BN Projetos

CEMITÉRIO PORTARIA

PRESIDENTE VENCESLAU - SP
PROJETO ESTRUTURAL COMERCIAL

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ÍNDICE

1. ..... RESUMO GERAL

2. .....ESTACAS

3. ..... BLOCOS

4. ..... PILARES

5. ..... VIGAS

Projeto Estrutural
Resumo Geral da Obra

Obra: CONSTRUÇÃO COMERCIAL
Resp. Técnico: ENGº. FABRÍCIO BAGLI

QUANTITATIVOS DA OBRA:

1-RESUMO FUNDAÇÃO

Fundação – Estacas e Blocos de Fundação

Elemento	Formas (m²)	Volume (m³)	Barras (kg)
Estacas		*4.41	71
Blocos	9.6	0.96	112
Total	9.6	5.37	183

*Volume estimado de concreto

2-RESUMO PAVIMENTOS

Pavimento Térreo - Superfície total: 8.95 m2

Elemento	Formas (m2)	Volume (m3)	Barras (kg)
Vigas: fundo	8.32	2.78	172
Forma lateral	35.58		
Total	43.9	2.78	172
Índices (por m2)	4.90	0.31	19.22

Teto - Superfície total: 111.60 m2

Elemento	Formas (m2)	Volume (m3)	Barras (kg)
Lajes maciças	5.28	0.63	47
Pré-fabricadas	94.43	6.66	144
Vigas: fundo	11.26	2.78	125
Forma lateral	22.40		
Pilares (Sup. Formas)	38.25	1.80	183
Total	171.62	11.87	499
Índices (por m2)	1.538	0.106	4.47

3- Total obra - Superfície total: 120.55 m2

Elemento	Formas (m2)	Volume (m3)	Barras (kg)
Pré-fabricadas	99.71	7.03	152
Vigas: fundo	19.58	5.56	297
Forma lateral	57.98		
Pilares (Sup. Formas)	47.55	2.25	183
Total	224.82	15.10	632
Índices (por m2)	1.865	0.125	5.24

RESUMO GERAL DE AÇO
(Total + 10%)

209	5,0mm (kg)	6,3mm (kg)	8,0mm (kg)	10,0mm (kg)	12,5mm (kg)	16,0mm (kg)	20,0mm (kg)	25,0 mm (kg)	Total do Item
Estacas	13	-	58	-	-	-	-	-	**71**
Blocos	6	50	-	57	-	-	-	-	**113**
Pilares	54	-	-	129	-	-	-	-	**183**
Vigas	94	44	156	3	-	-	-	-	**297**
Lajes maciças	-	-	-	-	-	-	-	-	**-**
Lajes Pré	152	-	-	-	-	-	-	-	**152**
Escadas	-	-	-	-	-	-	-	-	**-**
Totais	**319**	**94**	**214**	**189**	**-**	**-**	**-**	**-**	**816**

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ESTACAS

DETALHES E ARMADURAS

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OBRA

CONSTRUÇÃO DE CEMITÉRIO MUNICIPAL

TÍTULO

DETALHAMENTO DAS ESTACAS DA FUNDAÇÃO

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
LUANA R.	20 MPa	CA-50	S/ESCALA	NOV/2025	EST-01/02

TABELA DE AÇO

NUM.	QUANT.	BITOLA	COMP.	USO	TIPO	A	B
1	45	8,0mm	300	ESTACAS	RETO	0	0

TABELA DE AÇO

NUM.	QUANT.	BITOLA	COMP.	USO	TIPO	A	B
2	135	5,0mm	55	ESTACAS	ESTR	15	15

CONSUMO GERAL DE AÇO

BITOLA	COMPR(m)	kg/m	TOT(kg)+10%
4,2mm	0.00	0,109	0.0
5,0mm	74.25	0,154	12.6
6,3mm	0.00	0,245	0.0
8,0mm	135.00	0,395	58.7
10,0mm	0.00	0,617	0.0
12,5mm	0.00	0,963	0.0
16,0mm	0.00	1,578	0.0
20,0mm	0.00	2,466	0.0
25,0mm	0.00	3,853	0.0
32,0mm	0.00	6,313	0.0
40,0mm	0.00	9,865	0.0
TOTAL + 10% (kg)			71.2

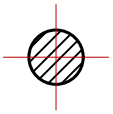
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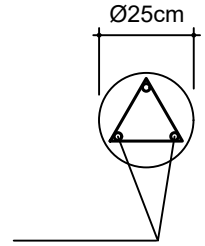
TÍTULO
DETALHAMENTO DAS ESTACAS DA FUNDAÇÃO

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
LUANA R.	20 MPa	CA-50	S/ESCALA	NOV/2025	EST-02/02

DETALHE DAS ESTACAS Ø25



15x

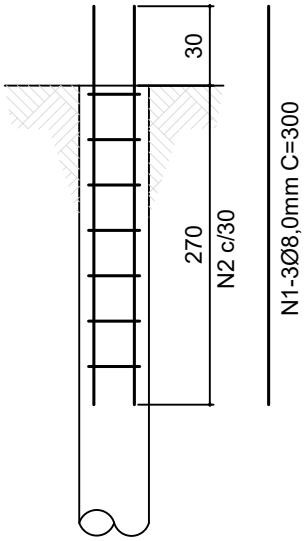


N1-3Ø8,0mm C=300



ESTRIBOS

N2-9Ø5,0mm c/30 C=55



ESTACA ESCAVADA MOLDADA "IN LOCO"
DIÂMETRO DE 25cm P/ 15Tf.

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BLOCOS DE FUNDAÇÃO

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TÍTULO
DETALHAMENTO DOS BLOCOS DE FUNDAÇÃO

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
LUANA R	20 MPa	CA-50	1:25	OUT/2025	BLO-01/02

TABELA DE AÇO

NUM.	QUANT.	BITOLA	COMP.	USO	TIPO	A	B
1	45	6,3mm	133	P1	ESTR	30	30
2	45	6,3mm	138	P1	ESTR	31	31
3	45	6,3mm	136	P1	ESTR	31	30

TABELA DE AÇO

NUM.	QUANT.	BITOLA	COMP.	USO	TIPO	A	B
4	45	5,0mm	76	P1	ESTR	9	25
5	60	10,0mm	140	P1	'L'	30	0

CONSUMO GERAL DE AÇO

BITOLA	COMPR(m)	kg/m	TOT(kg)+10%
4,2mm	0.00	0,109	0.0
5,0mm	34.20	0,154	5.8
6,3mm	183.15	0,245	49.4
8,0mm	0.00	0,395	0.0
10,0mm	84.00	0,617	57.0
12,5mm	0.00	0,963	0.0
16,0mm	0.00	1,578	0.0
20,0mm	0.00	2,466	0.0
25,0mm	0.00	3,853	0.0
32,0mm	0.00	6,313	0.0
40,0mm	0.00	9,865	0.0
TOTAL + 10% (kg)			112.2

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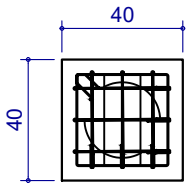
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TÍTULO: DETALHAMENTO DOS BLOCOS DE FUNDAÇÃO- P1(x15)

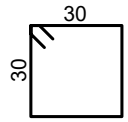
PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
LUANA R	20 MPa	CA-50	1:25	OUT/2025	BLO-02/02

DETALHE DO BLOCO

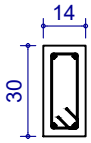
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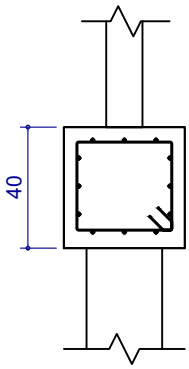


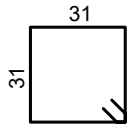
PLANTA DO BLOCO



N1-3Ø6,3mm C=133
ARMADURA DE PELE



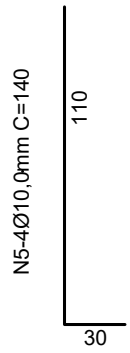




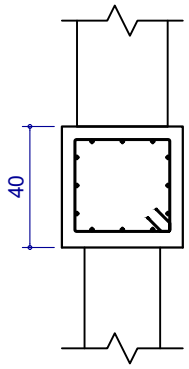
N2-3Ø6,3mm C=138

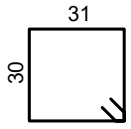


N4-3Ø5,0mm C=76
COLARINHO



ARRANQUES DO PILAR





N3-3Ø6,3mm C=136

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PILARES

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TÍTULO: PILARES QUE SUPORTAM O TETO

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
LUANA R.	25 MPa	CA-50	1:50/1:25	OUT/2025	PIL01-01/02

Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
P1=P2=P3=P8=P14 P11=P13	1	Ø10	4	318	318	1272	7.8	
	2	Ø5	27	5 / 6 / 25	77	2079		3.3
						Total+10%:	8.6	3.6
						(x7):	60.2	25.2
P4=P5=P6=P9=P10 P15	3	Ø10	4	318	318	1272	7.8	
	4	Ø5	27	5 / 6 / 25	77	2079		3.3
						Total+10%:	8.6	3.6
						(x6):	51.6	21.6
P12=P7	5	Ø10	4	318	318	1272	7.8	
	6	Ø5	27	5 / 6 / 25	77	2079		3.3
						Total+10%:	8.6	3.6
						(x2):	17.2	7.2
						Ø5:	0.0	54.0
						Ø10:	129.0	0.0
						Total:	129.0	54.0

Resumo Aço Pilares		Comp. total (m)	Peso+10% (kg)	Total
CA-50	Ø10	190.8	129	129
CA-60	Ø5	311.9	54	54
Total				183

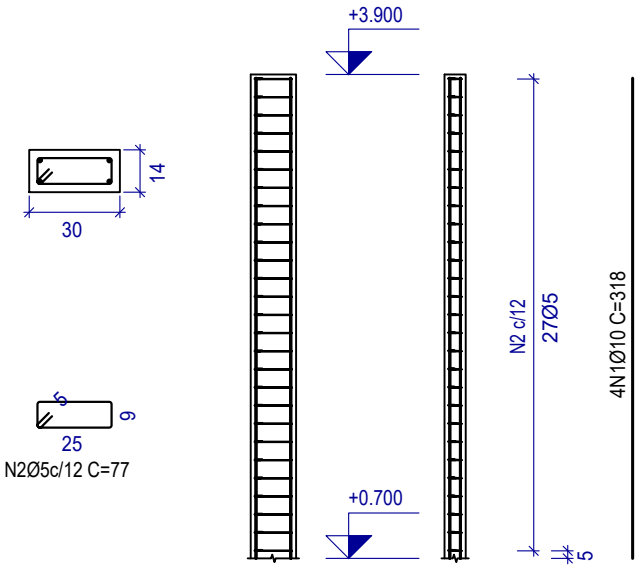
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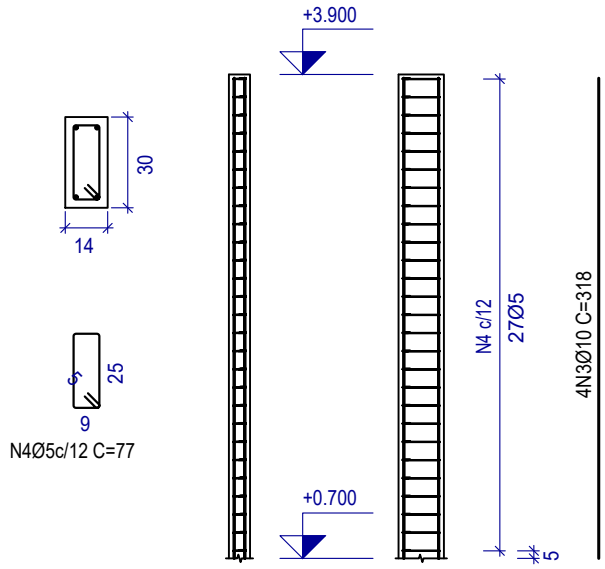
TÍTULO
PILARES QUE SUPORTAM O TETO

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
LUANA R.	25 MPa	CA-50	1:50/1:25	OUT/2025	PIL01-02/02

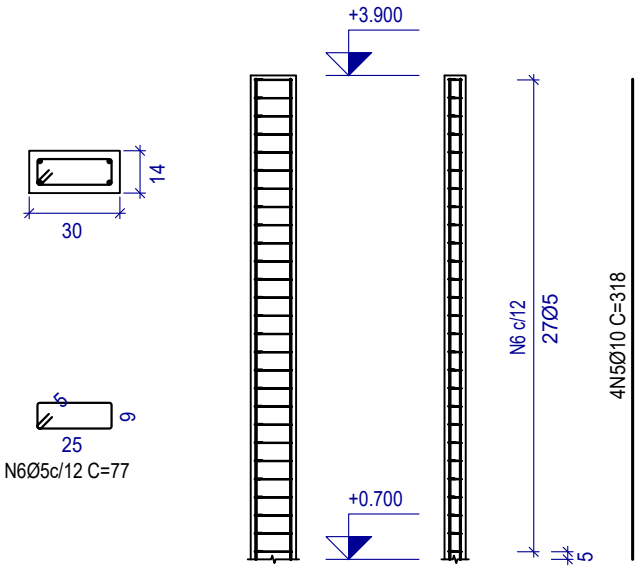
P1,P2,P3,P8,P14,P11eP13



P4,P5,P6,P9,P10eP15



P12eP7



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VIGAS

DETALHES E ARMADURAS

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OBRA
CONSTRUÇÃO DE CEMITÉRIO MUNICIPAL

TÍTULO
VIGAS DO PAVIMENTO TÉRREO

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
LUANA	30 MPa	CA-50	1:50/1:25	NOV/2025	VIG01-01/06

Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V 1	1	Ø8	2	13 — 365 — 13	390	780	3.1	
	2	Ø8	2	10 — 365 — 10	386	772	3.0	
	3	Ø5	20	25 × 9 (5)	76	1520		2.4
						Total+10%:	6.7	2.6
V 2	4	Ø8	4	16 — 632 — 16	664	2656	10.5	
	5	Ø5	36	25 × 9 (5)	76	2736		4.3
						Total+10%:	11.6	4.7
V 3	6	Ø6.3	2	21 — 129 — 8	158	316	0.8	
	7	Ø6.3	2	8 — 129 — 8	145	290	0.7	
	8	Ø5	8	25 × 9 (5)	76	608		1.0
						Total+10%:	1.7	1.1
V 4	9	Ø6.3	2	16 — 322 — 16	354	708	1.7	
	10	Ø6.3	2	8 — 322 — 8	338	676	1.7	
	11	Ø5	18	25 × 9 (5)	76	1368		2.1
						Total+10%:	3.7	2.3
V 5	12	Ø6.3	2	16 — 317 — 16	349	698	1.7	
	13	Ø6.3	2	8 — 317 — 8	333	666	1.6	
	14	Ø5	18	25 × 9 (5)	76	1368		2.1
						Total+10%:	3.6	2.3
V 6	15	Ø6.3	4	8 — 156 — 8	172	688	1.7	
	16	Ø5	9	25 × 9 (5)	76	684		1.1
						Total+10%:	1.9	1.2
V 7	17	Ø8	2	16 — 1092 — 16	1124	2248	8.9	
	18	Ø8	2	10 — 1092 — 10	1113	2226	8.8	
	19	Ø5	62	25 × 9 (5)	76	4712		7.4
						Total+10%:	19.5	8.1
V 8	20	Ø8	2	20 — 672 — 20	712	1424	5.6	
	21	Ø8	2	10 — 672 — 10	693	1386	5.5	
	22	Ø5	41	25 × 9 (5)	76	3116		4.9
						Total+10%:	12.2	5.4
V 9	23	Ø8	2	13 — 129 — 13	155	310	1.2	
	24	Ø8	2	10 — 129 — 10	150	300	1.2	
	25	Ø5	8	25 × 9 (5)	76	608		1.0
						Total+10%:	2.6	1.1

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TÍTULO: VIGAS DO PAVIMENTO TÉRREO

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
LUANA	30 MPa	CA-50	1:50/1:25	NOV/2025	VIG01-02/06

Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V 10	26	Ø8	3	22 — 407 — 22	451	1353	5.3	
	27	Ø8	3	10 — 407 — 10	428	1284	5.1	
	28	Ø5	26	25 / 5 / 9	76	1976		3.1
					Total+10%:		11.4	3.4
V 11	29	Ø8	1	115 — 25	140	140	0.6	
	30	Ø8	2	25 — 407 — 25	457	914	3.6	
	31	Ø8	2	10 — 407 — 10	428	856	3.4	
	32	Ø5	26	25 / 5 / 9	76	1976		3.1
					Total+10%:		8.4	3.4
V 12	33	Ø6.3	1	20 — 85	105	105	0.3	
	34	Ø8	2	28 — 394 — 28	450	900	3.6	
	35	Ø8	2	10 — 394 — 10	415	830	3.3	
	36	Ø5	25	25 / 5 / 9	76	1900		3.0
					Total+10%:		7.9	3.3
V 13	37	Ø6.3	1	220	220	220	0.5	
	38	Ø8	2	20 — 792 — 20	832	1664	6.6	
	39	Ø8	2	10 — 792 — 10	813	1626	6.4	
	40	Ø5	50	25 / 5 / 9	76	3800		6.0
					Total+10%:		14.9	6.6
V 14	41	Ø8	2	13 — 792 — 13	817	1634	6.5	
	42	Ø8	2	10 — 792 — 10	813	1626	6.4	
	43	Ø5	48	25 / 5 / 9	76	3648		5.7
					Total+10%:		14.2	6.3
					Ø5:		0.0	51.8
					Ø6.3:		11.8	0.0
					Ø8:		108.5	0.0
					Total:		120.3	51.8

Resumo Aço Desenho de vigas		Comp. total (m)	Peso+10% (kg)	Total
CA-50	Ø6.3	43.7	12	
	Ø8	249.3	108	120
CA-60	Ø5	300.2	52	52
Total				172

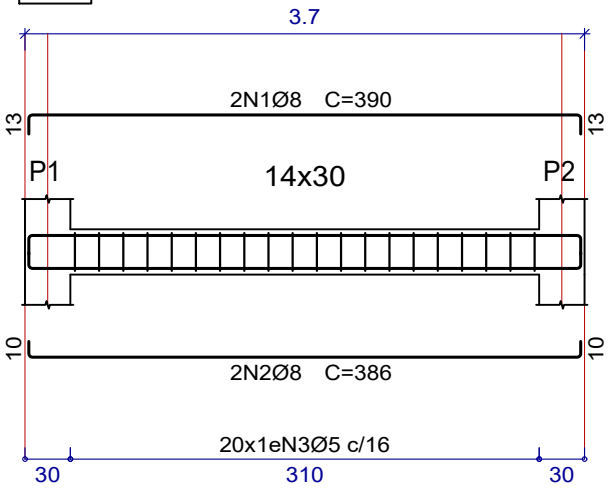
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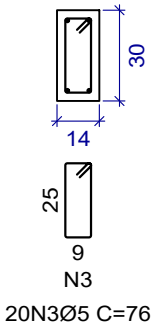
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TÍTULO: VIGAS DO PAVIMENTO TÉRREO

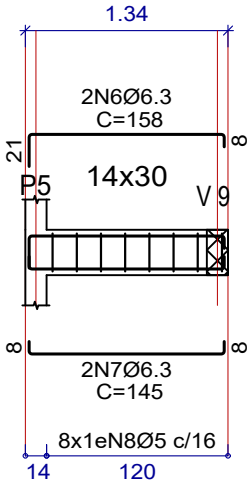
PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
LUANA	30 MPa	CA-50	1:50/1:25	NOV/2025	VIG01-03/06

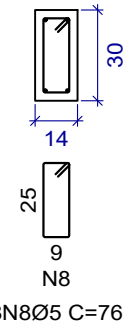
V1



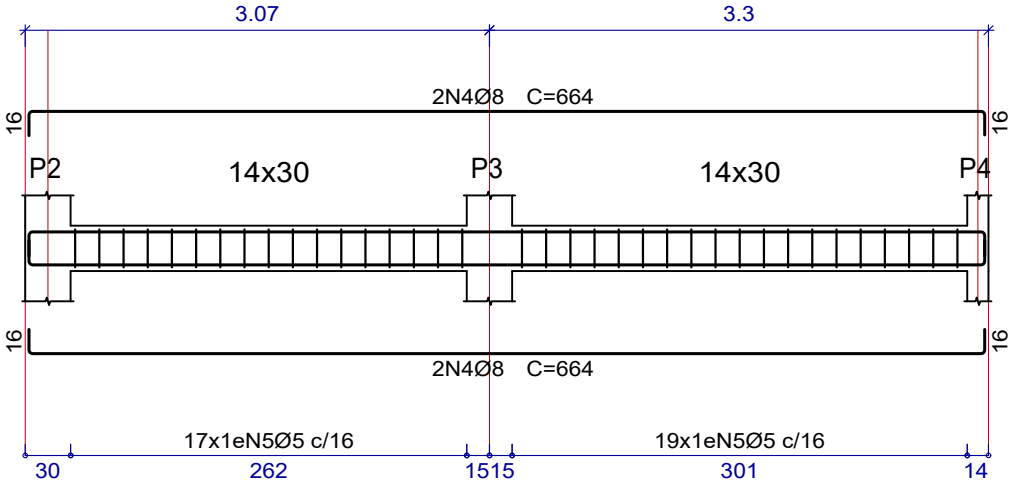


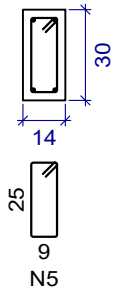
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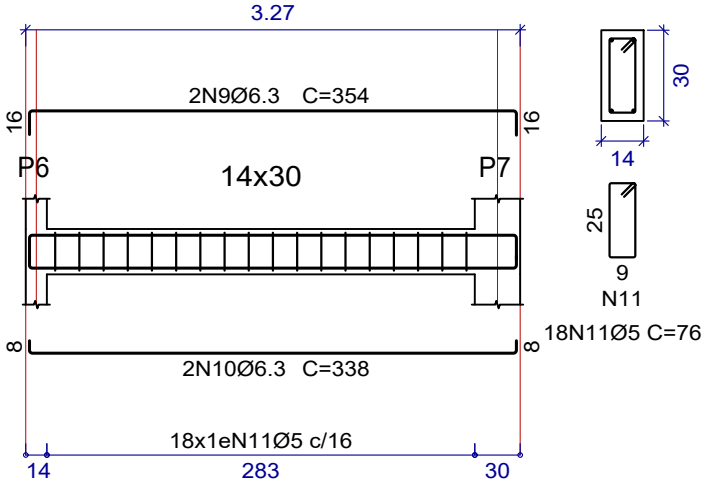


V2

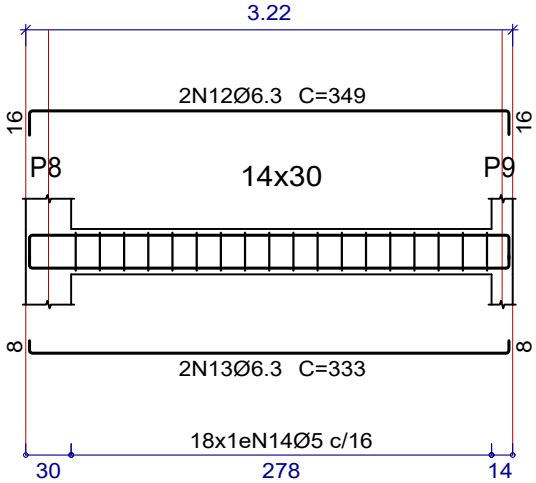


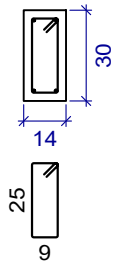


V4



V5





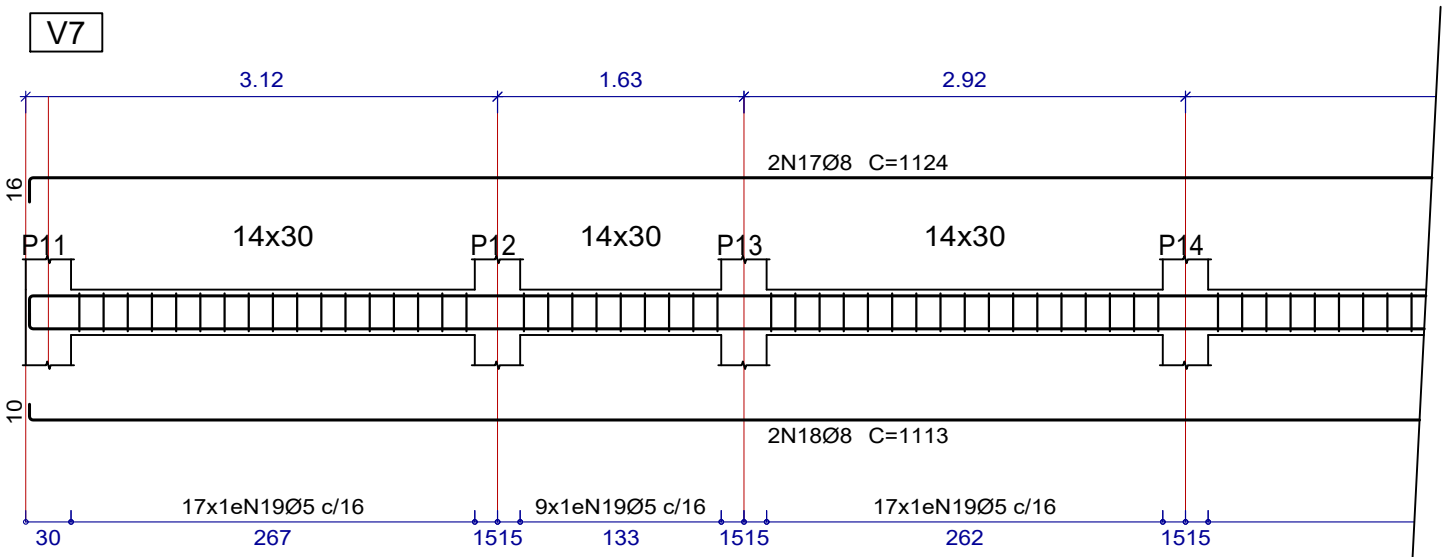
BN PROJETOS E ASSOCIADOS

OBRA: CONSTRUÇÃO DE CEMITÉRIO MUNICIPAL

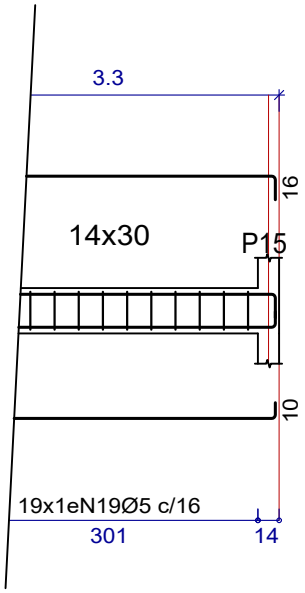
TÍTULO: VIGAS DO PAVIMENTO TÉRREO

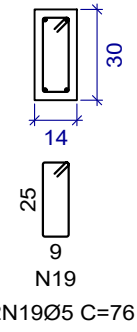
PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
LUANA	30 MPa	CA-50	1:50/1:25	NOV/2025	VIG01-04/06

V7

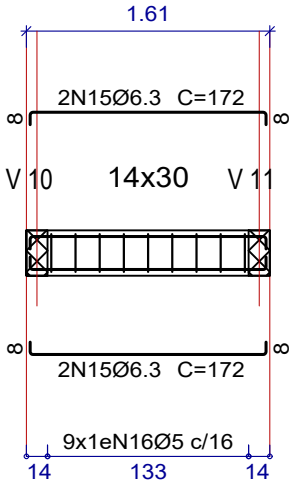


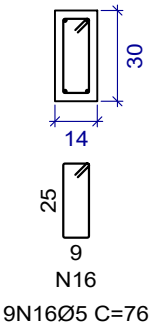
V7 CONTINUAÇÃO



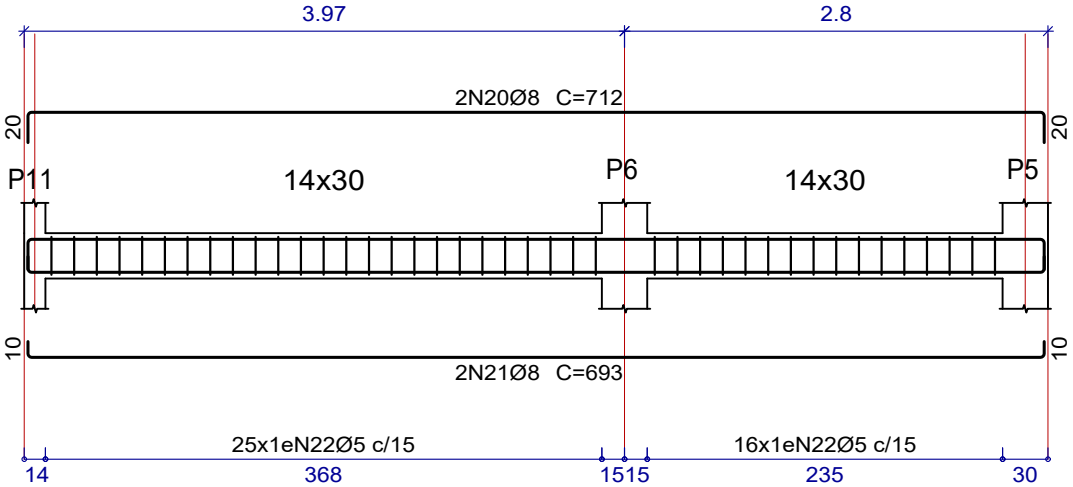


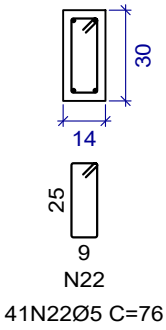
V6





V8





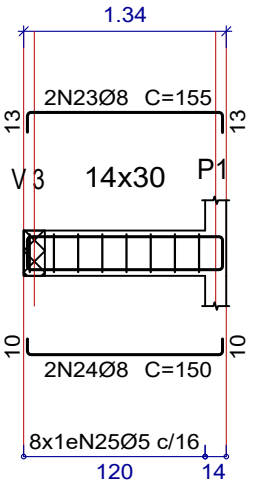
BN PROJETOS E ASSOCIADOS

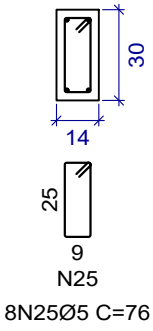
OBRA: CONSTRUÇÃO DE CEMITÉRIO MUNICIPAL

TÍTULO: VIGAS DO PAVIMENTO TÉRREO

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
LUANA	30 MPa	CA-50	1:50/1:25	NOV/2025	VIG01-05/06

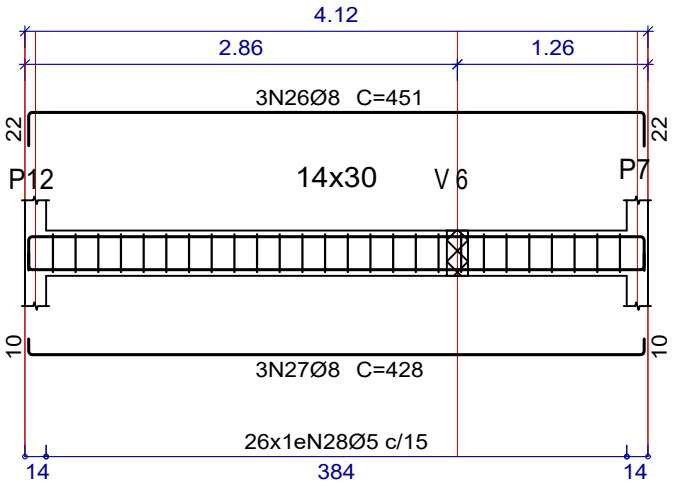
V9

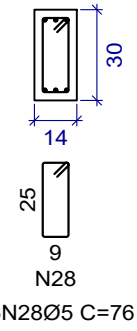




8N25Ø5 C=76

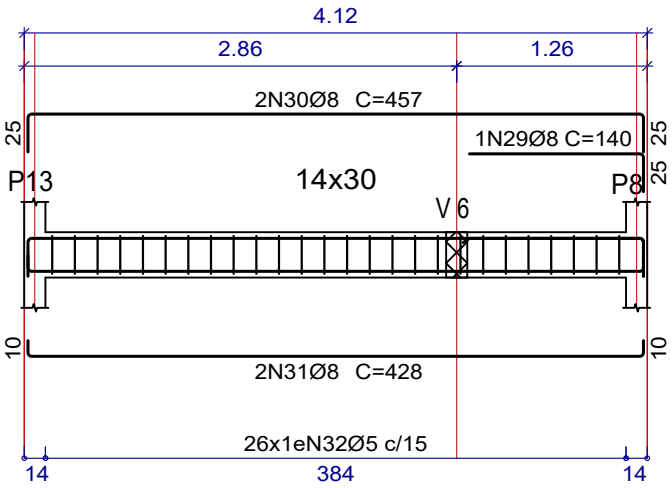
V10

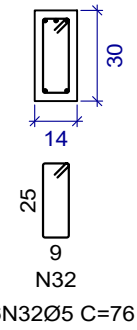




26N28Ø5 C=76

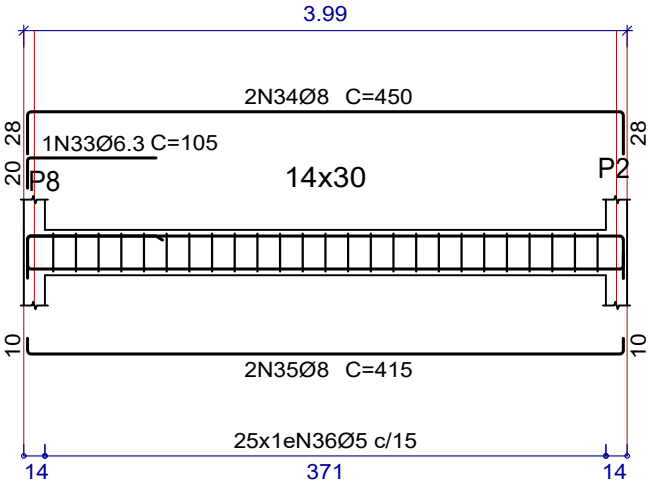
V11

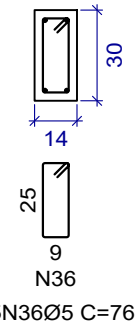




26N32Ø5 C=76

V12





25N36Ø5 C=76

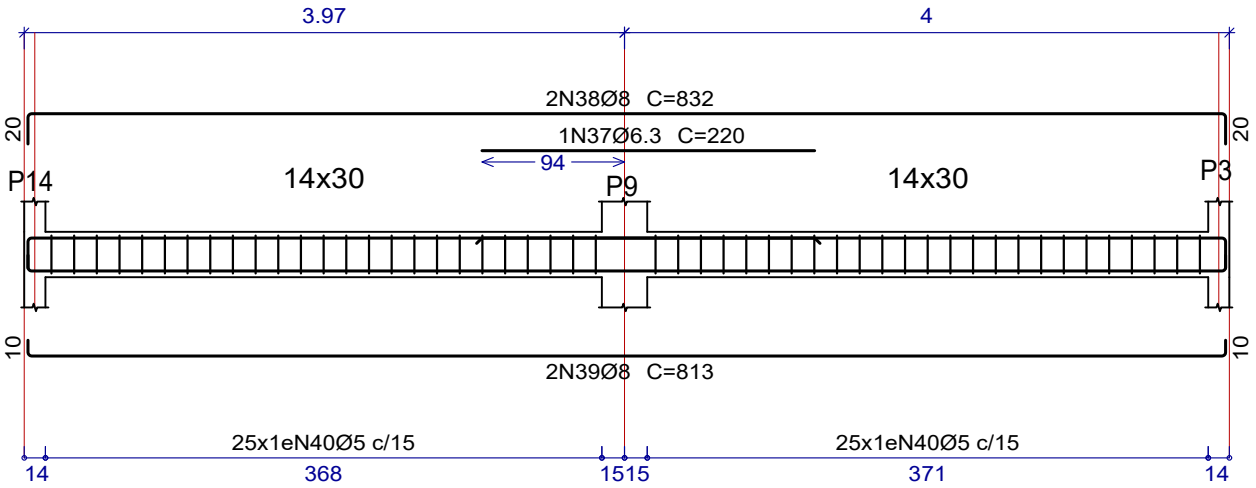
BN PROJETOS E ASSOCIADOS

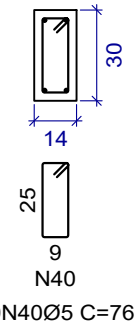
OBRA
CONSTRUÇÃO DE CEMITÉRIO MUNICIPAL

TÍTULO
VIGAS DO PAVIMENTO TÉRREO

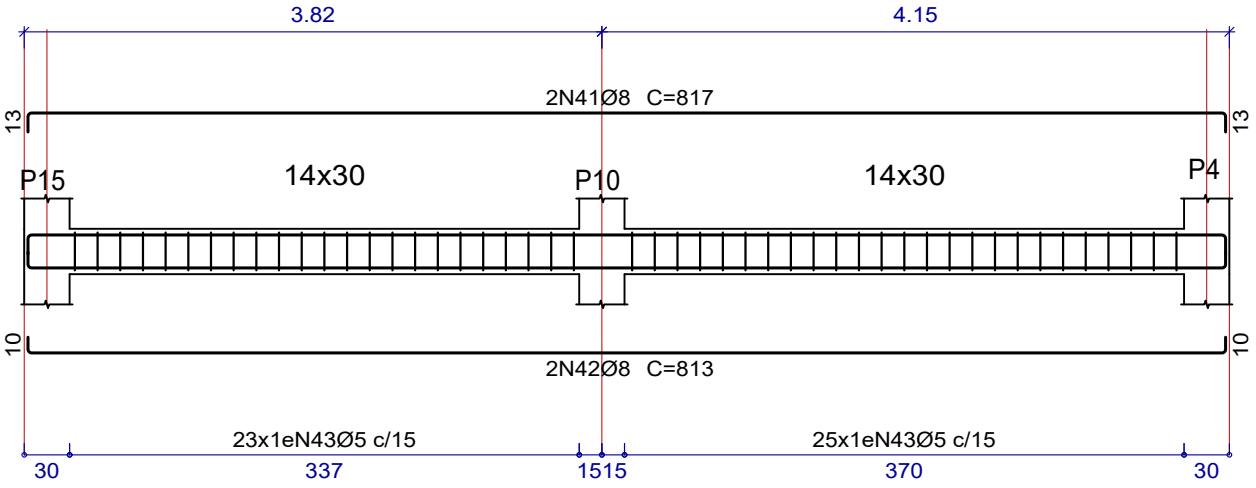
PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
LUANA	30 MPa	CA-50	1:50/1:25	NOV/2025	VIG01-06/06

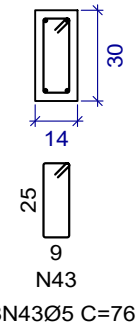
V13





V14





BN PROJETOS E ASSOCIADOS

OBRA: CONSTRUÇÃO DE CEMITÉRIO MUNICIPAL

TÍTULO: VIGAS DO TETO

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
LUANA	30 MPa	CA-50	1:50/1:25	NOV/2025	VIG02-01/04

Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V 1	1	Ø8	2	10 / 1092 / 10	1113	2226	8.8	
	2	Ø6.3	2	10 / 1092 / 10	1112	2224	5.4	
	3	Ø5	67	25 / 5 / 9	76	5092		8.0
						Total+10%:	15.6	8.8
V 2	4	Ø8	2	20 / 777 / 20	817	1634	6.5	
	5	Ø8	1	340	340	340	1.3	
	6	Ø6.3	2	20 / 777 / 20	817	1634	4.0	
	7	Ø10	2	250	250	500	3.1	
	8	Ø5	47	25 / 5 / 9	76	3572		5.6
						Total+10%:	16.4	6.2
V 3	9	Ø6.3	4	8 / 792 / 8	808	3232	7.9	
	10	Ø5	45	25 / 5 / 9	76	3420		5.4
						Total+10%:	8.7	5.9
V 4	11	Ø8	4	15 / 792 / 15	822	3288	13.0	
	12	Ø8	1	180	180	180	0.7	
	13	Ø5	50	25 / 5 / 9	76	3800		6.0
						Total+10%:	15.1	6.6
V 5	14	Ø8	1	185	185	185	0.7	
	15	Ø8	4	10 / 792 / 10	813	3252	12.8	
	16	Ø5	48	25 / 5 / 9	76	3648		5.7
						Total+10%:	14.9	6.3
V 6	17	Ø6.3	1	205	205	205	0.5	
	18	Ø6.3	4	8 / 1092 / 8	1108	4432	10.9	
	19	Ø5	62	25 / 5 / 9	76	4712		7.4
						Total+10%:	12.5	8.1
						Ø5:	0.0	41.9
						Ø6.3:	31.5	0.0
						Ø8:	48.3	0.0
						Ø10:	3.4	0.0
						Total:	83.2	41.9

Resumo Aço Desenho de vigas		Comp. total (m)	Peso+10% (kg)	Total
CA-50	Ø6.3	117.3	32	
	Ø8	111.1	48	
	Ø10	5.0	3	83
CA-60	Ø5	242.4	42	42
Total				125

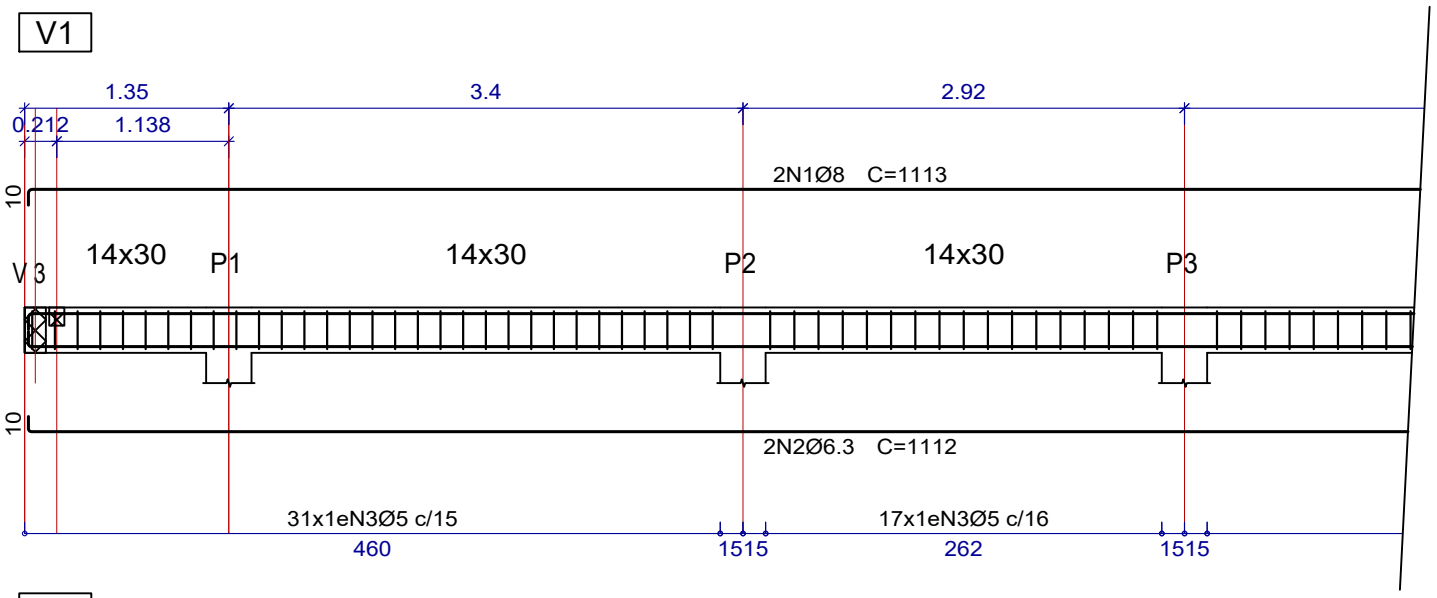
BN PROJETOS E ASSOCIADOS

OBRA: CONSTRUÇÃO DE CEMITÉRIO MUNICIPAL

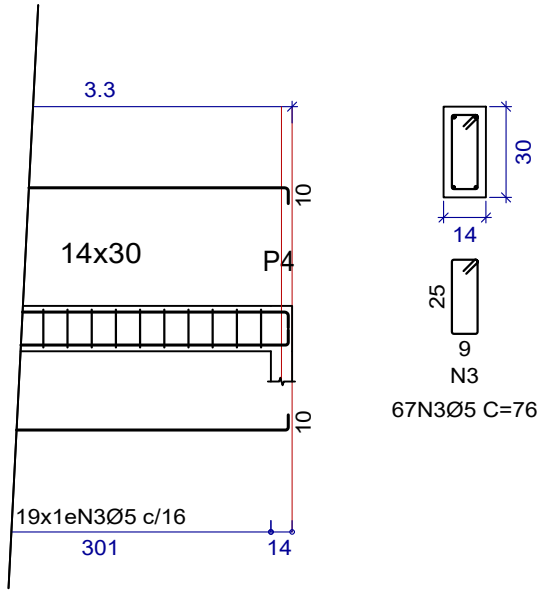
TÍTULO: VIGAS DO TETO

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
LUANA	30 MPa	CA-50	1:50/1:25	NOV/2025	VIG02-02/04

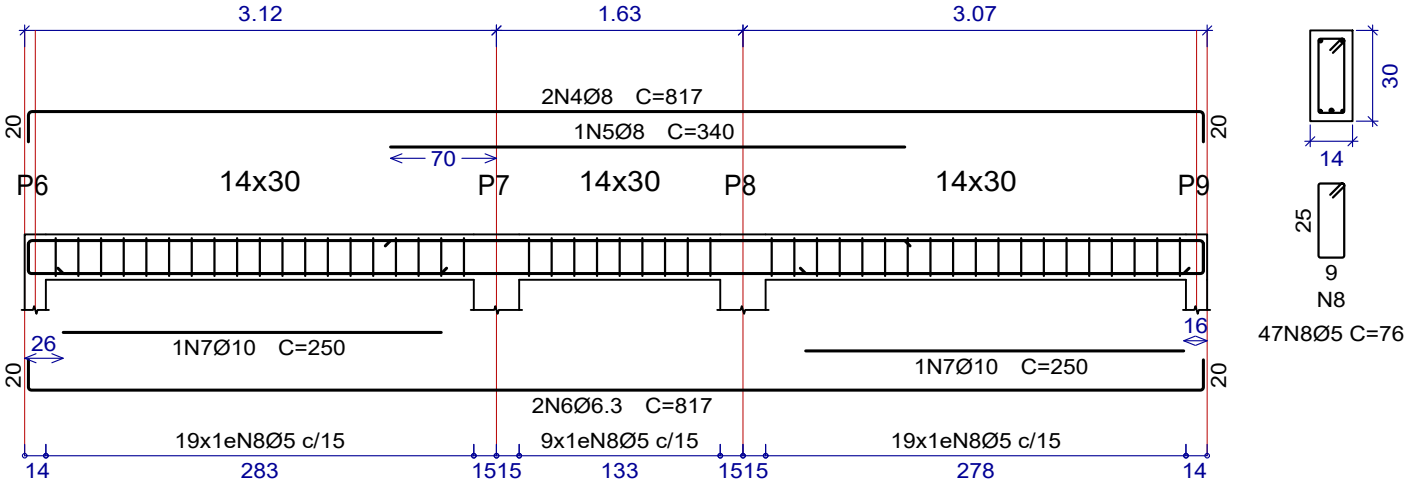
V1



V1 CONTINUAÇÃO



V2



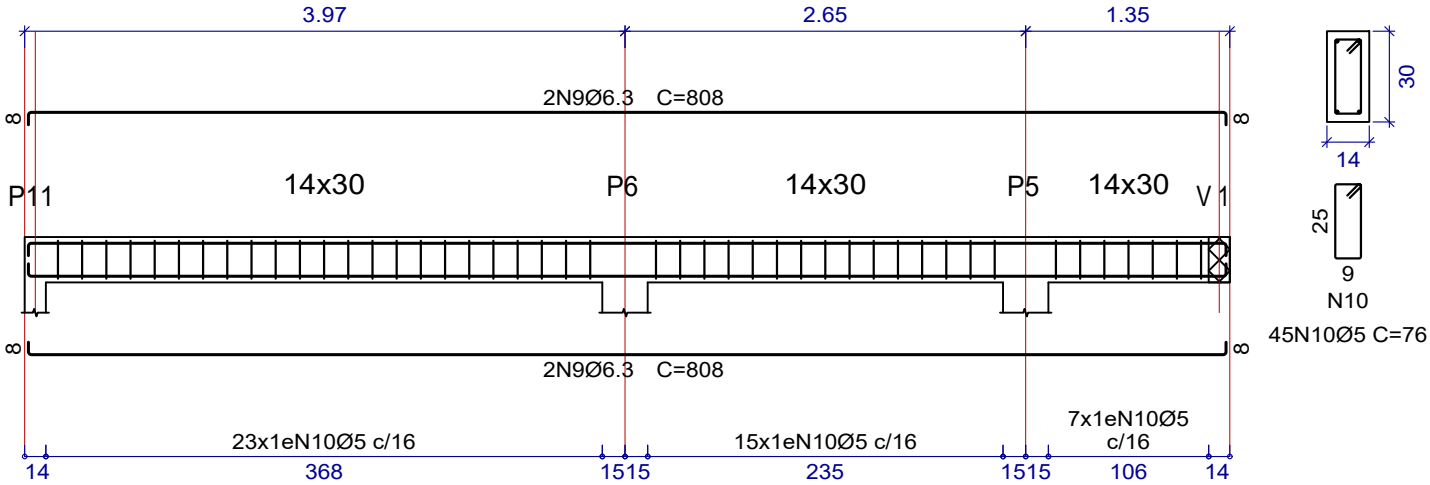
BN PROJETOS E ASSOCIADOS

OBRA: CONSTRUÇÃO DE CEMITÉRIO MUNICIPAL

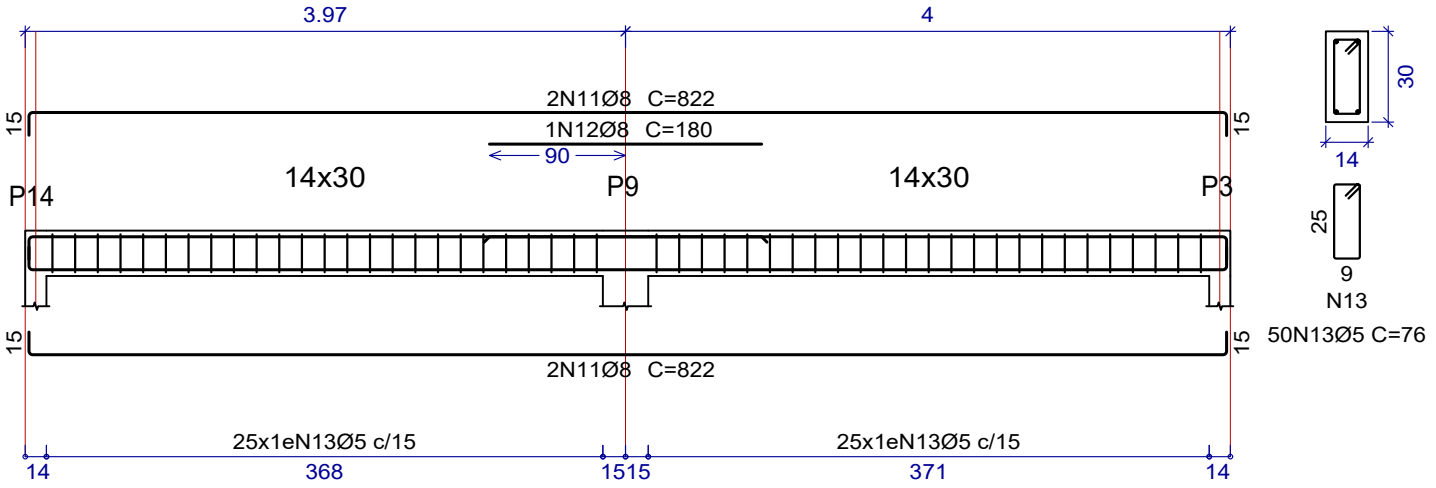
TÍTULO: VIGAS DO TETO

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
LUANA	30 MPa	CA-50	1:50/1:25	NOV/2025	VIG02-03/04

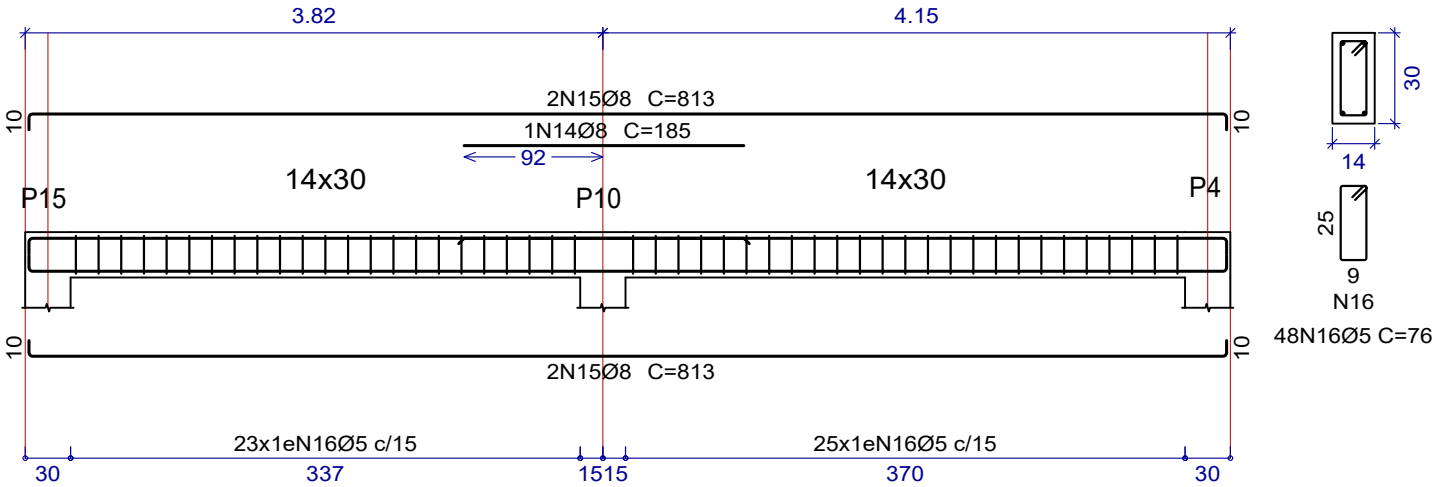
V3



V4



V5



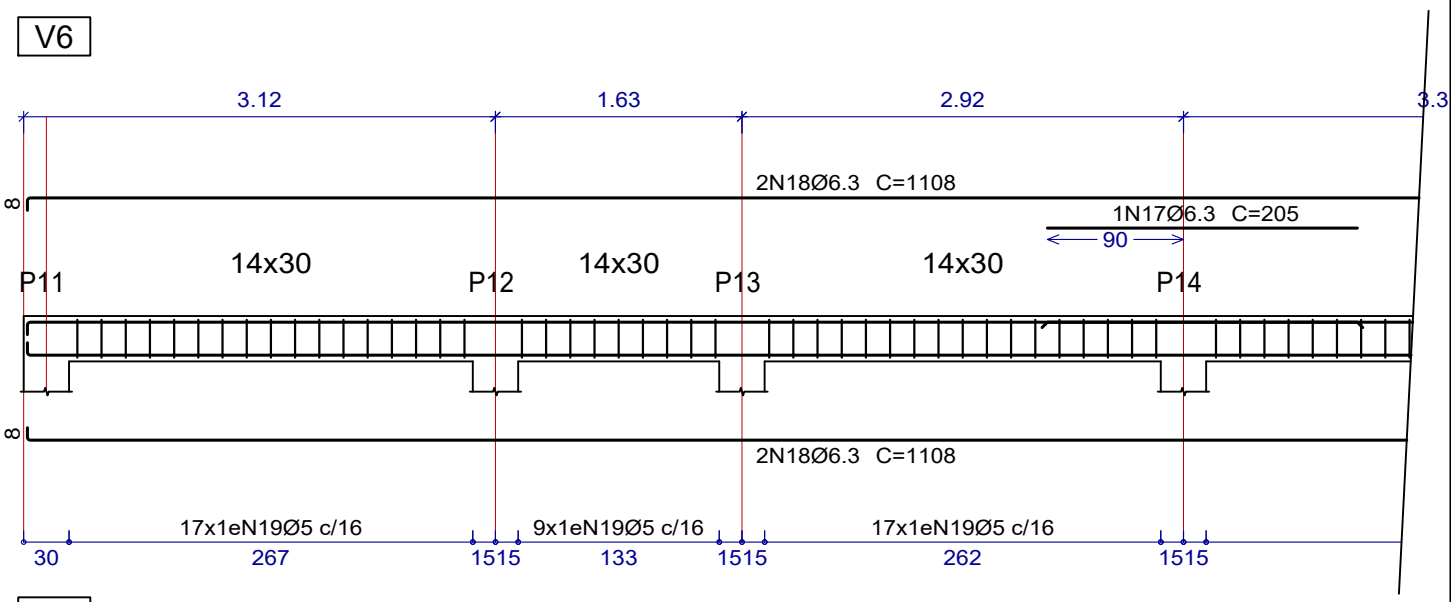
BN PROJETOS E ASSOCIADOS

OBRA: CONSTRUÇÃO DE CEMITÉRIO MUNICIPAL

TÍTULO: VIGAS DO TETO

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
LUANA	30 MPa	CA-50	1:50/1:25	NOV/2025	VIG02-04/04

V6



V6 CONTINUAÇÃO

