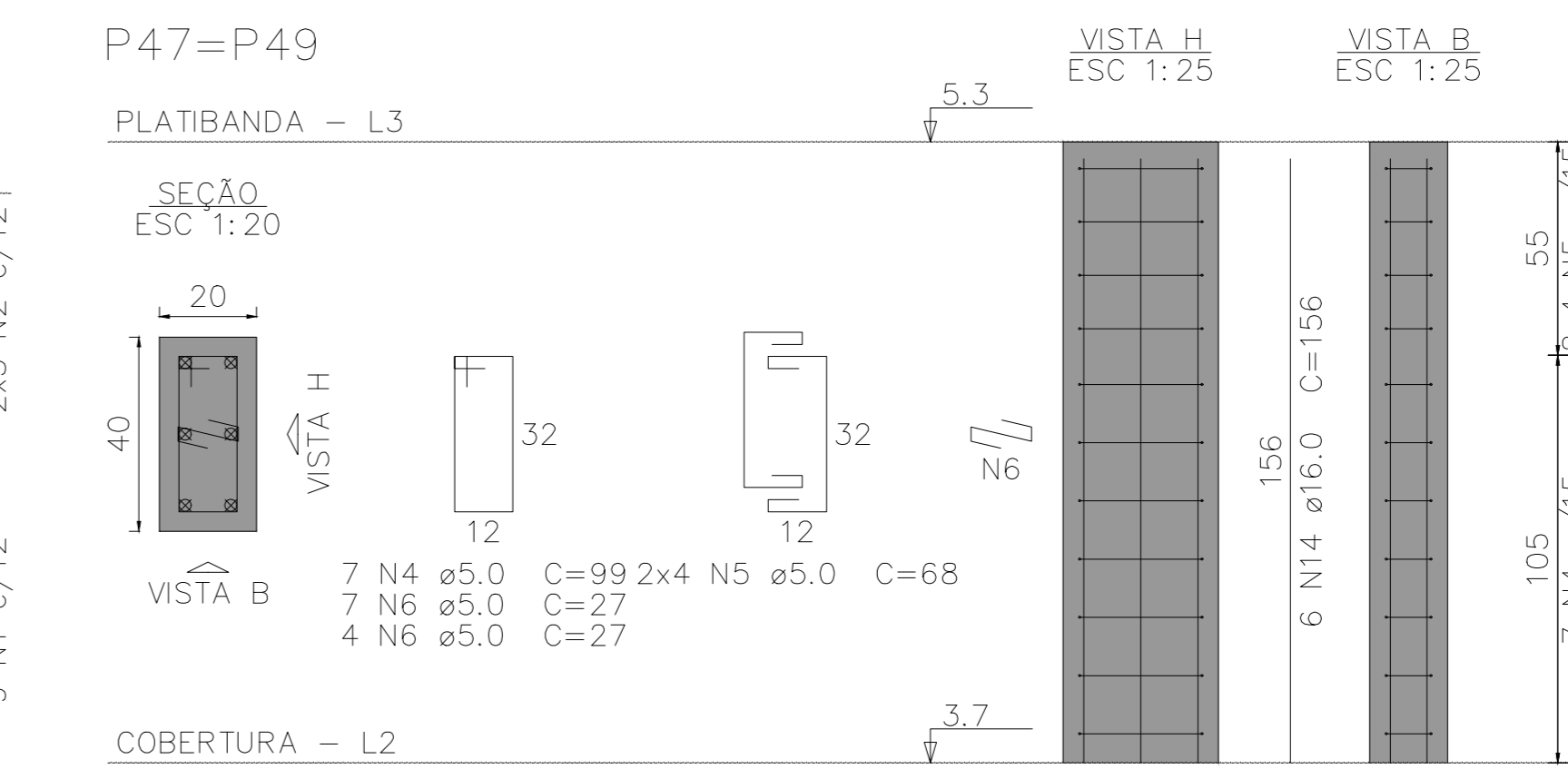
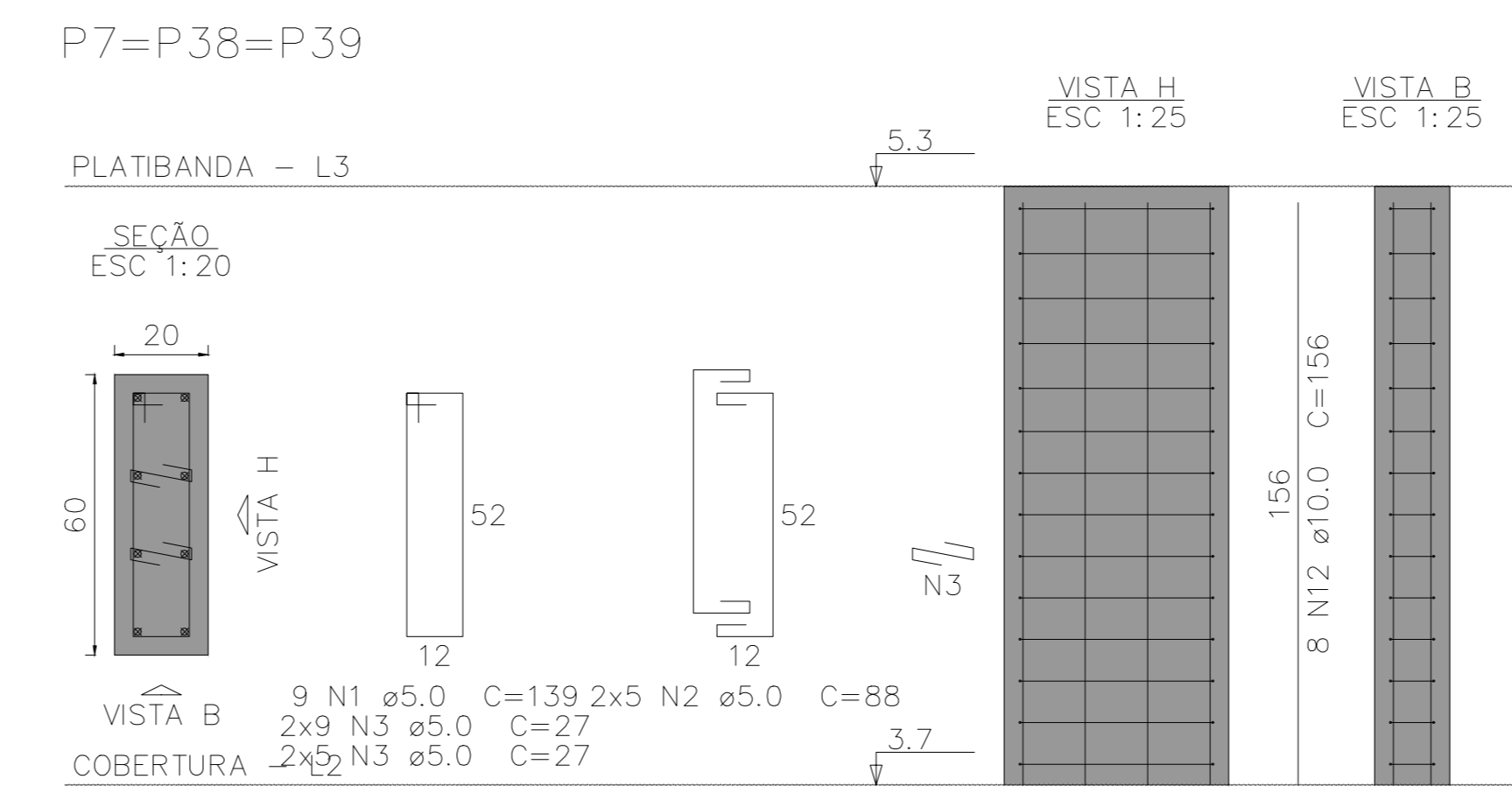
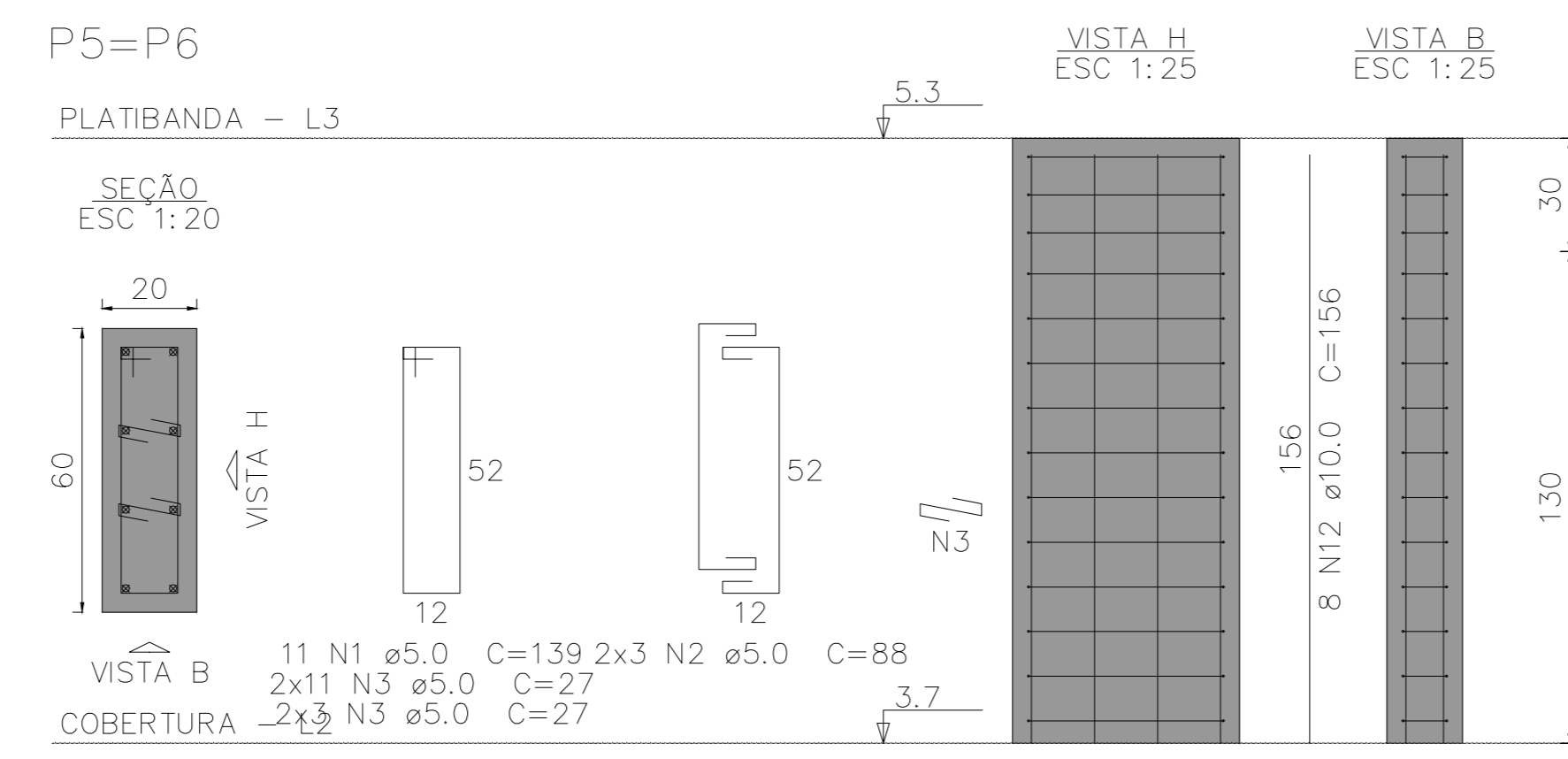
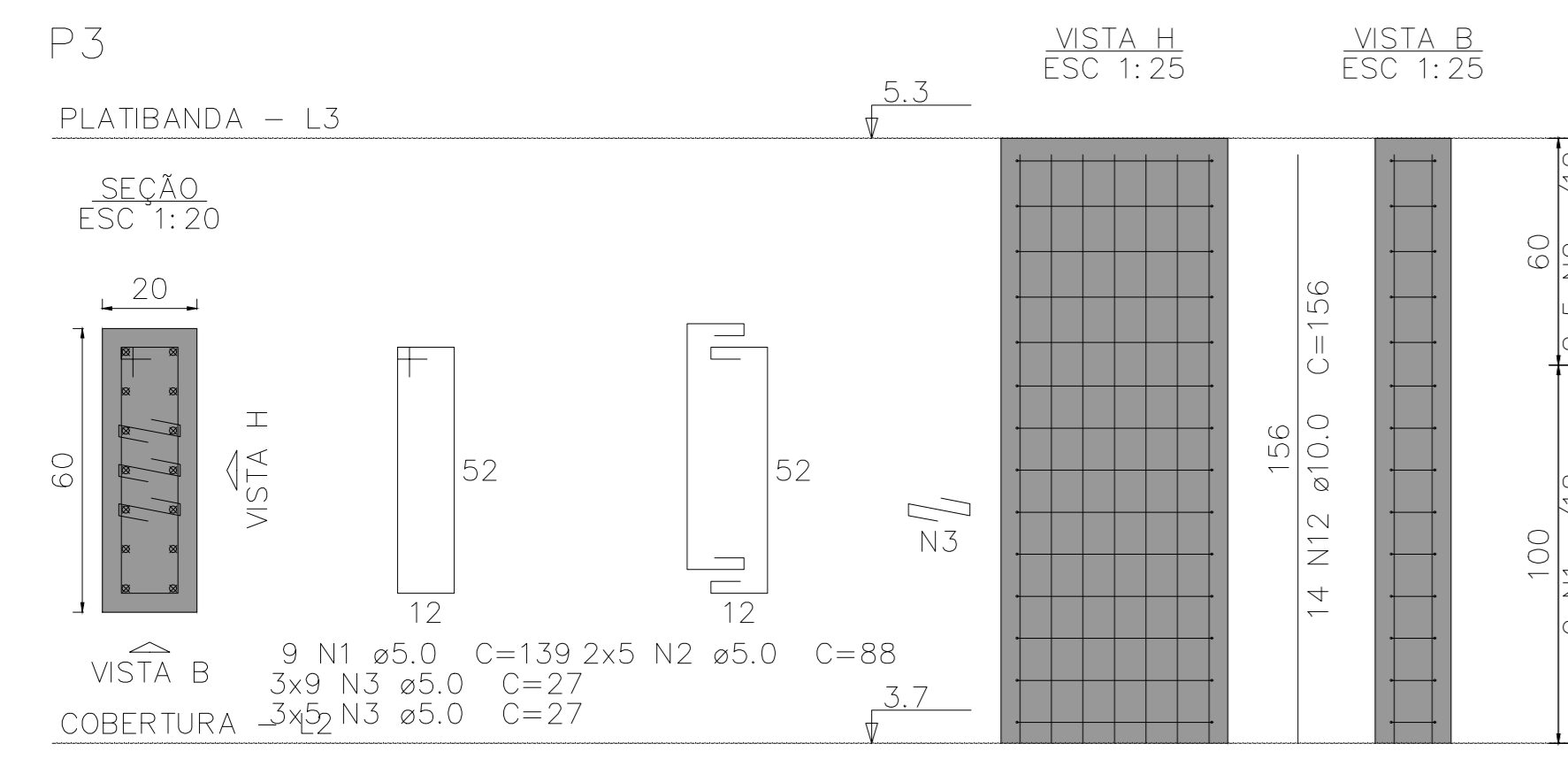


FVSM
ENGENHARIA

PROPRIETÁRIO:
PREFEITURA MUNICIPAL DE VARGEM GRANDE - MA

OBJETO:
**CONSTRUÇÃO DE UBS TIPO II, NOVO PAC
MARIA C. B. BEZERRA NO MUNICÍPIO DE VARGEM GRANDE - MA**

TÍTULO: PROJETO ESTRUTURAL		PRANCHA: 11/22
ESCALA: INDICADA	DATA: FEV/2025	DESENHISTA: RESP. TÉCNICO




Relação do aço

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	68	139	9452
	2	5.0	88	88	7744
	3	5.0	308	27	8316
	4	5.0	30	99	2970
	5	5.0	34	68	2312
	6	5.0	22	27	594
	7	5.0	20	89	1780
	8	5.0	32	63	2016
	9	5.0	11	27	297
	10	5.0	9	119	1071
	11	5.0	10	78	780
CA50	12	10.0	104	156	16224
	13	12.5	10	156	1560
	14	16.0	16	156	2496

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	10.0	162.3	110
	12.5	15.6	16.5
	16.0	25	43.3
CA60	5.0	373.4	63.3
PESO TOTAL (kg)			
CA50		169.9	
CA60		63.3	

Volume de concreto (C-35) = 2,54 m³
 Área de forma = 35,68 m²



FVSM
ENGENHARIA

PROPRIETÁRIO:
PREFEITURA MUNICIPAL DE VARGEM GRANDE - MA

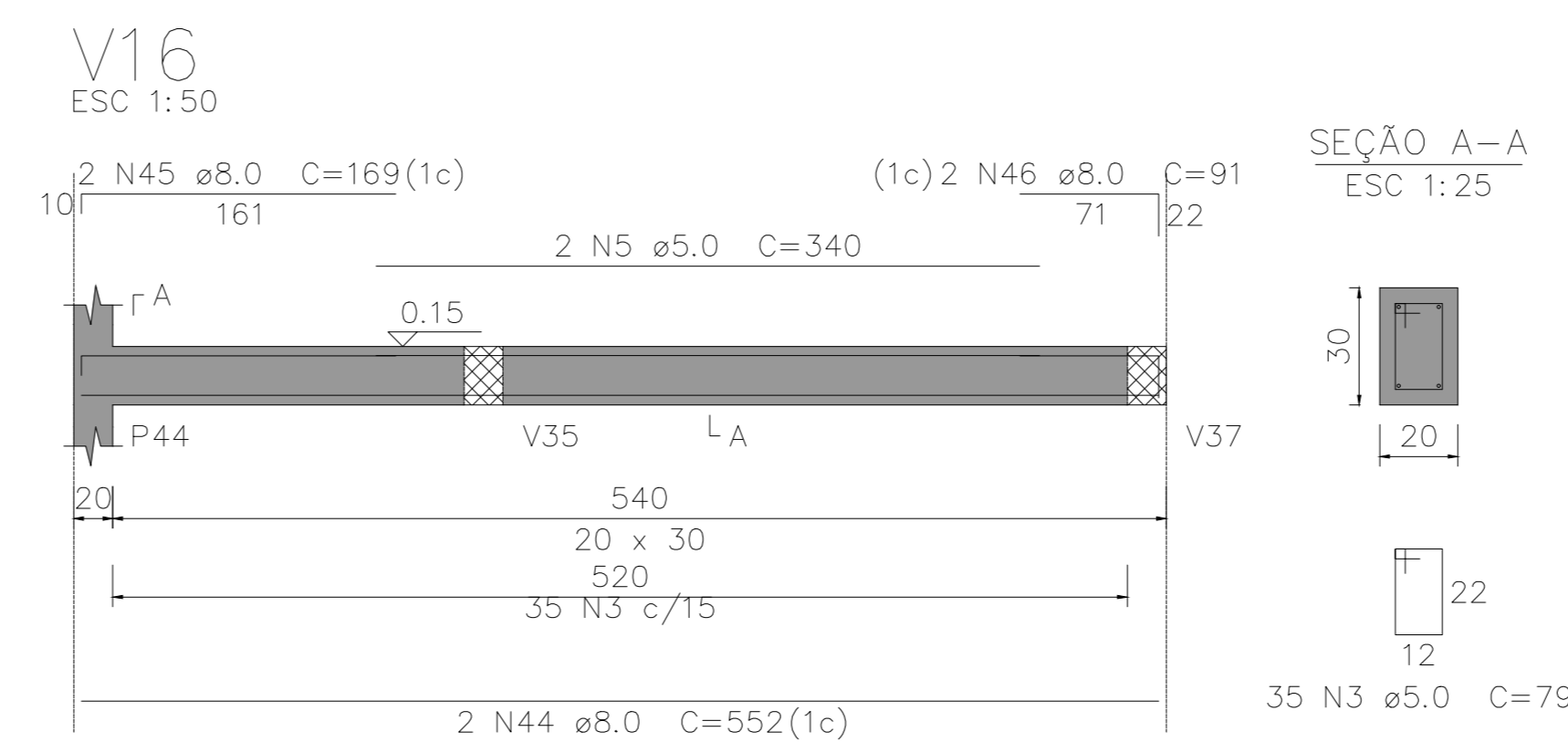
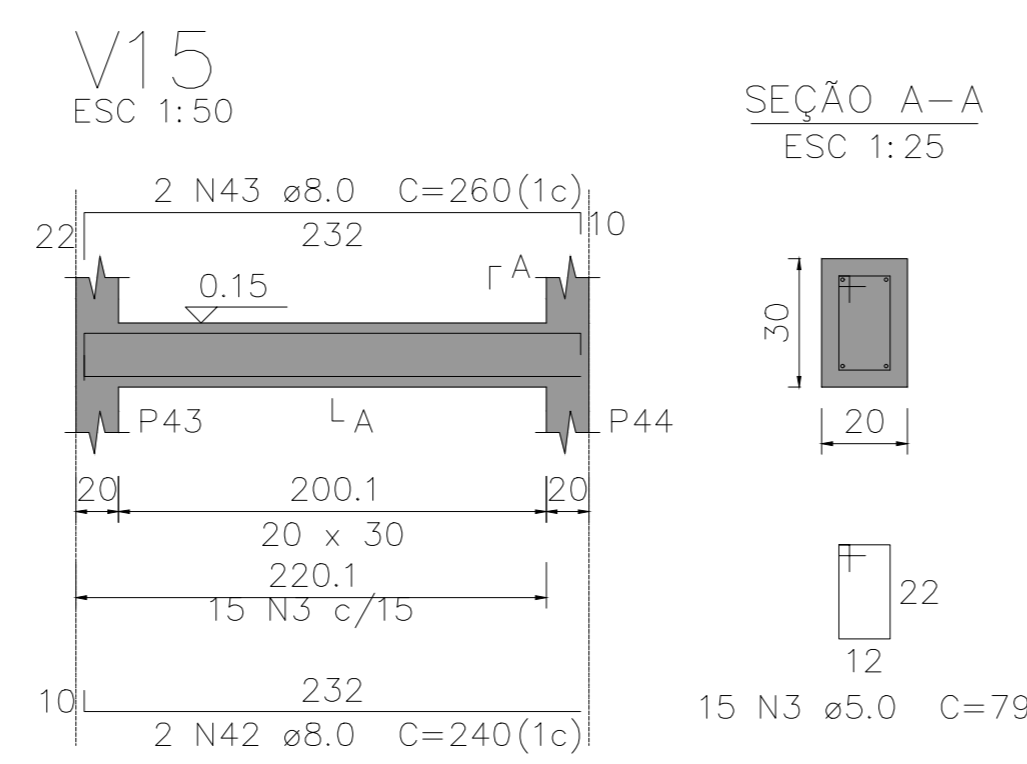
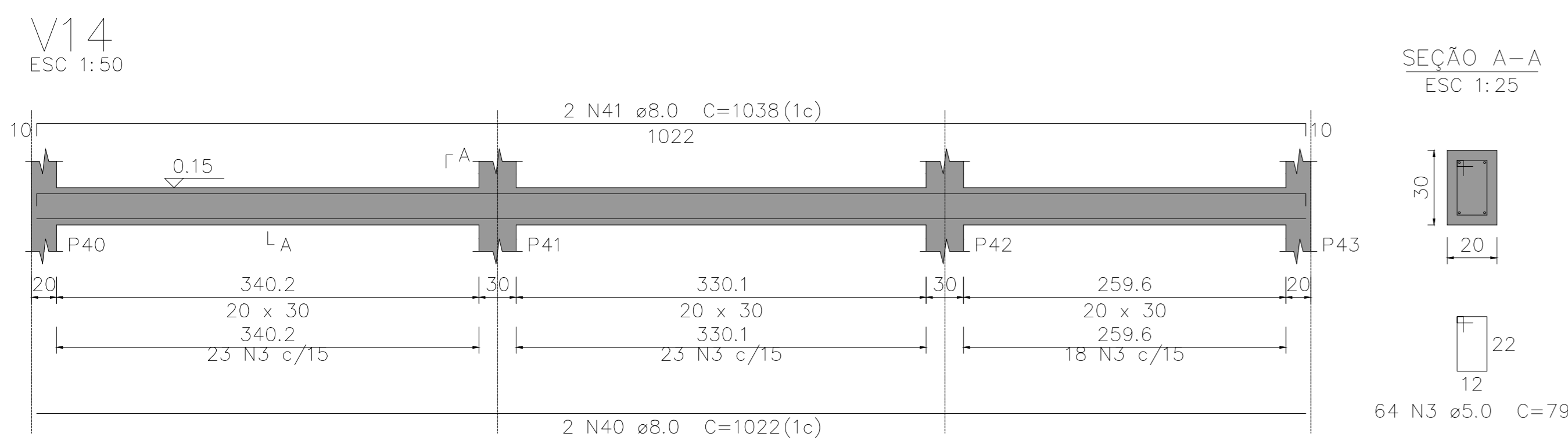
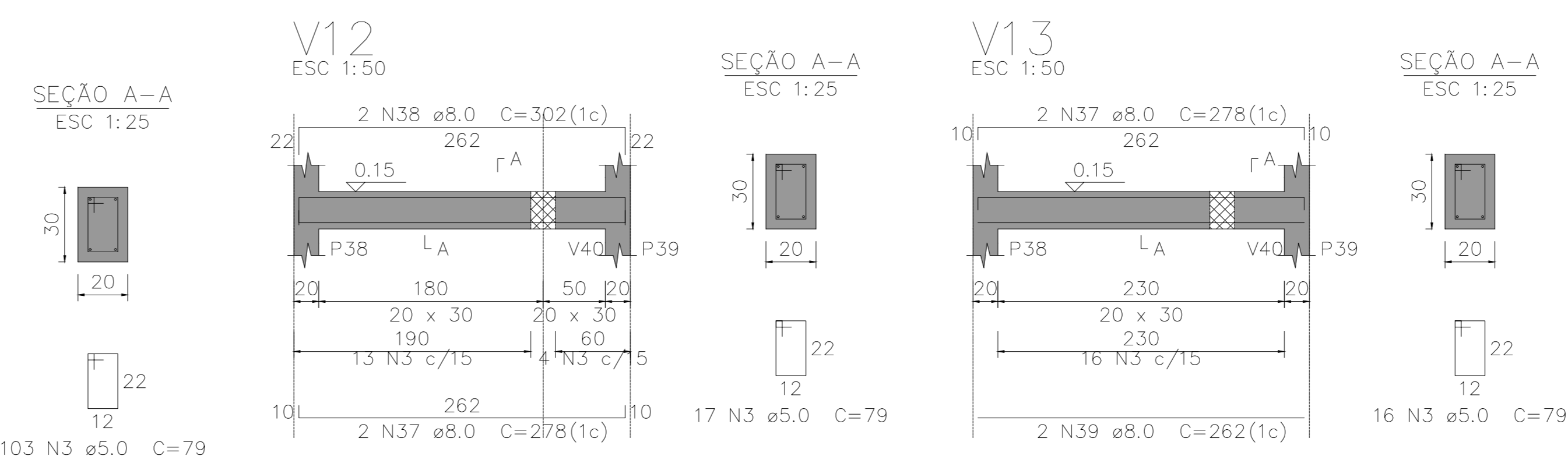
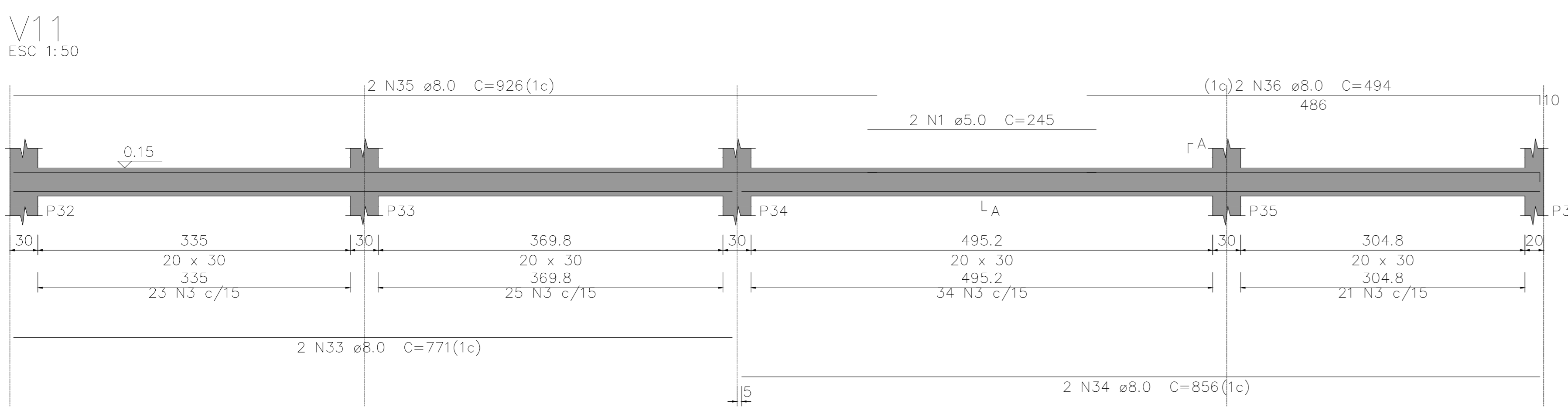
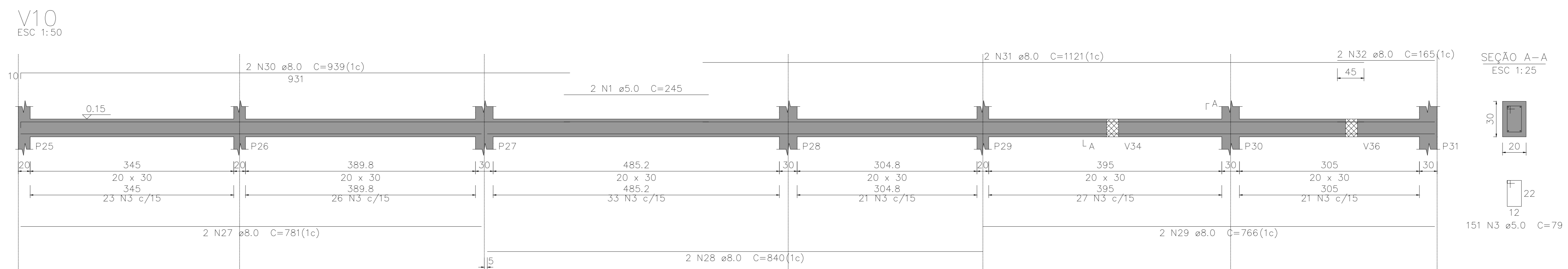
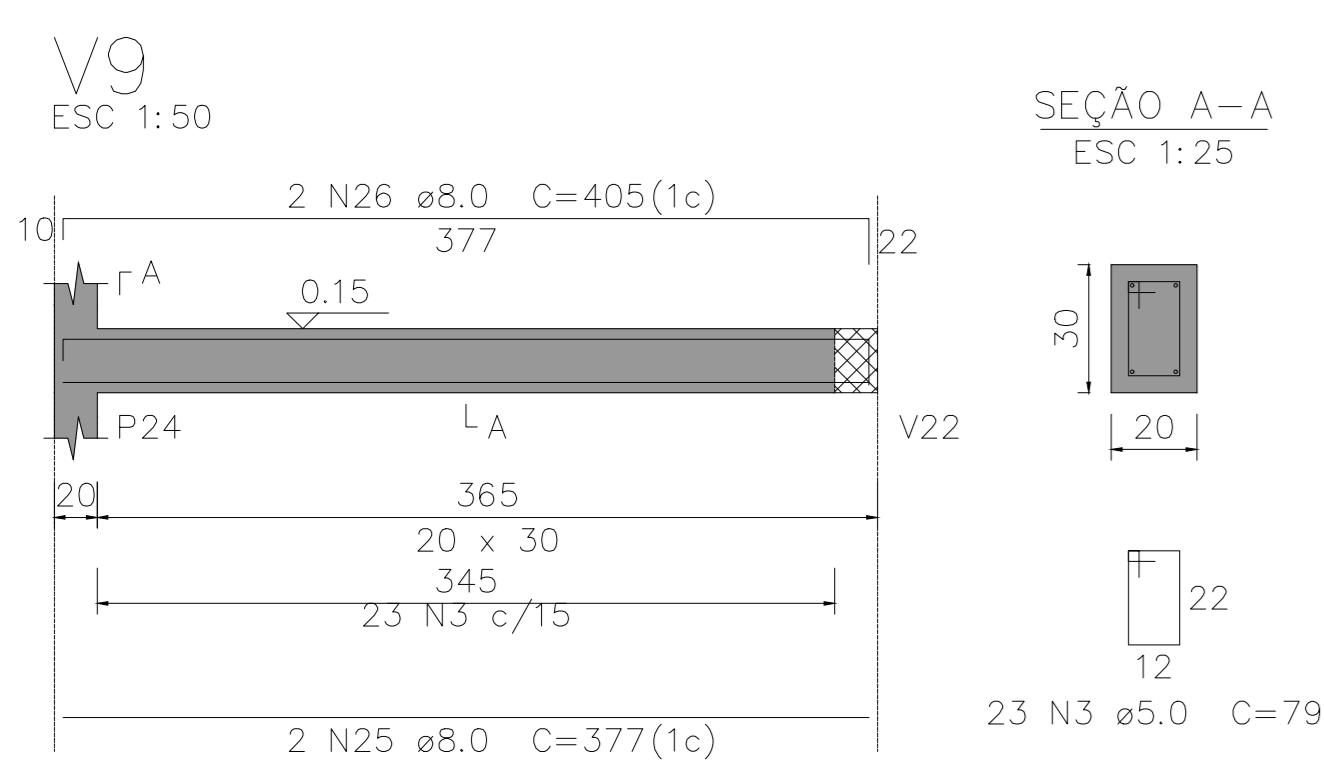
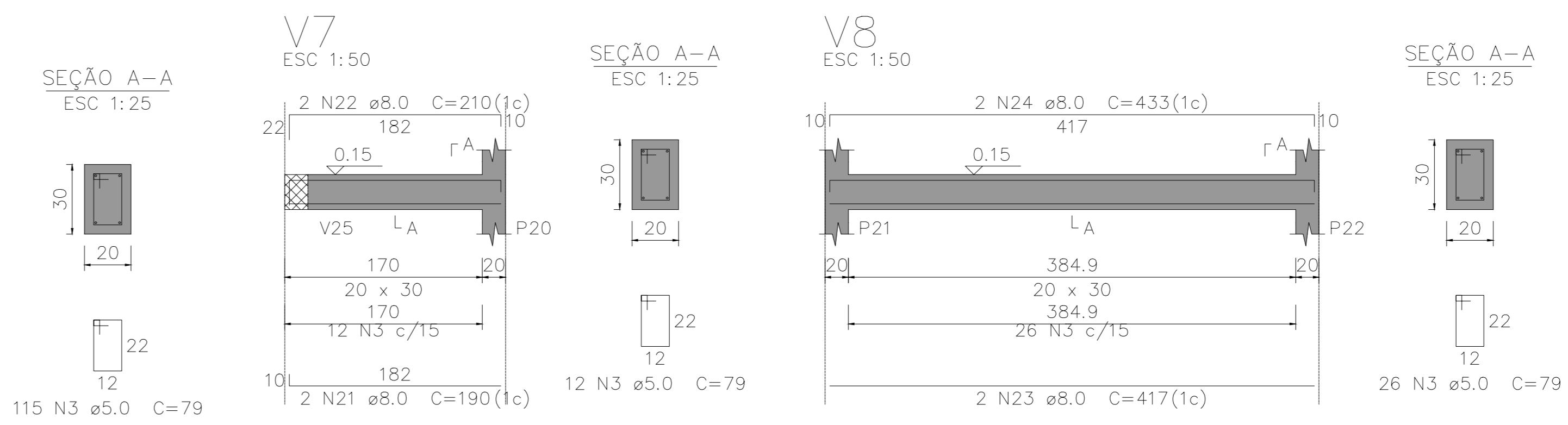
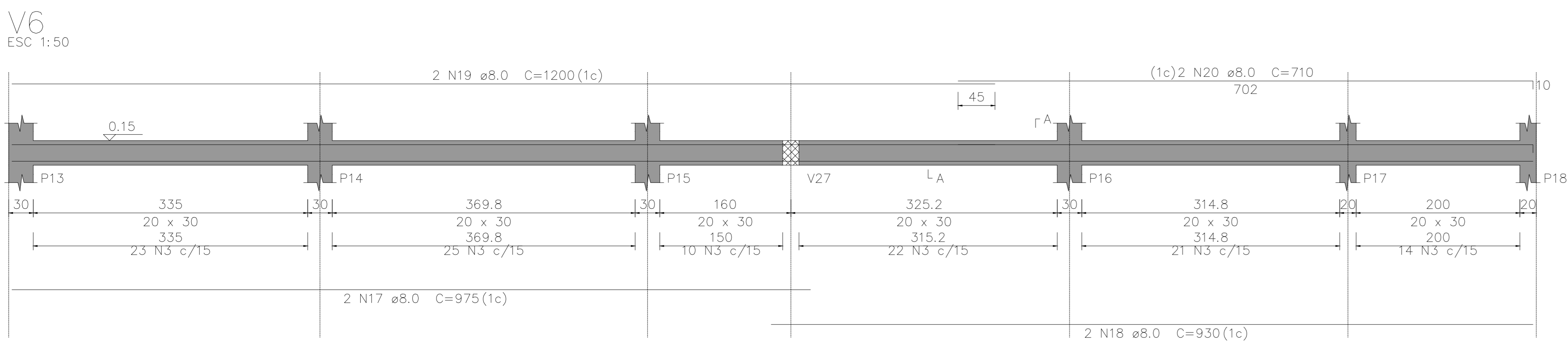
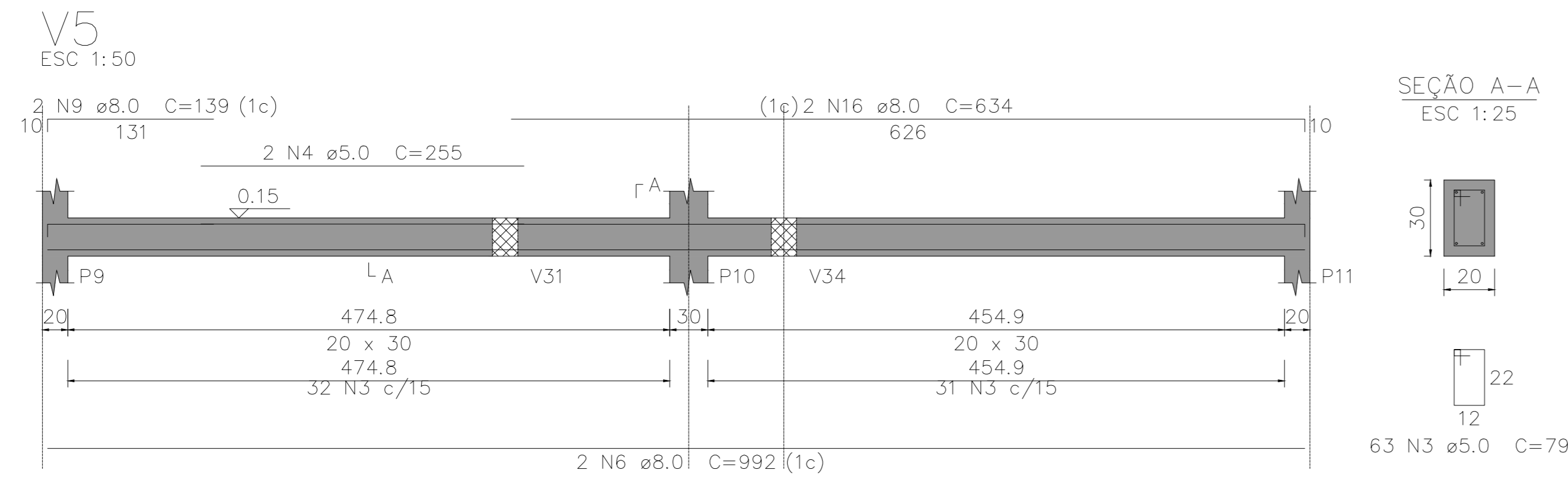
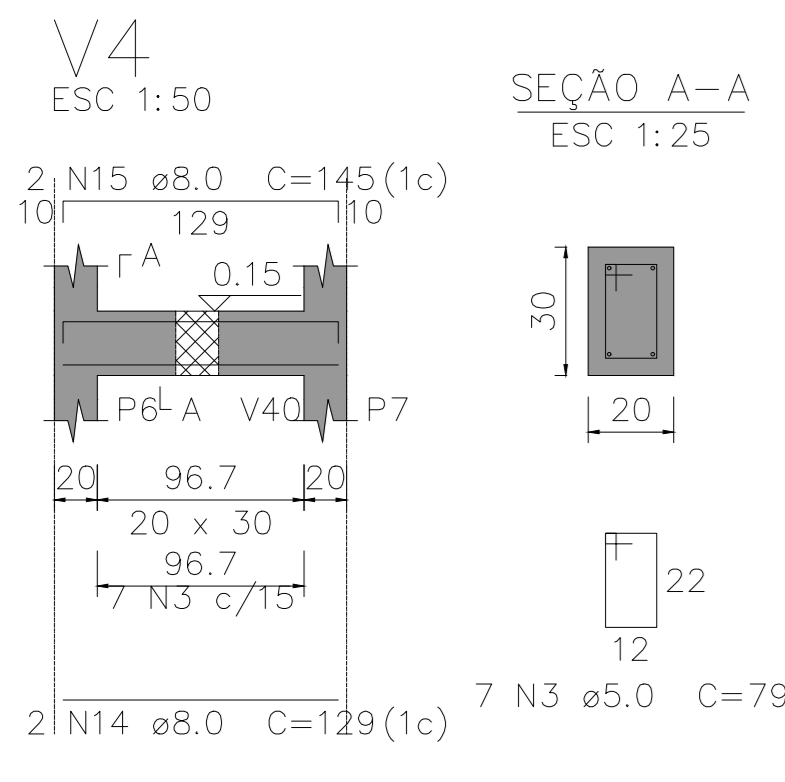
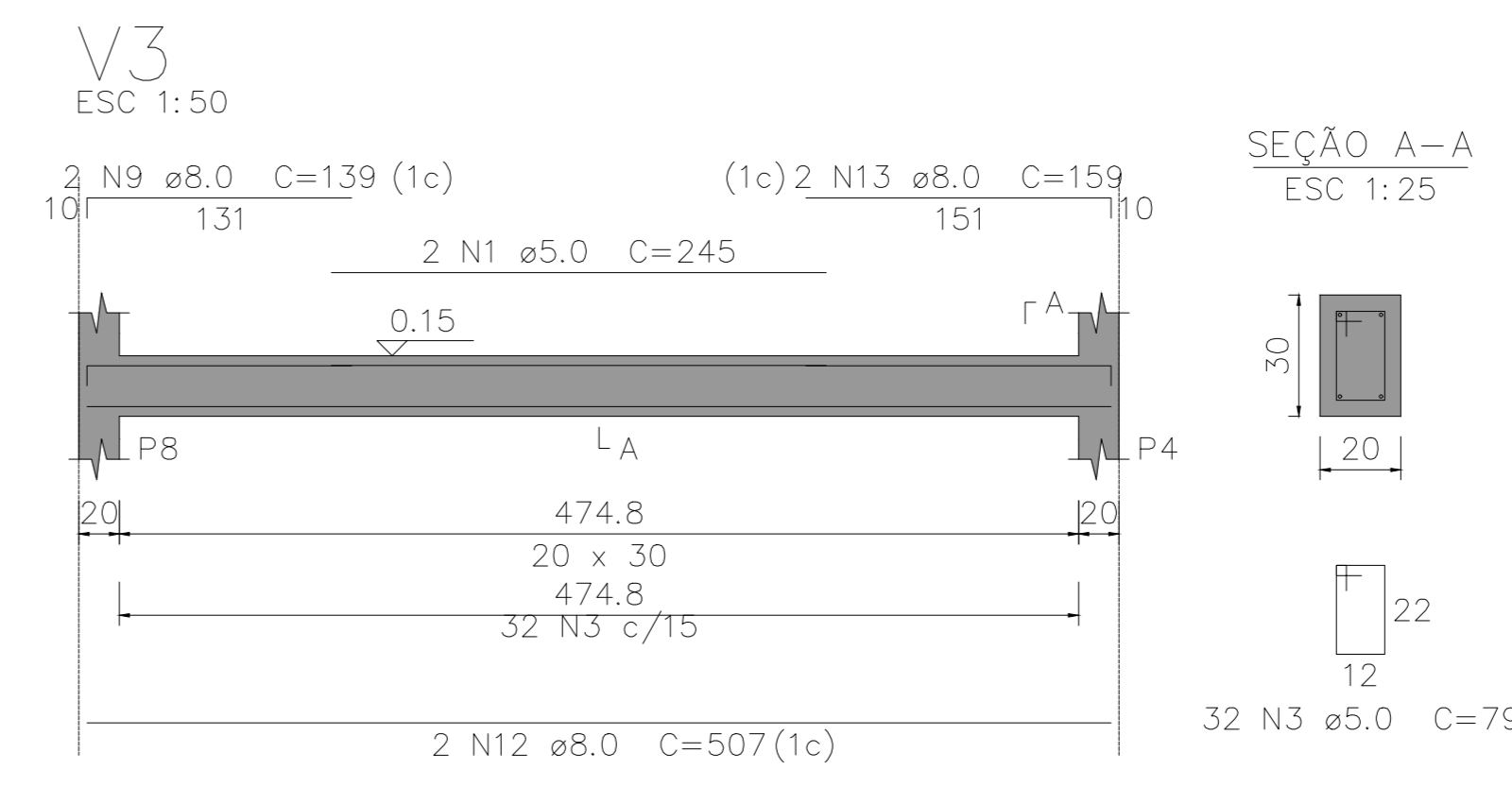
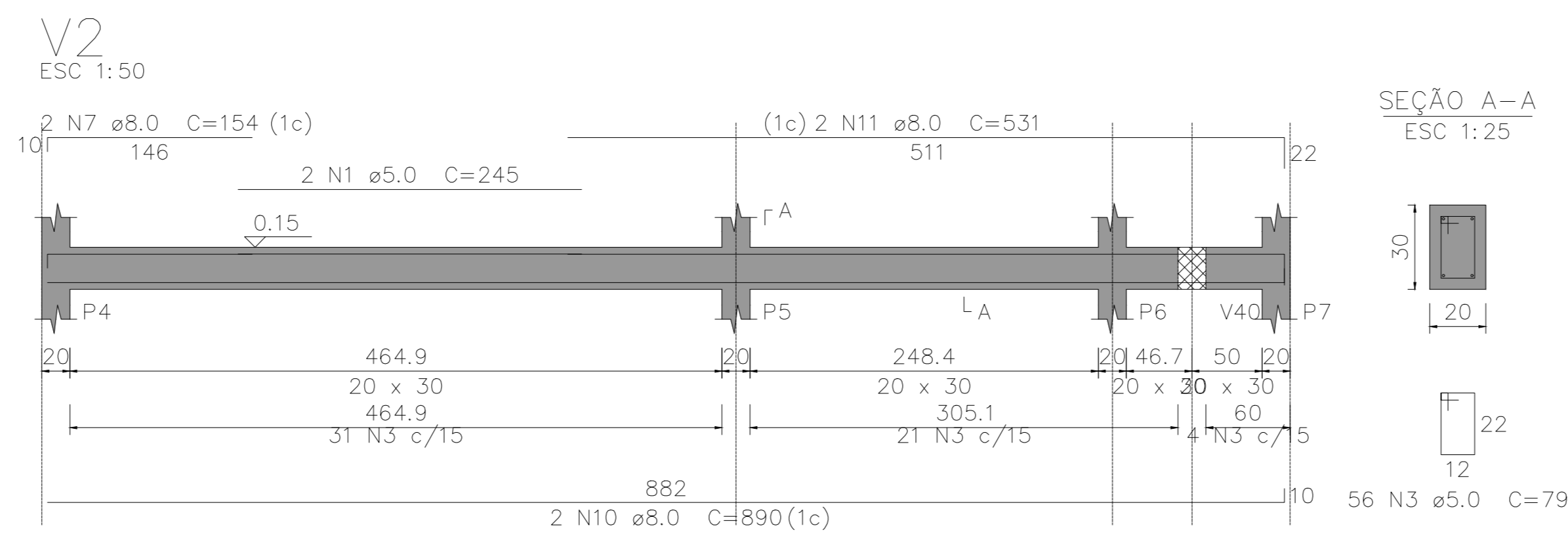
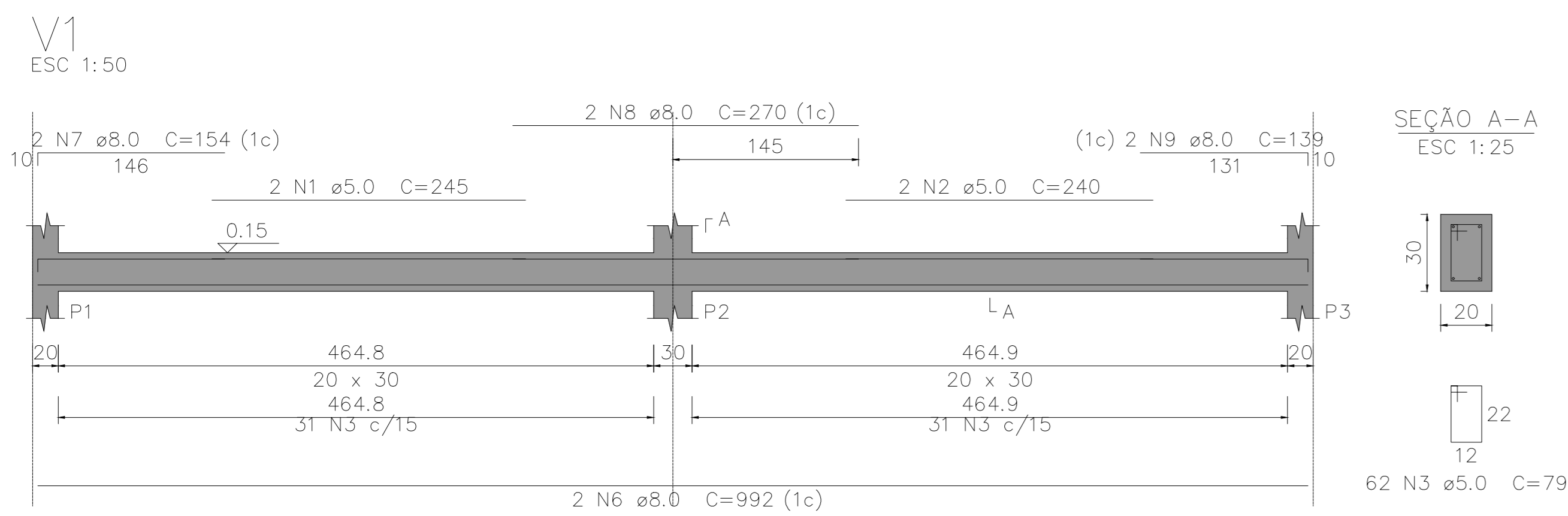
OBJETO:
**CONSTRUÇÃO DE UBS TIPO II, NOVO PAC
MARIA C. B. BEZERRA NO MUNICÍPIO DE VARGEM GRANDE - MA**

TÍTULO: **PROJETO ESTRUTURAL**

ESCALA: INDICADA DATA: FEV/2025 DESENHISTA:

PRANCHA:
12/22

RESP. TÉCNICO



Relação do aço

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	10	245	2450
	2	5.0	2	240	480
	3	5.0	797	79	62963
	4	5.0	2	255	510
	5	5.0	2	340	680
	6	8.0	2	992	3968
	7	8.0	4	154	616
	8	8.0	2	270	540
	9	8.0	6	139	834
	10	8.0	2	890	1780
	11	8.0	2	531	1062
	12	8.0	2	507	1014
	13	8.0	2	159	318
	14	8.0	2	129	258
	15	8.0	2	145	290
	16	8.0	2	634	1268
	17	8.0	2	975	1950
	18	8.0	2	930	1860
	19	8.0	2	1200	2400
	20	8.0	2	710	1420
	21	8.0	2	190	380
	22	8.0	2	210	420
	23	8.0	2	417	834
	24	8.0	2	433	866
	25	8.0	2	377	754
	26	8.0	2	405	810
	27	8.0	2	781	1562
	28	8.0	2	840	1680
	29	8.0	2	766	1532
	30	8.0	2	939	1878
	31	8.0	2	1121	2242
	32	8.0	2	165	330
	33	8.0	2	771	1542
	34	8.0	2	856	1712
	35	8.0	2	926	1852
	36	8.0	2	494	988
	37	8.0	4	278	1112
	38	8.0	2	302	604
	39	8.0	2	262	524
	40	8.0	2	1022	2044
	41	8.0	2	1038	2076
	42	8.0	2	240	480
	43	8.0	2	260	520
	44	8.0	2	552	1104
	45	8.0	2	169	338
	46	8.0	2	91	182

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	8.0	479.5	208.1
CA60	5.0	670.9	113.7
PESO TOTAL (kg)			
CA50			208.1
CA60			113.7

Volume de concreto (C-35) = 7.01 m³
Área de forma = 93.24 m²

FVSM
ENGENHARIA

PROPRIETÁRIO:
PREFEITURA MUNICIPAL DE VARGEM GRANDE - MA

OBJETO:
CONSTRUÇÃO DE UBS TIPO II, NOVO PAC MARIA C. B. BEZERRA NO MUNICÍPIO DE VARGEM GRANDE - MA

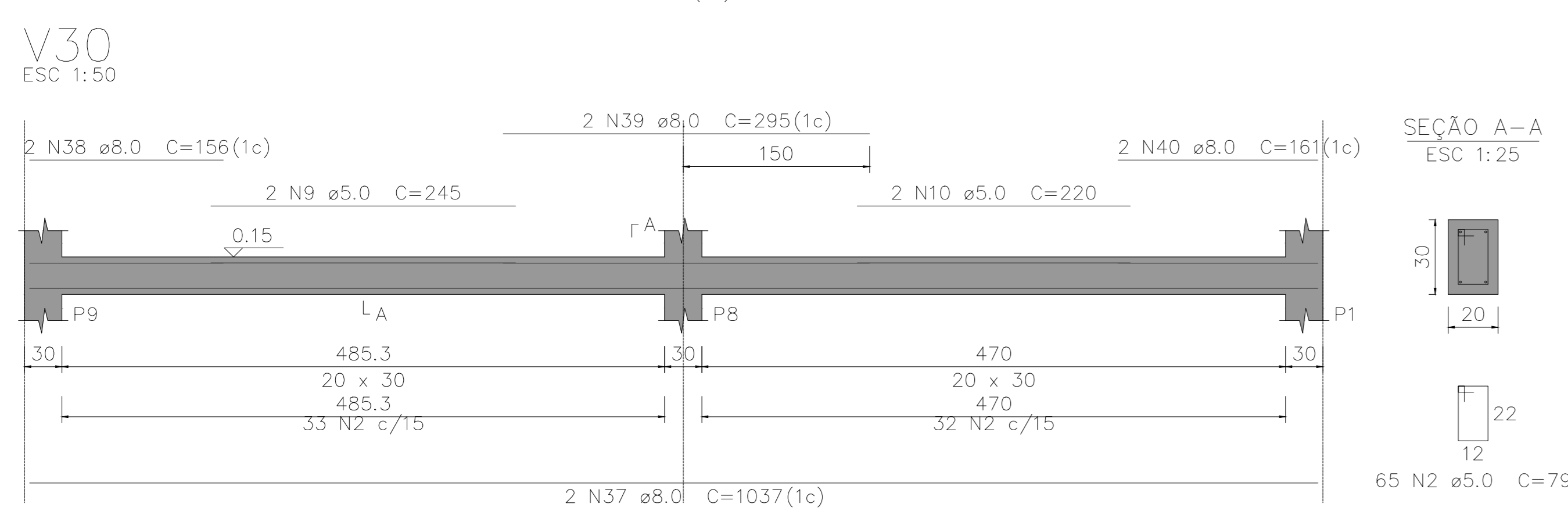
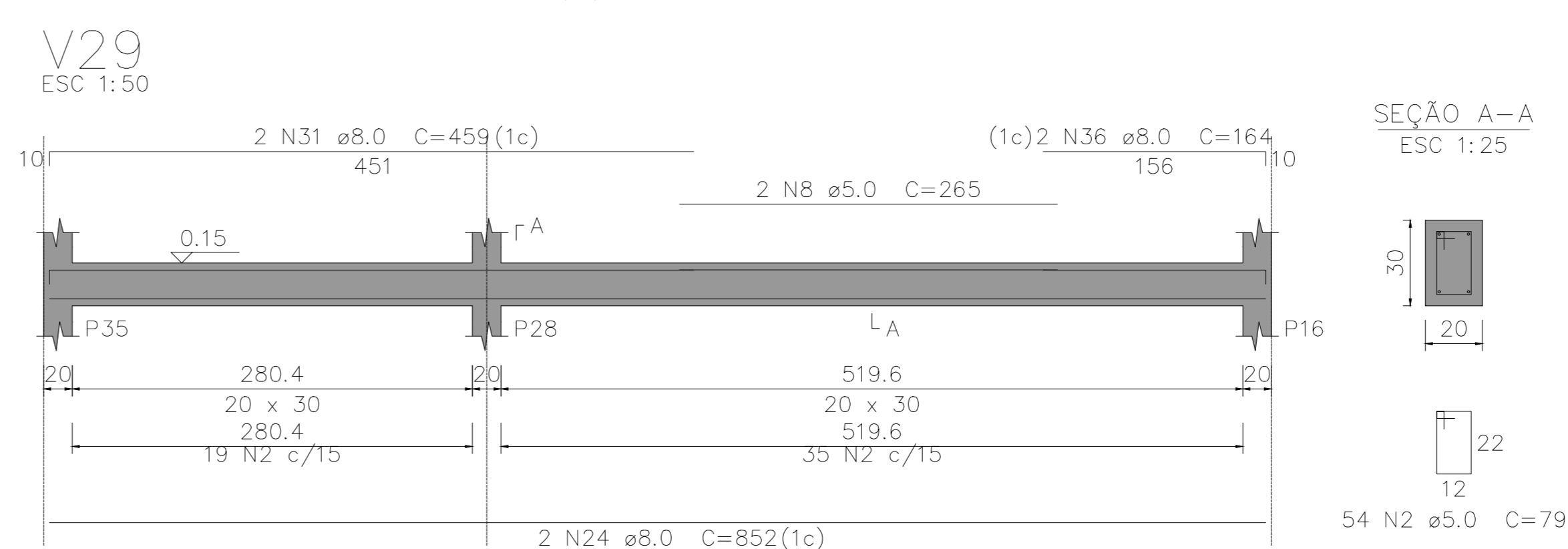
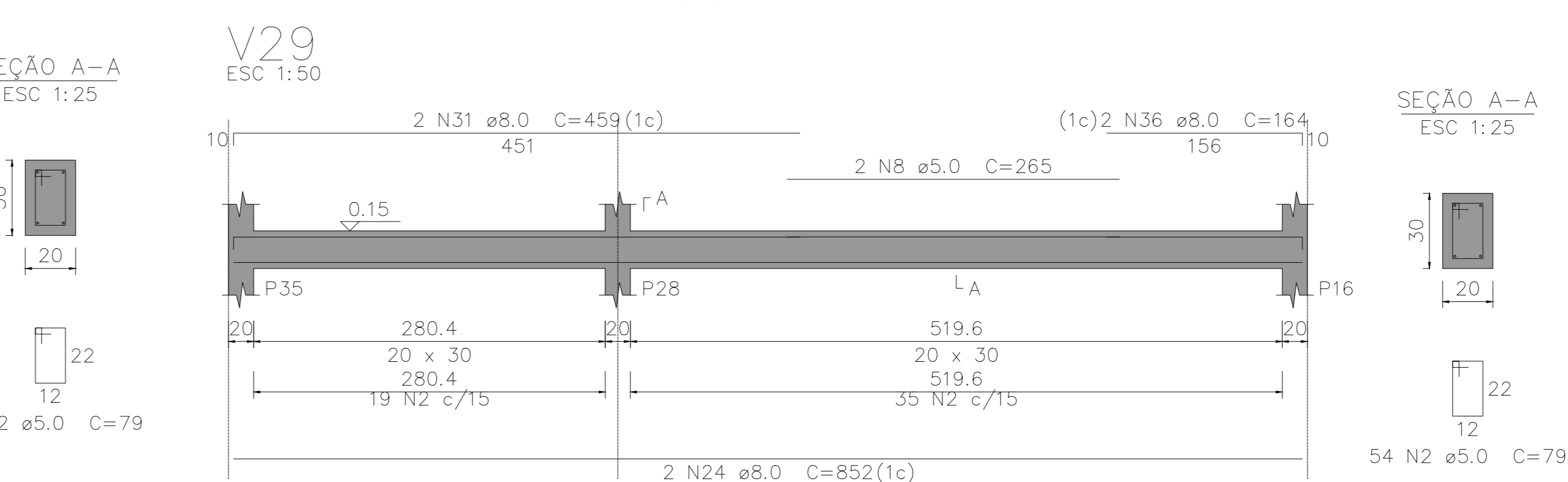
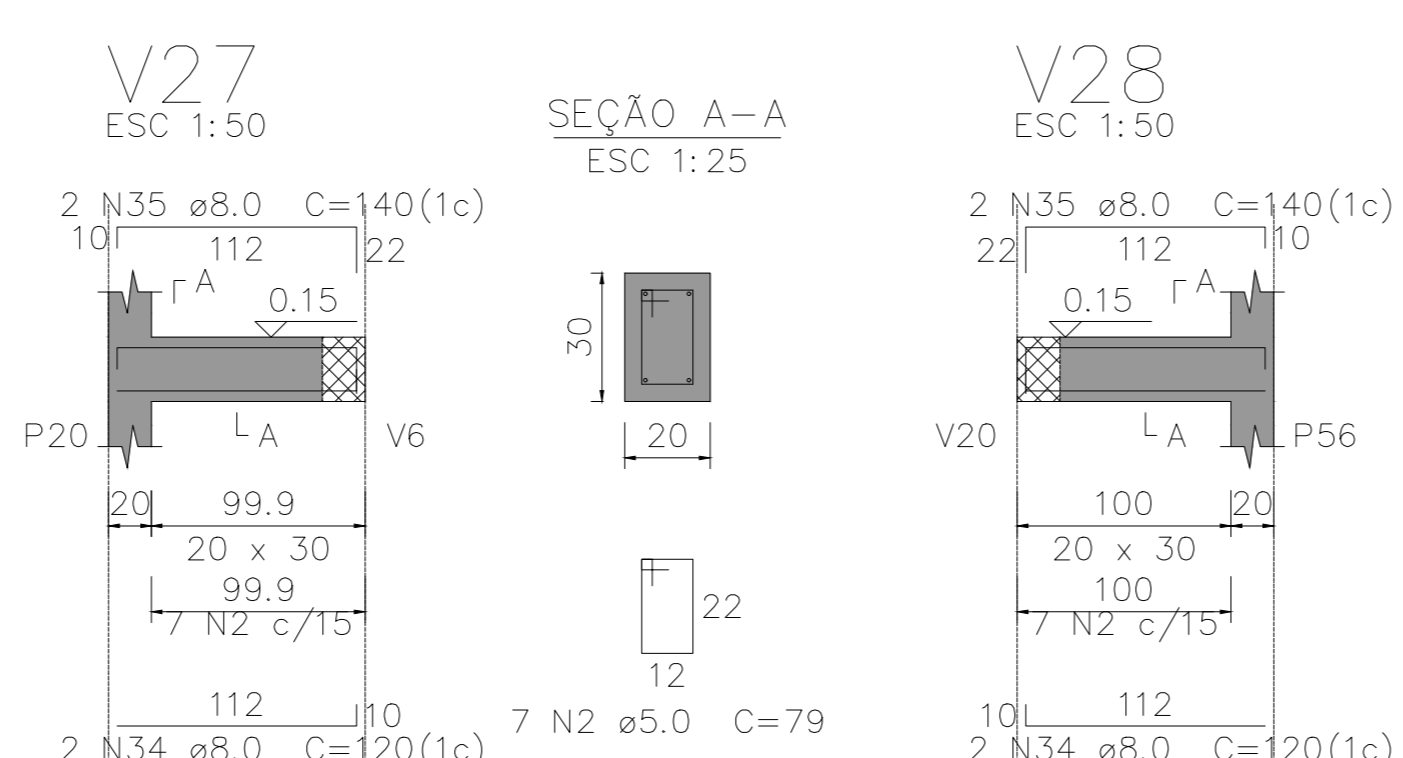
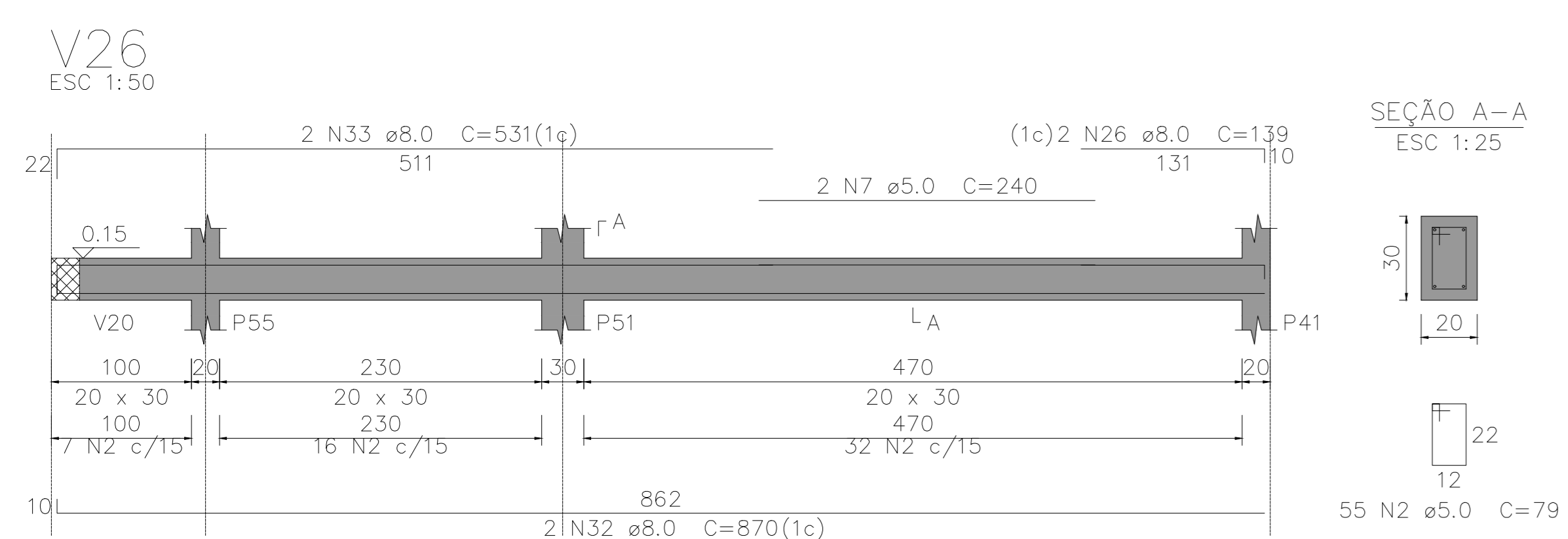
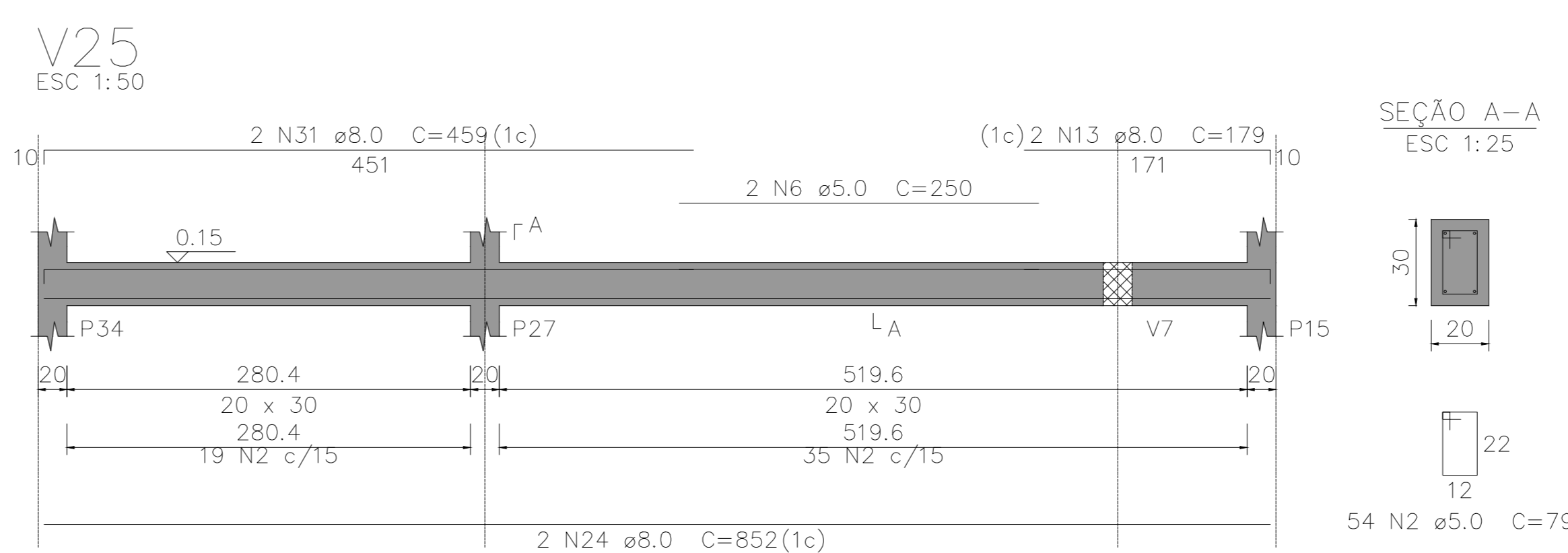
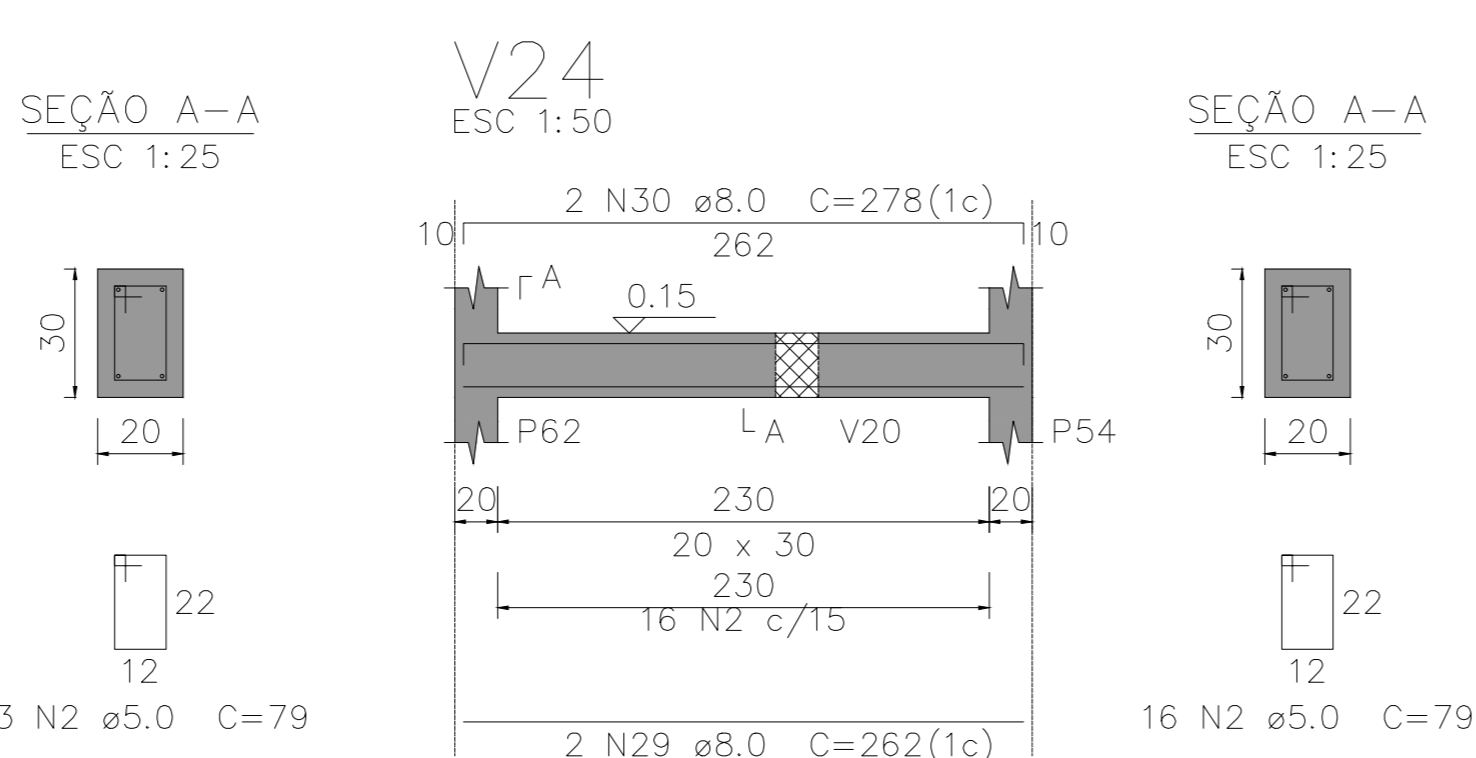
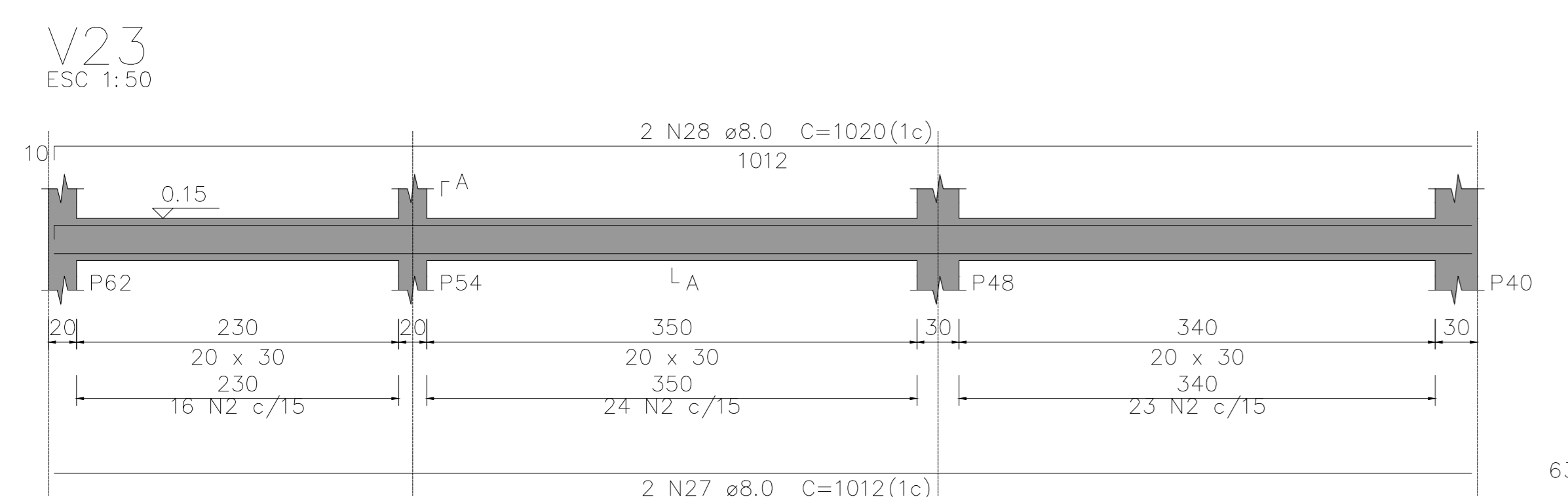
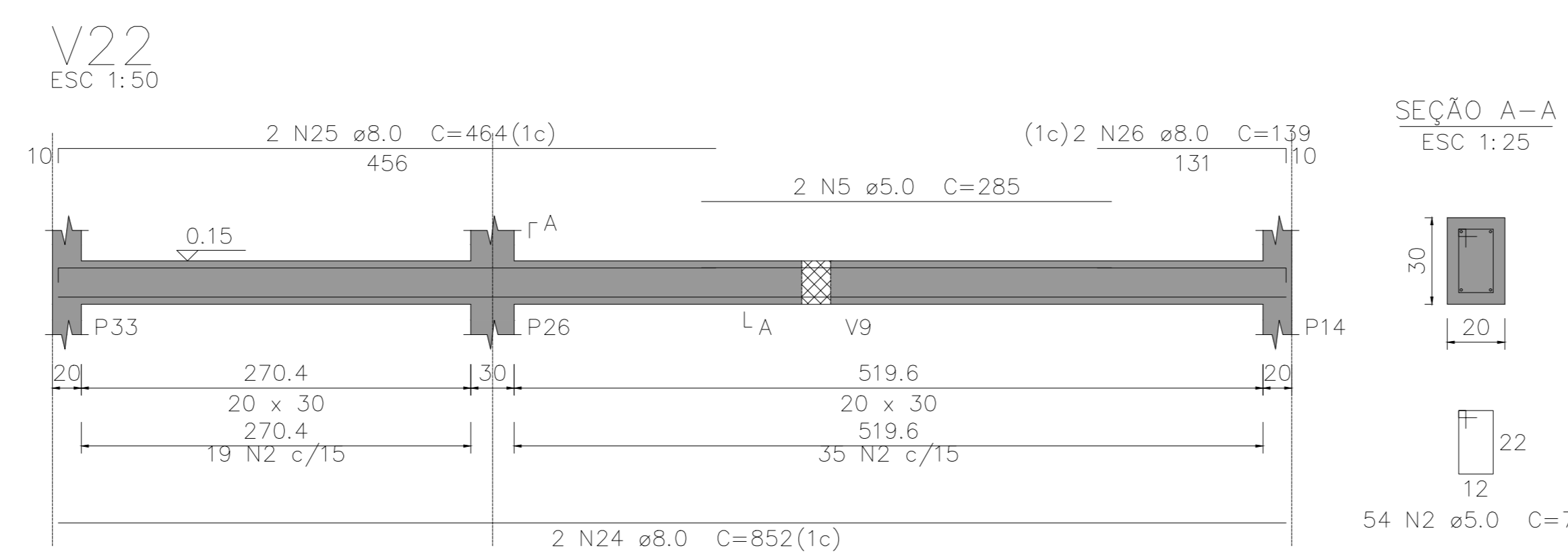
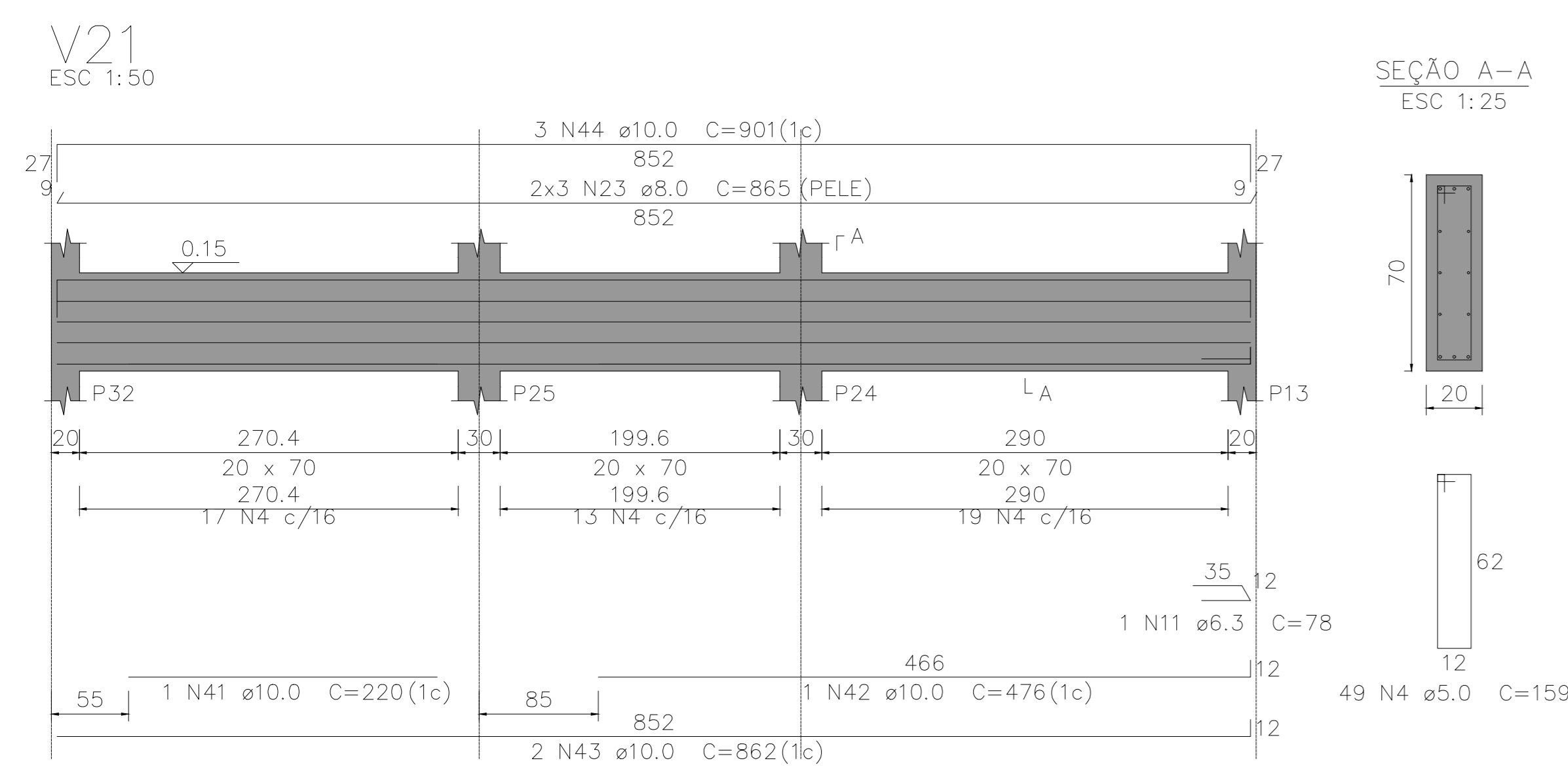
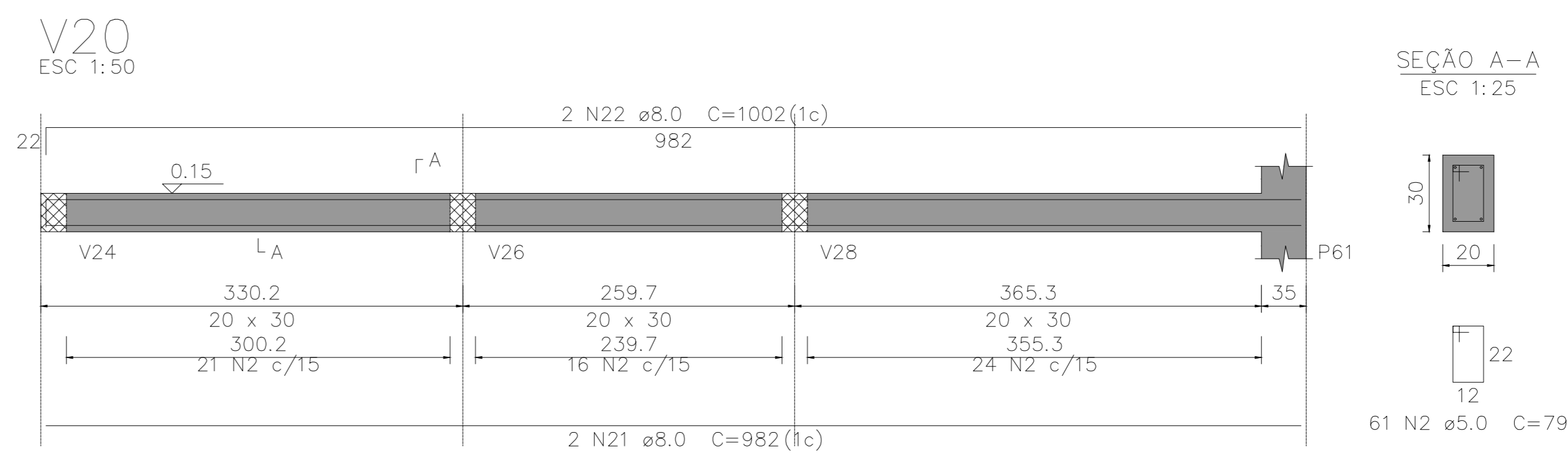
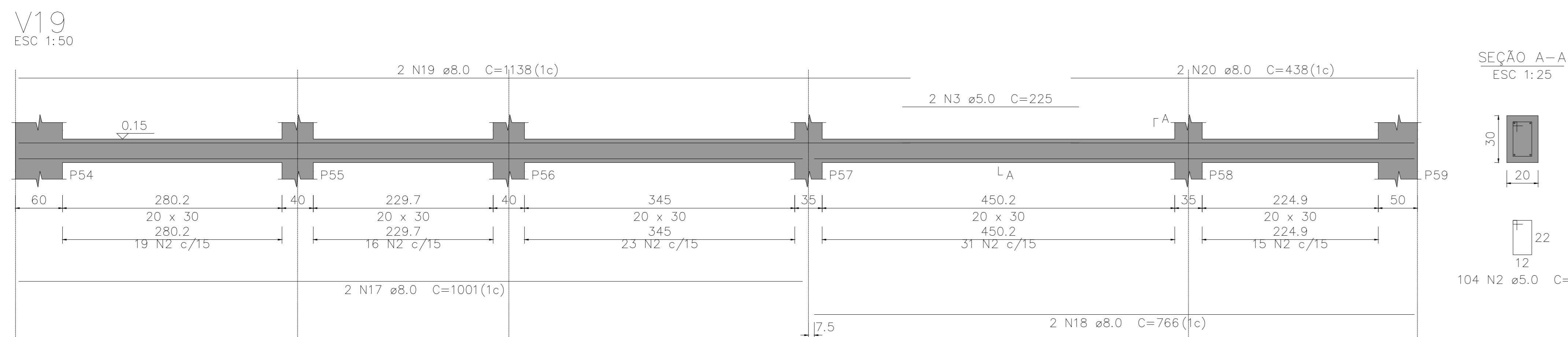
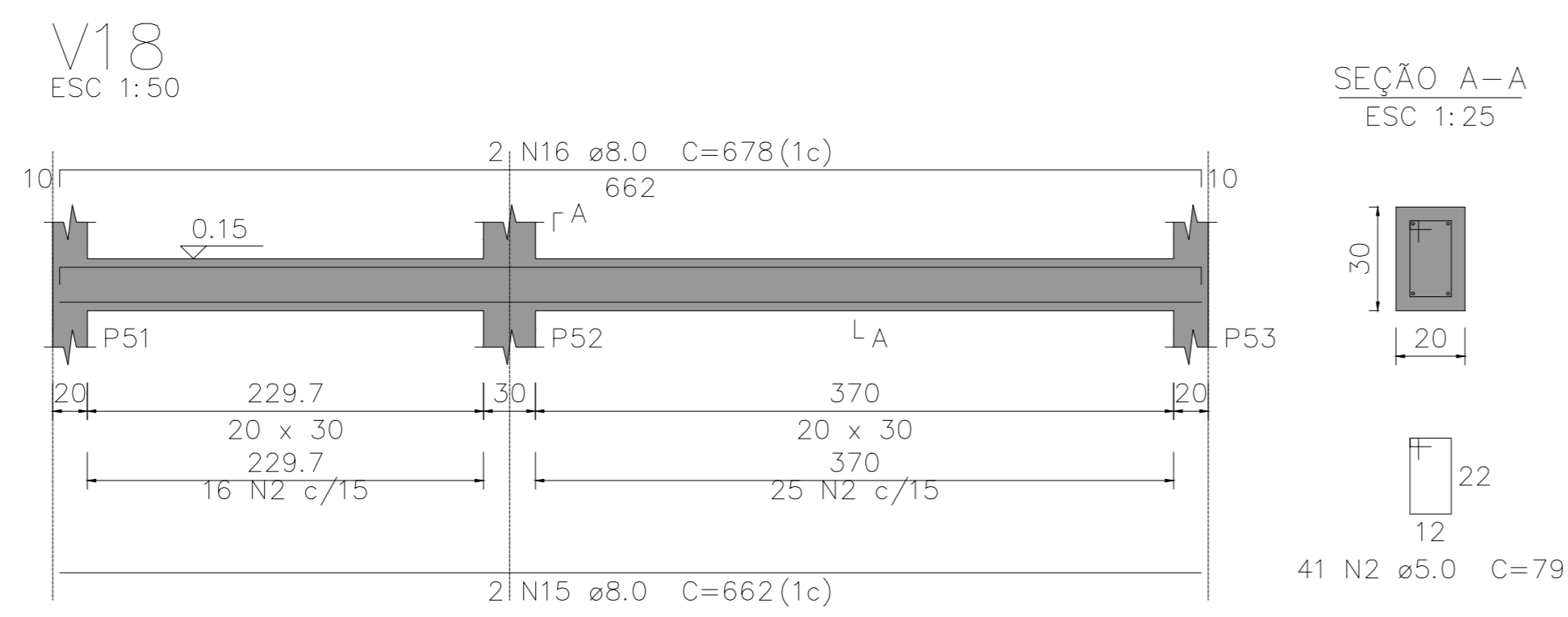
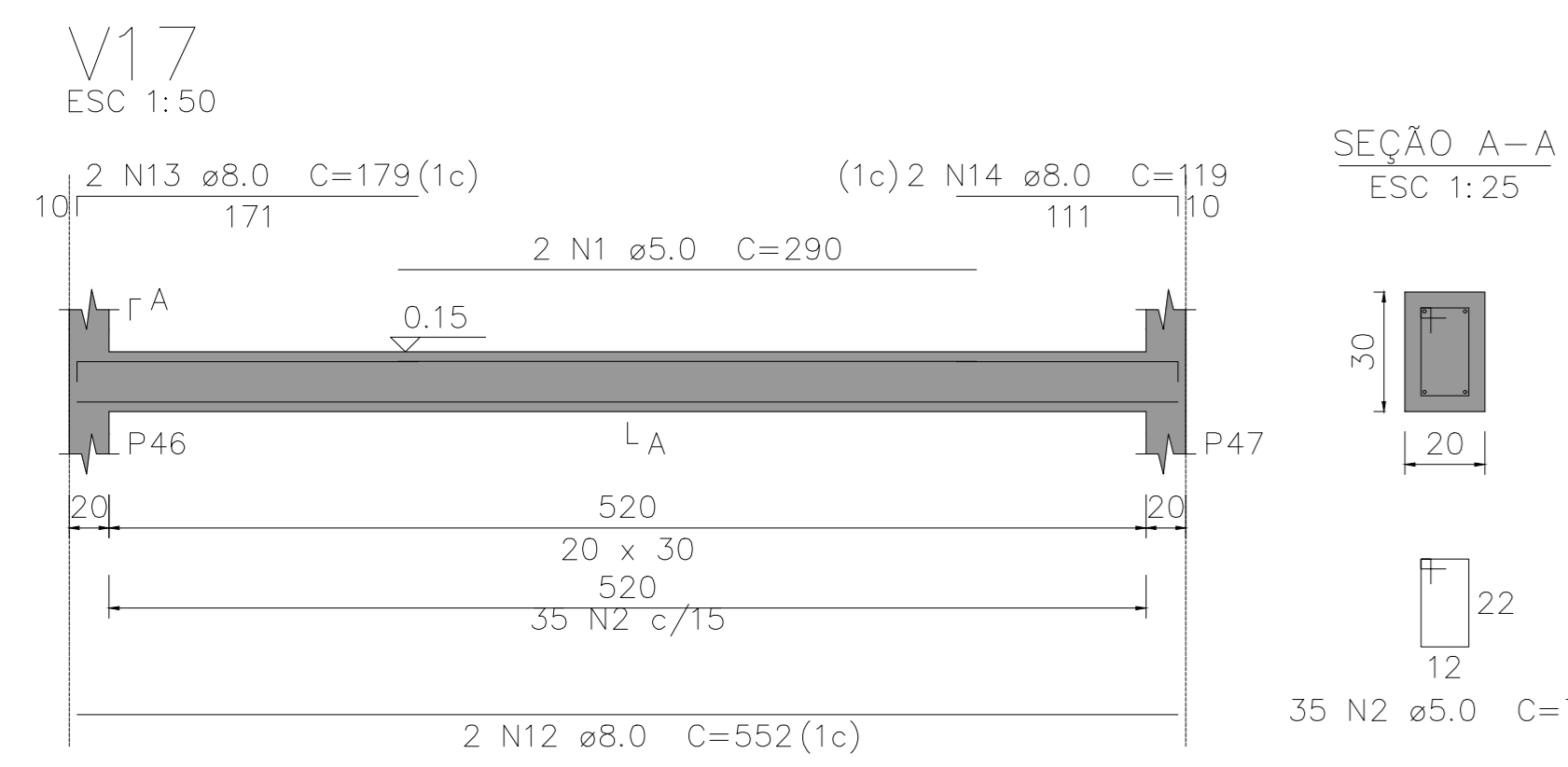
TÍTULO:
PROJETO ESTRUTURAL

ESCALA:
INDICADA

DATA:
FEV/2025

DESENHISTA:
RESP. TÉCNICO

PRANCHA:
13/22



Relação do aço

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	2	290	580
	2	5.0	616	79	48664
	3	5.0	2	225	450
	4	5.0	49	159	7791
	5	5.0	2	285	570
	6	5.0	2	250	500
	7	5.0	2	240	480
	8	5.0	2	265	530
	9	5.0	2	245	490
	10	5.0	2	220	440
	11	6.3	1	78	78
	12	8.0	2	552	1104
	13	8.0	4	179	716
	14	8.0	2	119	238
	15	8.0	2	662	1324
	16	8.0	2	678	1356
	17	8.0	2	1001	2002
	18	8.0	2	766	1532
	19	8.0	2	1138	2276
	20	8.0	2	438	876
	21	8.0	2	982	1964
	22	8.0	2	1002	2004
	23	8.0	6	865	5190
	24	8.0	6	852	5112
	25	8.0	2	464	928
	26	8.0	4	139	556
	27	8.0	2	1012	2024
	28	8.0	2	1020	2040
	29	8.0	2	262	524
	30	8.0	2	278	556
	31	8.0	4	459	1836
	32	8.0	2	870	1740
	33	8.0	2	531	1062
	34	8.0	4	120	480
	35	8.0	4	140	560
	36	8.0	2	164	328
	37	8.0	2	1037	2074
	38	8.0	2	156	312
	39	8.0	2	295	590
	40	8.0	2	161	322
	41	10.0	1	220	220
	42	10.0	1	476	476
	43	10.0	2	862	1724
	44	10.0	3	901	2703

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6.3	0.8	0.2
	8.0	416.3	180.7
	10.0	51.3	34.7
CA60	5.0	605	102.6
PESO TOTAL (kg)			
CA50	215.6		
CA60	102.6		

Volume de concreto (C-35) = 6.52 m³
Área de forma = 84.8 m²

FVSM
ENGENHARIA

PROPRIETÁRIO:
PREFEITURA MUNICIPAL DE VARGEM GRANDE - MA

OBJETO:
**CONSTRUÇÃO DE UBS TIPO II, NOVO PAC
MARIA C. B. BEZERRA NO MUNICÍPIO DE VARGEM GRANDE - MA**

TÍTULO:
PROJETO ESTRUTURAL

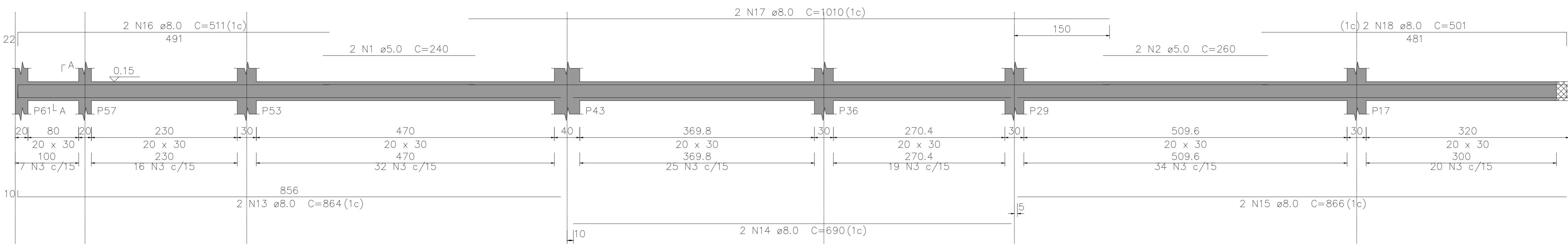
ESCALA:
INDICADA

DATA:
FEV/2025

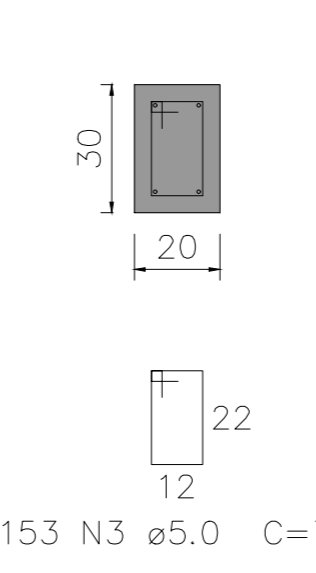
DESENHISTA:
RESP. TÉCNICO

PRANCHA:
14/22

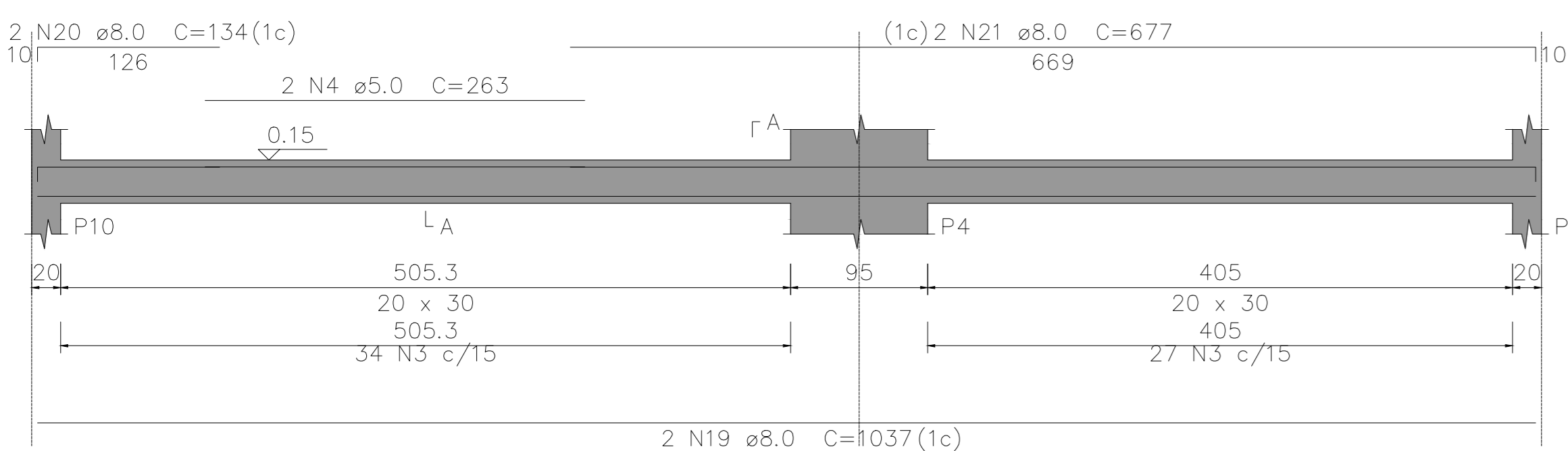
V31
ESC 1:50



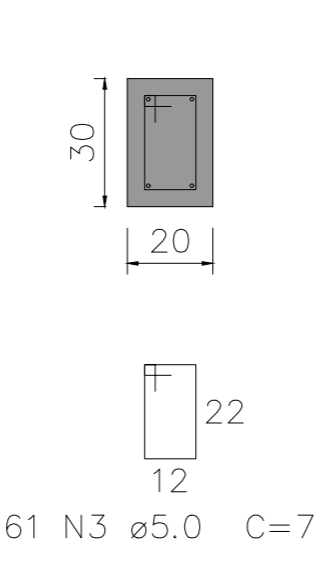
SEÇÃO A-A
ESC 1:25



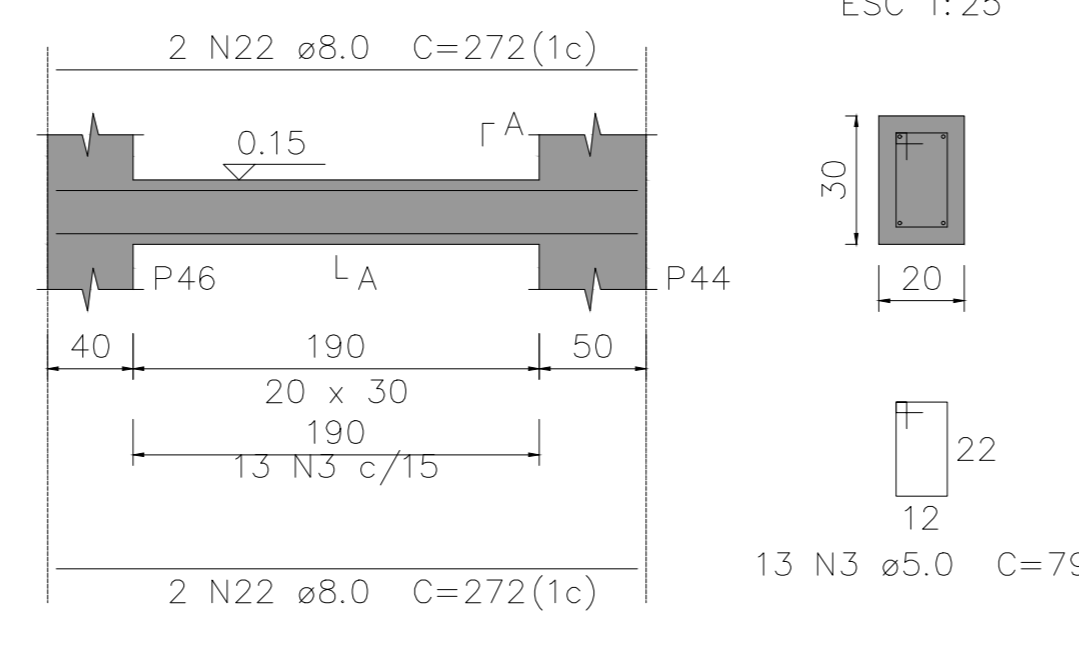
V32
ESC 1:50



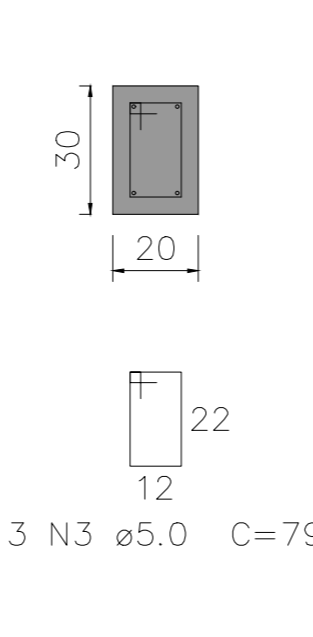
SEÇÃO A-A
ESC 1:25



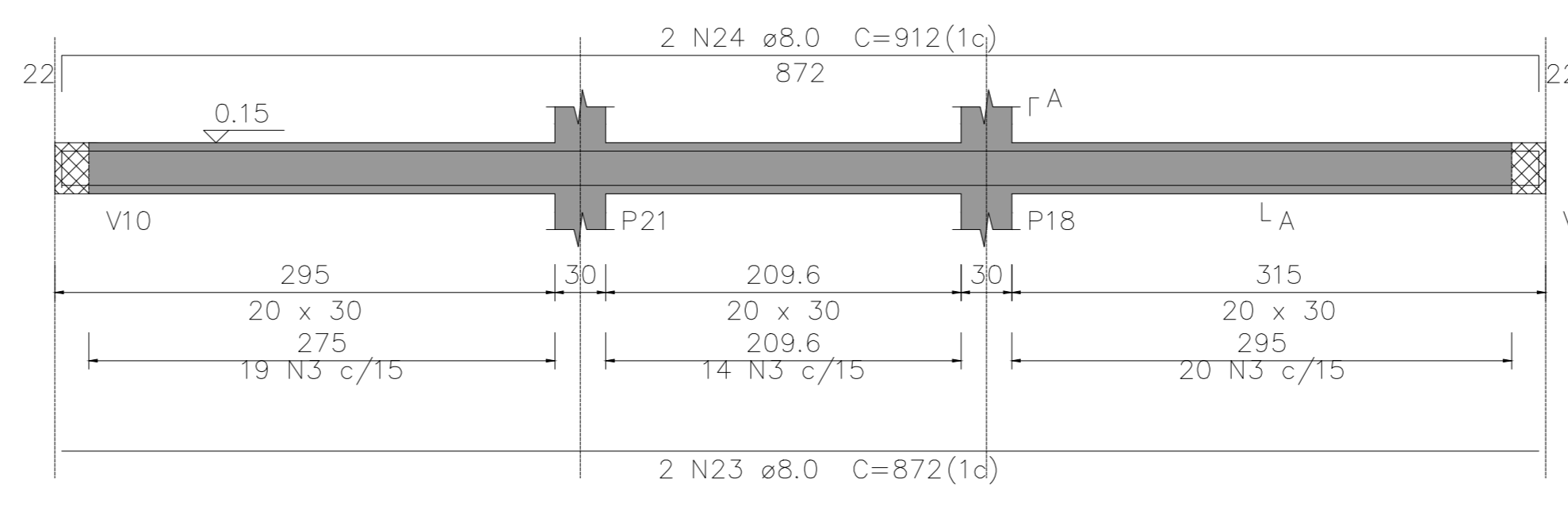
V33
ESC 1:50



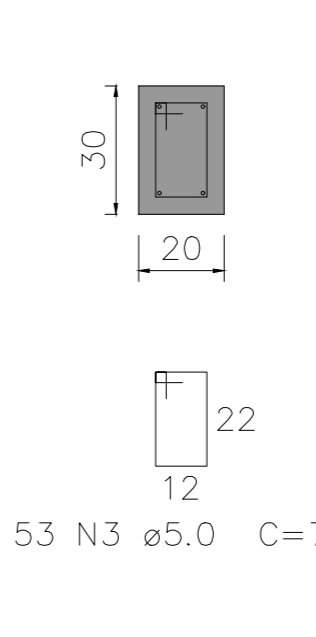
SEÇÃO A-A
ESC 1:25



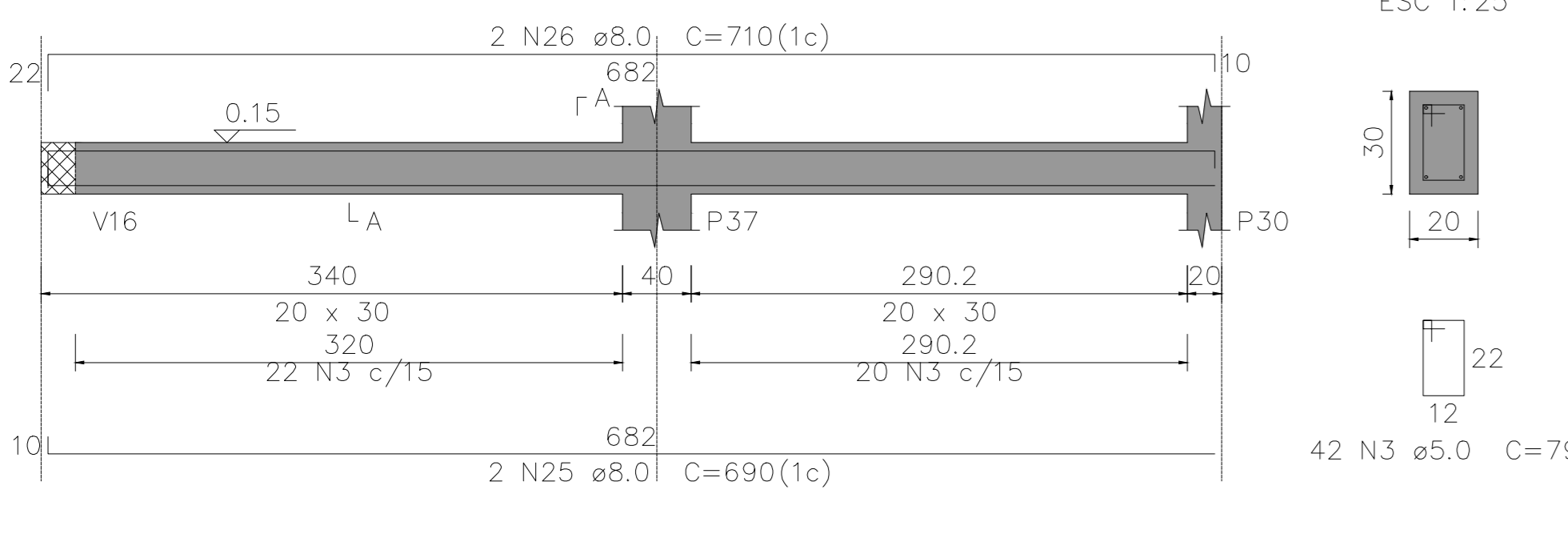
V34
ESC 1:50



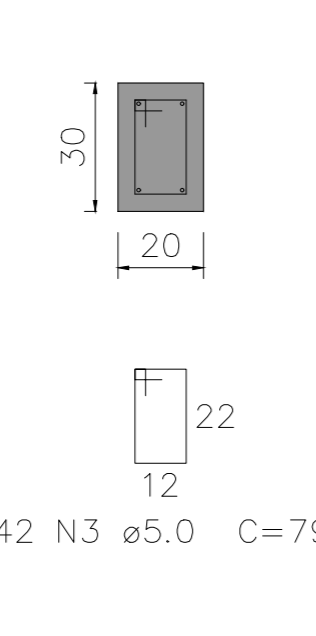
SEÇÃO A-A
ESC 1:25



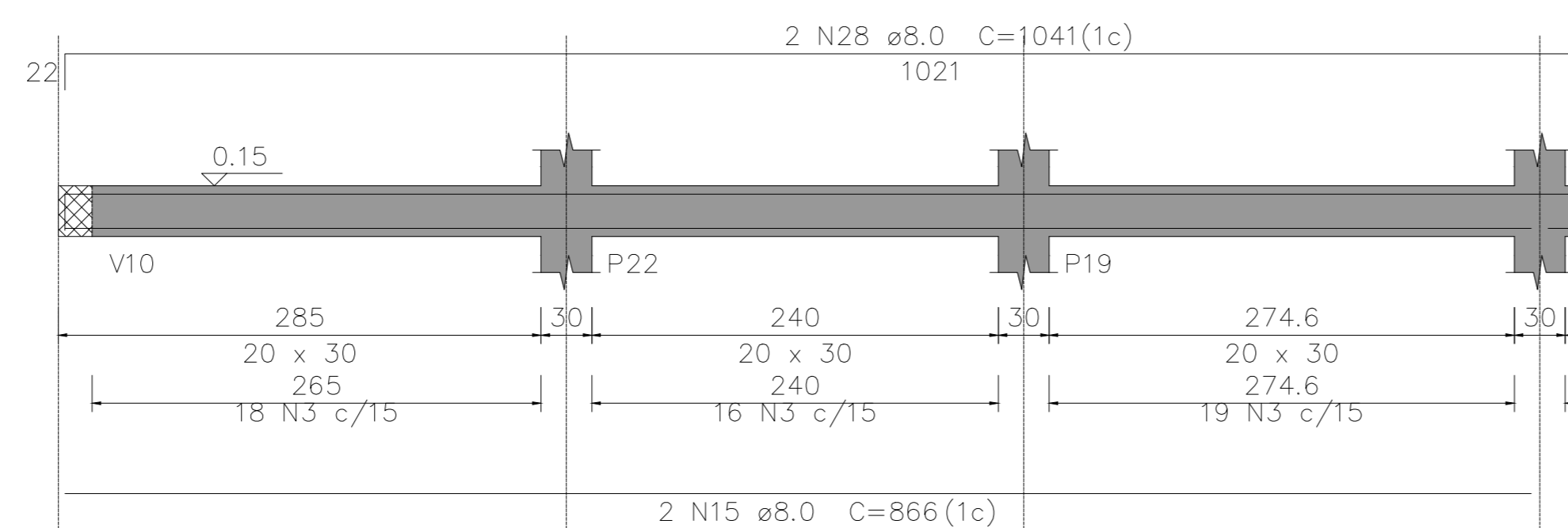
V35
ESC 1:50



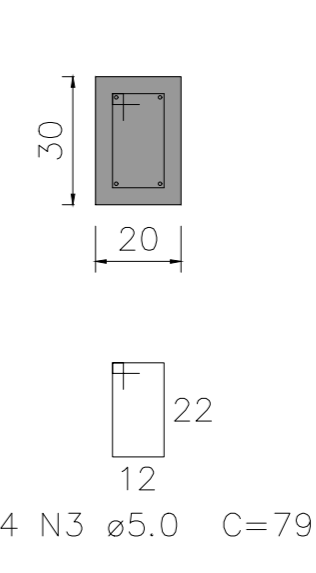
SEÇÃO A-A
ESC 1:25



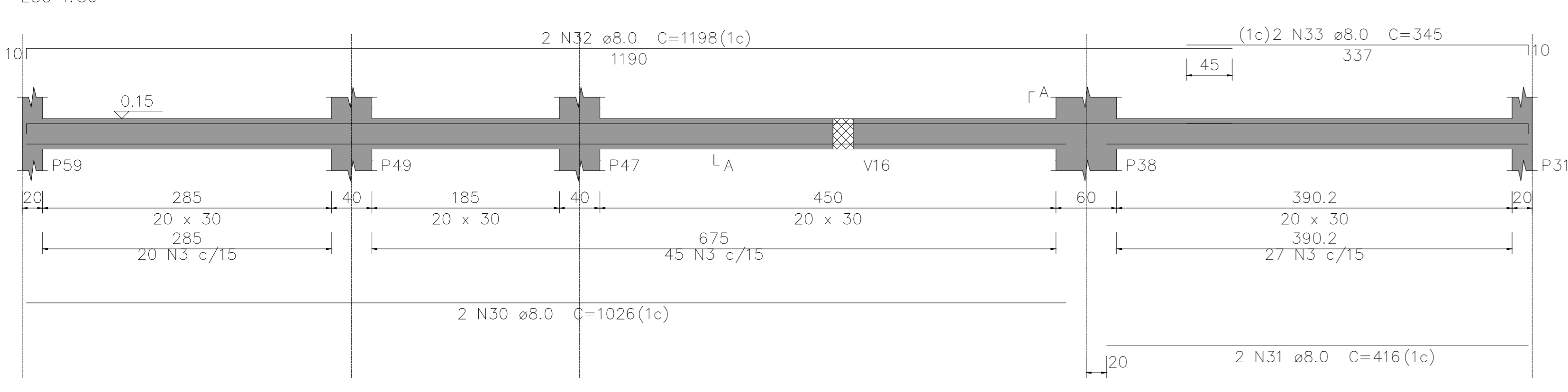
V36
ESC 1:50



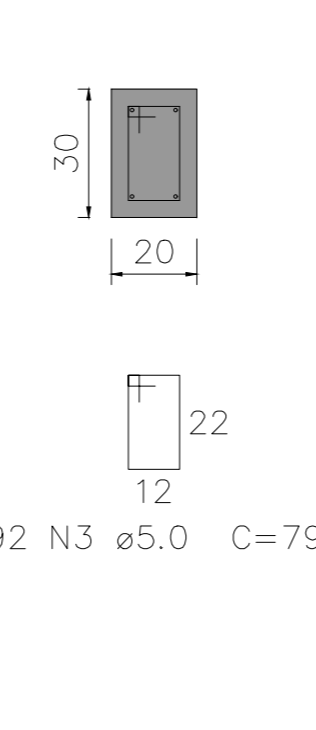
SEÇÃO A-A
ESC 1:25



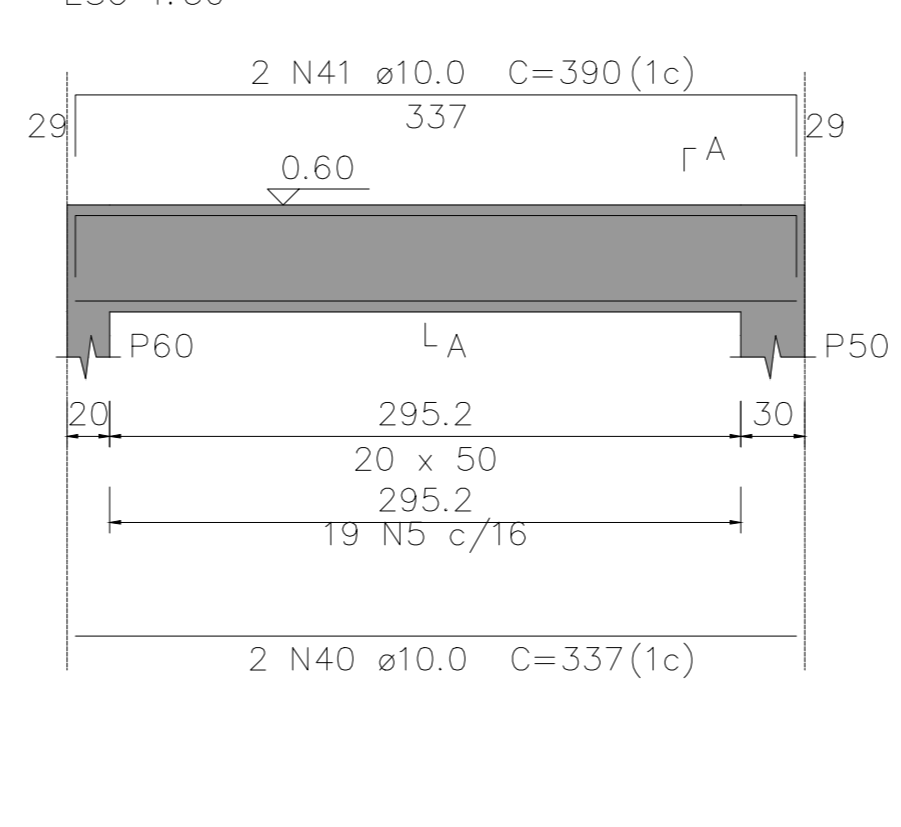
V37
ESC 1:50



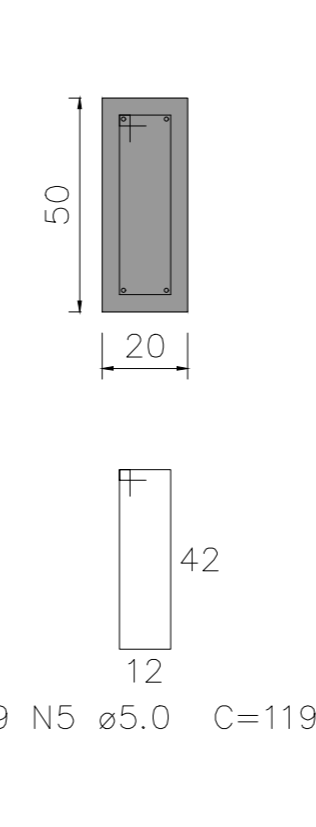
SEÇÃO A-A
ESC 1:25



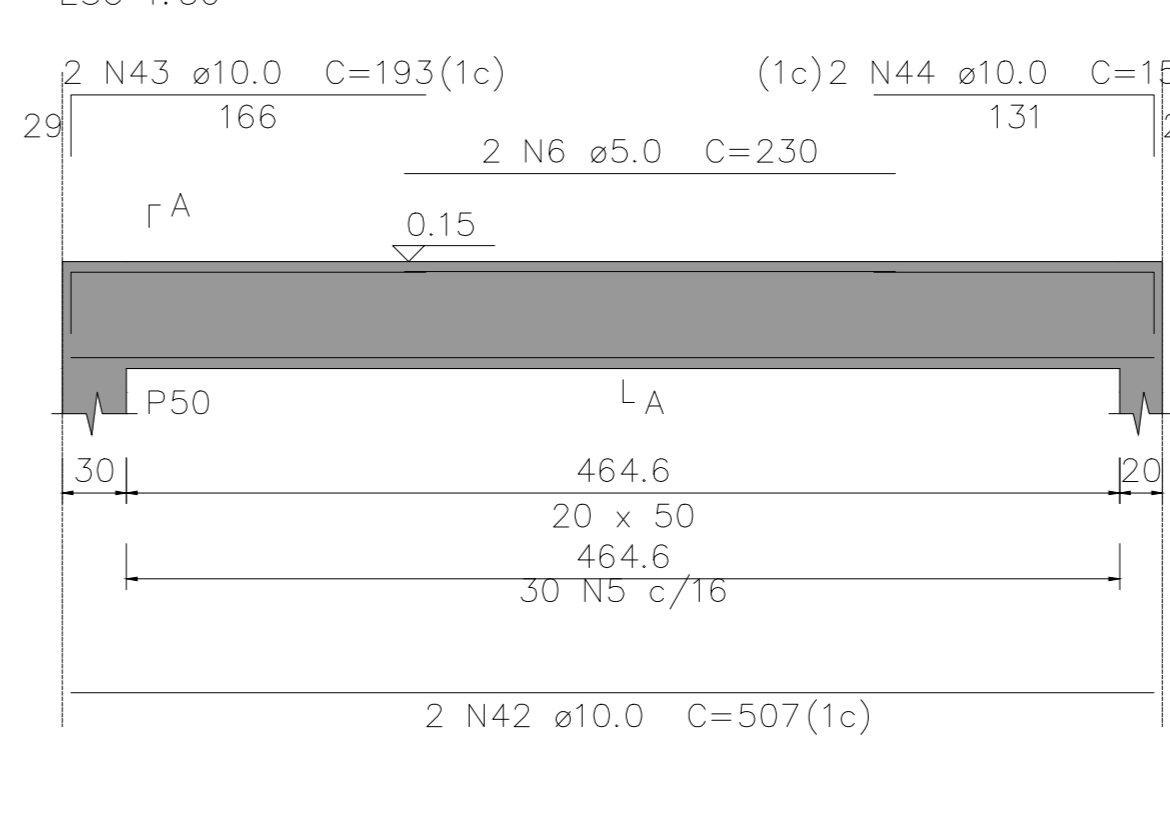
V38
ESC 1:50



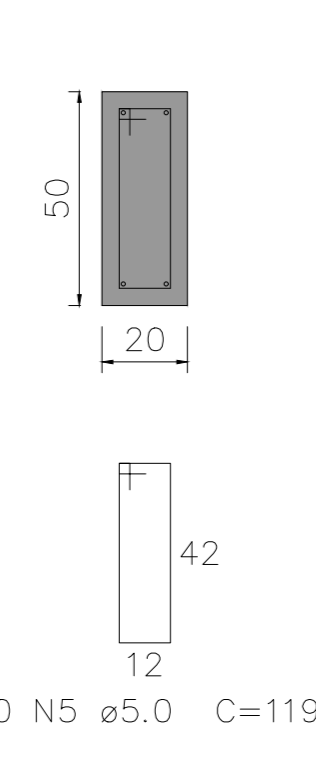
SEÇÃO A-A
ESC 1:25



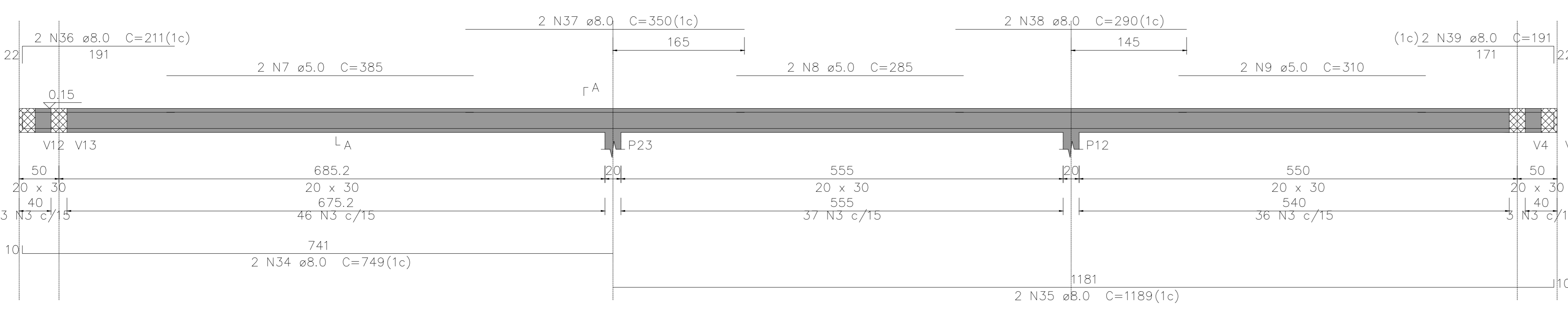
V39
ESC 1:50



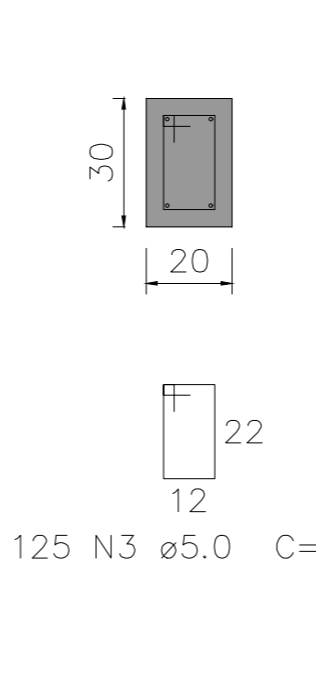
SEÇÃO A-A
ESC 1:25



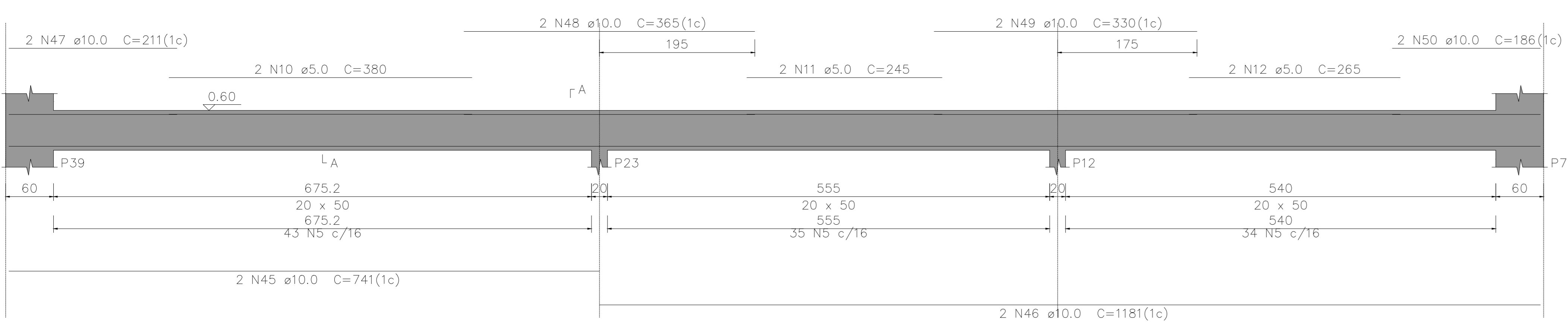
V40
ESC 1:50



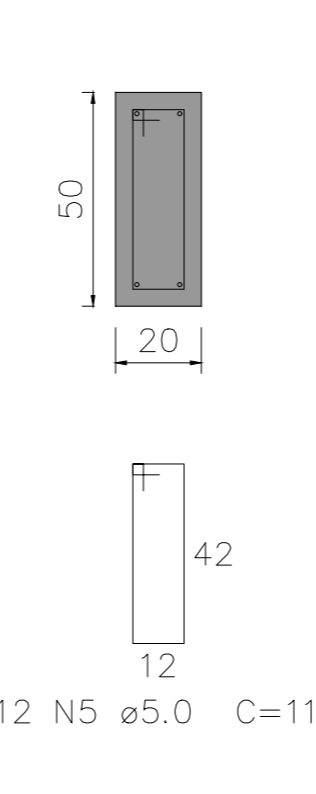
SEÇÃO A-A
ESC 1:25



V41
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	2	240	480
	2	5.0	4	260	1040
	3	5.0	65.3	79	5158.7
	4	5.0	2	26.3	52.6
	5	5.0	161	119	1915.9
	6	5.0	2	230	460
	7	5.0	2	385	770
	8	5.0	2	285	570
	9	5.0	2	310	620
	10	5.0	2	380	760
	11	5.0	2	245	490
	12	5.0	2	265	530
CA50	13	8.0	2	864	1728
	14	8.0	2	690	1380
	15	8.0	4	866	3464
	16	8.0	2	511	1022
	17	8.0	2	1010	2020
	18	8.0	2	501	1002
	19	8.0	2	1037	2074
	20	8.0	2	134	268
	21	8.0	2	677	1354
	22	8.0	4	272	1088
	23	8.0	2	872	1744
	24	8.0	2	912	1824
	25	8.0	2	690	1380
	26	8.0	2	710	1420
	27	8.0	2	1021	2042
	28	8.0	2	1041	2082
	29	8.0	2	636	1272
	30	8.0	2	1026	2052
	31	8.0	2	416	832
	32	8.0	2	1198	2396
	33	8.0	2	345	690
	34	8.0	2	749	1498
	35	8.0	2	1181	2362
	36	8.0	2	211	422
	37	8.0	2	350	700
	38	8.0	2	290	580
	39	8.0	2	191	382
	40	10.0	2	337	674
	41	10.0	2	390	780
	42	10.0	2	507	1014
	43	10.0	2	193	386
	44	10.0	2	158	316
	45	10.0	2	741	1482
	46	10.0	2	1181	2362
	47	10.0	2	211	422
	48	10.0	2	365	730
	49	10.0	2	330	660
	50	10.0	2	186	372

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	8.0	391	169.7
CA60	10.0	92	62.4
CA60	5.0	770	130.5
PESO TOTAL (kg)			
CA50		232.1	
CA60		130.5	

Volume de concreto (C=35) = 8.45 m³
Área de forma = 109 m²



FVSM
ENGENHARIA

PROPRIETÁRIO:
PREFEITURA MUNICIPAL DE VARGEM GRANDE - MA

OBJETO:
**CONSTRUÇÃO DE UBS TIPO II, NOVO PAC
MARIA C. B. BEZERRA NO MUNICÍPIO DE VARGEM GRANDE - MA**

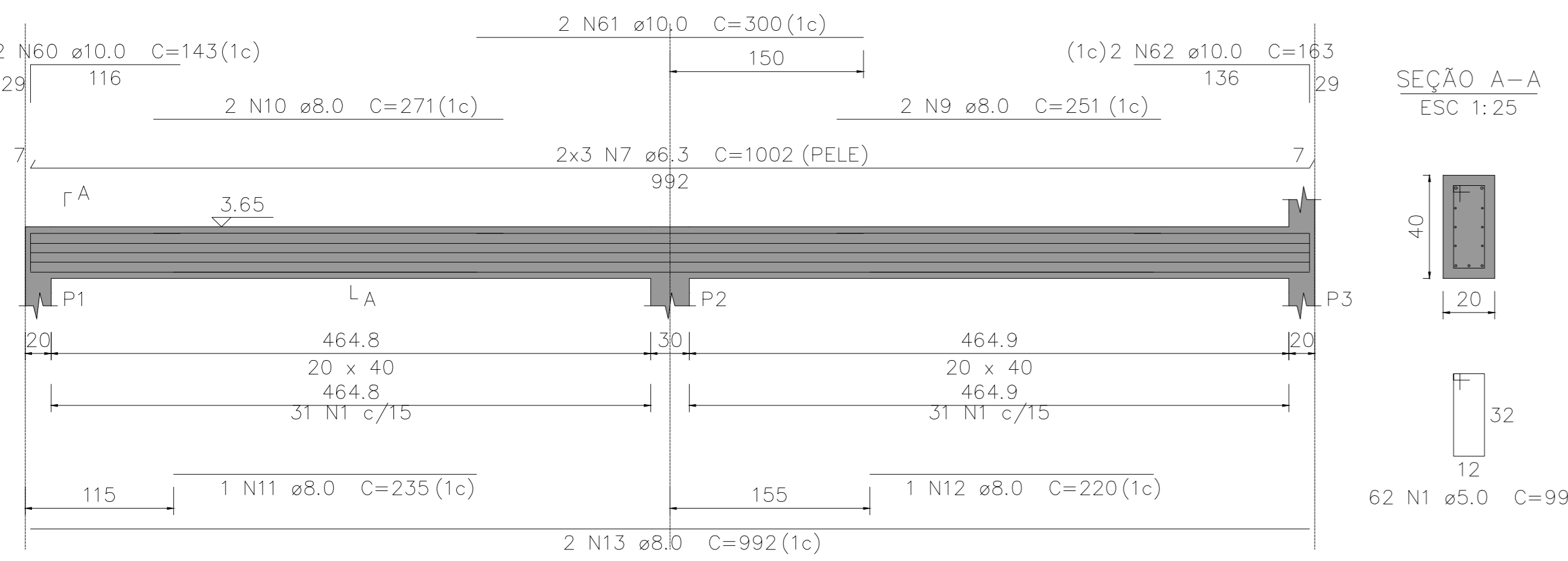
TÍTULO: **PROJETO ESTRUTURAL**

ESCALA: **INDICADA** DATA: **FEV/2025** DESENHISTA:

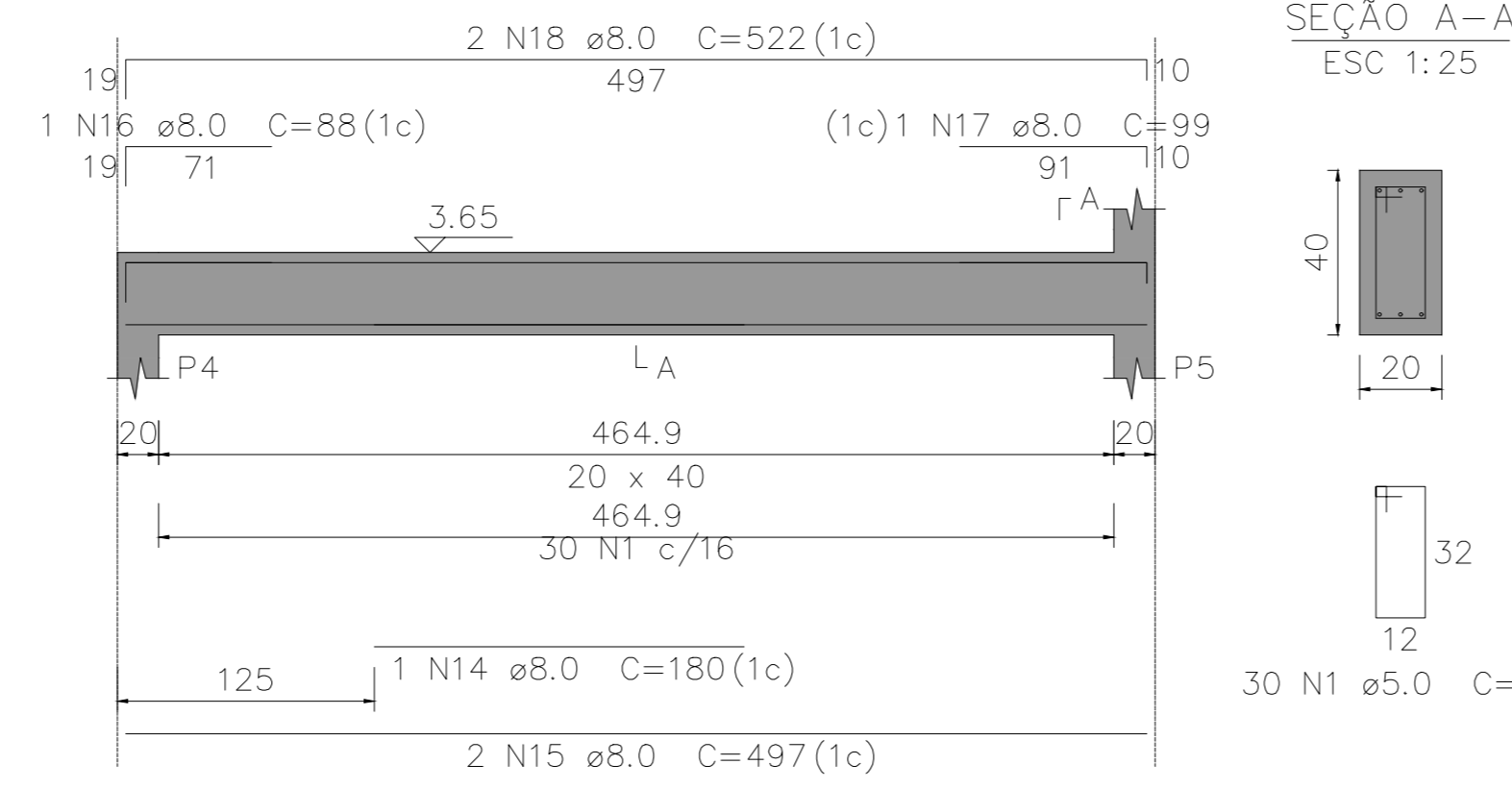
PRANCHA: **15/22**

RESP. TÉCNICO

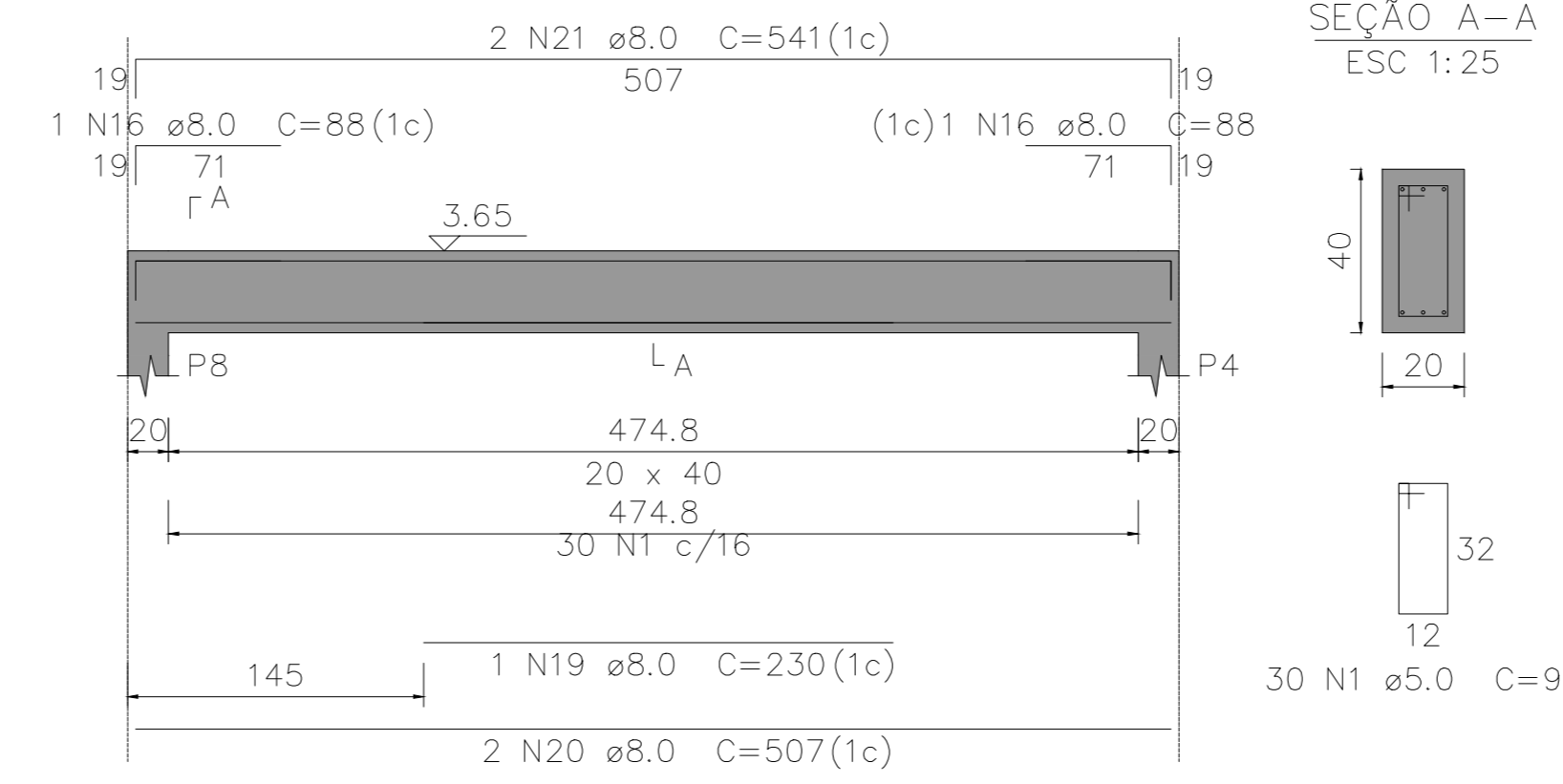
V101
ESC 1:50



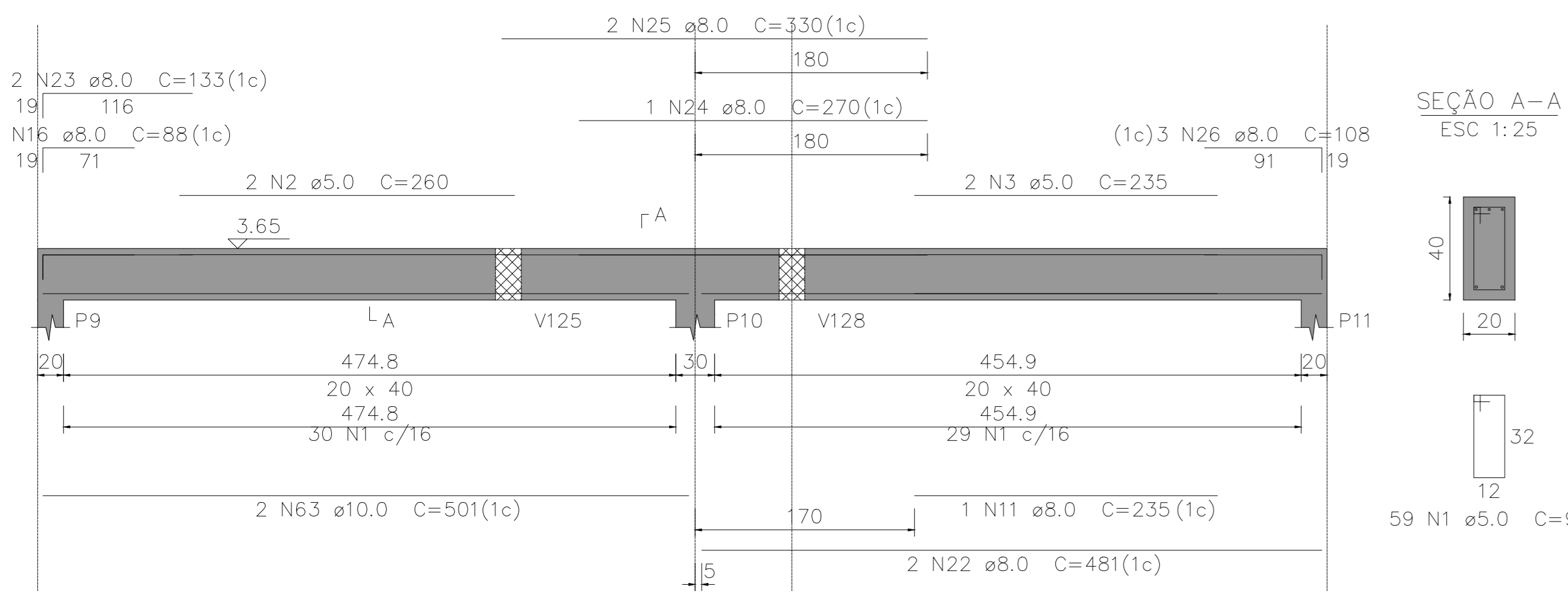
V102
ESC 1:50



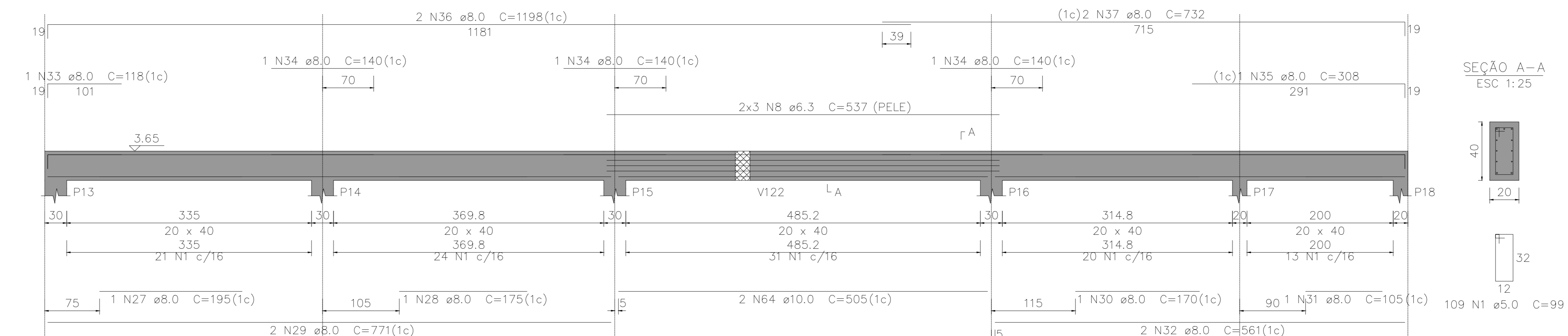
V103
ESC 1:50



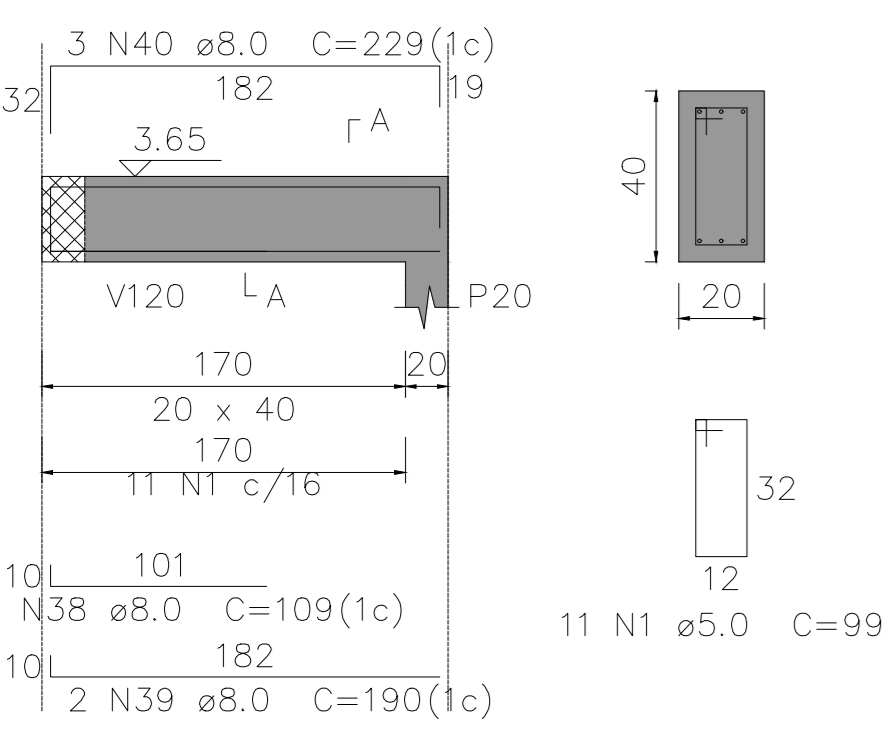
V104
ESC 1:50



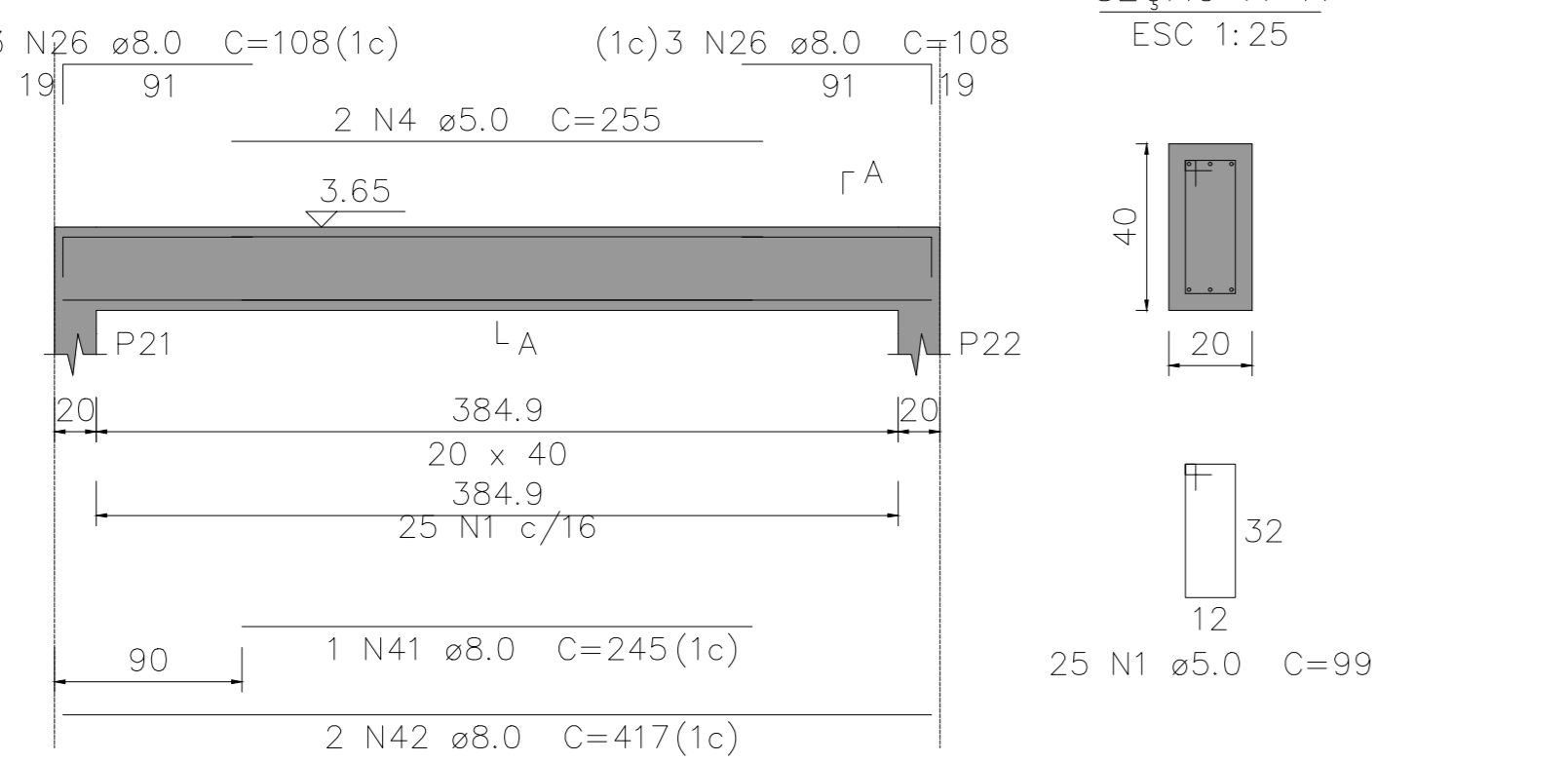
V105
ESC 1:50



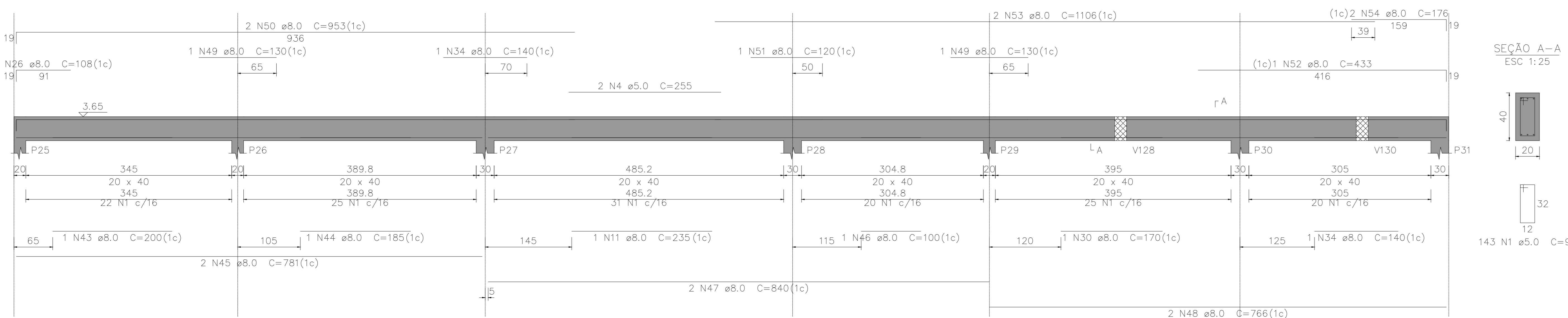
V106
ESC 1:50



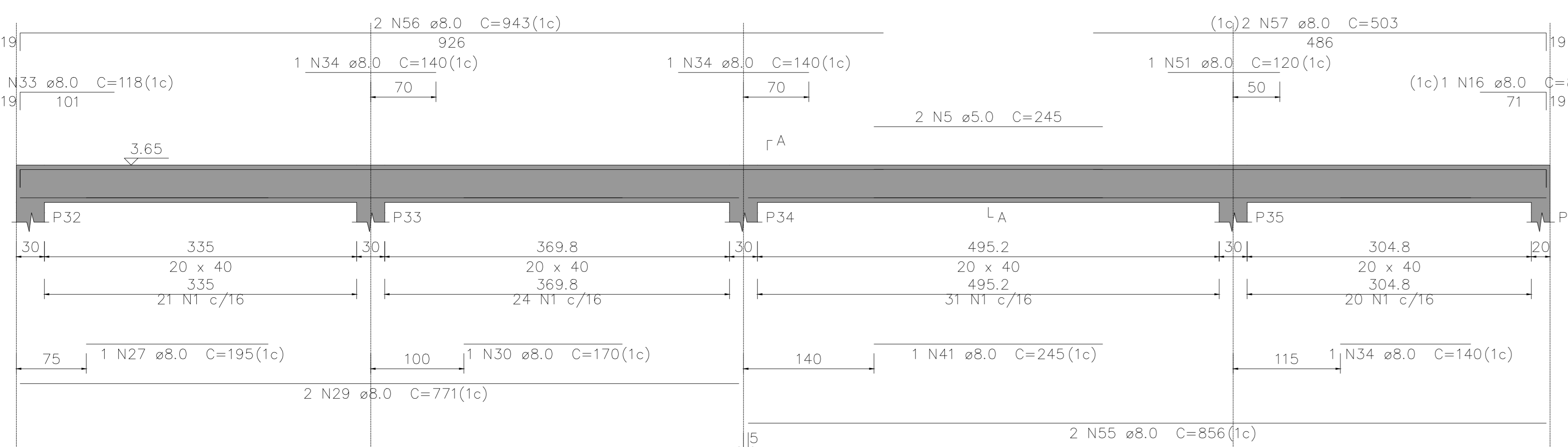
V107
ESC 1:50



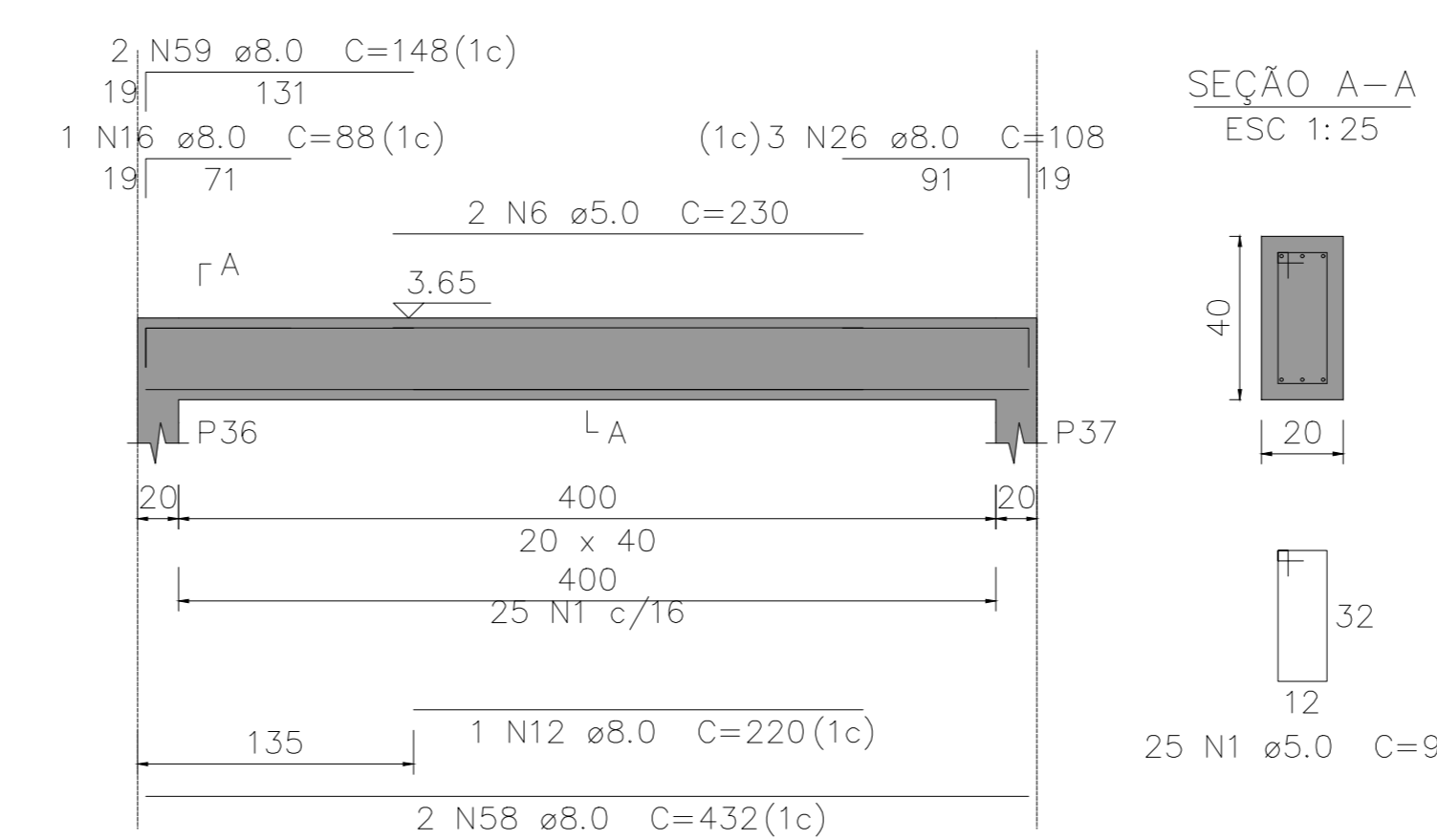
V108
ESC 1:50



V109
ESC 1:50



V110
ESC 1:50



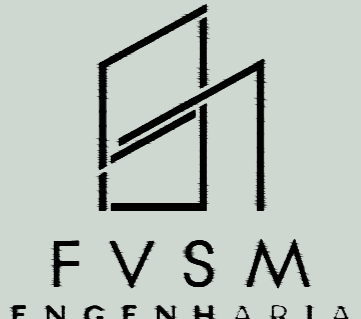
Relação do aço

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CABO	1	5,0	590	99	58410
	2	5,0	2	260	520
	3	5,0	2	235	470
	4	5,0	4	255	1020
	5	5,0	4	245	980
	6	5,0	2	230	460
CASO	7	6,3	6	1002	6012
	8	6,3	6	537	3222
	9	8,0	2	251	502
	10	8,0	2	271	542
	11	8,0	3	235	705
	12	8,0	2	220	440
	13	8,0	2	992	1984
	14	8,0	1	180	180
	15	8,0	2	497	994
	16	8,0	6	88	528
	17	8,0	1	99	99
	18	8,0	2	522	1044
	19	8,0	1	230	230
	20	8,0	2	507	1014
	21	8,0	2	541	1082
	22	8,0	2	481	962
	23	8,0	2	133	266
	24	8,0	1	270	270
	25	8,0	2	330	660
	26	8,0	13	108	1404
	27	8,0	2	195	390
	28	8,0	1	175	175
	29	8,0	4	771	3084
	30	8,0	3	170	510
	31	8,0	1	105	105
	32	8,0	2	561	1122
	33	8,0	2	118	236
	34	8,0	8	140	1120
	35	8,0	1	308	308
	36	8,0	2	1198	2396
	37	8,0	2	732	1464
	38	8,0	1	109	109
	39	8,0	2	190	380
	40	8,0	3	229	687
	41	8,0	2	245	490
	42	8,0	2	417	834
	43	8,0	1	200	200
	44	8,0	1	185	185
	45	8,0	2	781	1562
	46	8,0	1	100	100
	47	8,0	2	840	1680
	48	8,0	2	766	1532
	49	8,0	2	130	260
	50	8,0	2	953	1906
	51	8,0	2	120	240
	52	8,0	1	433	433
	53	8,0	2	1106	2212
	54	8,0	2	176	352
	55	8,0	2	856	1712
	56	8,0	2	943	1886
	57	8,0	2	503	1006
	58	8,0	2	432	864
	59	8,0	2	148	296
	60	10,0	2	143	286
	61	10,0	2	300	600
	62	10,0	2	163	326
	63	10,0	2	501	1002
	64	10,0	2	505	1010

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CASO	6,3	92,4	24,9
	8,0	427,5	185,5
	10,0	32,3	21,9
CABO	5,0	613,7	104,1
PESO TOTAL (kg)			
CASO		232,2	
CABO		104,1	

Volume de concreto (C-35) = 7,33 m³
Área de forma = 87,51 m²



FVSM
ENGENHARIA

PROPRIETÁRIO:
PREFEITURA MUNICIPAL DE VARGEM GRANDE - MA

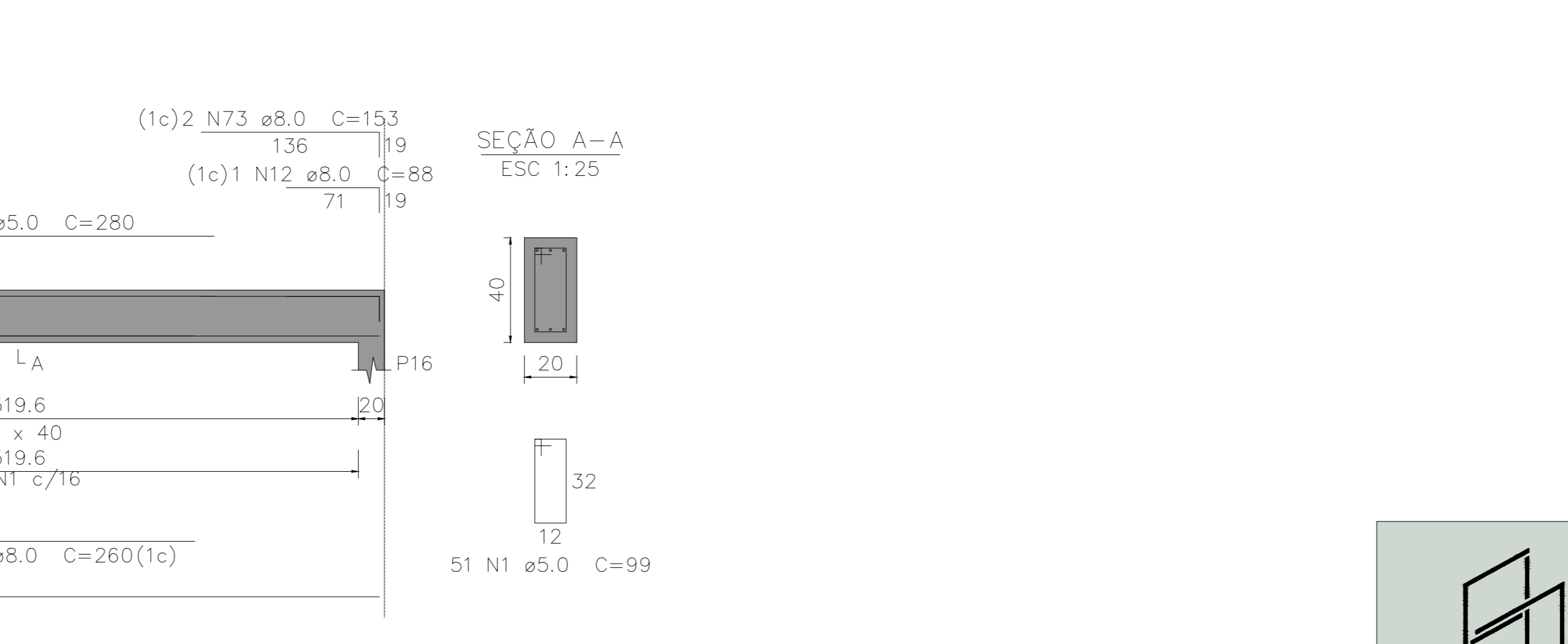
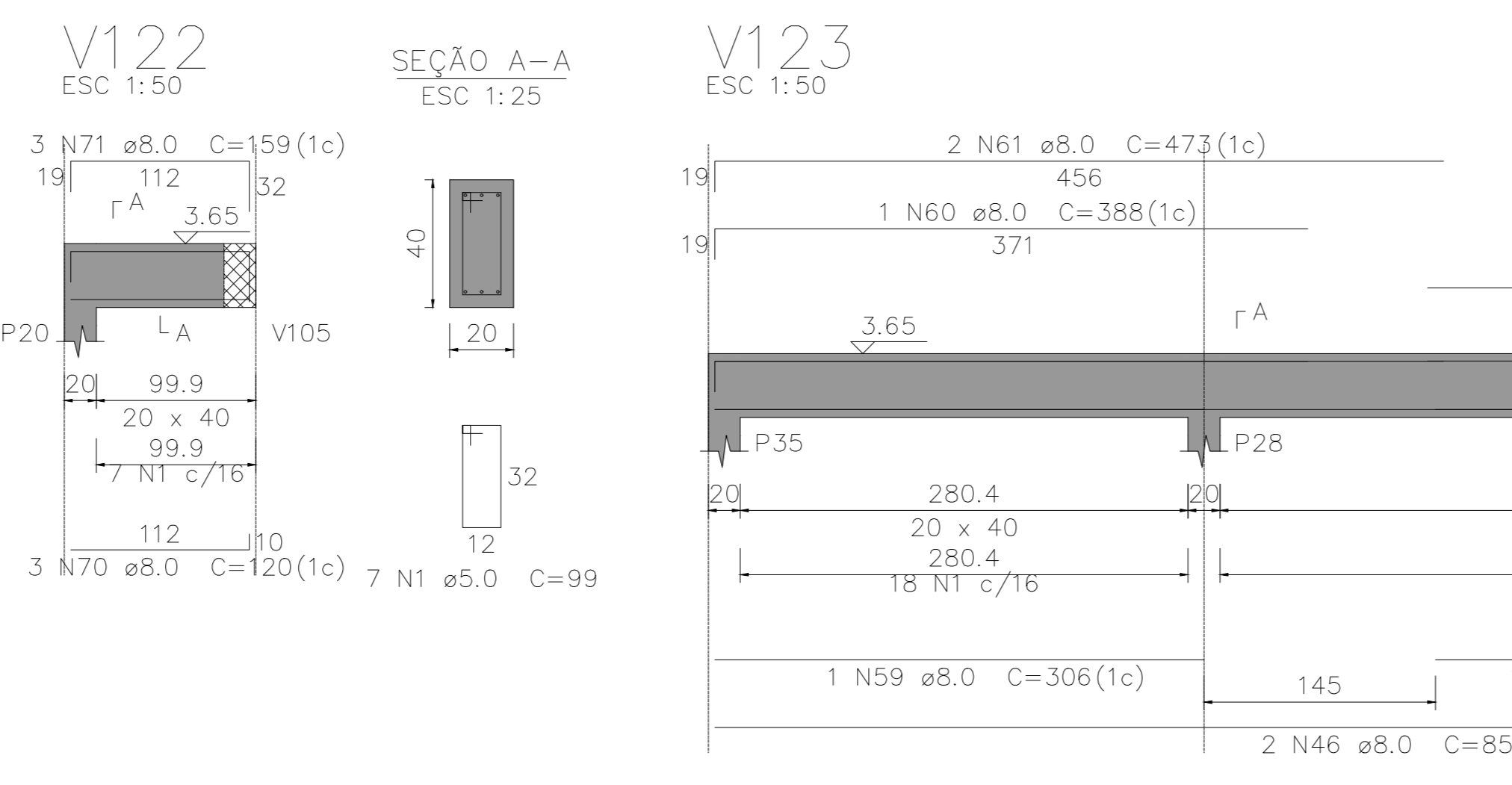
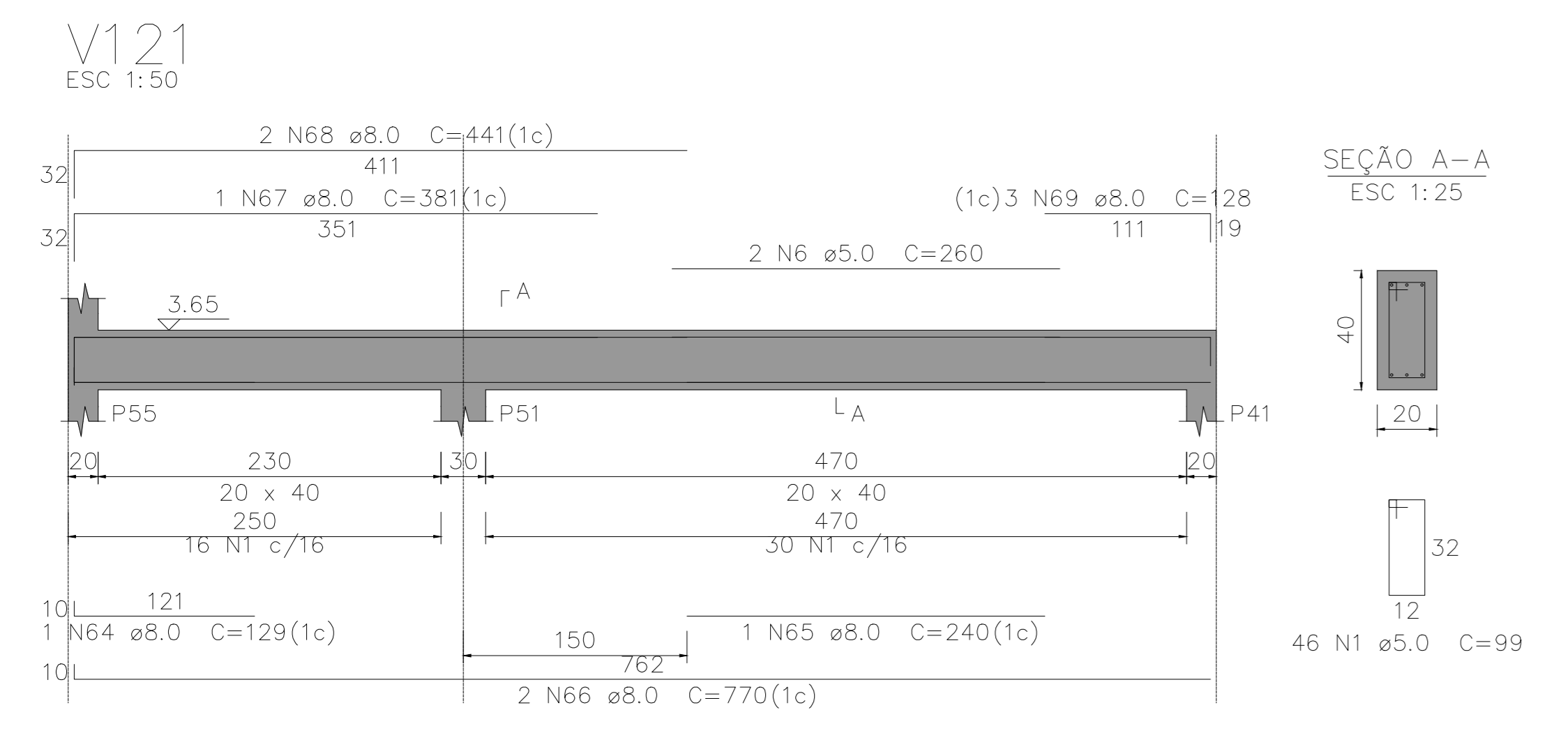
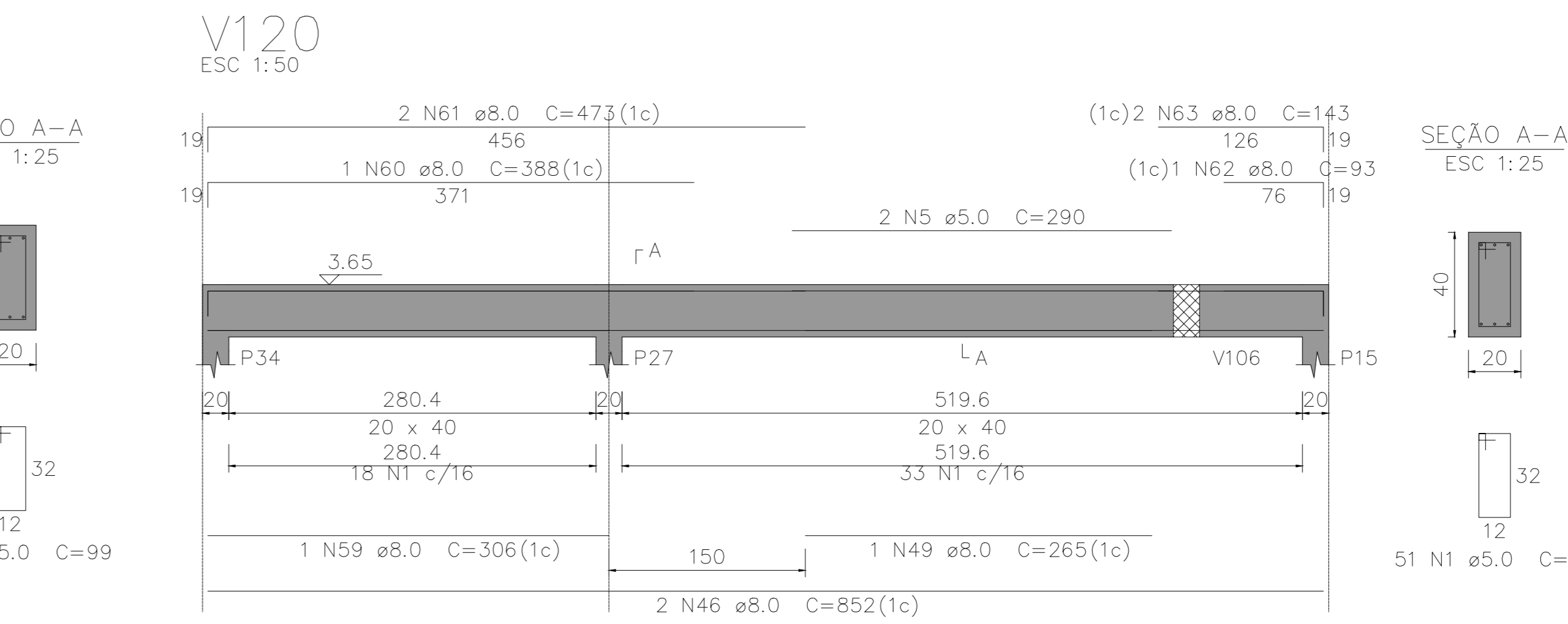
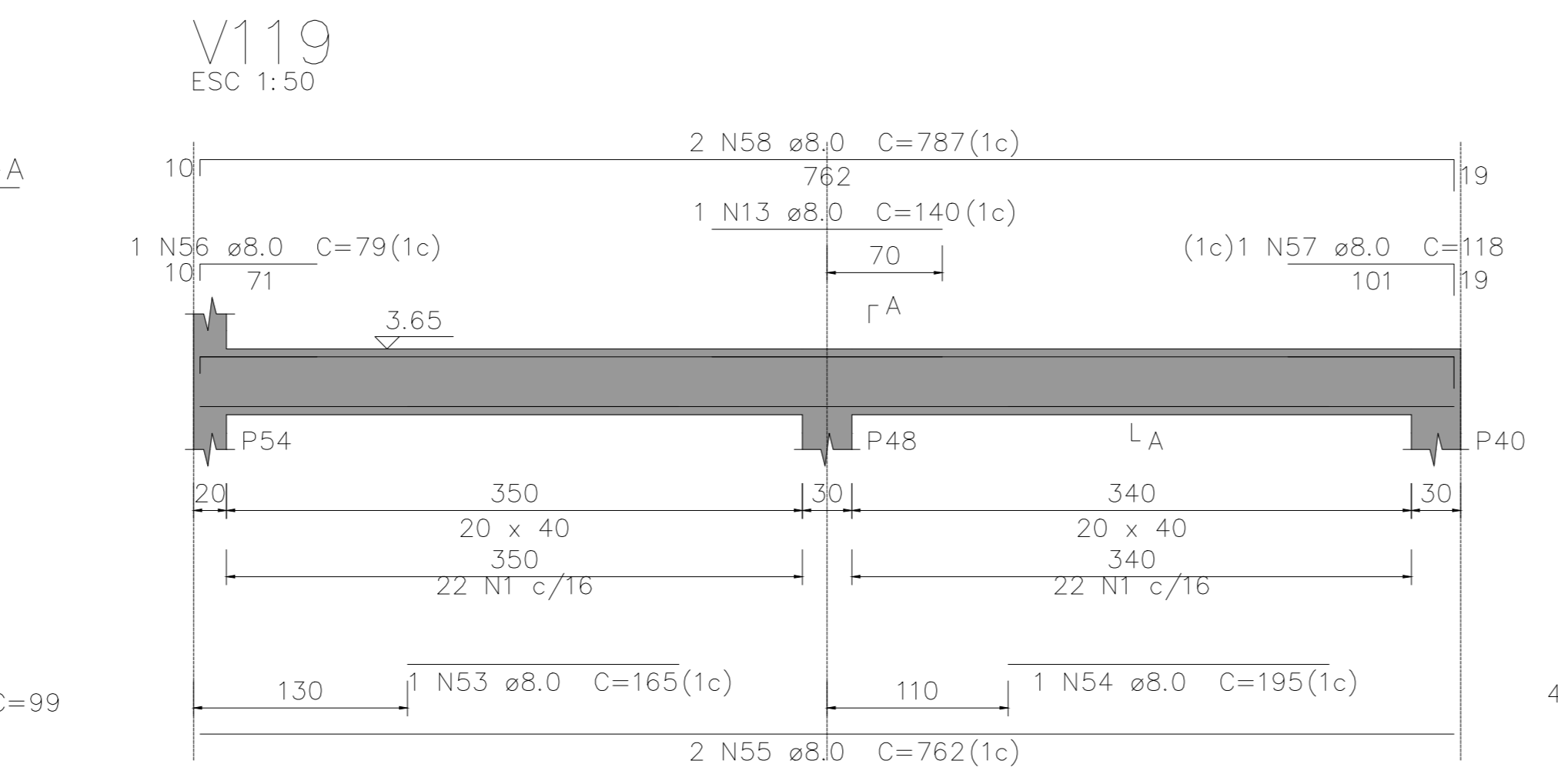
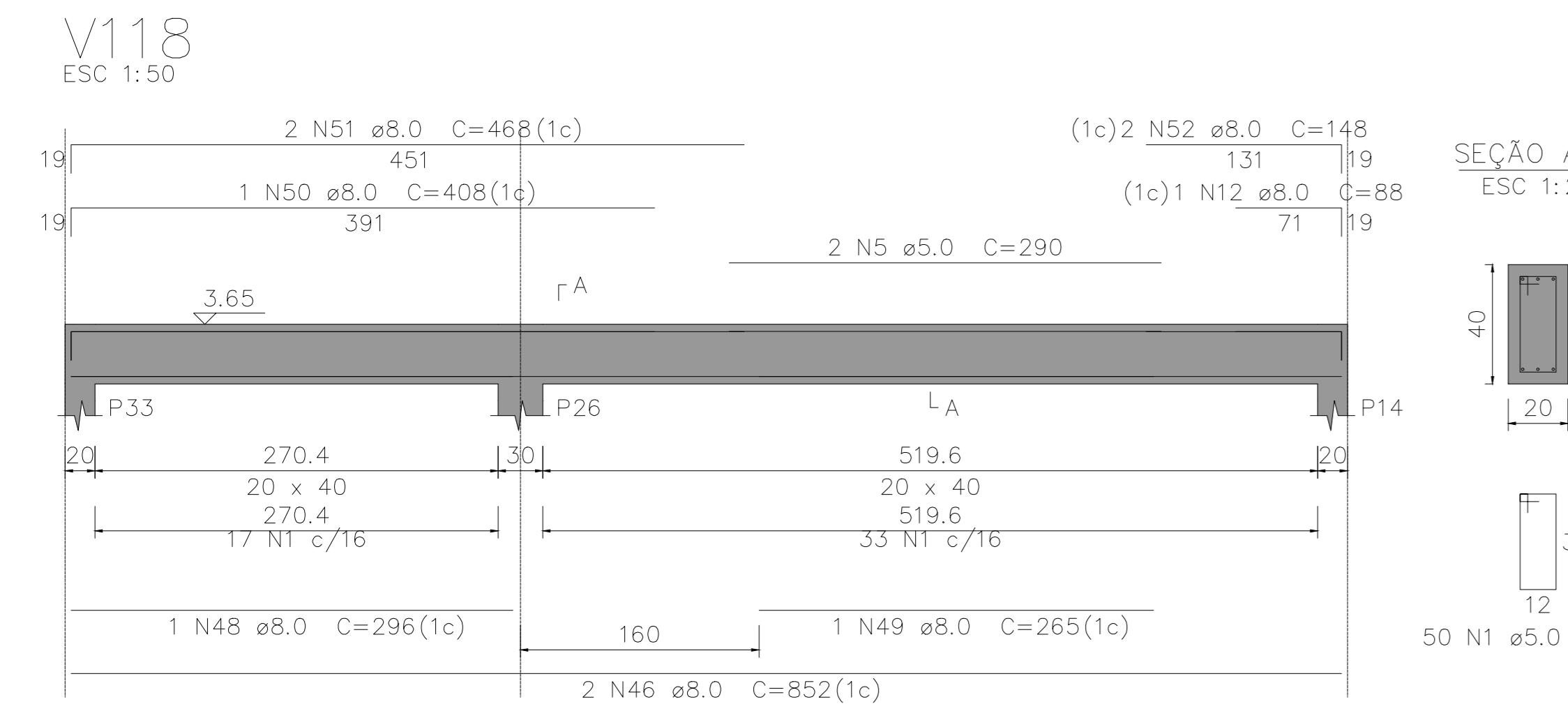
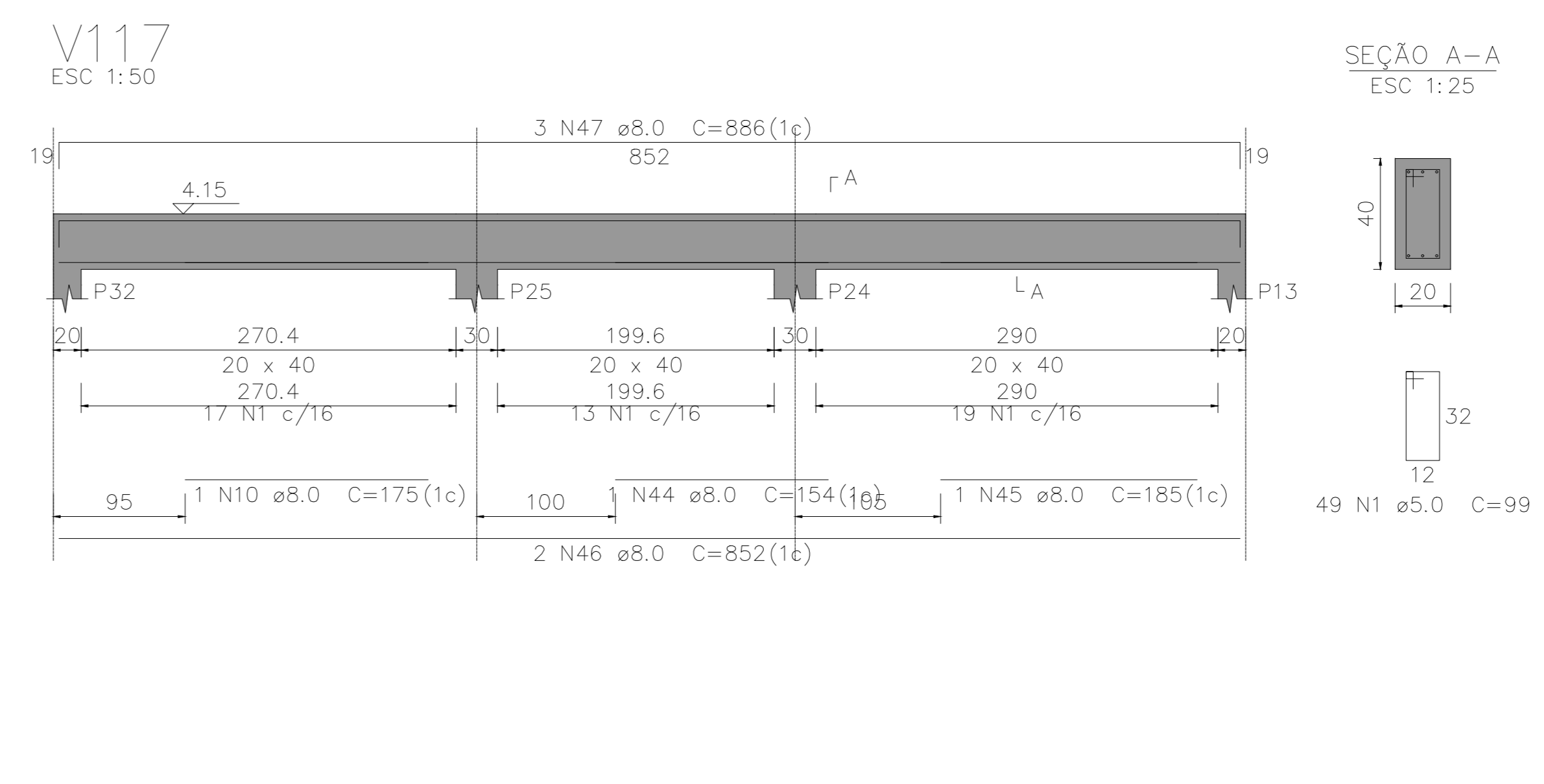
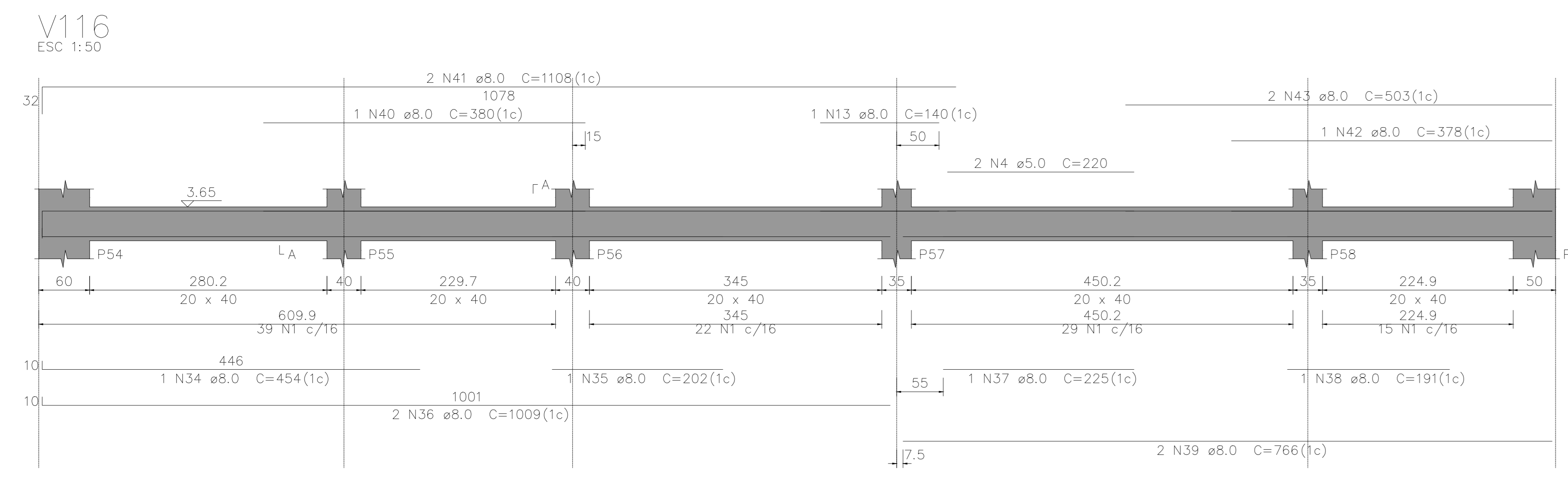
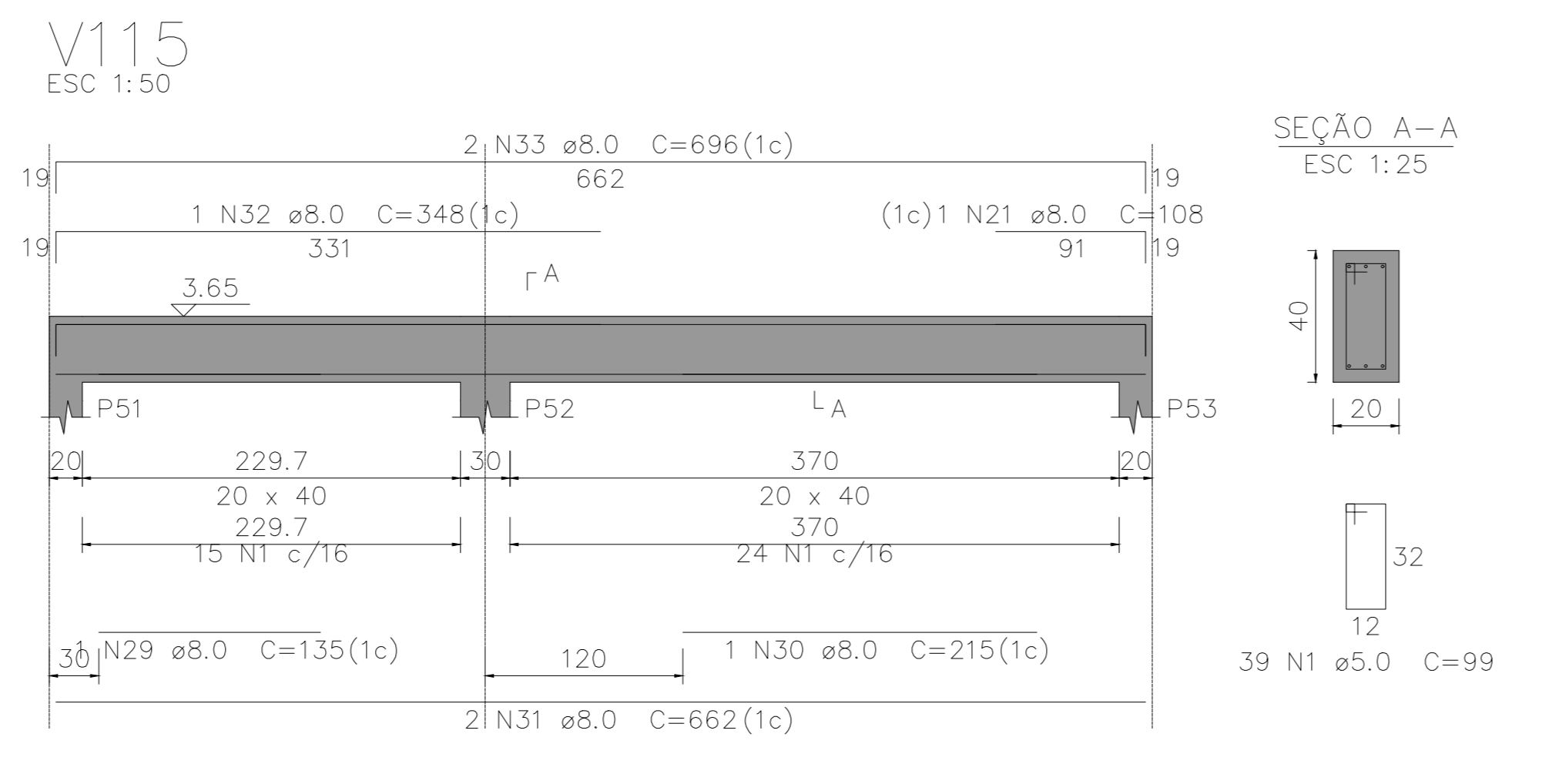
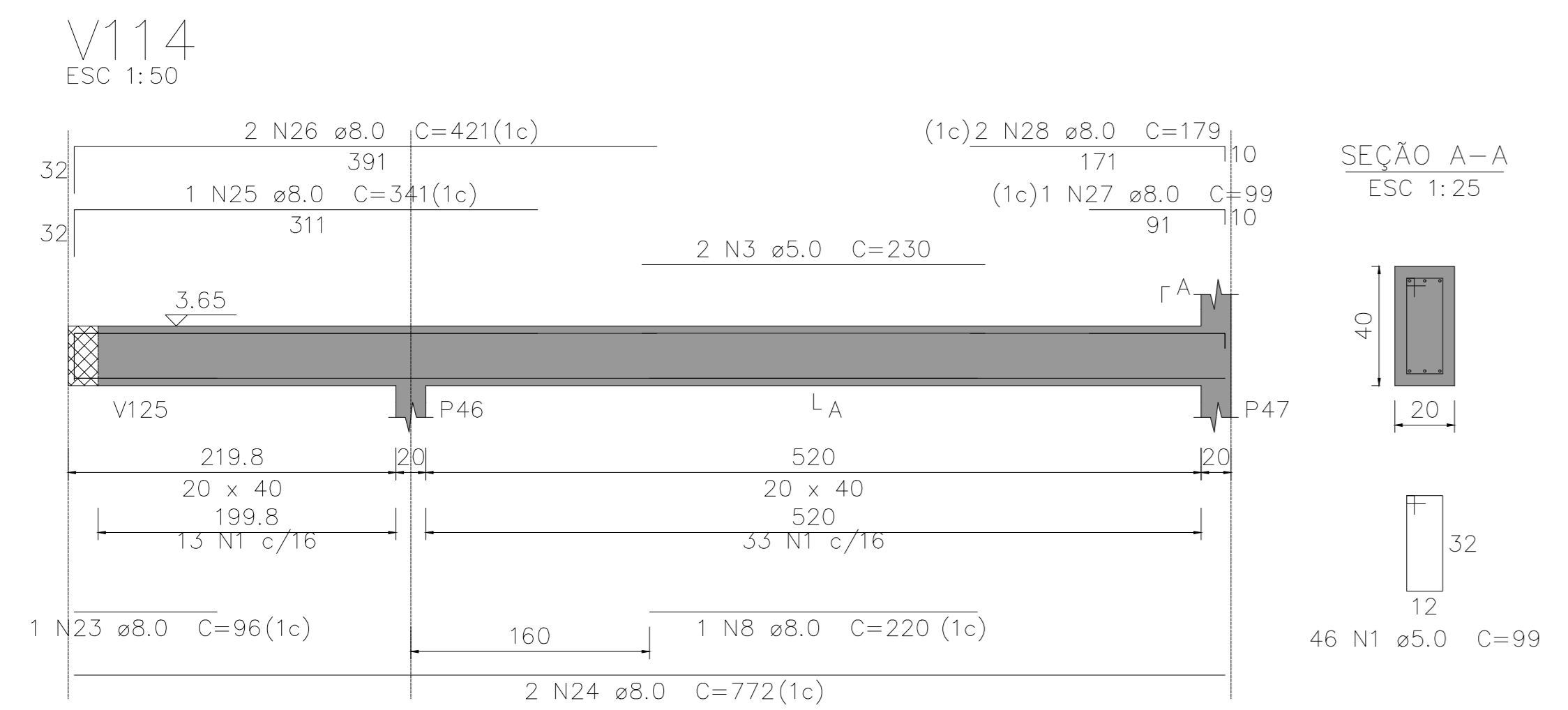
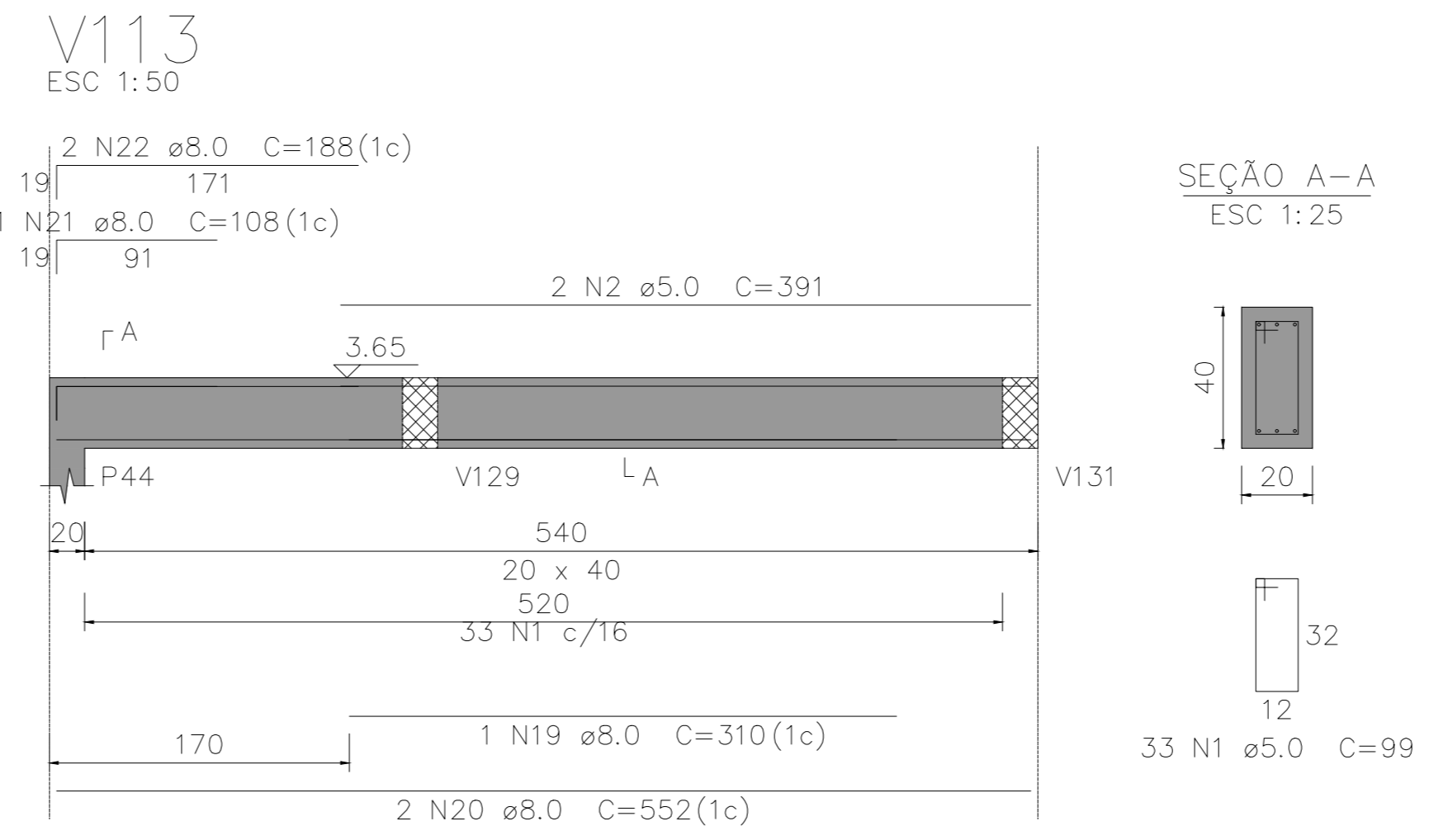
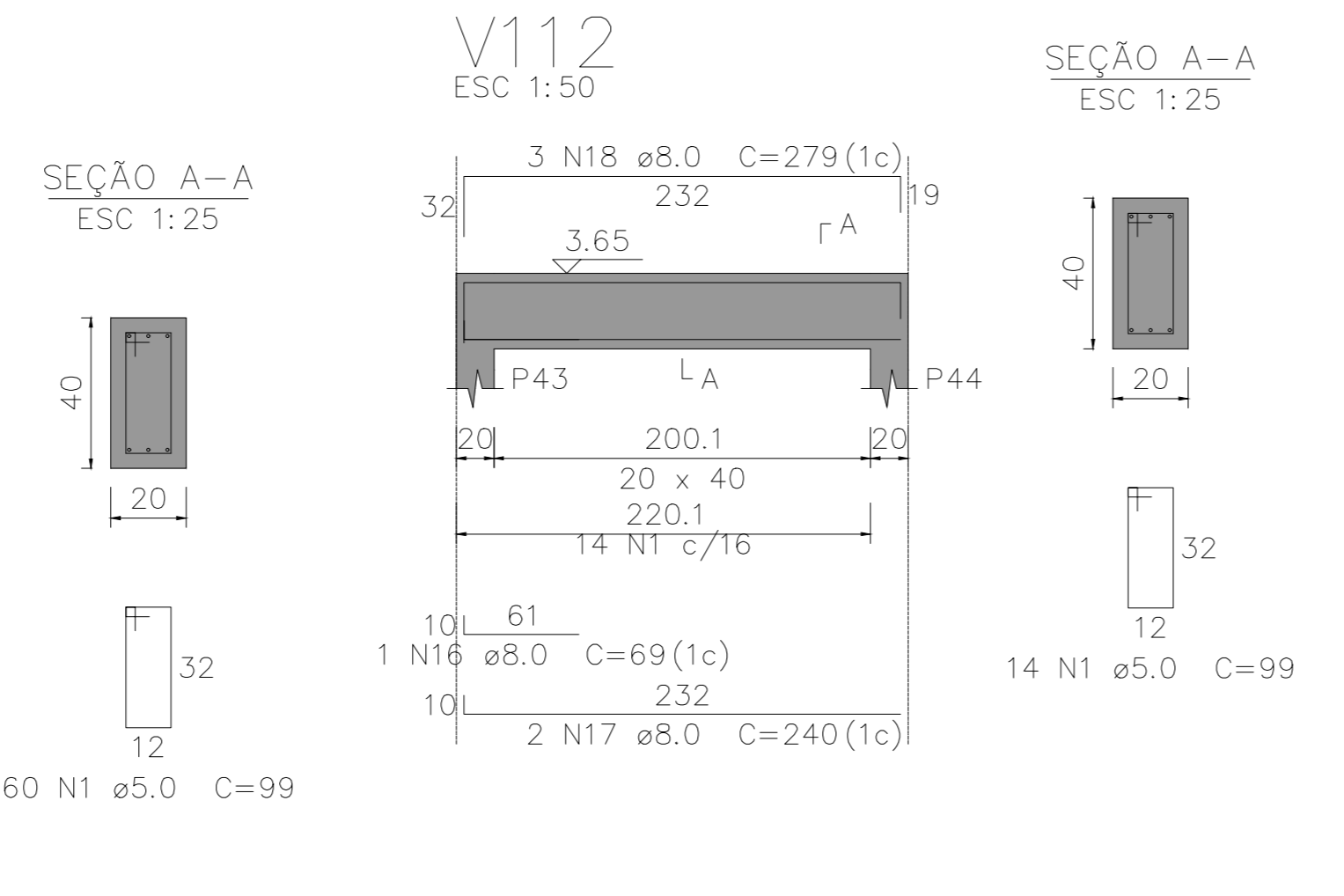
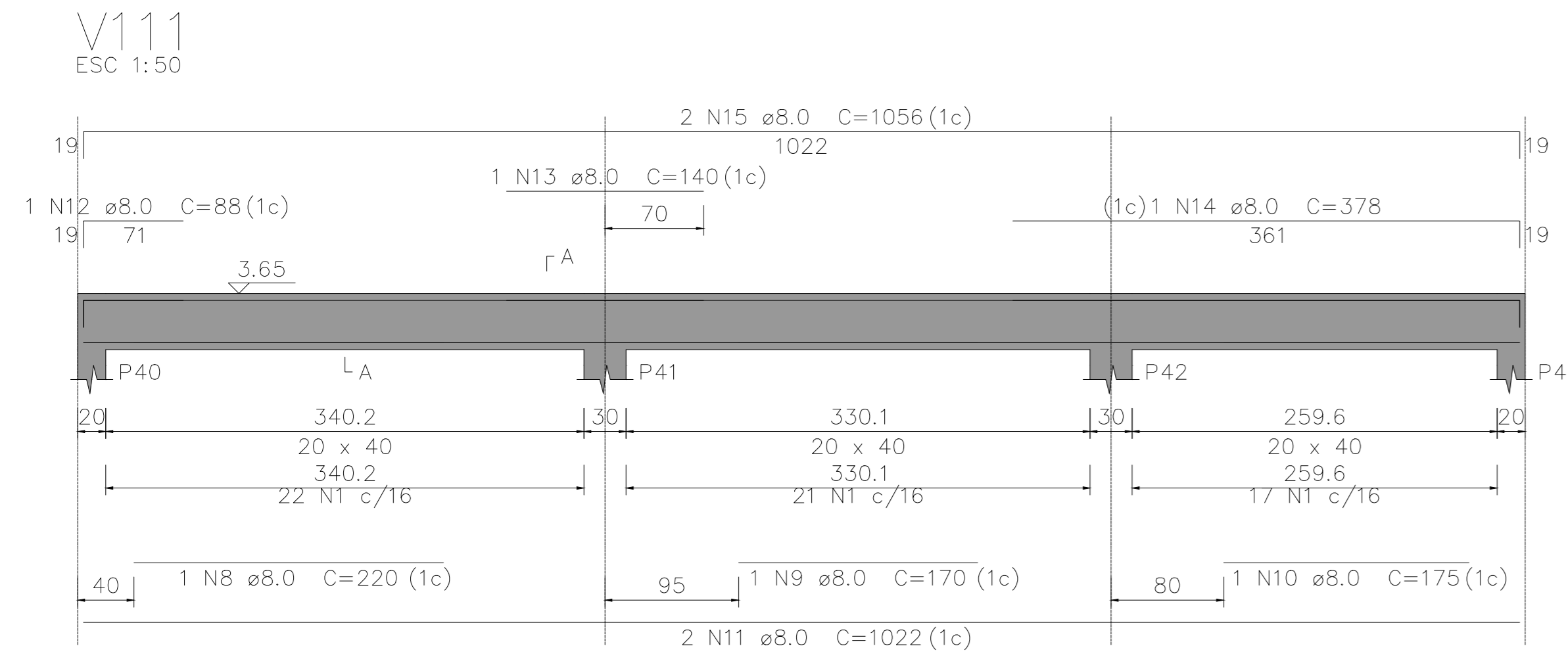
OBJETO:
**CONSTRUÇÃO DE UBS TIPO II, NOVO PAC
MARIA C. B. BEZERRA NO MUNICÍPIO DE VARGEM GRANDE - MA**

TÍTULO: **PROJETO ESTRUTURAL**

ESCALA: **INDICADA** DATA: **FEV/2025** DESENHISTA:

PRANCHA: **16/22**

RESP. TÉCNICO



Relação do aço

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	595	99	58905
CA60	2	5.0	2	391	782
CA60	3	5.0	2	230	460
CA60	4	5.0	2	220	440
CA60	5	5.0	4	290	1160
CA60	6	5.0	2	260	520
CA60	7	5.0	2	280	560
CA60	8	5.0	2	220	440
CA60	9	8.0	1	170	170
CA60	10	8.0	2	175	350
CA60	11	8.0	2	1022	2044
CA60	12	8.0	3	88	264
CA60	13	8.0	3	140	420
CA60	14	8.0	1	378	378
CA60	15	8.0	2	1056	2112
CA60	16	8.0	1	69	69
CA60	17	8.0	2	240	480
CA60	18	8.0	3	279	837
CA60	19	8.0	1	310	310
CA60	20	8.0	2	552	1104
CA60	21	8.0	2	108	216
CA60	22	8.0	2	188	376
CA60	23	8.0	1	96	96
CA60	24	8.0	2	772	1544
CA60	25	8.0	1	341	341
CA60	26	8.0	2	421	842
CA60	27	8.0	1	99	99
CA60	28	8.0	2	179	358
CA60	29	8.0	1	135	135
CA60	30	8.0	1	215	215
CA60	31	8.0	2	662	1324
CA60	32	8.0	1	348	348
CA60	33	8.0	2	696	1392
CA60	34	8.0	1	454	454
CA60	35	8.0	1	202	202
CA60	36	8.0	2	1009	2018
CA60	37	8.0	1	225	225
CA60	38	8.0	1	191	191
CA60	39	8.0	2	766	1532
CA60	40	8.0	1	380	380
CA60	41	8.0	2	1108	2216
CA60	42	8.0	1	378	378
CA60	43	8.0	2	503	1006
CA60	44	8.0	1	154	154
CA60	45	8.0	1	185	185
CA60	46	8.0	8	852	6816
CA60	47	8.0	3	886	2658
CA60	48	8.0	1	296	296
CA60	49	8.0	2	265	530
CA60	50	8.0	1	408	408
CA60	51	8.0	2	468	936
CA60	52	8.0	2	148	296
CA60	53	8.0	1	165	165
CA60	54	8.0	1	195	195
CA60	55	8.0	2	762	1524
CA60	56	8.0	1	79	79
CA60	57	8.0	1	118	118
CA60	58	8.0	2	787	1574
CA60	59	8.0	2	306	612
CA60	60	8.0	2	388	776
CA60	61	8.0	4	473	1892
CA60	62	8.0	1	93	93
CA60	63	8.0	2	143	286
CA60	64	8.0	1	129	129
CA60	65	8.0	1	240	240
CA60	66	8.0	2	770	1540
CA60	67	8.0	1	381	381
CA60	68	8.0	2	441	882
CA60	69	8.0	3	128	384
CA60	70	8.0	3	120	360
CA60	71	8.0	3	159	477
CA60	72	8.0	1	260	260
CA60	73	8.0	2	153	306

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	8.0	494.2	214.5
CA60	5.0	628.3	106.5
PESO TOTAL (kg)			
CA50		214.5	
CA60		106.5	

x Volume de concreto (C-35) = 7.32 m³
Área de forma = 89.98 m²

FVSM ENGENHARIA

PROPRIETÁRIO: **PREFEITURA MUNICIPAL DE VARGEM GRANDE - MA**

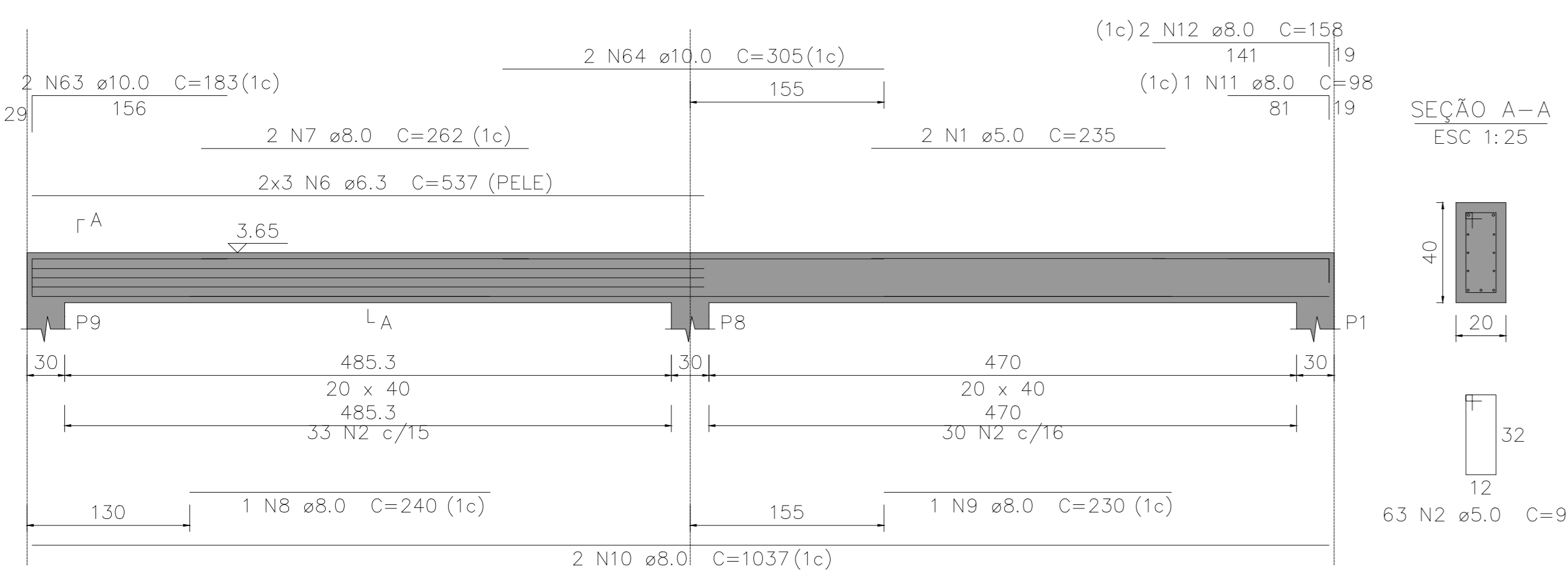
OBJETO: **CONSTRUÇÃO DE UBS TIPO II, NOVO PAC MARIA C. B. BEZERRA NO MUNICÍPIO DE VARGEM GRANDE - MA**

TÍTULO: **PROJETO ESTRUTURAL**

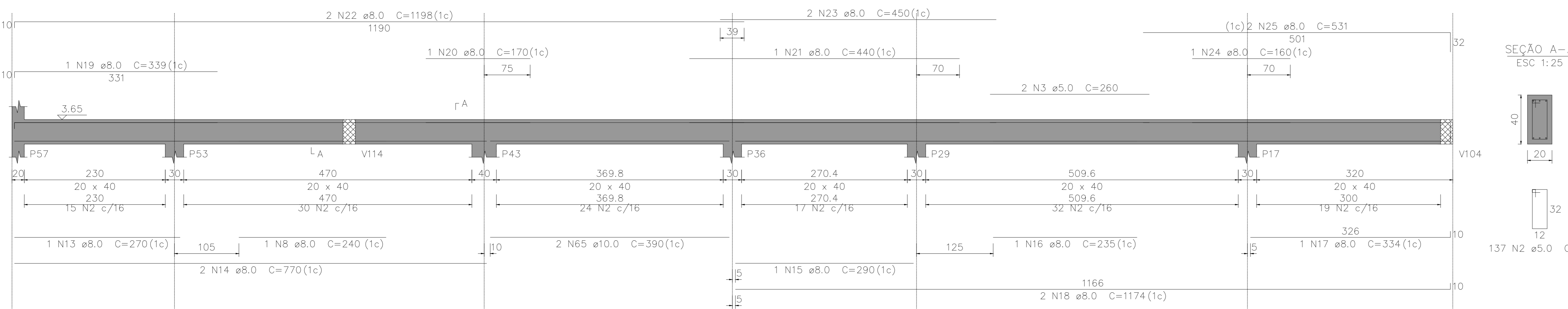
ESCALA: **INDICADA** DATA: **FEV/2025** DESENHISTA: **RESP. TÉCNICO**

PRANCHA: **17/22**

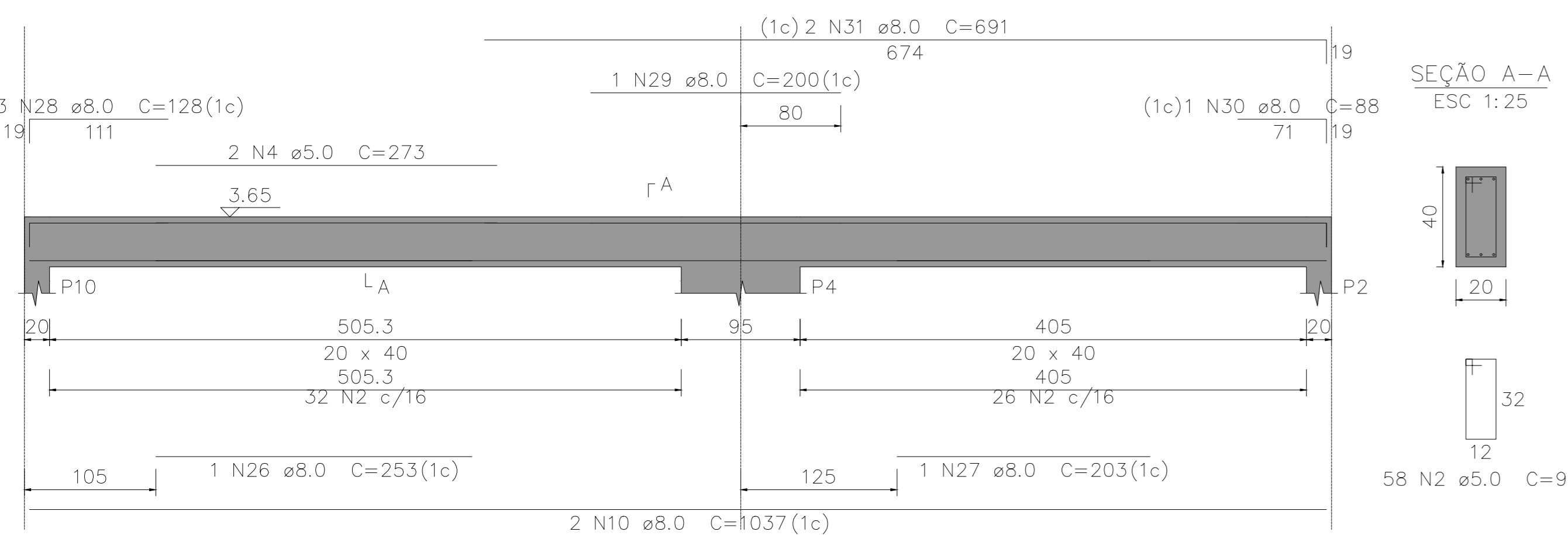
V124
ESC 1:50



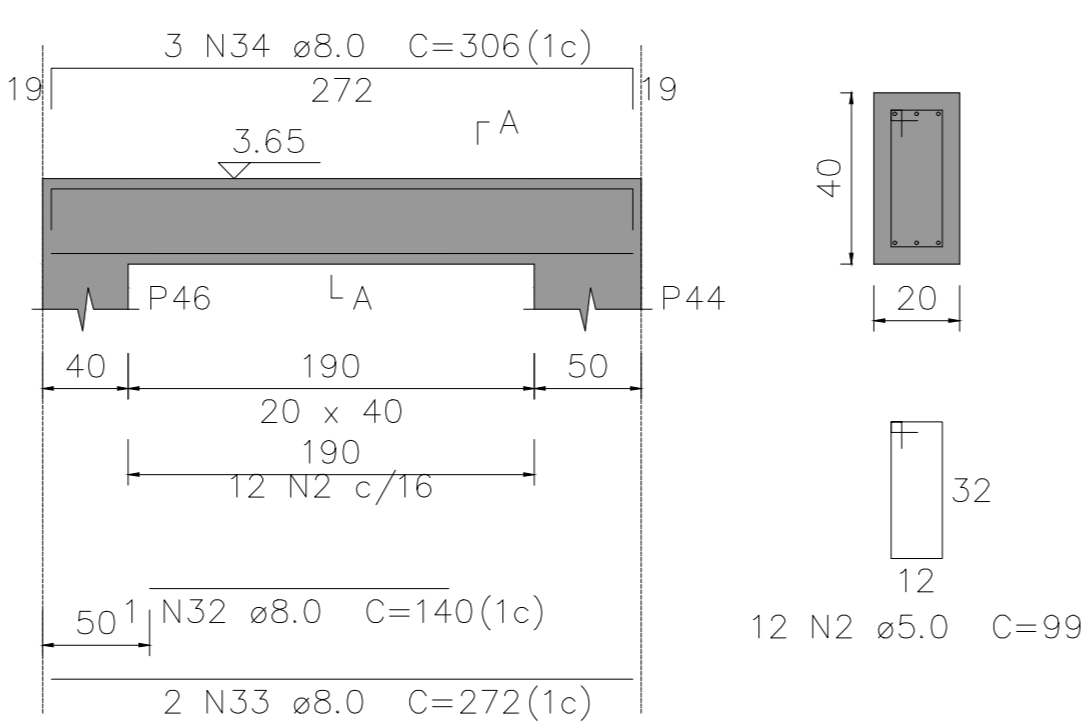
V125
ESC 1:50



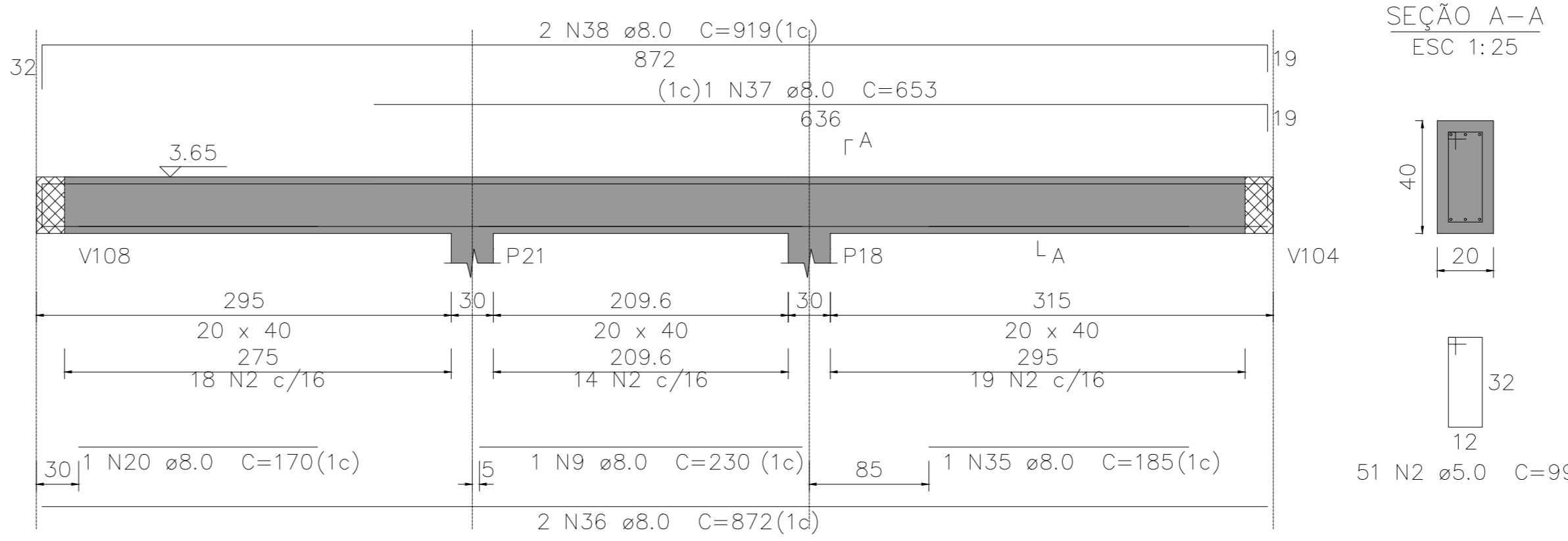
V126
ESC 1:50



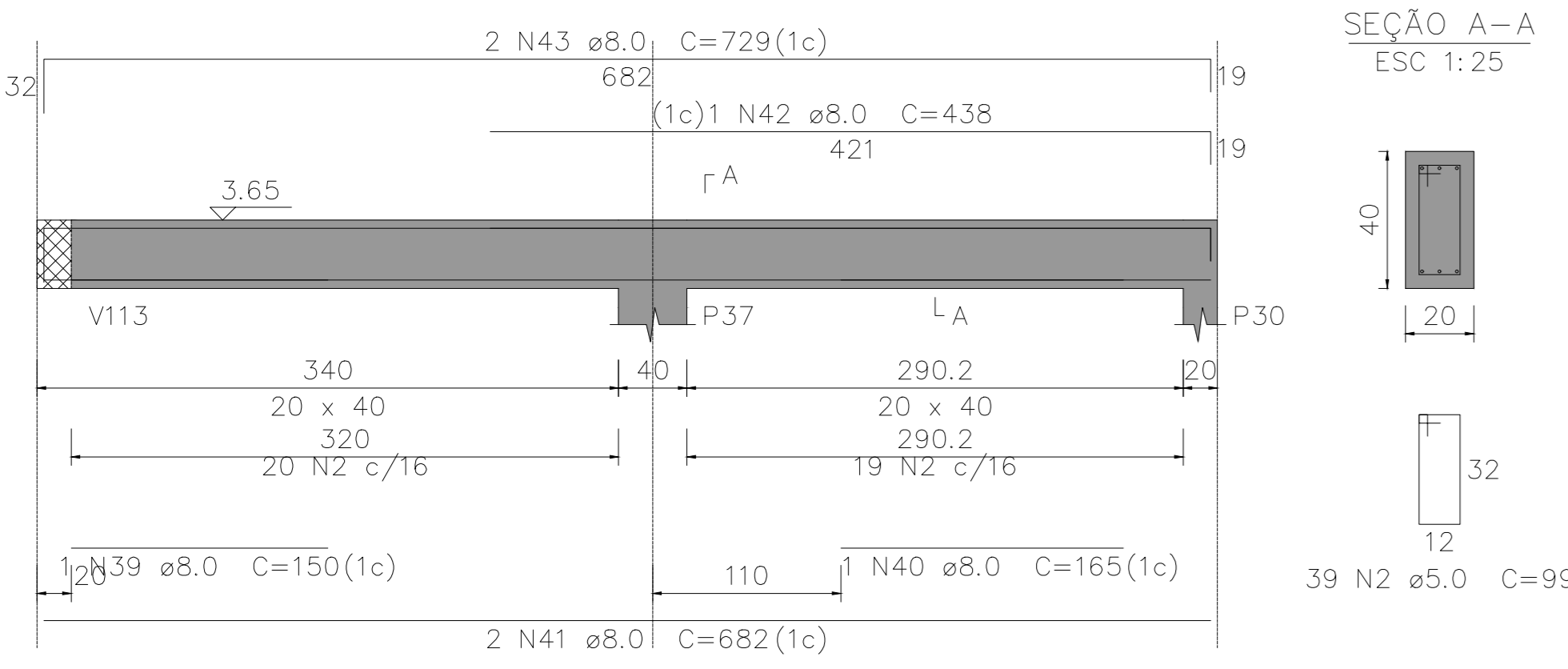
V127
ESC 1:50



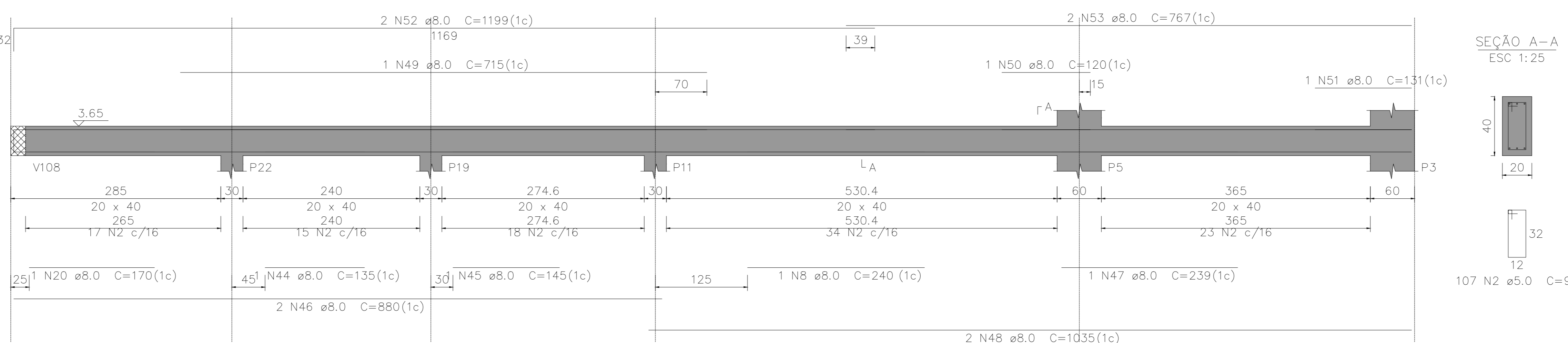
V128
ESC 1:50



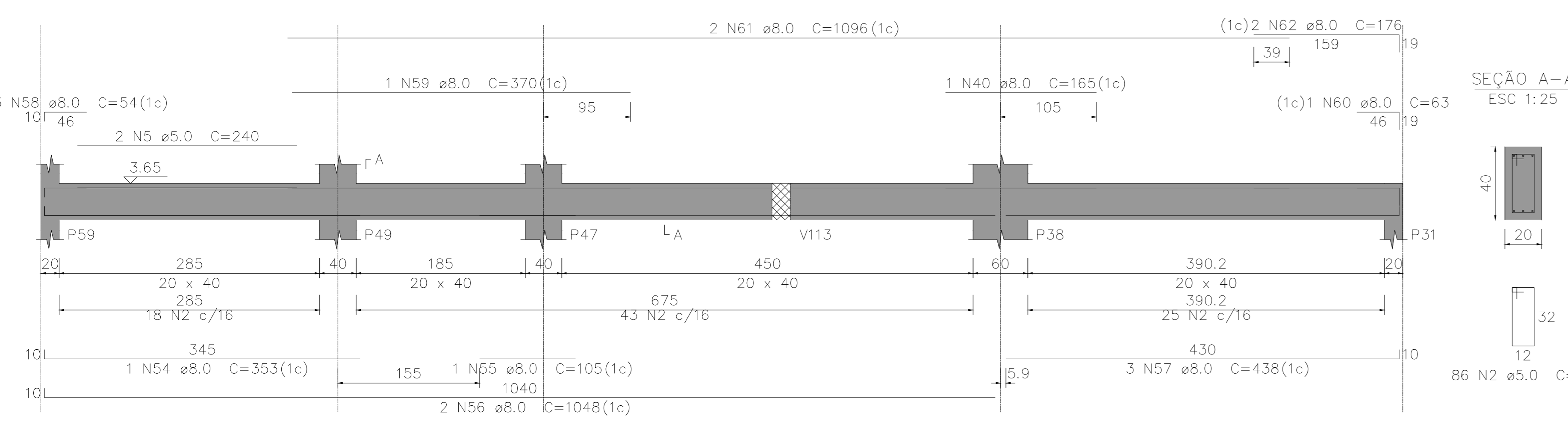
V129
ESC 1:50



V130
ESC 1:50



V131
ESC 1:50




Relação do aço

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	2	235	470
	2	5.0	553	99	54747
	3	5.0	2	260	520
	4	5.0	2	273	546
	5	5.0	2	240	480
	6	6.3	6	537	3222
CA50	7	8.0	2	262	524
	8	8.0	3	240	720
	9	8.0	2	230	460
	10	8.0	4	1037	4148
	11	8.0	1	98	98
	12	8.0	2	158	316
	13	8.0	1	270	270
	14	8.0	2	770	1540
	15	8.0	1	290	290
	16	8.0	1	235	235
	17	8.0	1	334	334
	18	8.0	2	1174	2348
	19	8.0	1	339	339
	20	8.0	3	170	510
	21	8.0	1	440	440
	22	8.0	2	1198	2396
	23	8.0	2	450	900
	24	8.0	1	160	160
	25	8.0	2	531	1062
	26	8.0	1	253	253
	27	8.0	1	203	203
	28	8.0	3	128	384
	29	8.0	1	200	200
	30	8.0	1	88	88
	31	8.0	2	691	1382
	32	8.0	1	140	140
	33	8.0	2	272	544
	34	8.0	3	306	918
	35	8.0	1	185	185
	36	8.0	2	872	1744
	37	8.0	1	653	653
	38	8.0	2	919	1838
	39	8.0	1	150	150
	40	8.0	2	165	330
	41	8.0	2	682	1364
	42	8.0	1	438	438
	43	8.0	2	729	1458
	44	8.0	1	135	135
	45	8.0	1	145	145
	46	8.0	2	880	1760
	47	8.0	1	239	239
	48	8.0	2	1035	2070
	49	8.0	1	715	715
	50	8.0	1	120	120
	51	8.0	1	131	131
	52	8.0	2	1199	2398
	53	8.0	2	767	1534
	54	8.0	1	353	353
	55	8.0	1	105	105
	56	8.0	2	1048	2096
	57	8.0	3	438	1314
	58	8.0	3	54	162
	59	8.0	1	370	370
	60	8.0	1	63	63
	61	8.0	2	1096	2192
	62	8.0	2	176	352
	63	10.0	2	183	366
	64	10.0	2	305	610
	65	10.0	2	390	780

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	6.3	32.3	8.7
	8.0	456.2	198
	10.0	17.6	11.9
CA60	5.0	567.7	96.2
PESO TOTAL (kg)			
CA50		218.6	
CA60		96.2	

Volume de concreto (C-35) = 7.02 m³
Área de forma = 86.13 m²



FVSM
ENGENHARIA

PROPRIETÁRIO:
PREFEITURA MUNICIPAL DE VARGEM GRANDE - MA

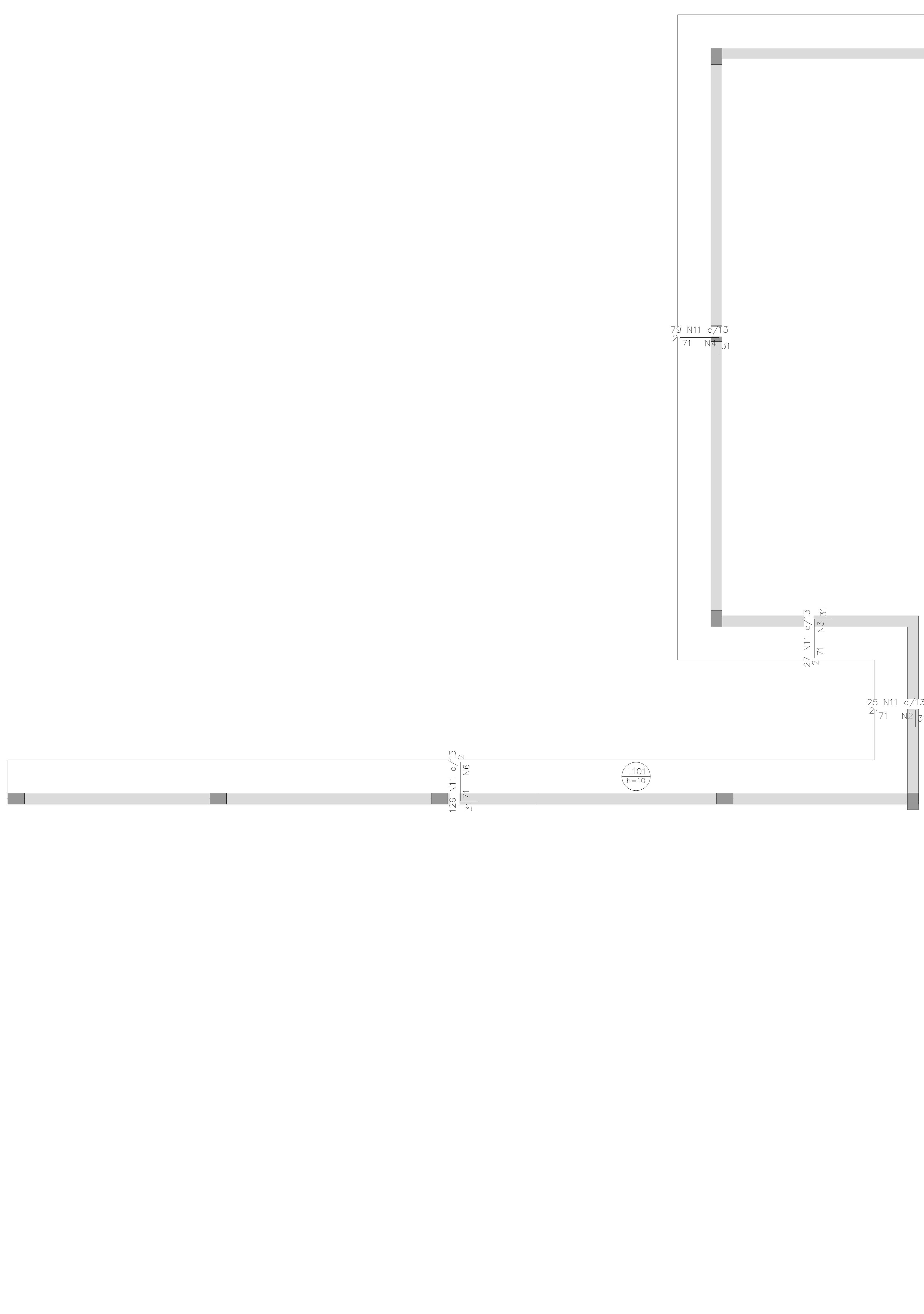
OBJETO:
**CONSTRUÇÃO DE UBS TIPO II, NOVO PAC
MARIA C. B. BEZERRA NO MUNICÍPIO DE VARGEM GRANDE - MA**

TÍTULO: **PROJETO ESTRUTURAL**

ESCALA: **INDICADA** DATA: **FEV/2025** DESENHISTA:

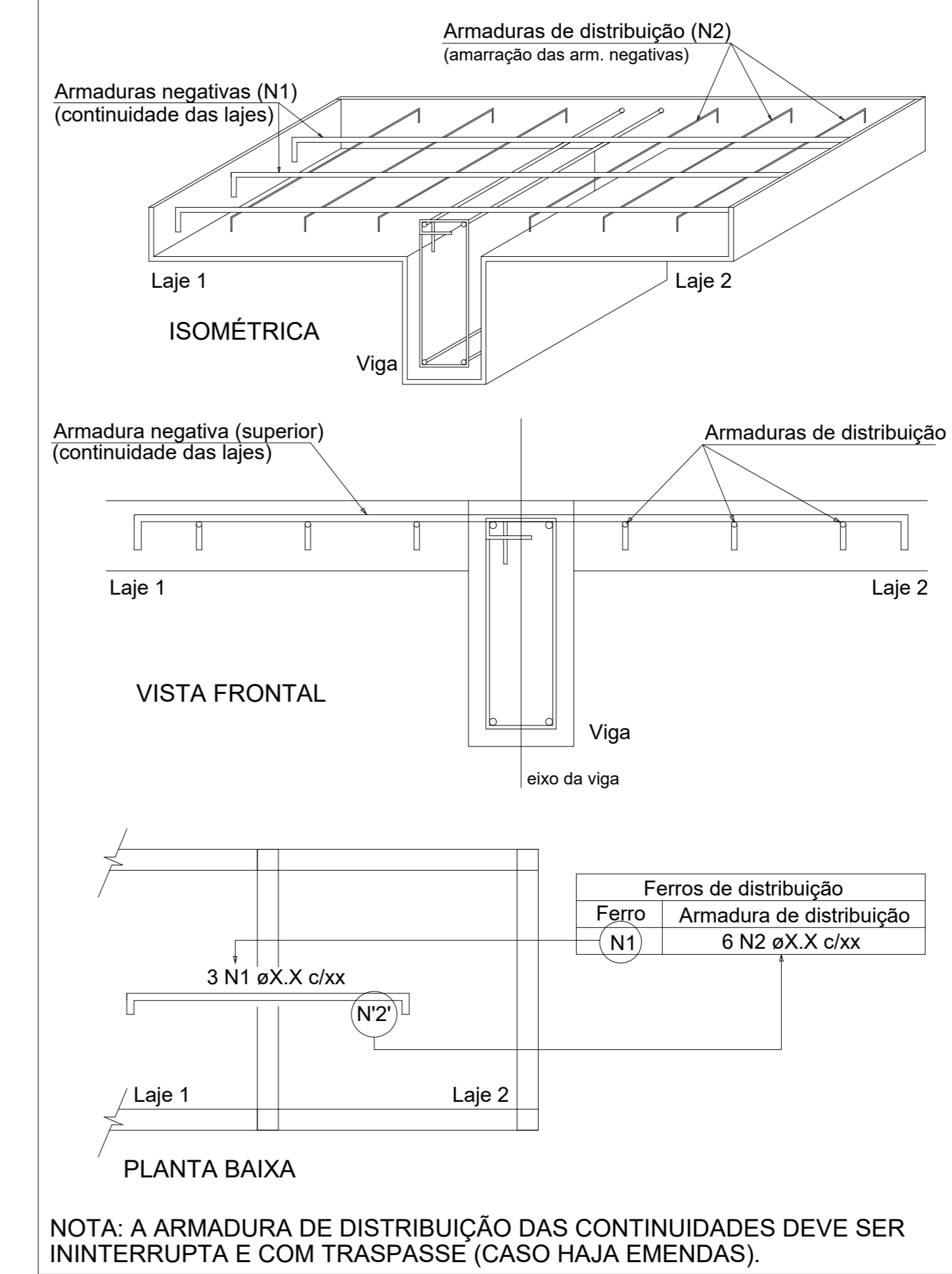
PRANCHA: **18/22**

RESP. TÉCNICO



Armaduras de distribuição			
Armadura	Armadura de distribuição		
N10	6 N1 ø5.0 c/20	C=89	
N11	4 N2 ø5.0 c/20	C=VAR	
N11	4 N3 ø5.0 c/20	C=VAR	
N11	4 N4 ø5.0 c/20	C=1025	
N11	4 N5 ø5.0 c/20	C=990	
N11	4 N6 ø5.0 c/20	C=VAR	
N11	4 N7 ø5.0 c/20	C=VAR	
N12	4 N6 ø5.0 c/20	C=VAR	
N11	4 N8 ø5.0 c/20	C=750	
N11	4 N9 ø5.0 c/20	C=VAR	

DETALHE DA ARMADURA SUPERIOR DE CONTINUIDADE DA LAJE E MONTAGEM DA ARMADURA DE DISTRIBUIÇÃO



Relação do aço


Negativos					
AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	6	89	534
	2	5.0	4	VAR	VAR
	3	5.0	4	VAR	VAR
	4	5.0	4	1025	4100
	5	5.0	4	990	3960
	6	5.0	8	VAR	VAR
	7	5.0	4	VAR	VAR
	8	5.0	4	750	3000
	9	5.0	4	VAR	VAR
	10	6.3	6	110	660
	11	6.3	501	101	50601
	12	6.3	126	100	12600

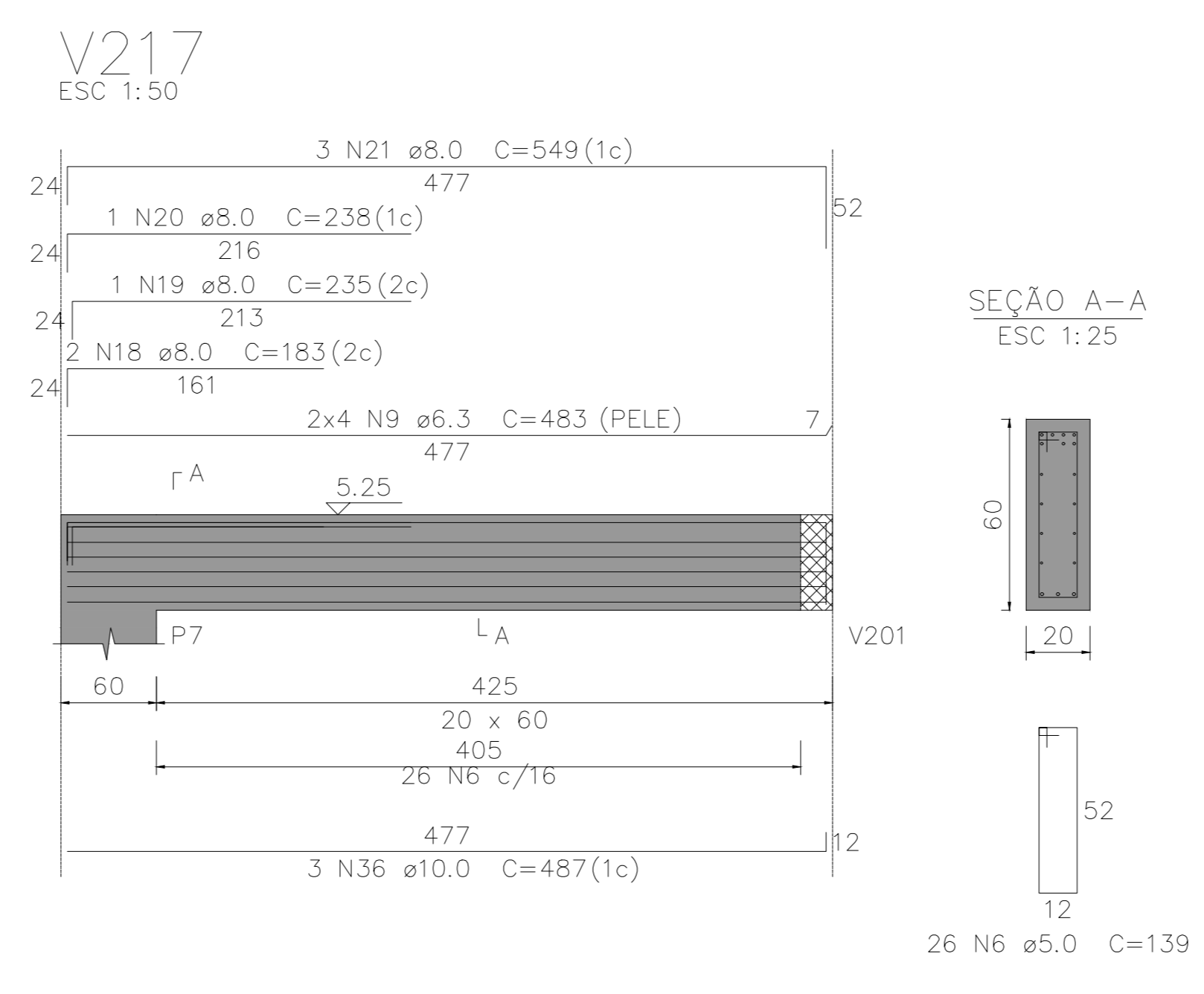
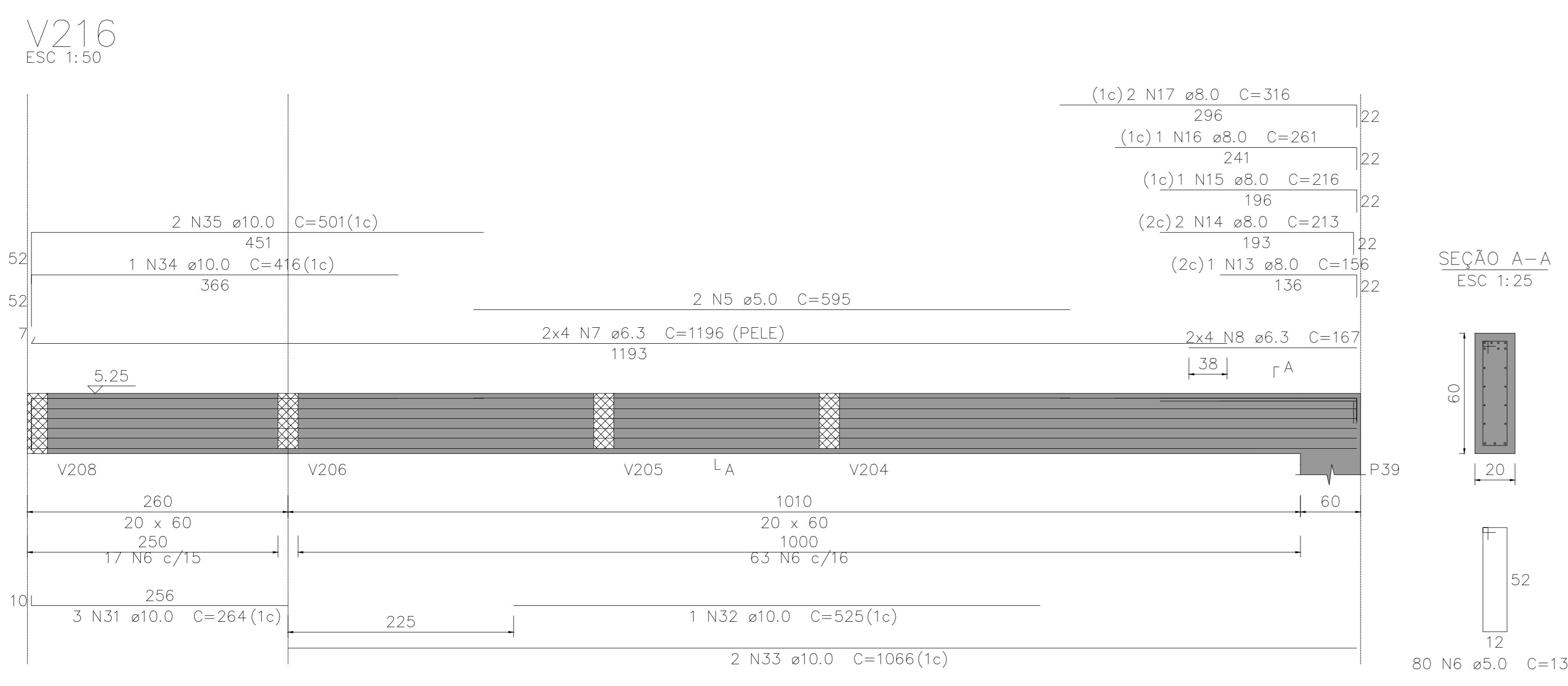
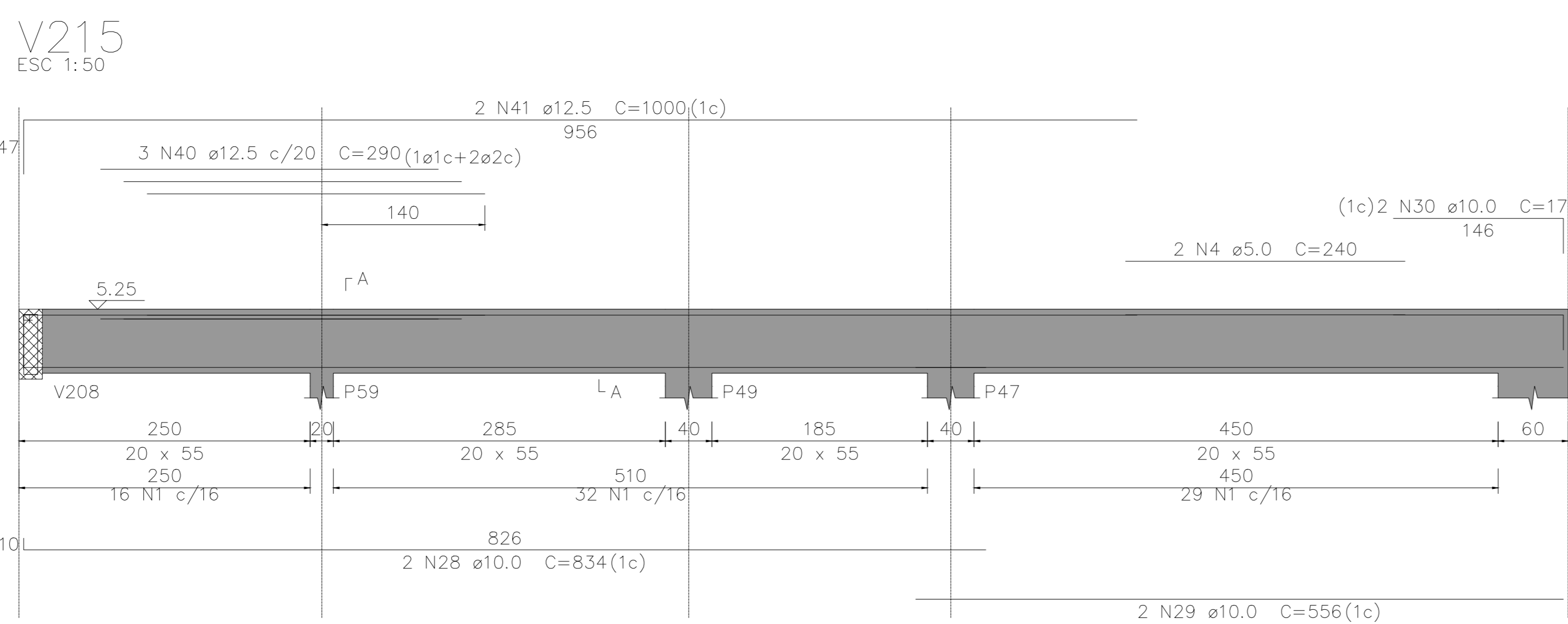
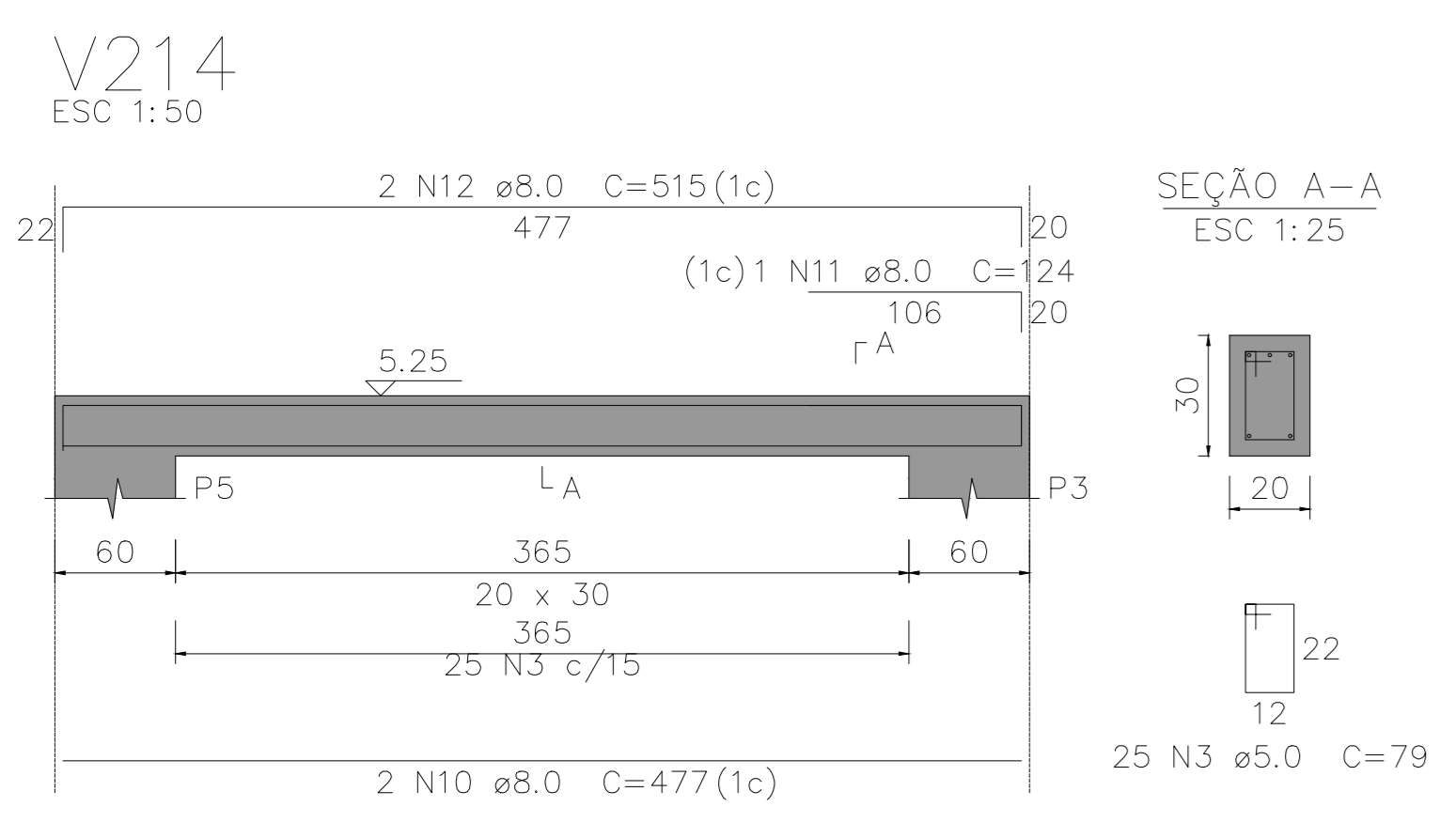
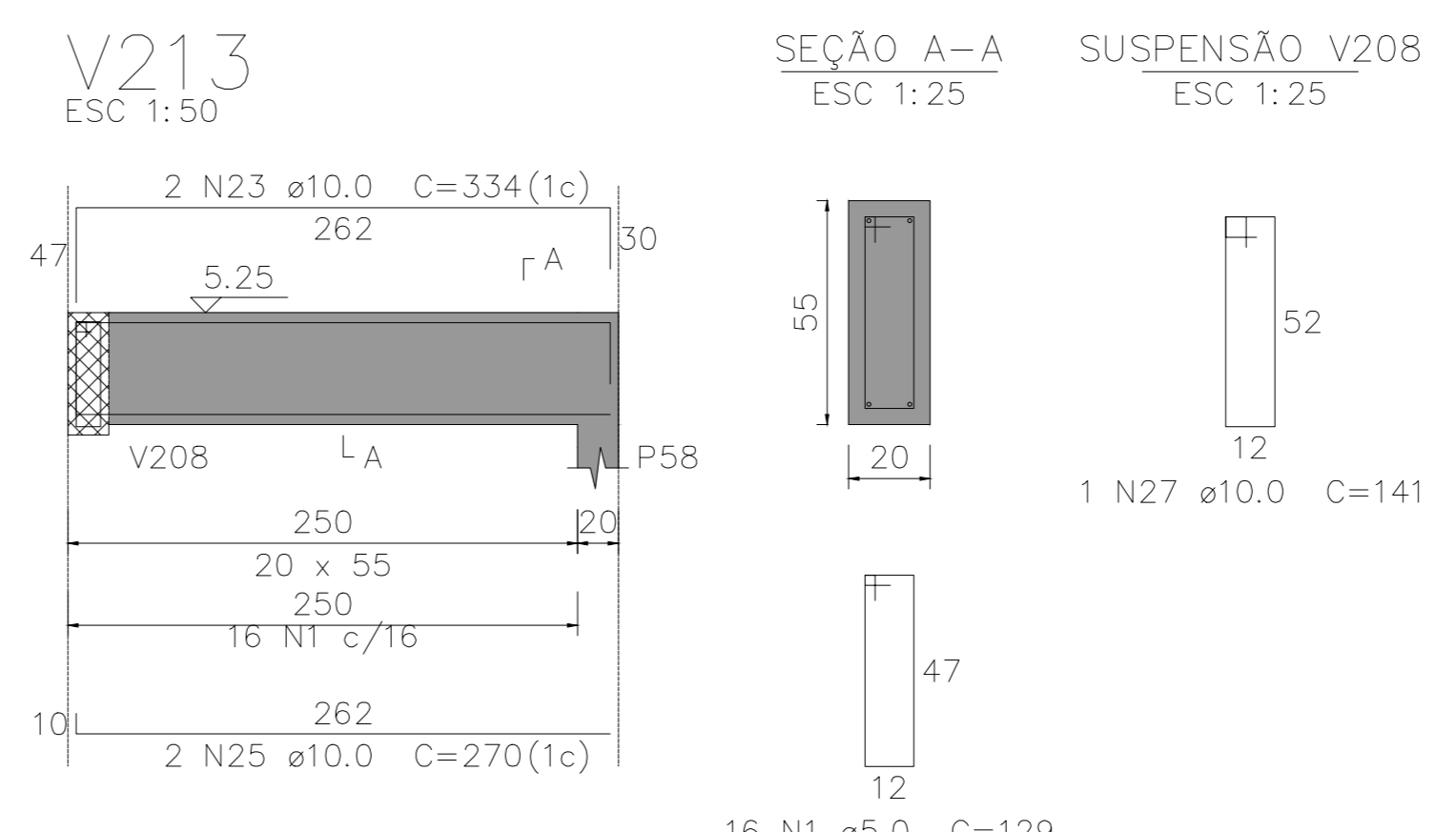
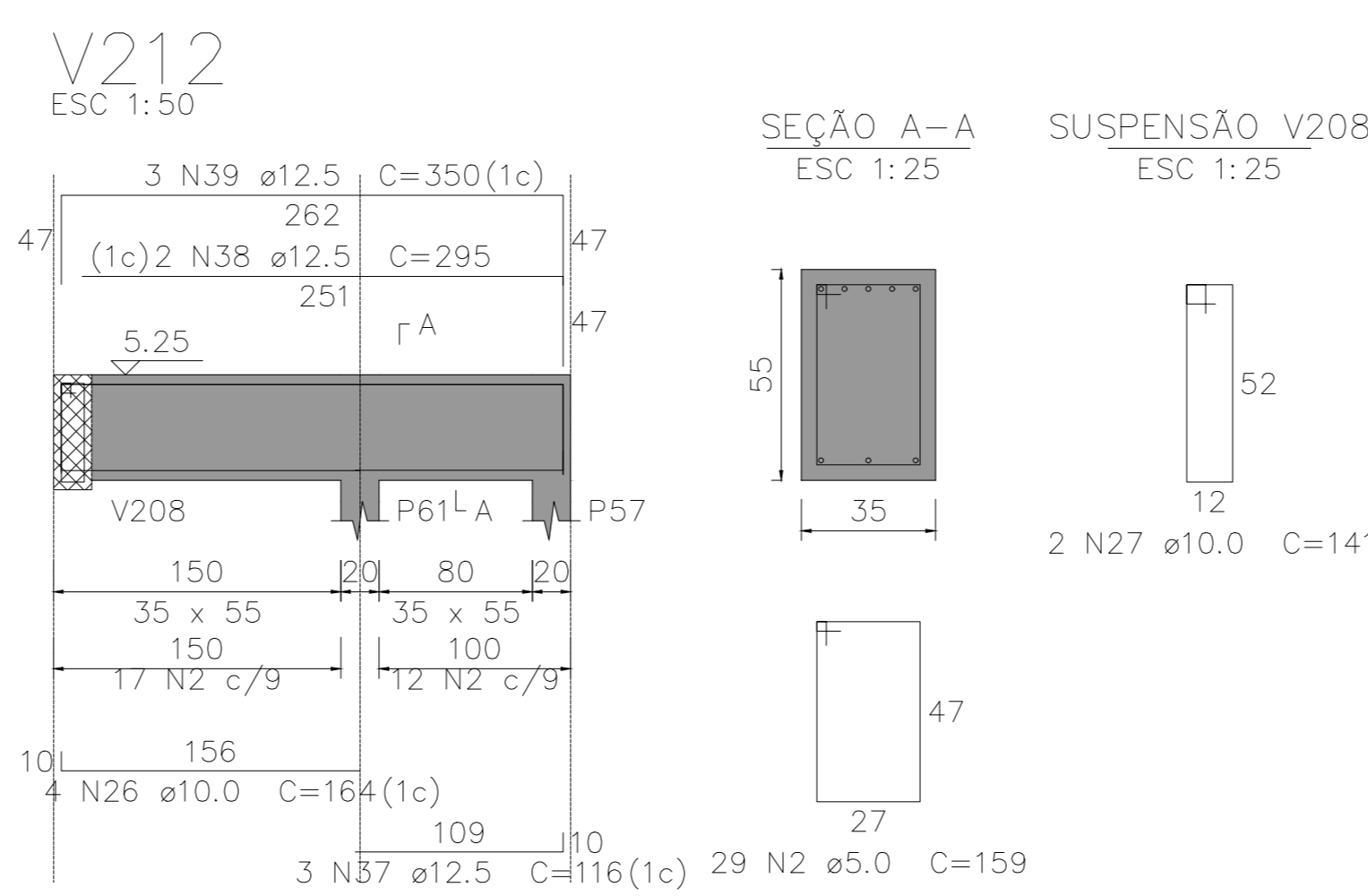
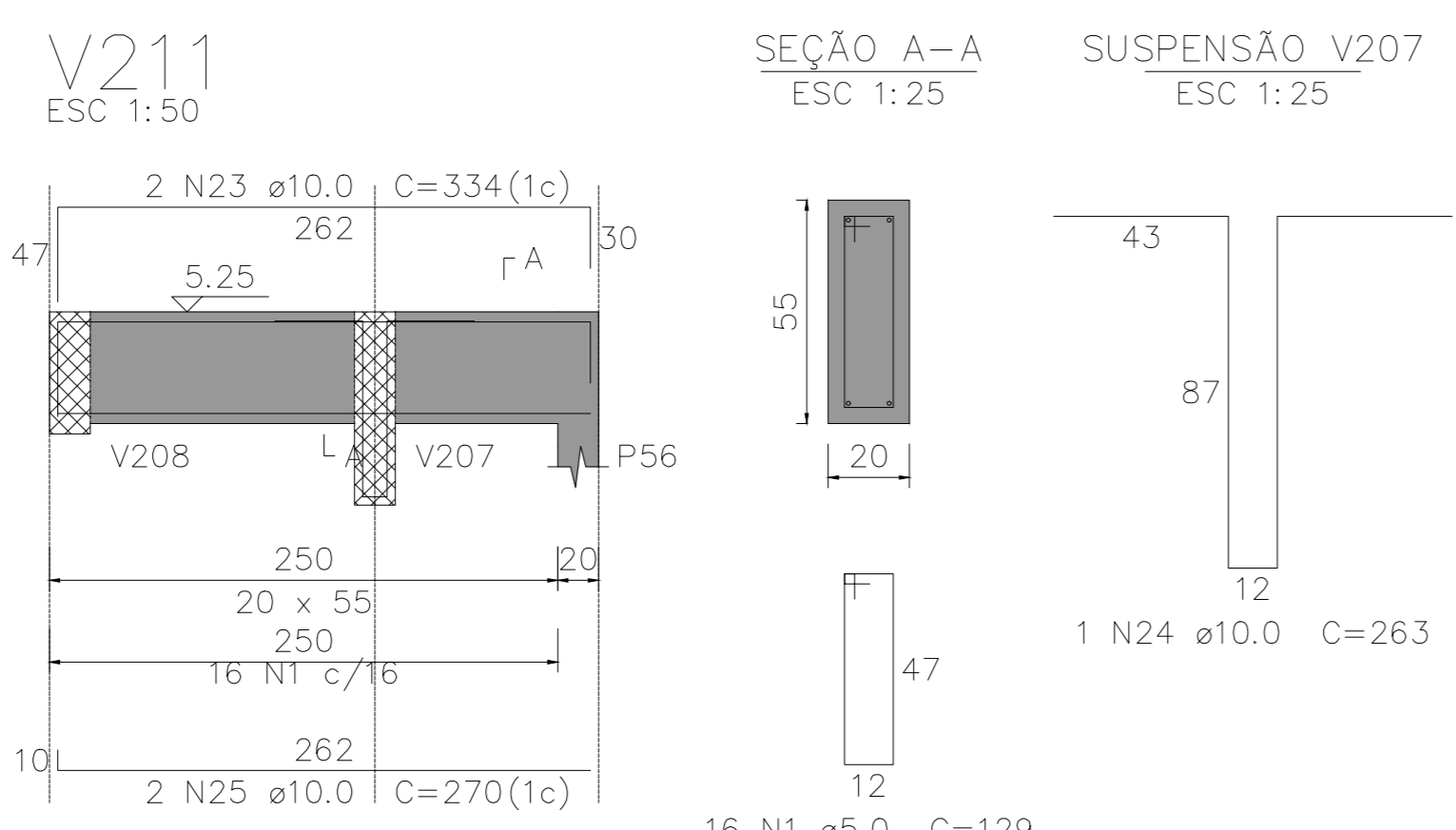
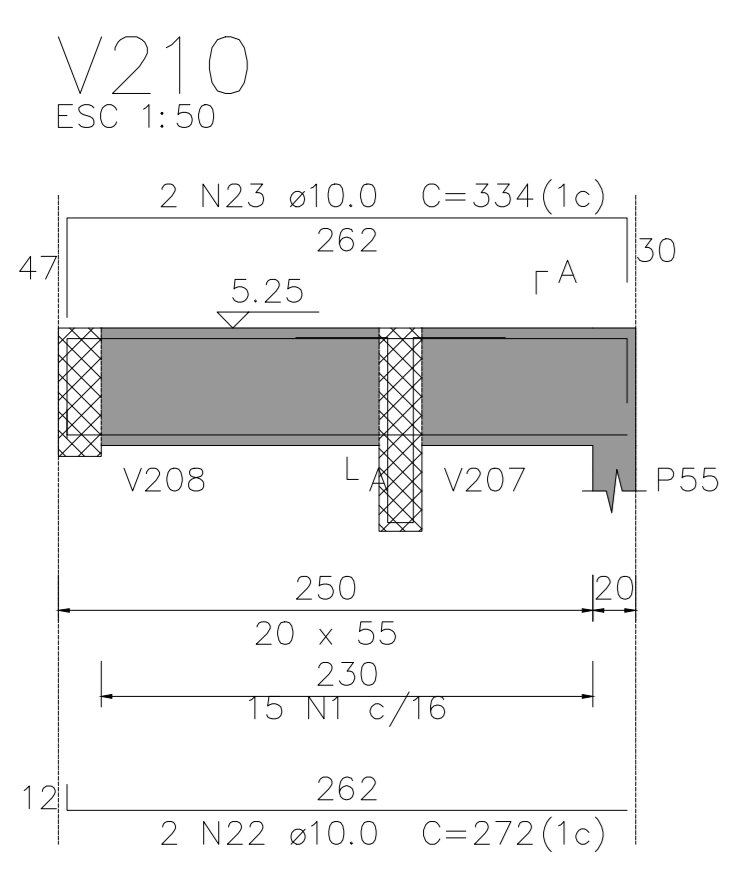
Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	6.3	638.7	171.9
CA60	5.0	331	56.1
PESO TOTAL (kg)			
CA50		171.9	
CA60		56.1	

ARMAÇÃO NEGATIVA DAS LAJES DO PAVIMENTO COBERTURA

Escala 1:50

 FVSM ENGENHARIA	PROPRIETÁRIO:	PREFEITURA MUNICIPAL DE VARGEM GRANDE - MA
	OBJETO:	CONSTRUÇÃO DE UBS TIPO II, NOVO PAC MARIA C. B. BEZERRA NO MUNICIPIO DE VARGEM GRANDE - MA
TÍTULO:	PROJETO ESTRUTURAL	PRANCHA:
ESCALA:	INDICADA	DATA:
	FEB/2025	DESENHISTA:
		RESP. TÉCNICO
		19/22



Relação do aço

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	124	129	15996
	2	5.0	29	159	4611
	3	5.0	25	79	1975
	4	5.0	2	240	480
	5	5.0	2	595	1190
	6	5.0	106	139	14734
CA50	7	6.3	8	1196	9568
	8	6.3	8	167	1336
	9	6.3	8	483	3864
	10	8.0	2	477	954
	11	8.0	1	124	124
	12	8.0	2	515	1030
	13	8.0	1	156	156
	14	8.0	2	213	426
	15	8.0	1	216	216
	16	8.0	1	261	261
	17	8.0	2	316	632
	18	8.0	2	183	366
	19	8.0	1	235	235
	20	8.0	1	238	238
	21	8.0	3	549	1647
	22	10.0	2	272	544
	23	10.0	6	334	2004
	24	10.0	2	263	526
	25	10.0	4	270	1080
	26	10.0	4	164	656
	27	10.0	4	141	564
	28	10.0	2	834	1668
	29	10.0	2	556	1112
	30	10.0	2	174	348
	31	10.0	3	264	792
	32	10.0	1	525	525
	33	10.0	2	1066	2132
	34	10.0	1	416	416
	35	10.0	2	501	1002
	36	10.0	3	487	1461
	37	12.5	3	116	348
	38	12.5	2	295	590
	39	12.5	3	350	1050
	40	12.5	3	290	870
	41	12.5	2	1000	2000

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6.3	147.7	39.8
	8.0	62.9	27.3
	10.0	148.3	100.6
	12.5	48.6	51.5
CA60	5.0	389.9	66.1
PESO TOTAL (kg)			
CA50		219.1	
CA60		66.1	

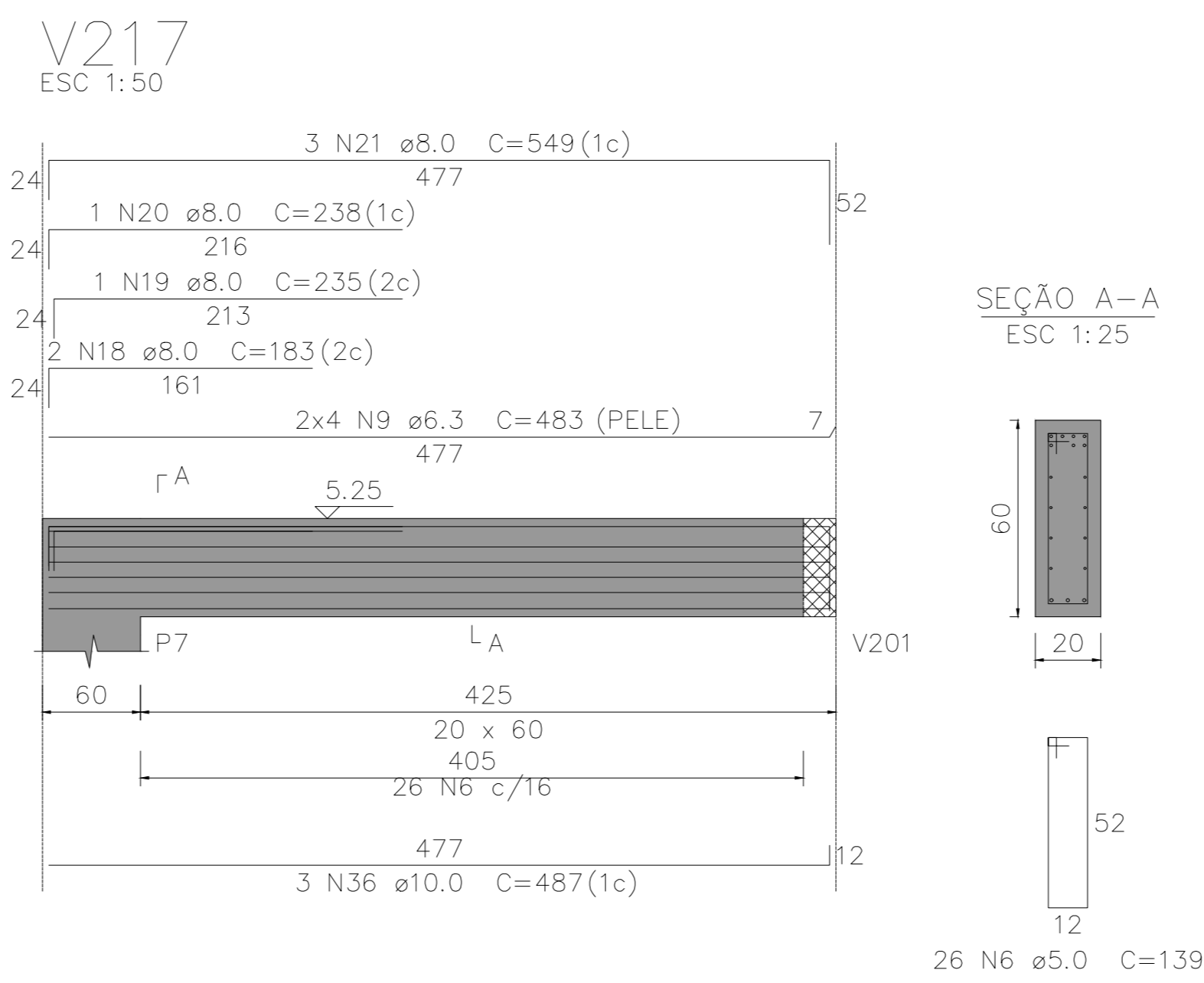
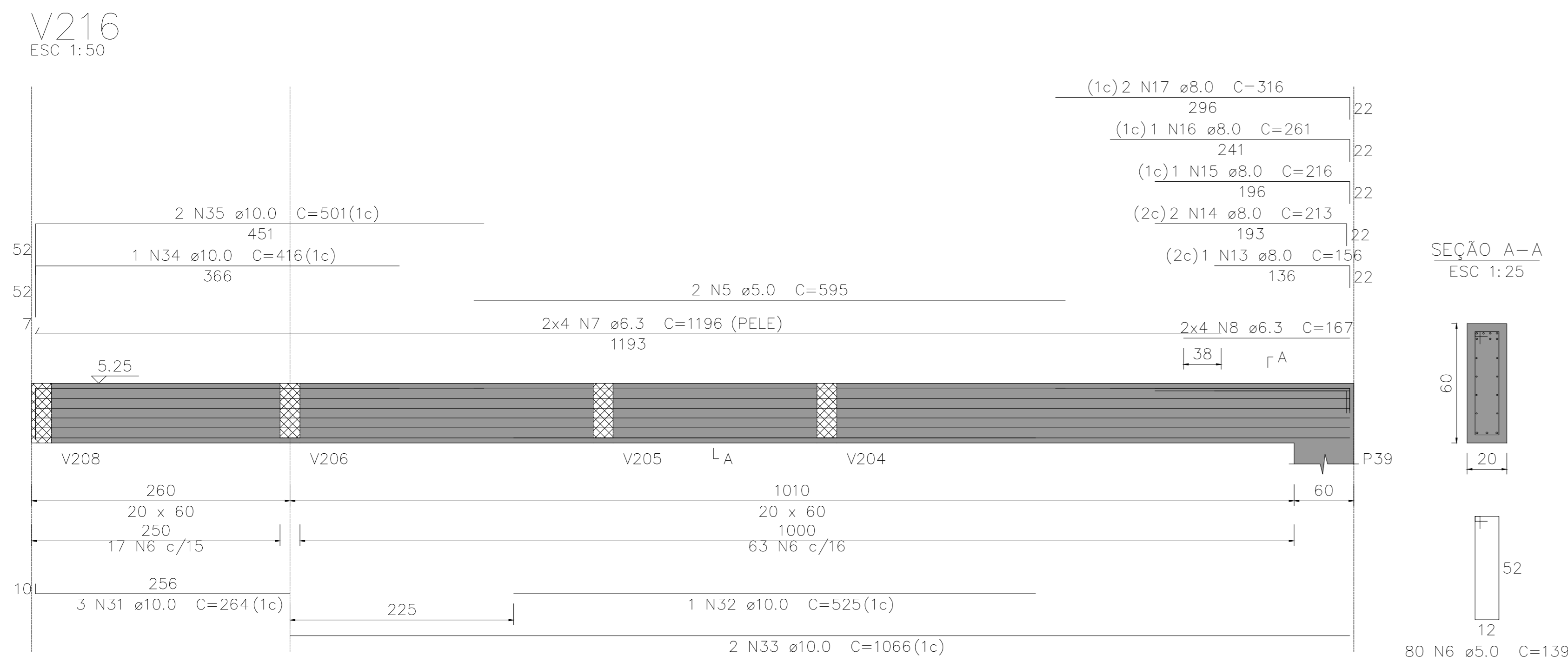
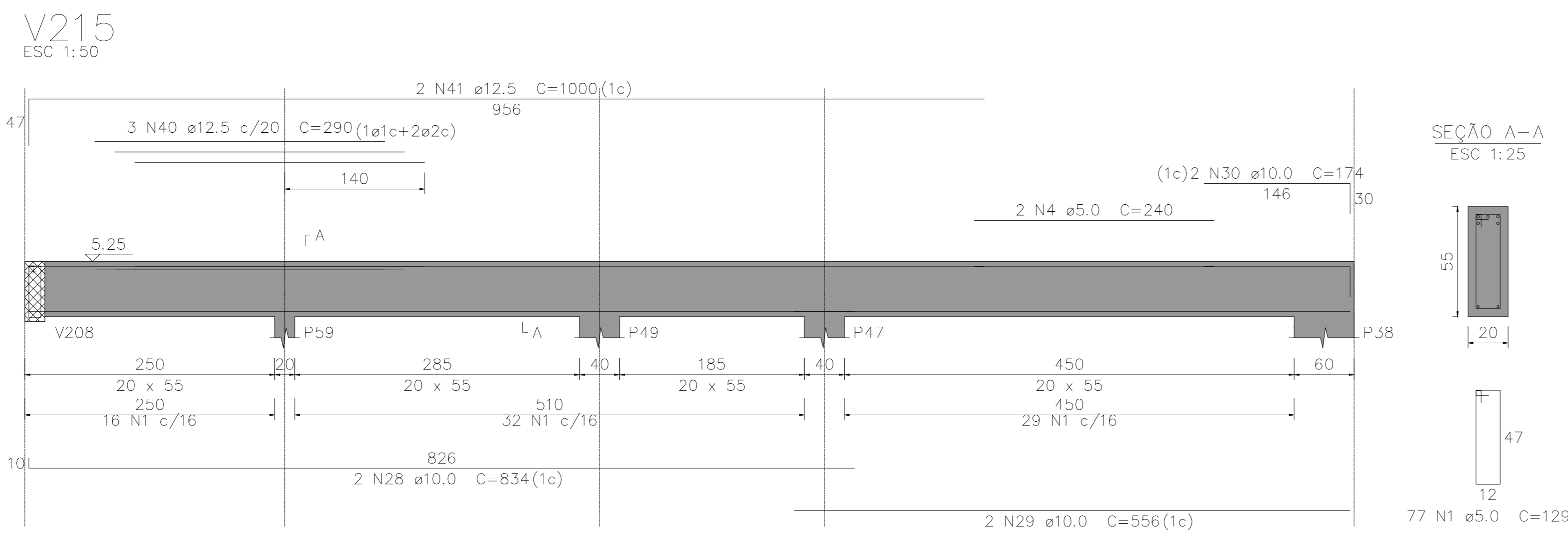
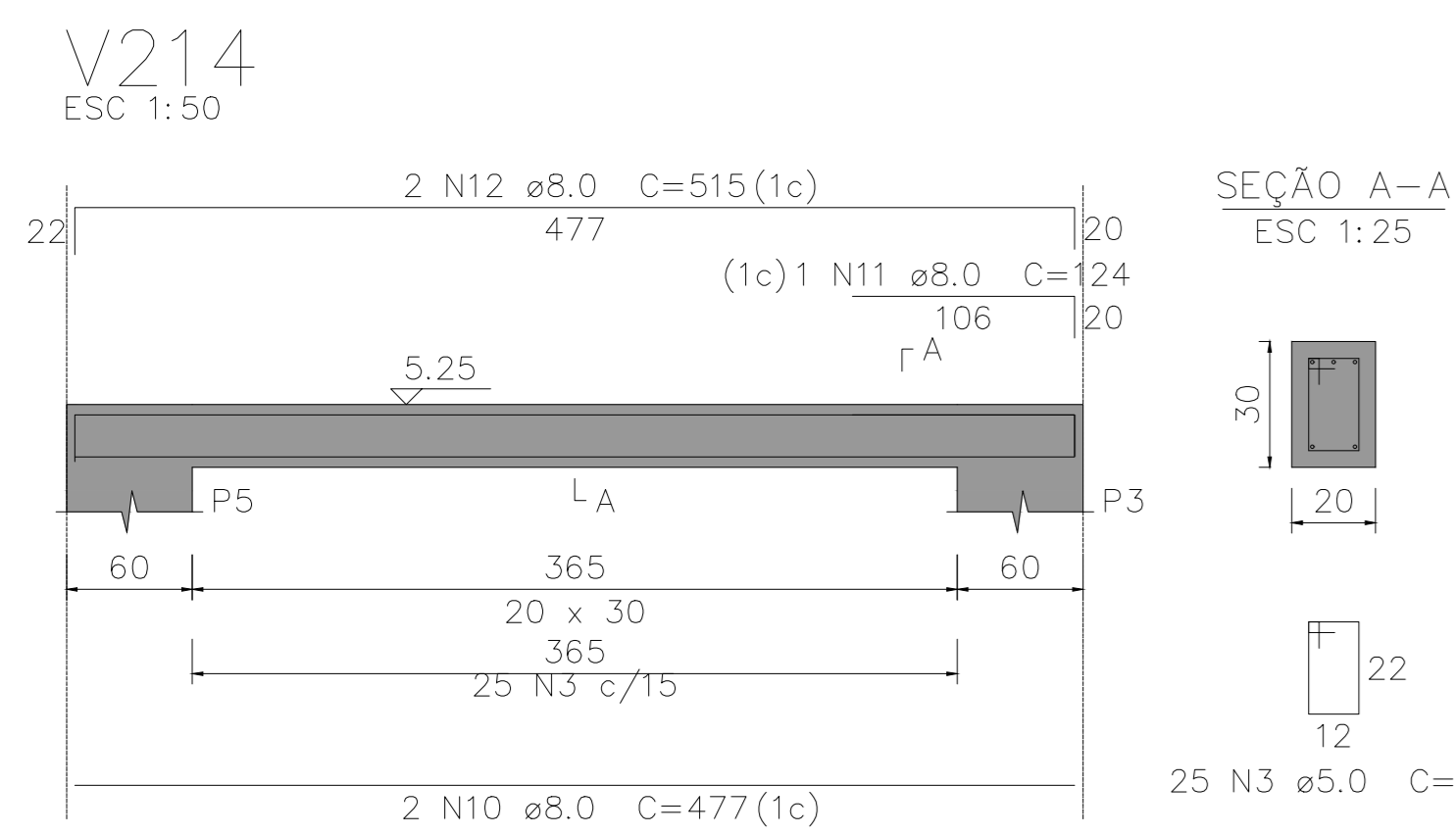
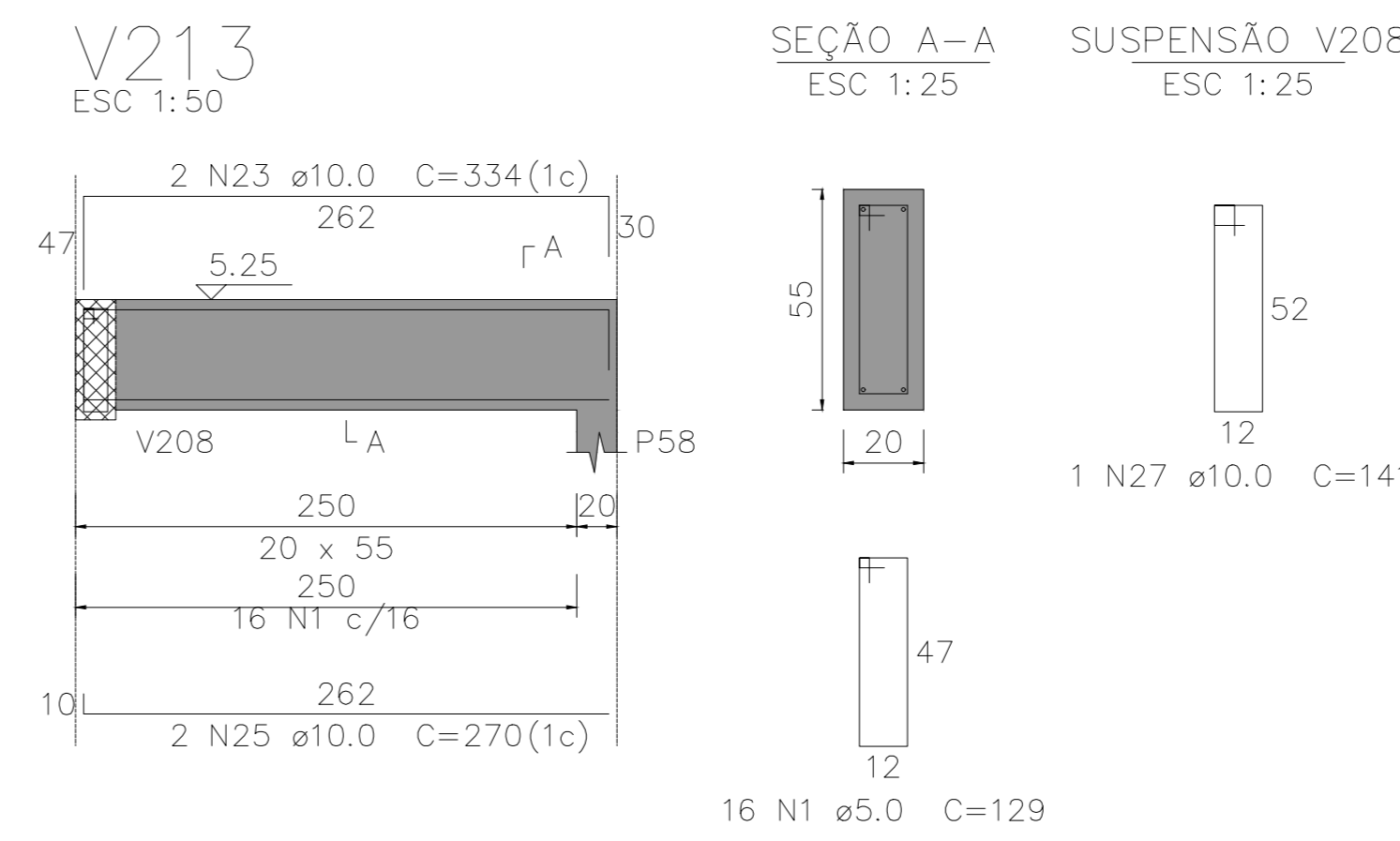
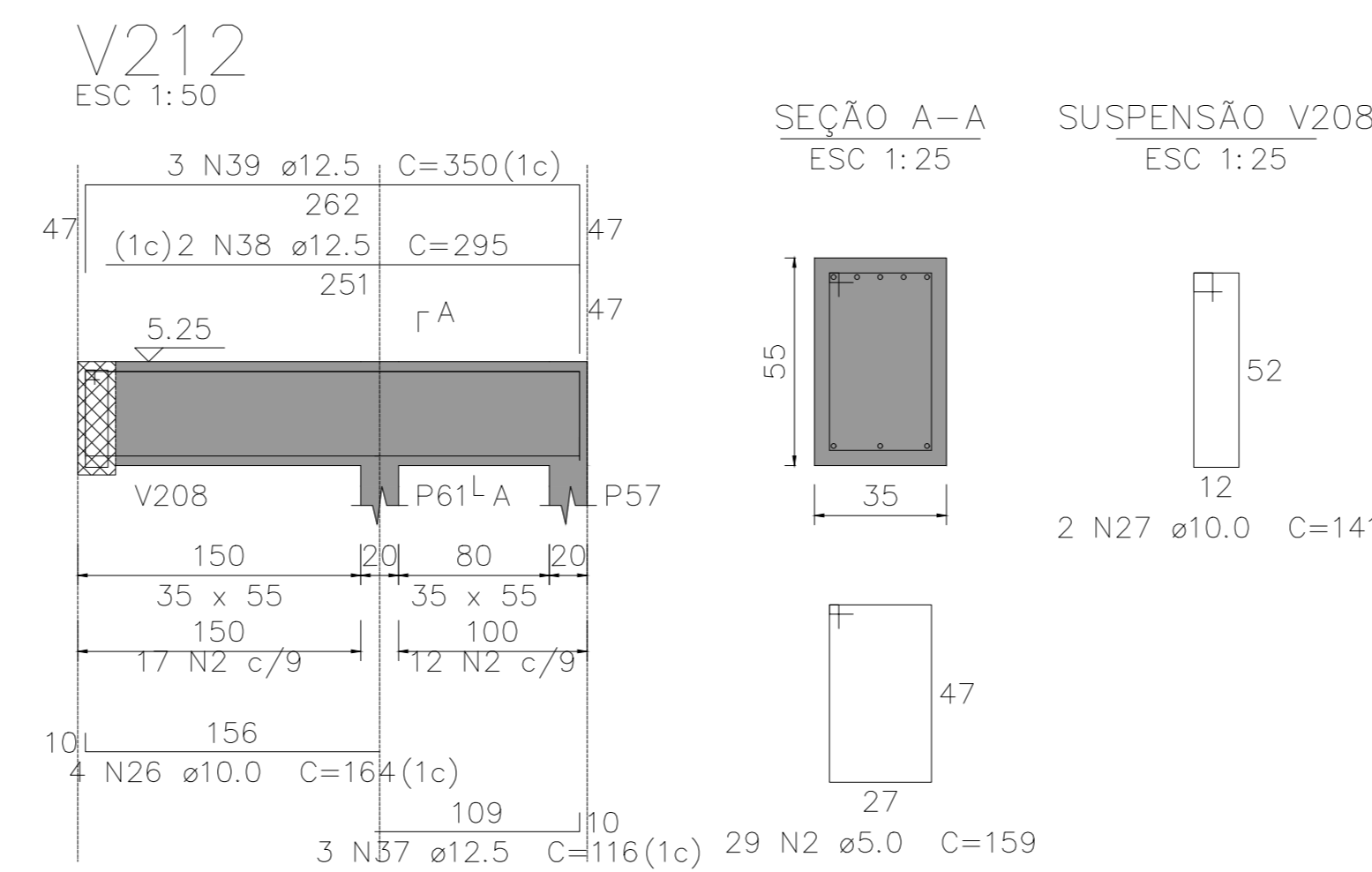
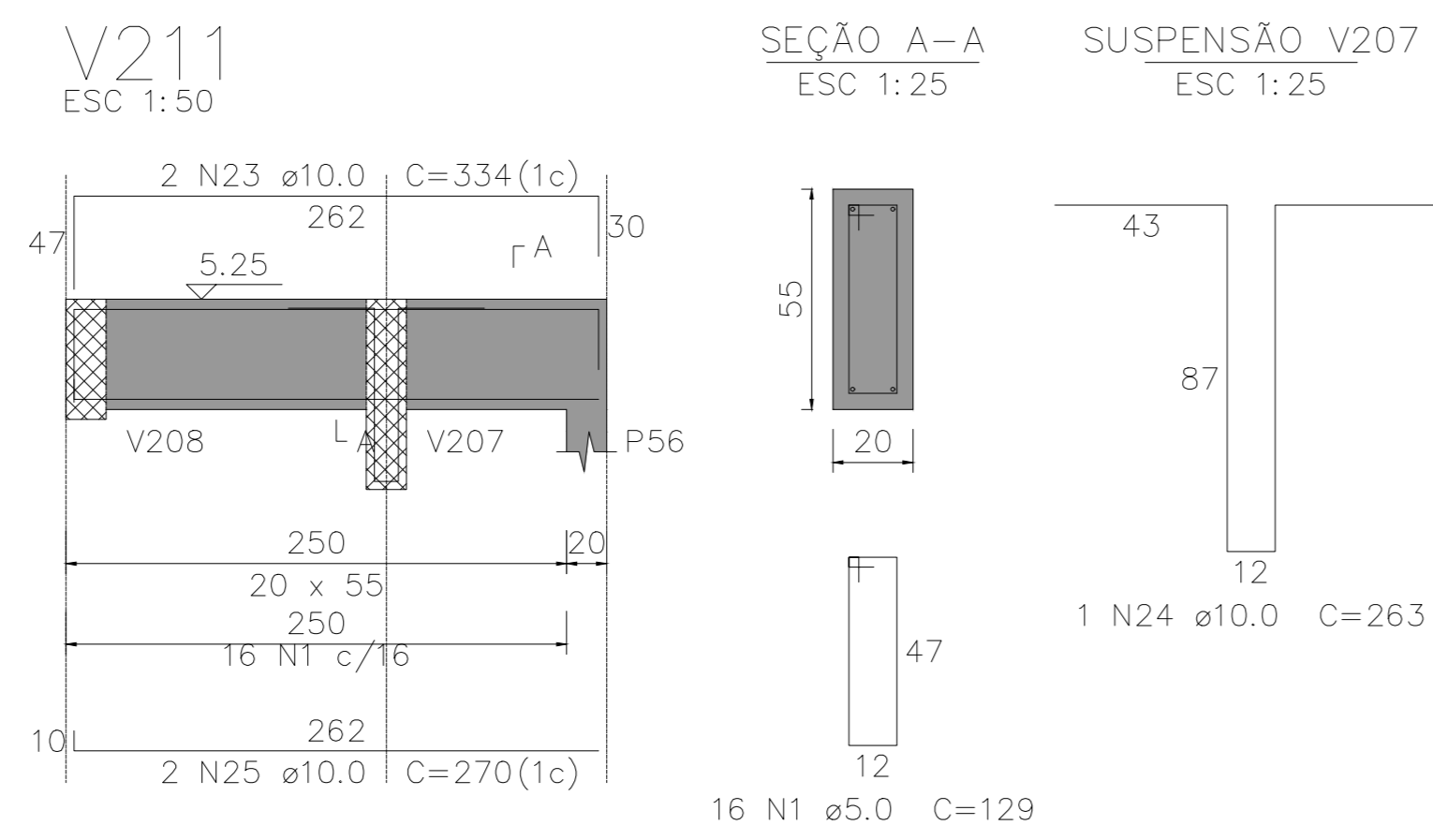
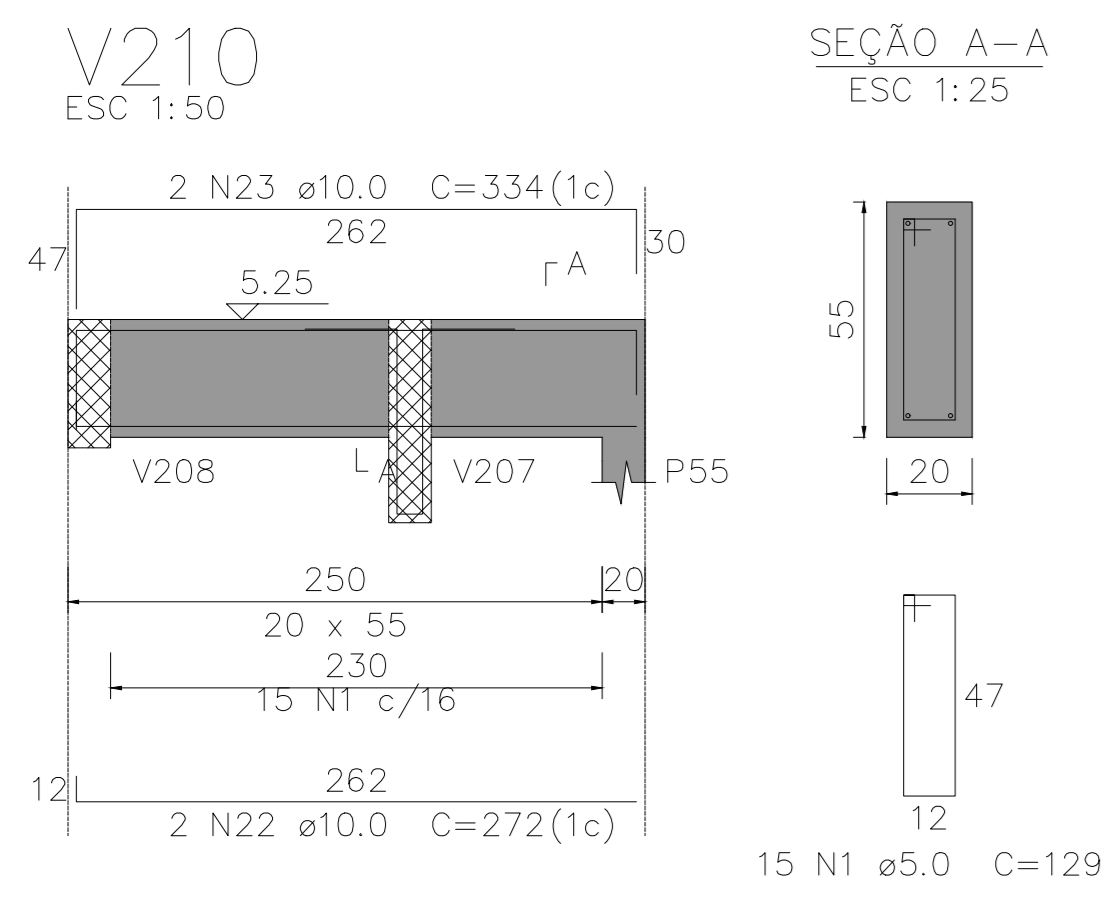
Volume de concreto (C-35) = 4.73 m³
Área de forma = 46.53 m²

FVSM
ENGENHARIA

PROPRIETÁRIO:
PREFEITURA MUNICIPAL DE VARGEM GRANDE - MA

OBJETO:
**CONSTRUÇÃO DE UBS TIPO II, NOVO PAC
MARIA C. B. BEZERRA NO MUNICÍPIO DE VARGEM GRANDE - MA**

TÍTULO: PROJETO ESTRUTURAL		PRANCHA: 21/22
ESCALA: INDICADA	DATA: FEV/2025	DESENHISTA: RESP. TÉCNICO



Relação do aço

ACO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	124	129	15996
	2	5.0	29	159	4611
	3	5.0	25	79	1975
	4	5.0	2	240	480
	5	5.0	2	595	1190
	6	5.0	106	139	14734
CA50	7	6.3	8	1196	9568
	8	6.3	8	167	1336
	9	6.3	8	483	3864
	10	8.0	2	477	954
	11	8.0	1	124	124
	12	8.0	2	515	1030
	13	8.0	1	156	156
	14	8.0	2	213	426
	15	8.0	1	216	216
	16	8.0	1	261	261
	17	8.0	2	316	632
	18	8.0	2	183	366
	19	8.0	1	235	235
	20	8.0	1	238	238
	21	8.0	3	549	1647
	22	10.0	2	272	544
	23	10.0	6	334	2004
	24	10.0	2	263	526
	25	10.0	4	270	1080
	26	10.0	4	164	656
	27	10.0	4	141	564
	28	10.0	2	834	1668
	29	10.0	2	556	1112
	30	10.0	2	174	348
	31	10.0	3	264	792
	32	10.0	1	525	525
	33	10.0	2	1066	2132
	34	10.0	1	416	416
	35	10.0	2	501	1002
	36	10.0	3	467	1401
	37	12.5	3	116	348
	38	12.5	2	295	590
	39	12.5	3	350	1050
	40	12.5	3	290	870
	41	12.5	2	1000	2000

Resumo do aço

ACO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	6.3	147.7	39.8
	8.0	62.9	27.3
	10.0	148.3	100.6
	12.5	48.6	51.5
CA60	5.0	389.9	66.1
PESO TOTAL (kg)			
CA50		219.1	
CA60		66.1	

Volume de concreto (C-35) = 4.73 m³
Área de forma = 46.53 m²

FVSM
ENGENHARIA

PROPRIETÁRIO:
PREFEITURA MUNICIPAL DE VARGEM GRANDE - MA

OBJETO:
**CONSTRUÇÃO DE UBS TIPO II, NOVO PAC
MARIA C. B. BEZERRA NO MUNICIPIO DE VARGEM GRANDE - MA**

TÍTULO:
PROJETO ESTRUTURAL

ESCALA:
INDICADA

DATA:
FEV/2025

DESENHISTA:

PRANCHA:
22/22

RESP. TÉCNICO