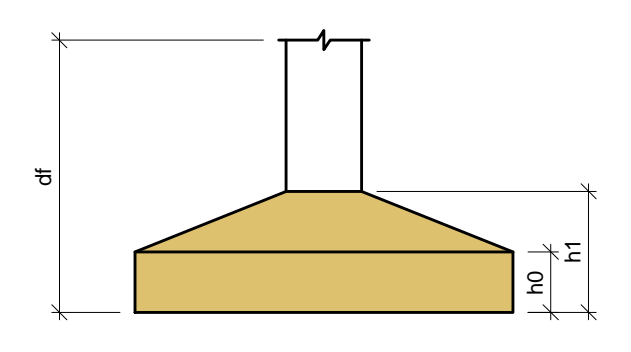


Nome	Seção (cm)	X (cm)	Y (cm)	Pilar		Fundação				
				Carga Max (tf)	Carga Min (tf)	Lado A (cm)	Lado B (cm)	Lado H (cm)	Lado I (cm)	df (cm)
P1	15x25	7.5	-12.5	5.0	2.6	80	70	25	25	100
P2	15x25	49.5	-7.5	5.2	3.8	80	70	25	25	100
P3	18x30	71.5	-9.0	7.0	4.0	80	70	25	25	100
P4	20x35	94.0	-17.5	26.4	19.7	95	110	25	25	100
P5	20x20	124.0	-10.0	2.0	1.6	60	60	25	25	100
P6	20x35	154.0	-17.5	29.8	22.2	100	115	15	30	100
P7	18x30	176.5	-9.0	7.4	4.4	80	70	25	25	100
P8	15x25	204.5	-7.5	5.3	3.9	80	60	25	25	100
P9	15x25	247.5	-12.5	5.1	2.7	60	60	25	25	100
P10	15x15	172.5	-172.5	1.3	1.0	60	60	25	25	100
P11	15x15	230.5	-172.5	1.3	1.0	60	60	25	25	100
P12	15x25	7.5	-280.0	3.7	3.4	80	60	25	25	100
P13	15x15	35.5	-280.0	0.8	0.7	60	60	25	25	100
P14	15x25	70.5	-280.0	1.7	0.5	60	60	25	25	100
P15	15x25	172.5	-280.0	2.3	1.1	60	60	25	25	100
P16	15x15	212.5	-280.0	0.8	0.7	60	60	25	25	100
P17	15x25	247.5	-280.0	3.6	3.3	80	60	25	25	100
P18	20x20	340.0	-350.1	2.1	1.8	75	75	25	25	100
P19	15x15	154.0	-350.1	0.6	0.6	60	60	25	25	100
P20	20x20	154.0	-350.1	3.5	3.2	75	75	25	25	100
P21	15x25	7.5	-547.5	4.2	1.7	80	60	25	25	100
P22	15x25	39.0	-552.5	4.4	4.0	80	60	25	25	100
P23	15x25	79.5	-552.5	5.3	0.8	80	60	25	25	100
P24	15x25	177.5	-552.5	4.9	0.9	80	60	25	25	100
P25	15x25	213.0	-552.5	4.4	4.0	80	60	25	25	100
P26	15x25	247.5	-547.5	4.2	1.7	80	60	25	25	100
P27	15x30	71.5	-682.5	7.5	1.5	80	70	25	25	100
P28	20x35	94.0	-682.5	25.8	19.5	95	110	25	25	100
P29	20x20	154.0	-690.0	2.0	1.6	60	60	25	25	100
P30	20x35	154.0	-682.5	28.1	21.0	100	115	15	30	100
P31	18x30	176.5	-692.5	7.3	1.8	80	70	25	25	100



Planta de localização escala 1:50

EDIFICAÇÃO PÚBLICA Prefeitura Municipal de **Rolante**

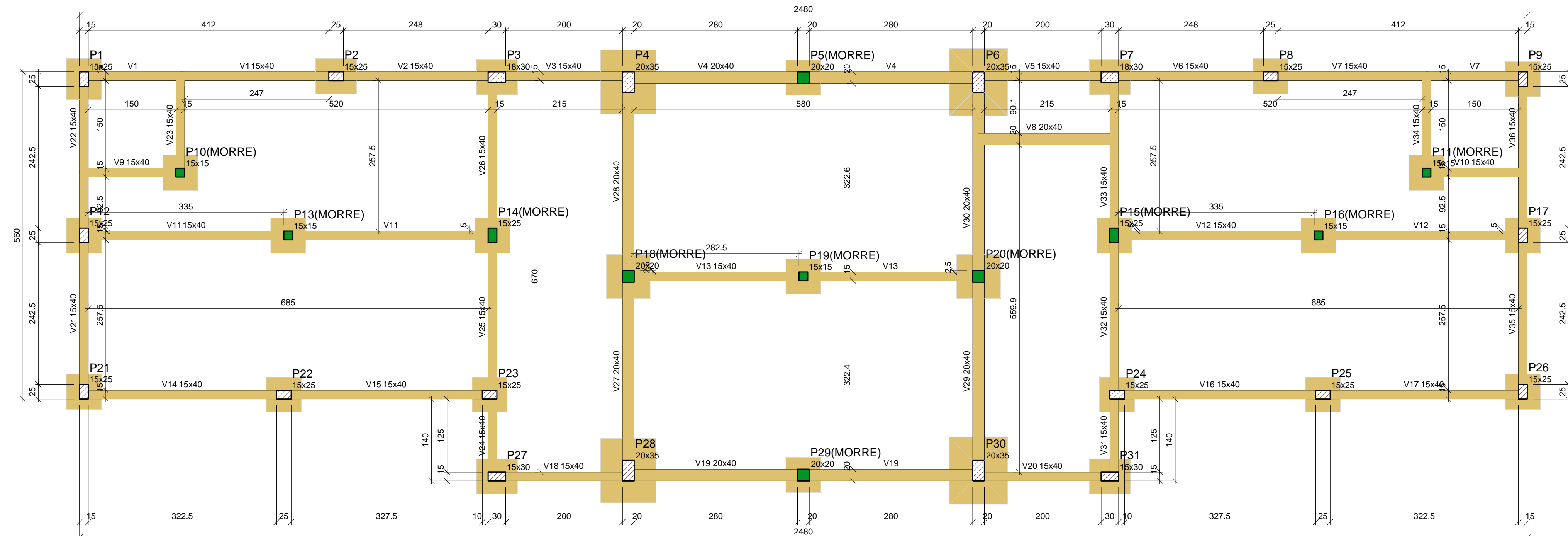
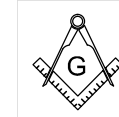
Projeto Estrutural obra: Portal Kuchenfest - Parque Municipal de Eventos material: Alvenaria

Local: Rua Júlio Kohlarusch, 524 - Centro nº: E 01

extensão/área: 205,00 m² escala: indicada unidade: centimetro data: Maio/2019

proprietário: responsável técnico:

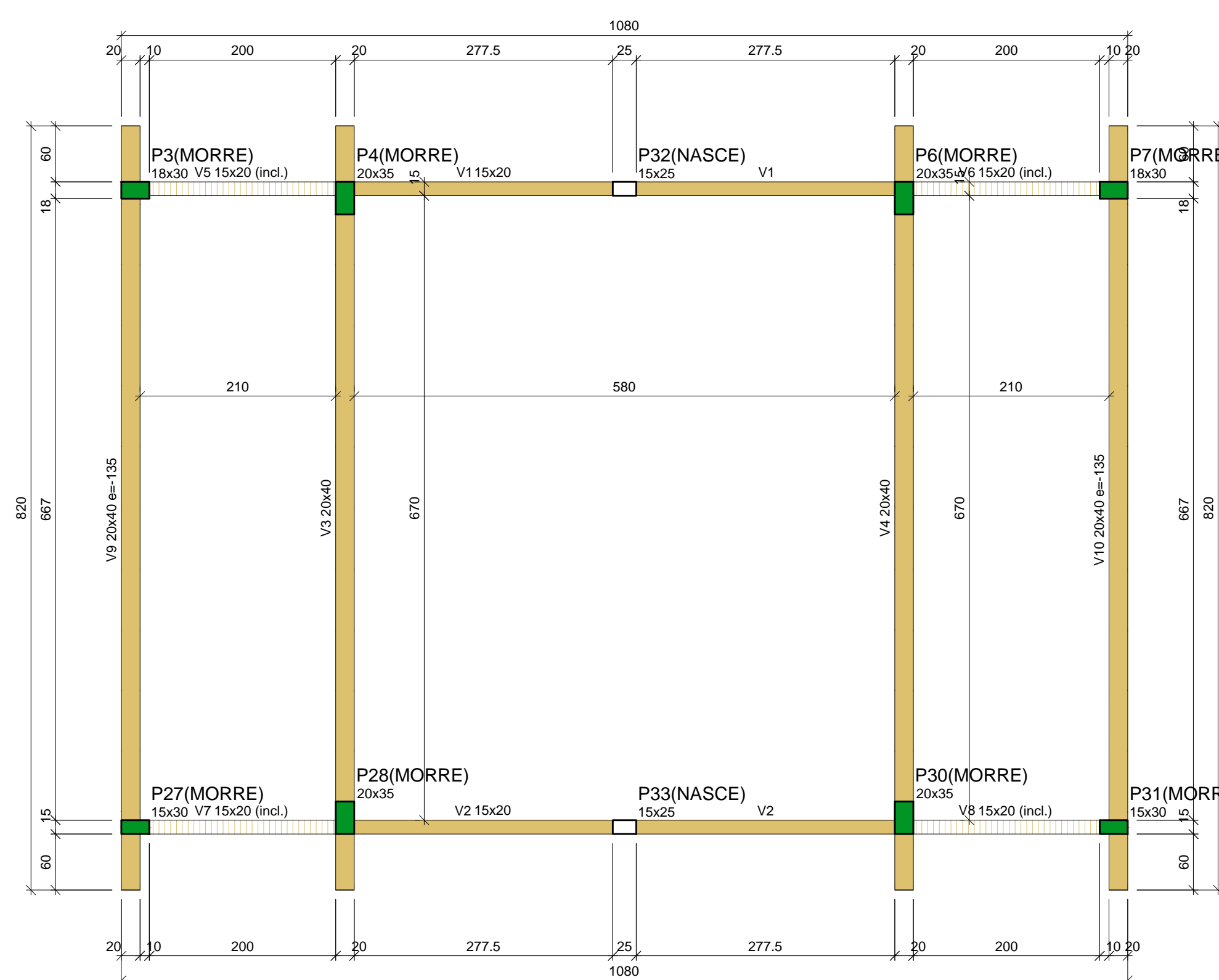
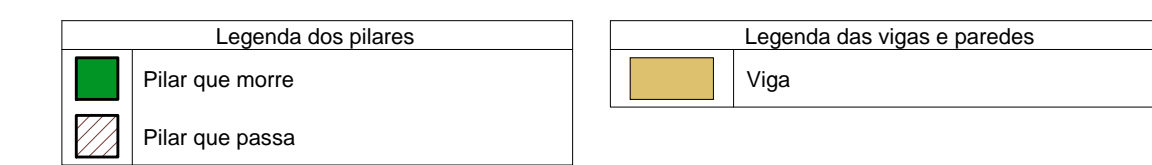
Régis Luiz Zimmer Prefeito Municipal Jaina Garcia Fischer Eng. Civil CREA/RS 237284



Forma do pavimento Baldrame (Nível 0)
escala 1:50

Vigas				Pilares			
Nome	Seção (cm)	Elevação (cm)	Nível (cm)	Nome	Seção (cm)	Elevação (cm)	Nível (cm)
V1	15x40	0	0	P1	15x25	0	0
V2	15x40	0	0	P2	15x25	0	0
V3	15x40	0	0	P3	18x30	0	0
V4	20x40	0	0	P4	20x35	0	0
V5	15x40	0	0	P5	20x20	0	0
V6	15x40	0	0	P6	20x35	0	0
V7	15x40	0	0	P7	18x30	0	0
V8	20x40	0	0	P8	15x25	0	0
V9	15x40	0	0	P9	15x25	0	0
V10	15x40	0	0	P10	15x15	0	0
V11	15x40	0	0	P11	15x15	0	0
V12	15x40	0	0	P12	15x25	0	0
V13	15x40	0	0	P13	15x15	0	0
V14	15x40	0	0	P14	15x25	0	0
V15	15x40	0	0	P15	15x25	0	0
V16	15x40	0	0	P16	15x15	0	0
V17	15x40	0	0	P17	15x25	0	0
V18	15x40	0	0	P18	20x20	0	0
V19	20x40	0	0	P19	15x15	0	0
V20	15x40	0	0	P20	20x20	0	0
V21	15x40	0	0	P21	15x25	0	0
V22	15x40	0	0	P22	15x25	0	0
V23	15x40	0	0	P23	15x25	0	0
V24	15x40	0	0	P24	15x25	0	0
V25	15x40	0	0	P25	15x25	0	0
V26	15x40	0	0	P26	15x25	0	0
V27	20x40	0	0	P27	15x30	0	0
V28	20x40	0	0	P28	20x35	0	0
V29	20x40	0	0	P29	20x20	0	0
V30	20x40	0	0	P30	20x35	0	0
V31	15x40	0	0	P31	15x20	0	0
V32	15x40	0	0				
V33	15x40	0	0				
V34	15x40	0	0				
V35	15x40	0	0				
V36	15x40	0	0				

Características dos materiais	
fck	Ecs
(kgf/cm²)	(kgf/cm²)
250	241000

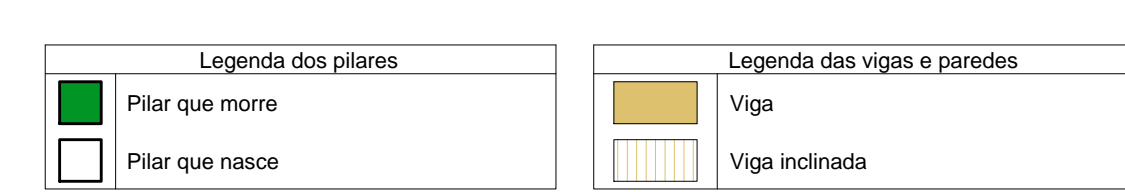


Forma do pavimento Pavimento (Nível 705)
escala 1:50

Vigas			
Nome	Seção (cm)	Elevação (cm)	Nível (cm)
V1	15x20	0	705
V2	15x20	0	705
V3	20x40	0	705
V4	20x40	0	705
V5	15x20	0/-135	705/570
V6	15x20	0/-135	705/570
V7	15x20	0/-135	705/570
V8	15x20	0/-135	705/570
V9	20x40	-135	570
V10	20x40	-135	570

Características dos materiais	
fck	Ecs
(kgf/cm²)	(kgf/cm²)
250	241000

Pilares			
Nome	Seção (cm)	Elevação (cm)	Nível (cm)
P3	18x30	-135	570
P4	20x35	0	705
P6	20x35	0	705
P7	18x30	-135	570
P27	15x30	-135	570
P28	20x35	0	705
P30	20x35	0	705
P31	15x30	-135	570
P32	15x25	0	705
P33	15x25	0	705



EDIFICAÇÃO PÚBLICA Prefeitura Municipal de **Rolante**

Projeto Estrutural

obra: Portal Kuchenfest - Parque Municipal de Eventos Alvenaria

local: Rua Júlio Kohlarasch, 524 - Centro

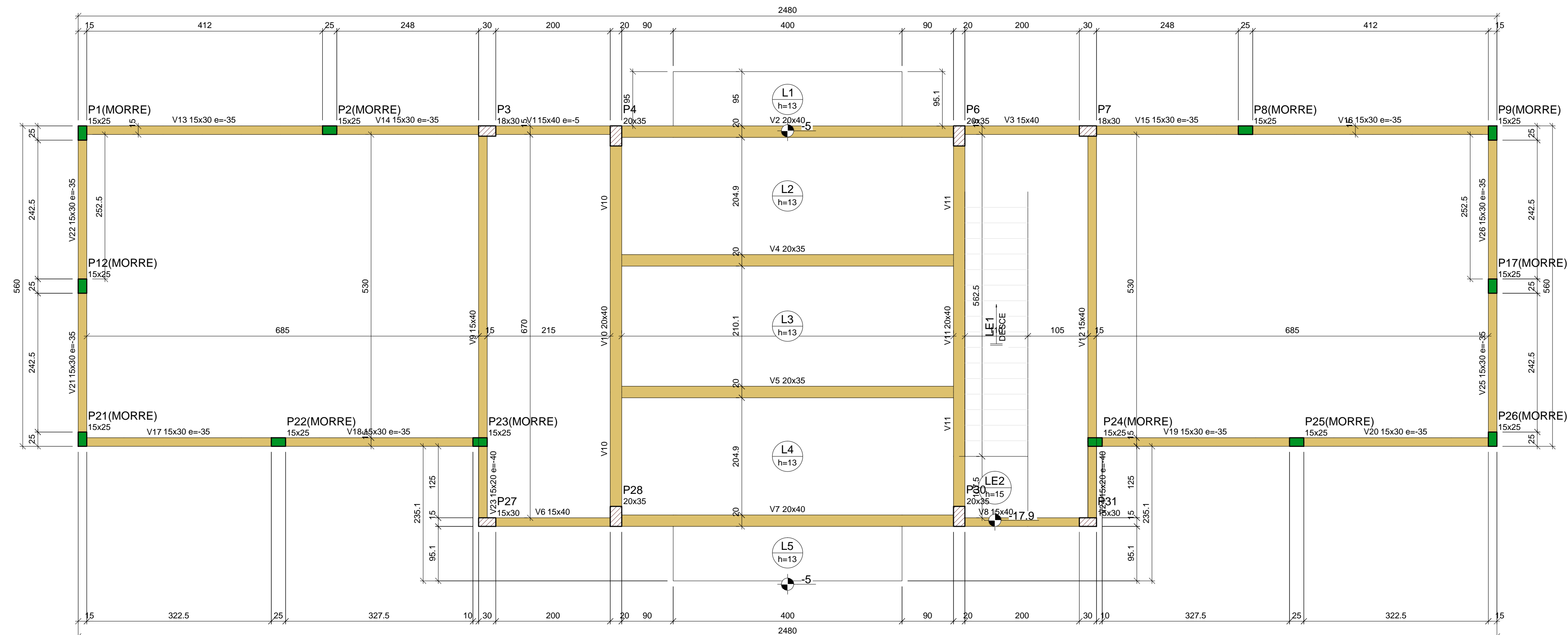
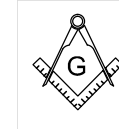
prancha: Formas - Baldrame e Pavimento E 02

extensão: 205,00 m² escala: indicada unidade: centímetro data: Maio/2019

proprietário: responsável técnico:

Rolante Engenheiros e Arquitetos Associados em Exercício Profissional

Régis Luiz Zimmer Prefeito Municipal
Jainara Garcia Fischer Eng. Civil CREA/R5 237284



Forma do pavimento Térreo (Nível 340)
escala 1:50

Vigas			Pilares				
Nome	Seção (cm)	Elevação (cm)	Nível (cm)	Nome	Seção (cm)	Elevação (cm)	Nível (cm)
V1	15x40	-5	335	P1	15x25	-35	305
V2	20x40	0	340	P2	15x25	-35	305
V3	15x40	0	340	P3	15x30	0	340
V4	20x35	0	340	P4	20x35	0	340
V5	20x35	0	340	P5	20x30	0	340
V6	15x40	0	340	P6	15x25	-35	305
V7	20x40	0	340	P7	15x30	0	340
V8	15x40	0	340	P8	15x25	-35	305
V9	15x40	0	340	P9	15x25	-35	305
V10	20x40	0	340	P11	15x25	-35	305
V11	20x40	0	340	P12	15x25	-35	305
V12	15x40	0	340	P13	15x25	-35	305
V13	15x30	-35	305	P14	15x25	-35	305
V14	15x30	-35	305	P15	15x25	-35	305
V15	15x30	-35	305	P16	15x25	-35	305
V16	15x30	-35	305	P17	15x25	-35	305
V17	15x30	-35	305	P19	15x30	0	340
V18	15x30	-35	305	P20	20x35	0	340
V19	15x30	-35	305	P21	15x30	0	340
V20	15x30	-35	305	P22	15x30	0	340
V21	15x30	-35	305	P23	15x30	0	340
V22	15x30	-35	305	P24	15x30	0	340
V23	15x20	-40	300	P25	15x30	0	340
V24	15x20	-40	300	P26	15x30	0	340
V25	15x40	-35	305	P27	15x30	0	340
V26	15x30	-35	305	P29	20x35	0	340
				P31	15x30	0	340

Características dos materiais		
fck	Ecs	
(kgf/cm ²)	(kgf/cm ²)	
250	241500	

Lajes					
Nome	Tipo	Altura (cm)	Elevação (cm)	Nível (cm)	Sobrecarga (kgf/m ²)
L1	Macia	13	-5	335	555
L2	Macia	13	0	340	355
L3	Macia	13	0	340	355
L4	Macia	13	0	340	355
L5	Macia	13	-5	335	455
LE1	Macia	15	0	340	523
LE2	Macia	15	-18	322.1	505

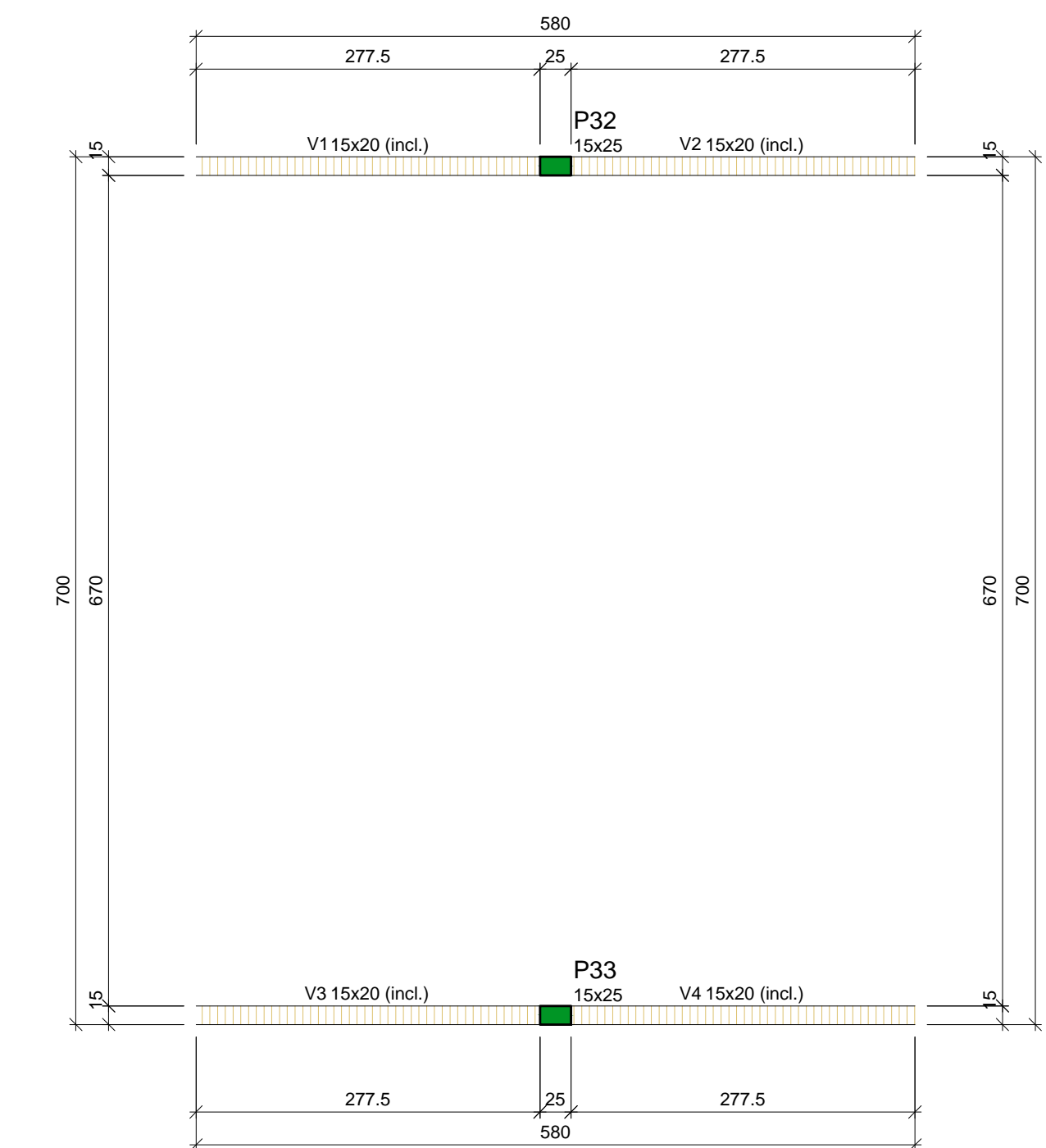
Área de lajes			
Tipo	Altura (cm)	Área de Enchimento (m ²)	Área (m ²)
Macia	13	-	43,08
Macia	15	-	6,16

Legenda dos pilares

Pilar que morre
 Pilar que passa

Legenda das vigas e paredes

Viga
 Parede



Forma do pavimento Cobertura (Nível 890)
escala 1:50

Vigas			
Nome	Seção (cm)	Elevação (cm)	Nível (cm)
V1	15x20	0/-185	890/705
V2	15x20	0/-185	890/705
V3	15x20	0/-185	890/705
V4	15x20	0/-185	890/705

Características dos materiais		
fck	Ecs	
(kgf/cm ²)	(kgf/cm ²)	
250	241500	

Pilares			
Nome	Seção (cm)	Elevação (cm)	Nível (cm)
P32	15x25	0	890
P33	15x25	0	890

Legenda dos pilares

Pilar que morre

Legenda das vigas e paredes

Viga inclinada

EDIFICAÇÃO PÚBLICA

Prefeitura Municipal de **Rolante**

Projeto Estrutural

obra: Portal Kuchenfest - Parque Municipal de Eventos Alvenaria

local: Rua Júlio Kohlarasch, 524 - Centro

prancha: Formas - Térreo e Cobertura E 03

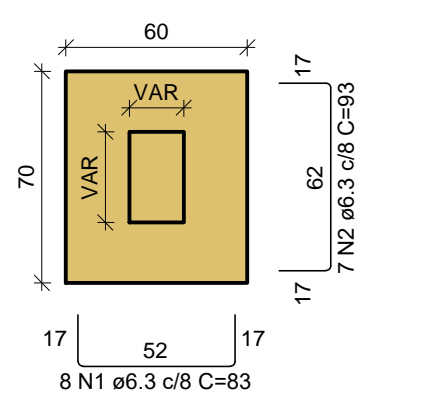
extensão: 205,00 m² escala: indicada unidade: centímetro data: Maio/2019

proprietário: responsável técnico:

Rolante
 Rêgis Luiz Zimmer - Prefeito Municipal
 Jainara Garcia Fischer - Eng. Civil CREA/RS 237284

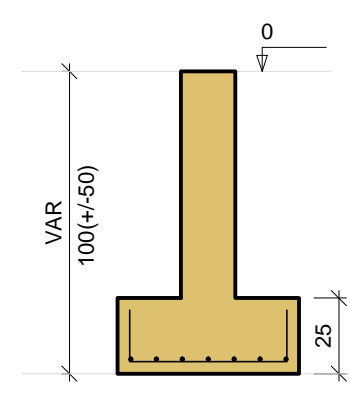


S1=S2=S3=S7=S27=S31
PLANTA
ESC 1:25

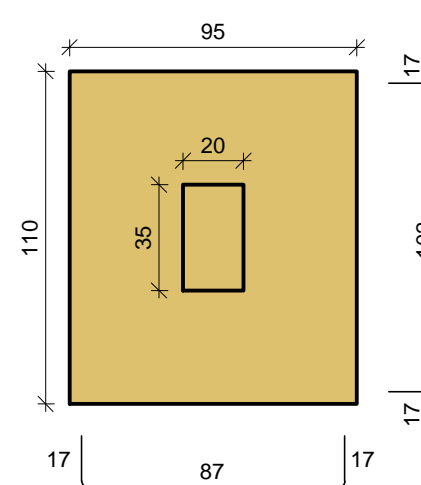


8 N1 ø6.3 c/8 C=83
Solo compactado sobre a sapata
peso específico > 1800.00 kgf/m³

CORTE
ESC 1:25

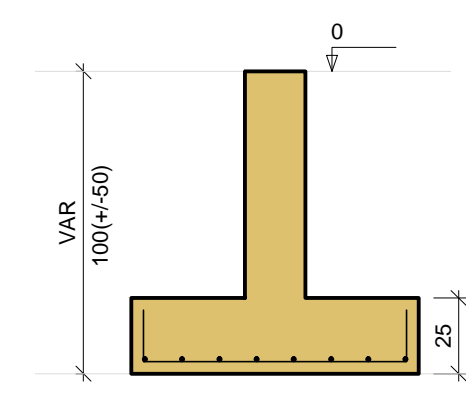


S4=S28
PLANTA
ESC 1:25

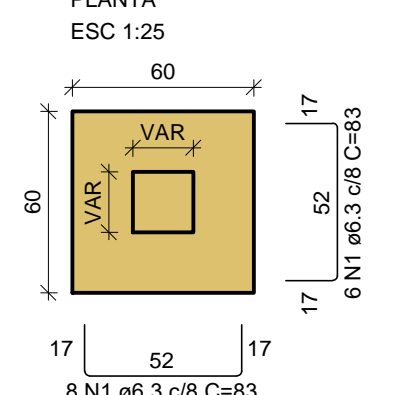


8 N5 ø8.0 c/11 C=132
Solo compactado sobre a sapata
peso específico > 1800.00 kgf/m³

CORTE
ESC 1:25

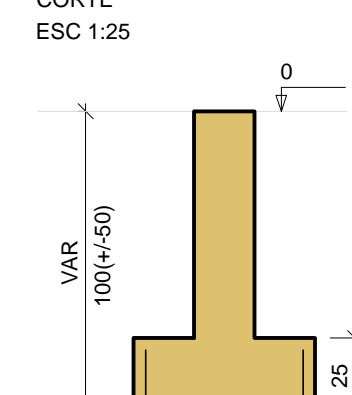


S5=S8=S9=S12=S14=S15=S17=S21=S22=S23=S24=S25=S26
PLANTA
ESC 1:25



8 N1 ø6.3 c/8 C=83
Solo compactado sobre a sapata
peso específico > 1800.00 kgf/m³

CORTE
ESC 1:25



RELAÇÃO DO AÇO

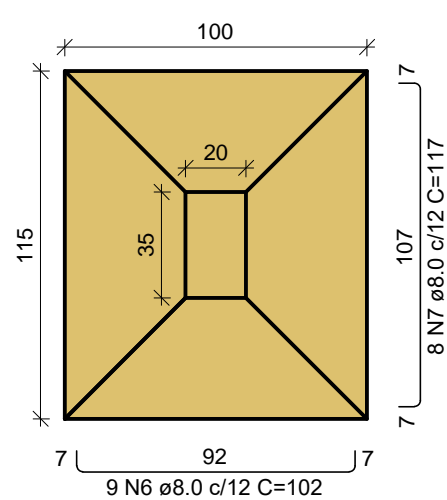
AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA50	1	6.3	314	83	26062
	2	6.3	42	93	3906
	3	6.3	36	98	3528
	4	8.0	20	117	2340
	5	8.0	16	132	2112
	6	8.0	18	102	1836
	7	8.0	16	117	1872

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	6.3	335	90.2
	8.0	81.6	35.4
PESO TOTAL (kg)			
CA50		125.6	

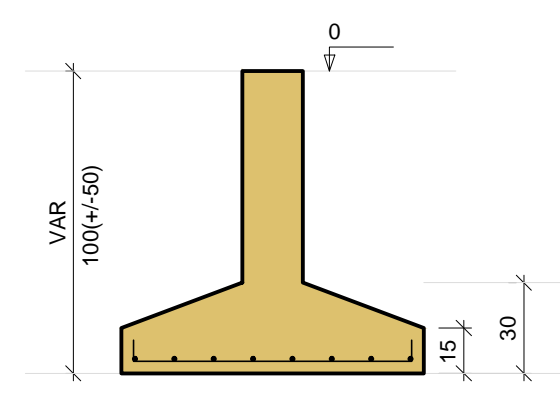
Volume de concreto (C-25) = 3.64 m³
Área de forma = 20.14 m²

S6=S30
PLANTA
ESC 1:25

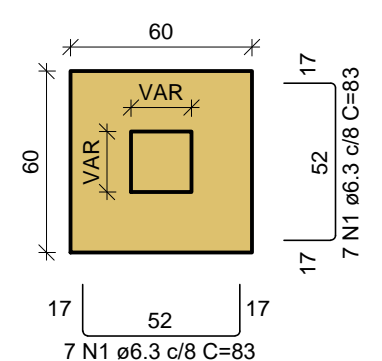


8 N7 ø8.0 c/12 C=117
Solo compactado sobre a sapata
peso específico > 1800.00 kgf/m³

CORTE
ESC 1:25

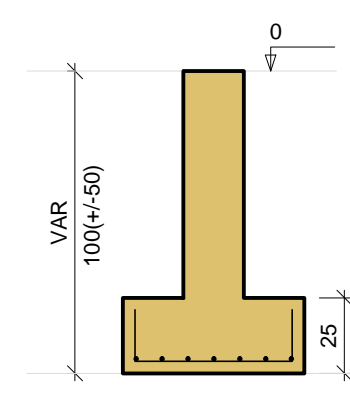


S10=S11=S13=S16=S19=S29
PLANTA
ESC 1:25

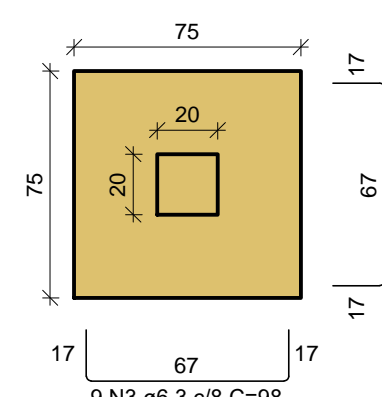


7 N1 ø6.3 c/8 C=83
Solo compactado sobre a sapata
peso específico > 1800.00 kgf/m³

CORTE
ESC 1:25

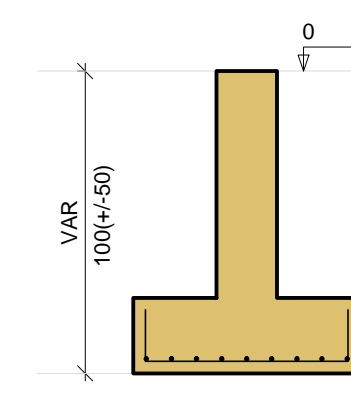


S18=S20
PLANTA
ESC 1:25



9 N3 ø6.3 c/8 C=98
Solo compactado sobre a sapata
peso específico > 1800.00 kgf/m³

CORTE
ESC 1:25



EDIFICAÇÃO PÚBLICA Prefeitura Municipal de **Rolante**

Projeto Estrutural material: Alvenaria

obra: Portal Kuchenfest - Parque Municipal de Eventos


local: Rua Júlio Kohlarusch, 524 - Centro

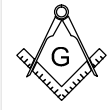
prancha: Sapatas nº **E 04**

extensão/área: 205.00 m² escala: indicada unidade: centímetro data: Maio/2019

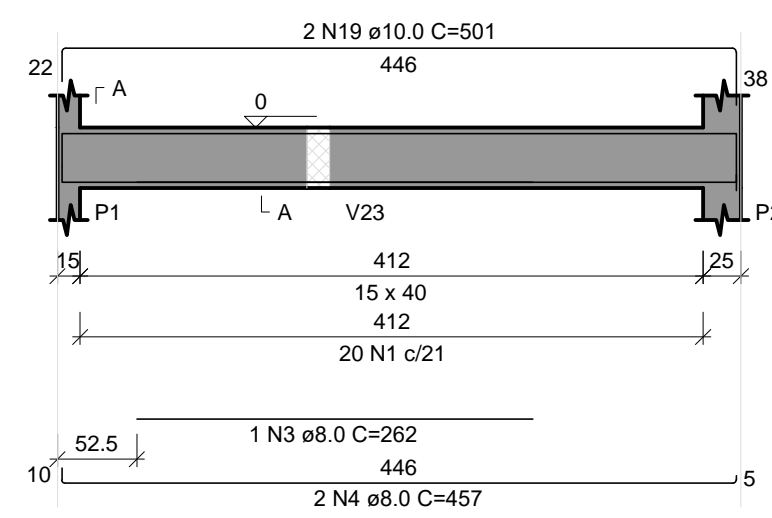
proprietário: responsável técnico:

Régis Luiz Zimmer Prefeito Municipal
Jainara Garcia Fischer Eng. Civil CREA/RS 237284

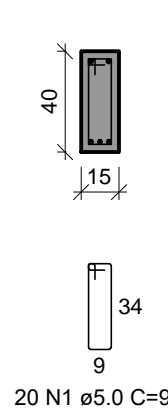




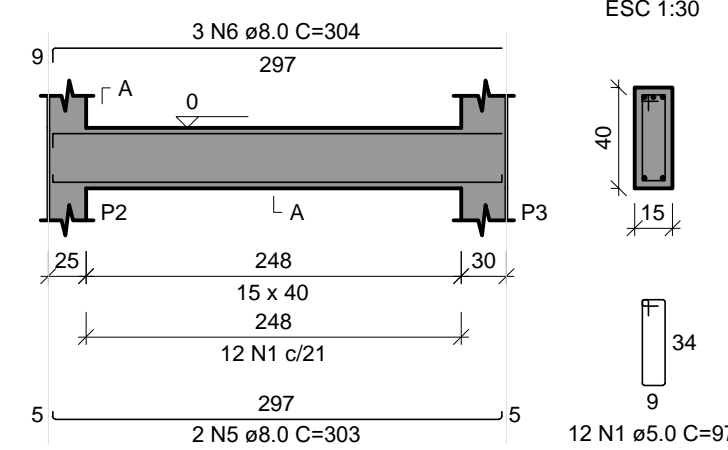
V1
ESC 1:50



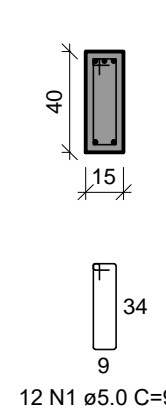
SEÇÃO A-A
ESC 1:30



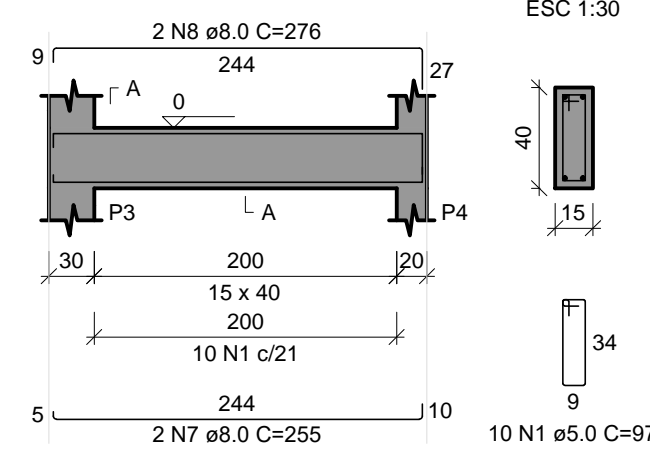
V2
ESC 1:50



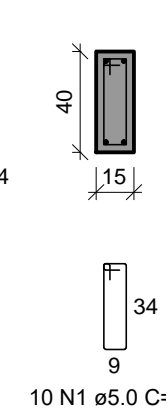
SEÇÃO A-A
ESC 1:30



V3
ESC 1:50



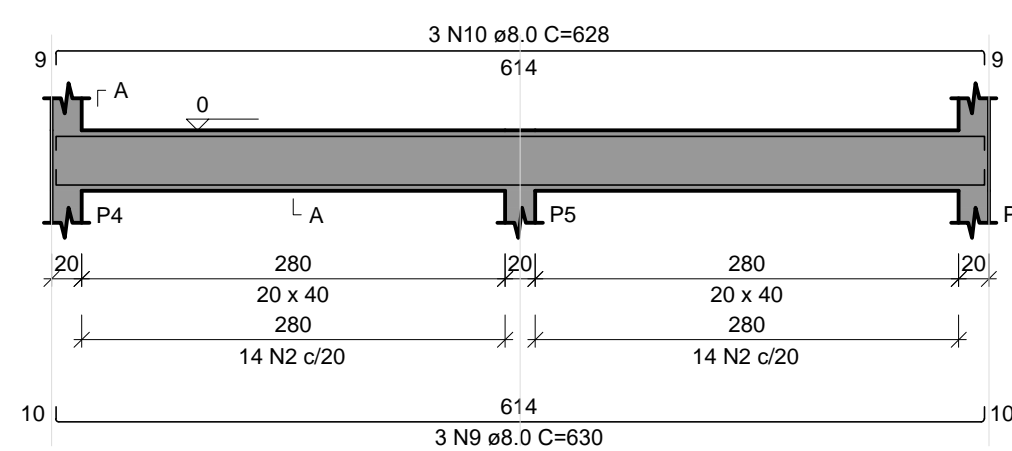
SEÇÃO A-A
ESC 1:30



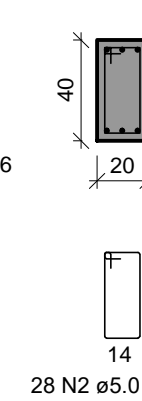
RELAÇÃO DO AÇO

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	164	97	15908
CA50	2	5.0	40	107	4280
	3	8.0	1	262	262
	4	8.0	4	457	1828
	5	8.0	4	303	1212
	6	8.0	6	304	1824
	7	8.0	7	255	1785
	8	8.0	4	276	1104
	9	8.0	3	630	1890
	10	8.0	3	628	1884
	11	8.0	1	247	247
	12	8.0	2	147	294
	13	8.0	2	479	958
	14	8.0	3	288	864
	15	8.0	4	185	740
	16	8.0	4	231	924
	17	8.0	4	725	2900
	18	8.0	4	759	3036
	19	10.0	2	501	1002

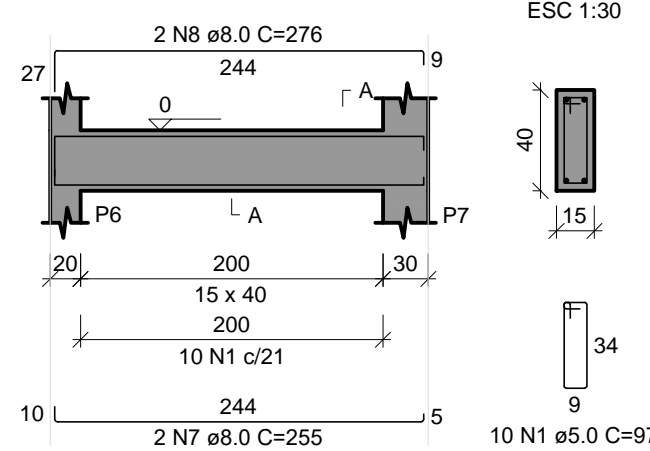
V4
ESC 1:50



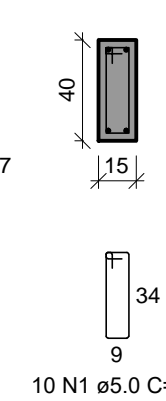
SEÇÃO A-A
ESC 1:30



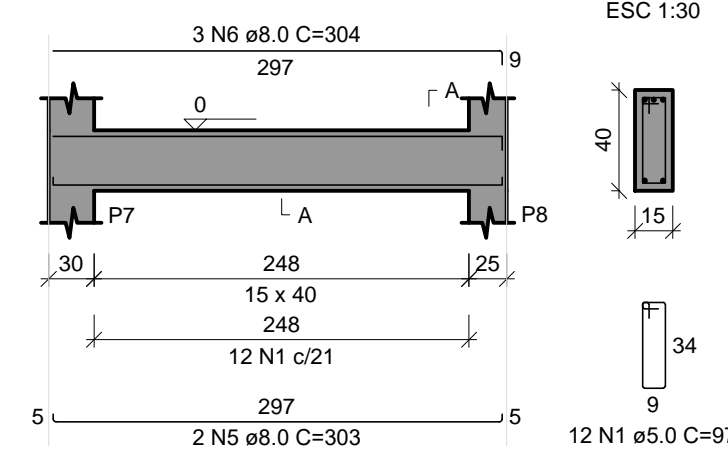
V5
ESC 1:50



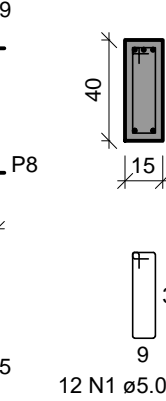
SEÇÃO A-A
ESC 1:30



V6
ESC 1:50



SEÇÃO A-A
ESC 1:30

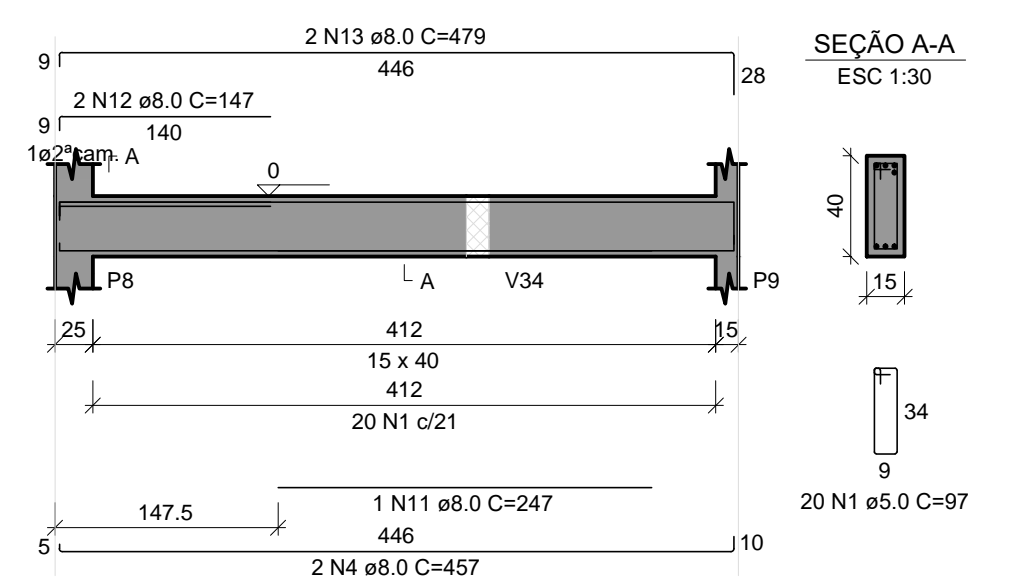


RESUMO DO AÇO

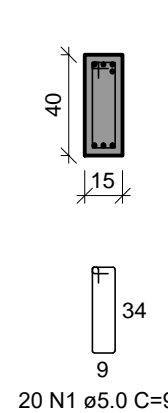
AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	8.0	217.5	94.4
CA60	10.0	10	6.8
	5.0	201.9	34.2
PESO TOTAL (kg)			
CA50		101.2	
CA60		34.2	

Volume de concreto (C-25) = 2.98 m³
Área de forma = 44.80 m²

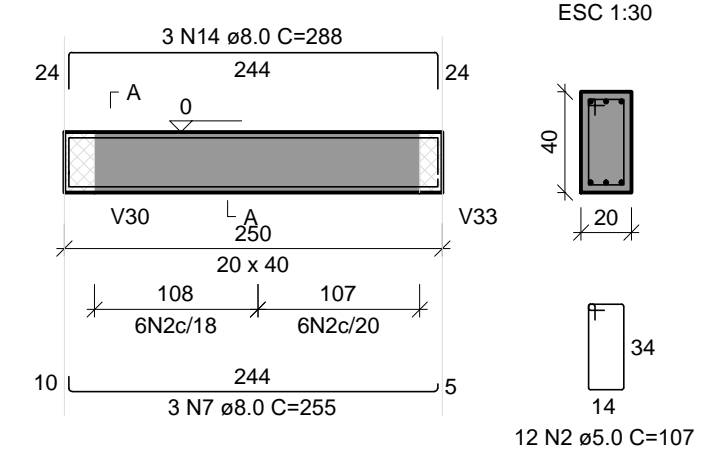
V7
ESC 1:50



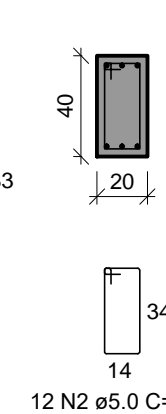
SEÇÃO A-A
ESC 1:30



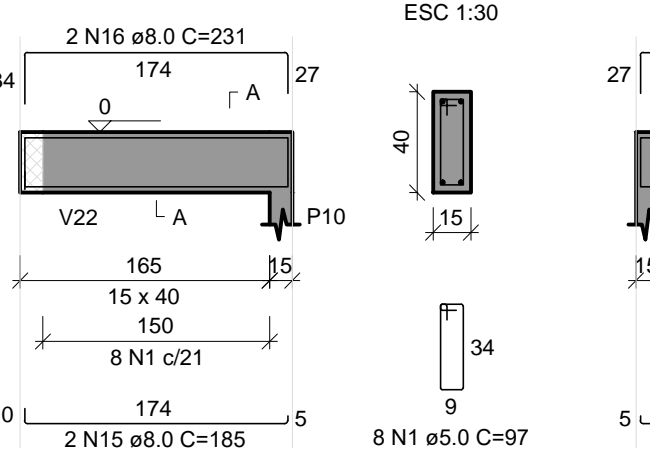
V8
ESC 1:50



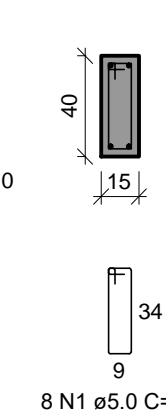
SEÇÃO A-A
ESC 1:30



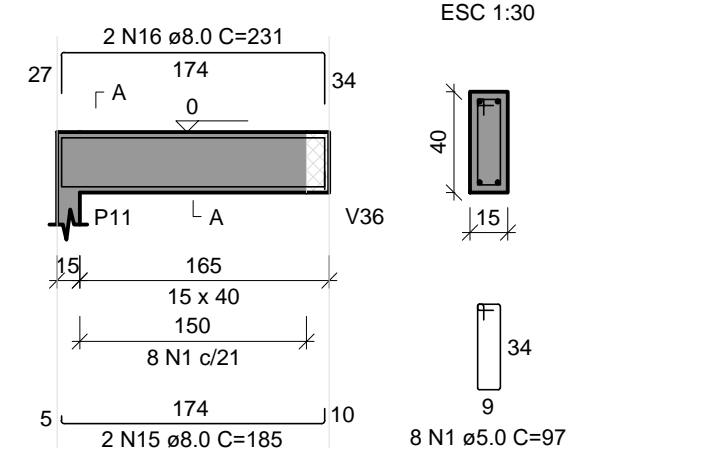
V9
ESC 1:50



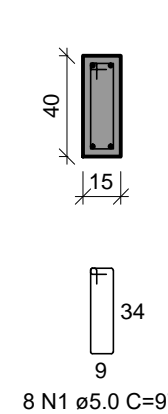
SEÇÃO A-A
ESC 1:30



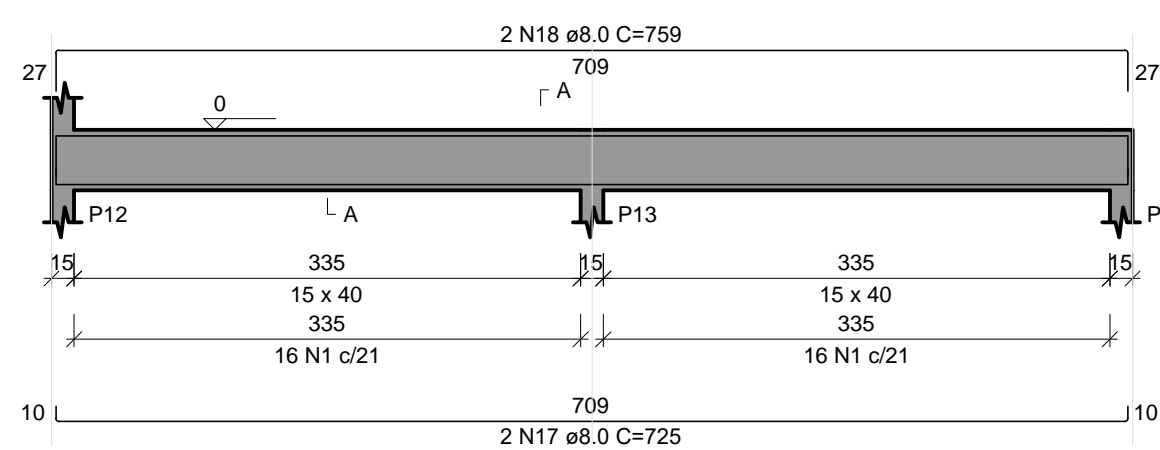
V10
ESC 1:50



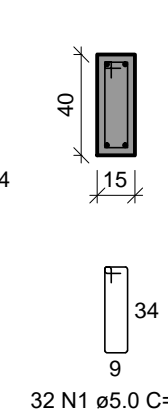
SEÇÃO A-A
ESC 1:30



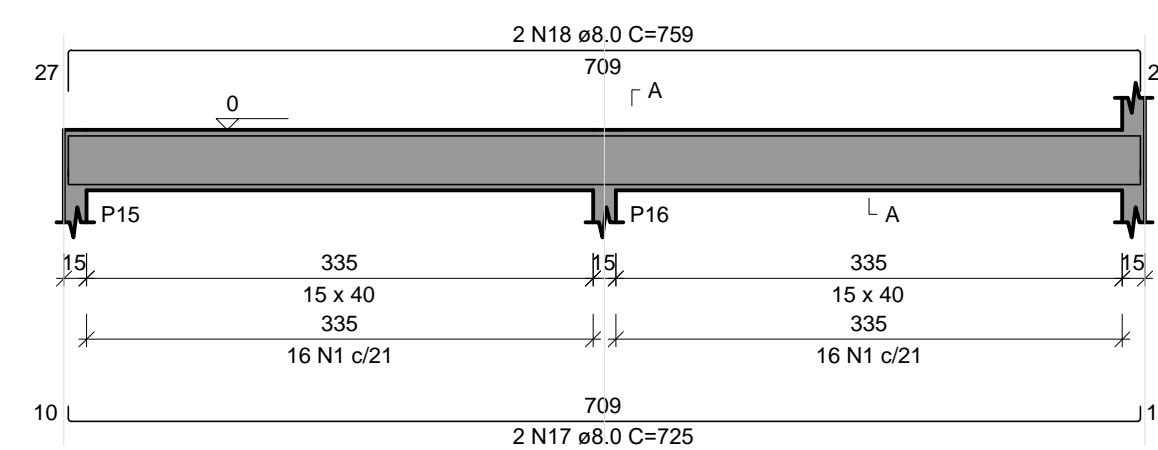
V11
ESC 1:50



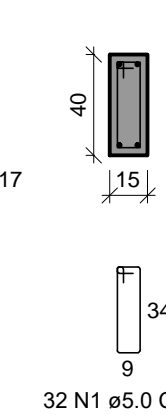
SEÇÃO A-A
ESC 1:30



V12
ESC 1:50



SEÇÃO A-A
ESC 1:30



EDIFICAÇÃO PÚBLICA

Prefeitura Municipal de

Rolante

Projeto Estrutural

Portal Kuchenfest - Parque Municipal de Eventos

Alvenaria

Rua Júlio Kohlarusch, 524 - Centro

prancha: Vigas - Baldrame VI - V12

nº E 05

extensão/área: 205,00 m²

escala: indicada

unidade: centímetro

data: Maio/2019



proprietário:

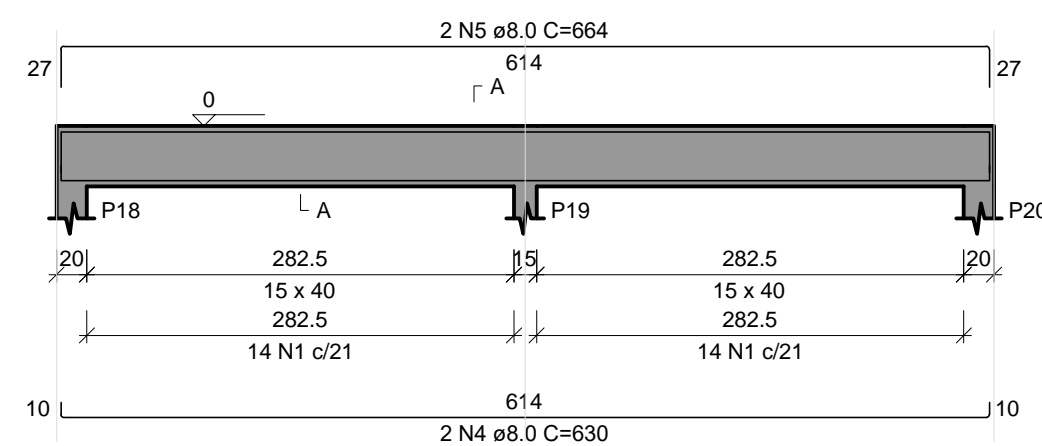
responsável técnico:

Régis Luiz Zimmer
Prefeito Municipal

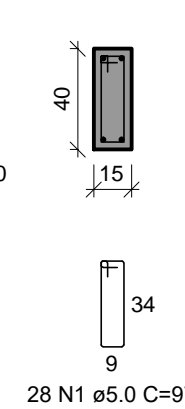
Jainara Garcia Fischer
Eng. Civil CREA/RS 237284



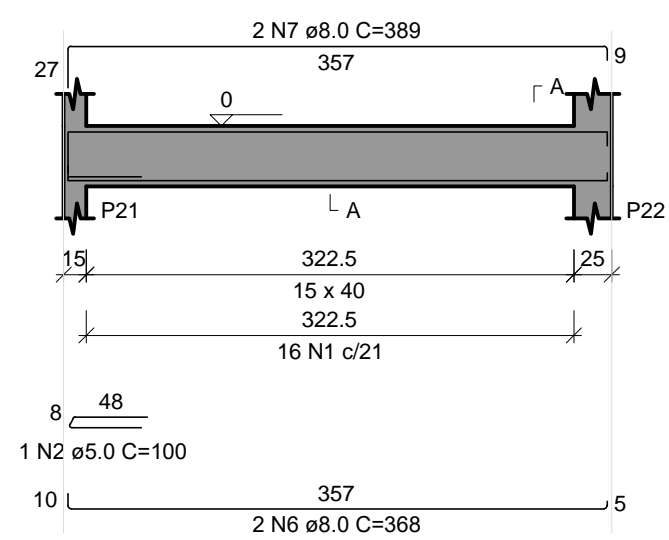
V13
ESC 1:50



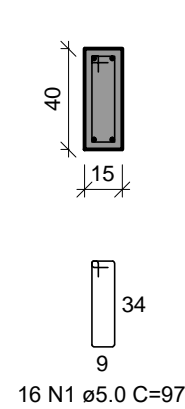
SEÇÃO A-A
ESC 1:30



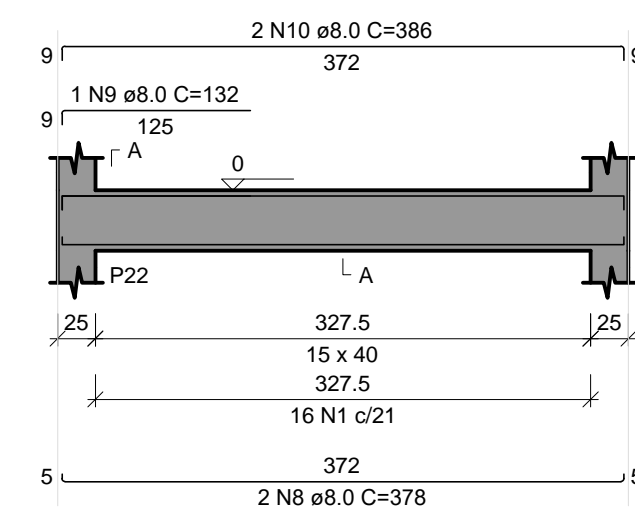
V14
ESC 1:50



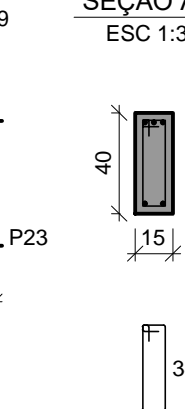
SEÇÃO A-A
ESC 1:30



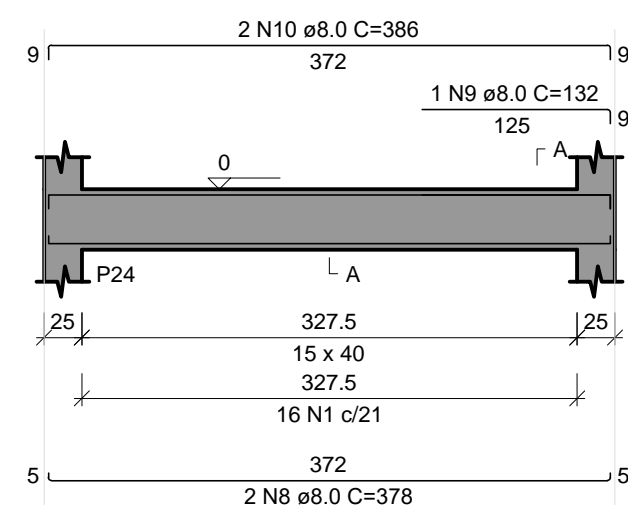
V15
ESC 1:50



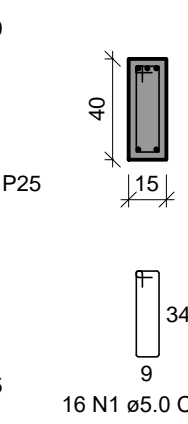
SEÇÃO A-A
ESC 1:30



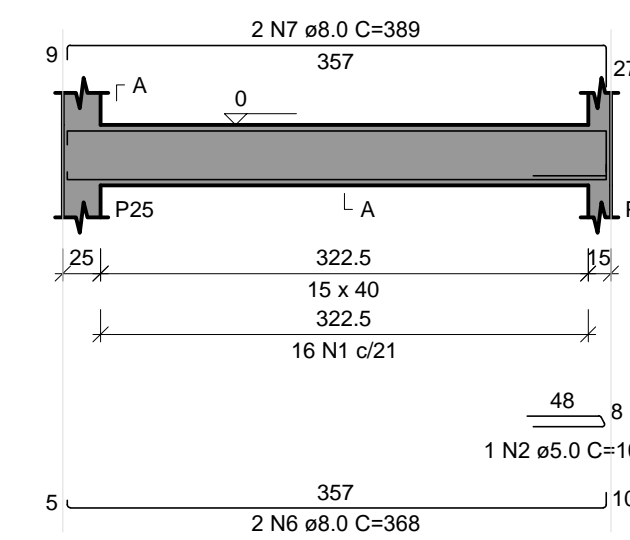
V16
ESC 1:50



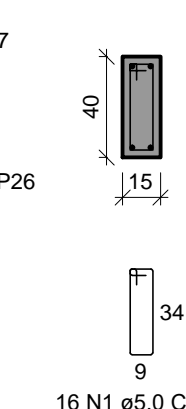
SEÇÃO A-A
ESC 1:30



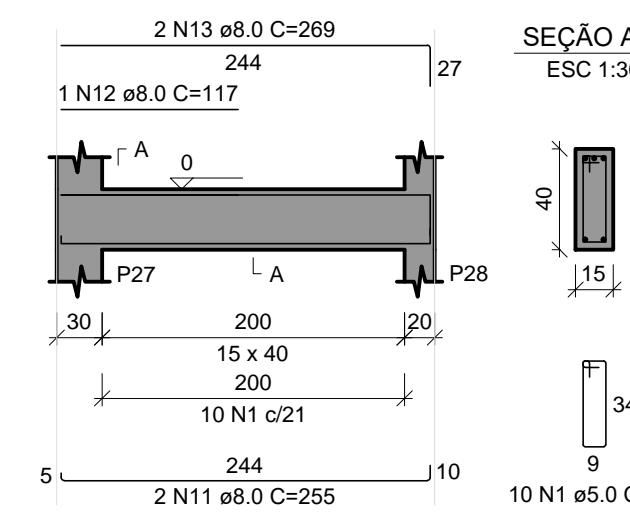
V17
ESC 1:50



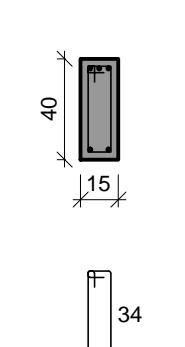
SEÇÃO A-A
ESC 1:30



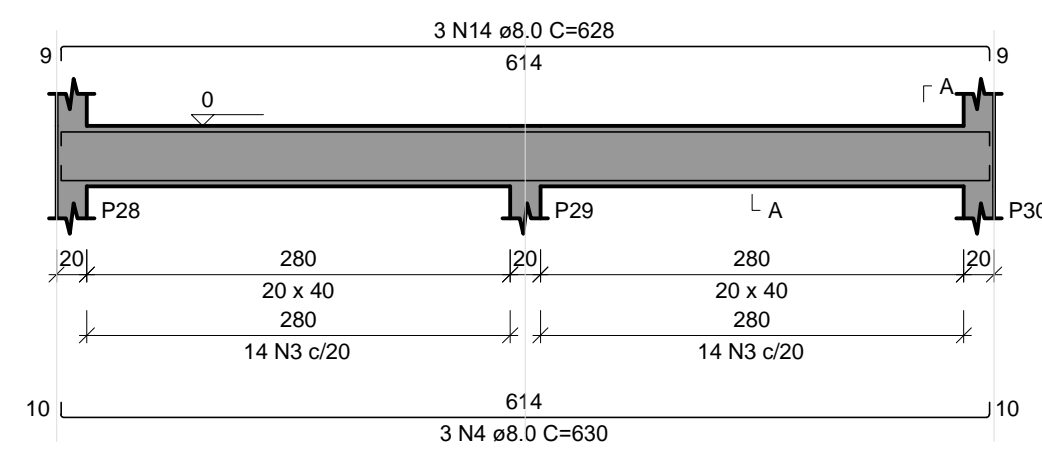
V18
ESC 1:50



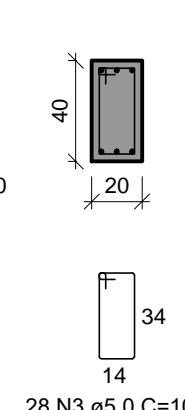
SEÇÃO A-A
ESC 1:30



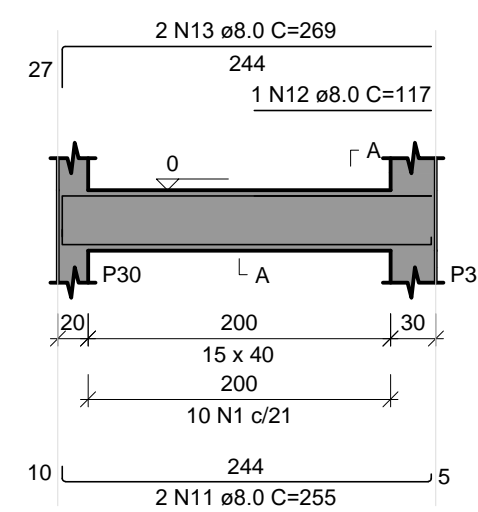
V19
ESC 1:50



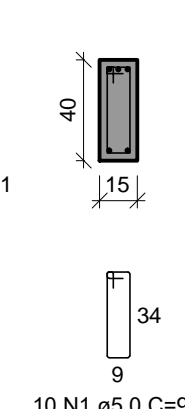
SEÇÃO A-A
ESC 1:30



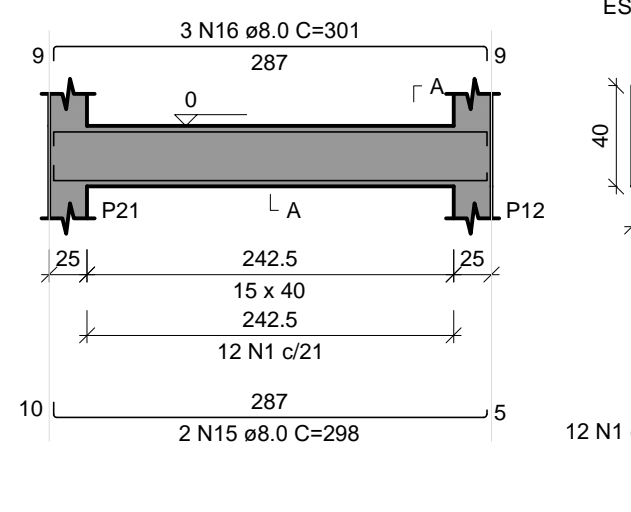
V20
ESC 1:50



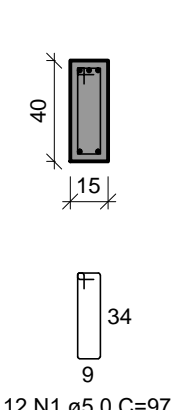
SEÇÃO A-A
ESC 1:30



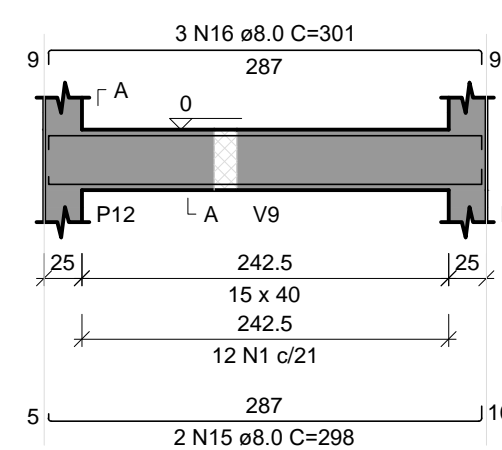
V21
ESC 1:50



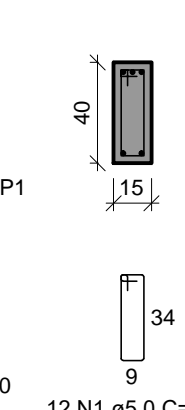
SEÇÃO A-A
ESC 1:30



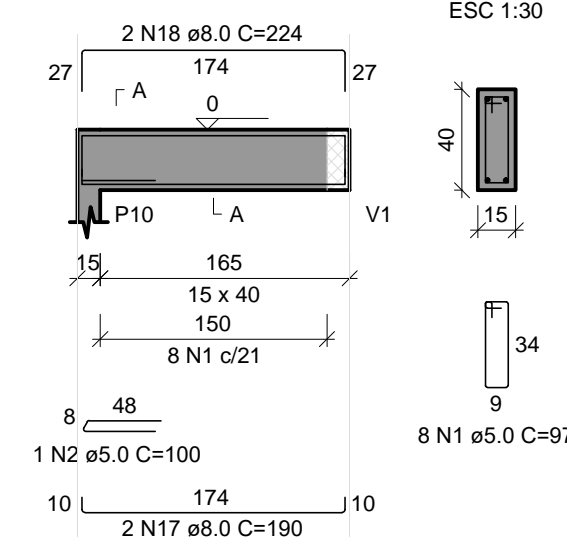
V22
ESC 1:50



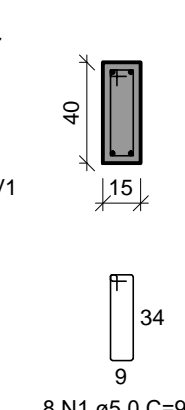
SEÇÃO A-A
ESC 1:30



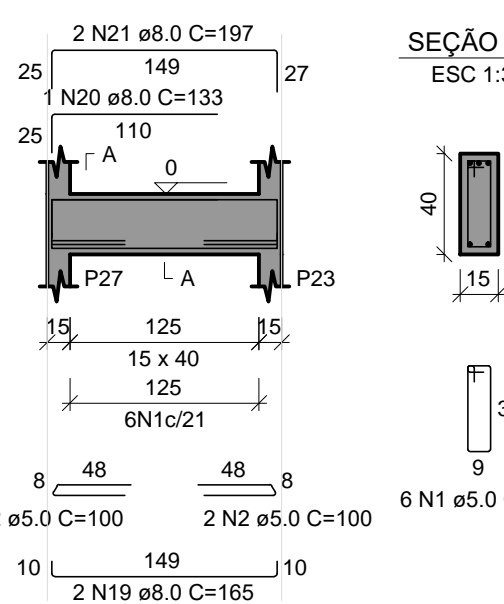
V23
ESC 1:50



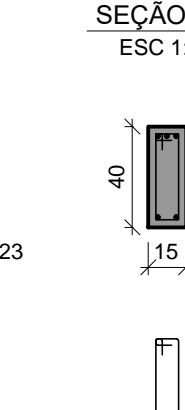
SEÇÃO A-A
ESC 1:30



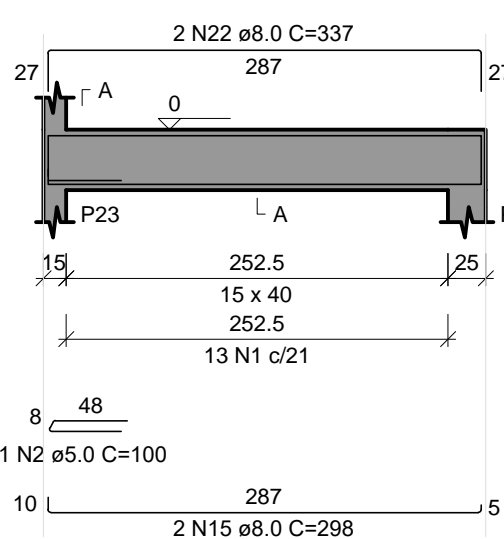
V24
ESC 1:50



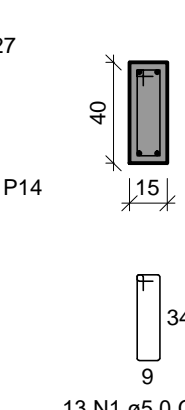
SEÇÃO A-A
ESC 1:30



V25
ESC 1:50



SEÇÃO A-A
ESC 1:30



RELAÇÃO DO AÇO

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
V13					
V14					
V15					
V16					
V17					
V18					
V19					
V20					
V21					
V22					
V23					
V24					
V25					
CA60	1	5.0	163	97	15811
	2	5.0	8	100	800
	3	5.0	28	107	2996
CA50	4	8.0	5	690	3150
	5	8.0	2	664	1328
	6	8.0	4	368	1472
	7	8.0	4	389	1556
	8	8.0	4	378	1512
	9	8.0	2	132	264
	10	8.0	4	386	1544
	11	8.0	4	255	1020
	12	8.0	2	117	234
	13	8.0	4	269	1076
	14	8.0	3	628	1884
	15	8.0	6	298	1788
	16	8.0	6	301	1806
	17	8.0	2	190	380
	18	8.0	2	224	448
	19	8.0	2	165	330
	20	8.0	1	133	133
	21	8.0	2	197	394
	22	8.0	2	337	674

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	8.0	209.9	91.1
CA60	5.0	196.1	33.2
PESO TOTAL (kg)			
CA50			91.1
CA60			33.2

Volume de concreto (C-25) = 2.78 m³
Área de forma = 42.42 m²

EDIFICAÇÃO PÚBLICA Prefeitura Municipal de Rolante

Projeto Estrutural Portal Kuchenfest - Parque Municipal de Eventos Alvenaria

obra: Portal Kuchenfest - Parque Municipal de Eventos Alvenaria

local: Rua Júlio Kohlarusch, 524 - Centro

prancha: Vigas - Baldrame V13 - V25 nº E 06

extensão/área: 205,00 m² escala: indicada unidade: centímetro data: Maio/2019

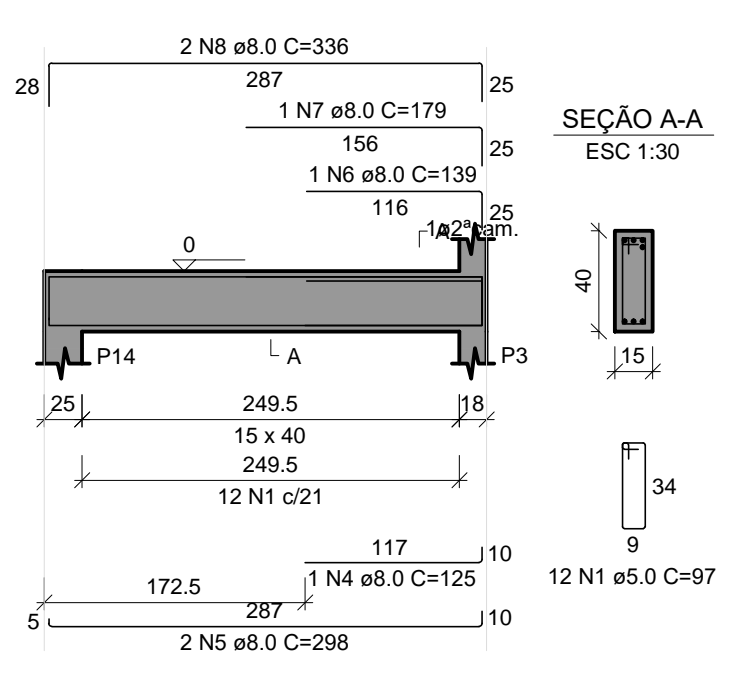
proprietário: responsável técnico:

Régis Luiz Zimmer Prefeito Municipal

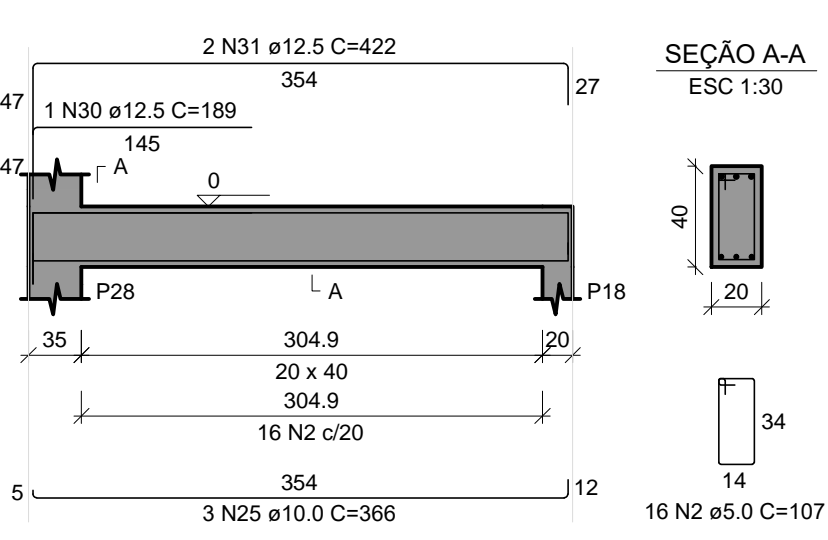
Jainara Garcia Fischer Eng. Civil CREA/RS 237284



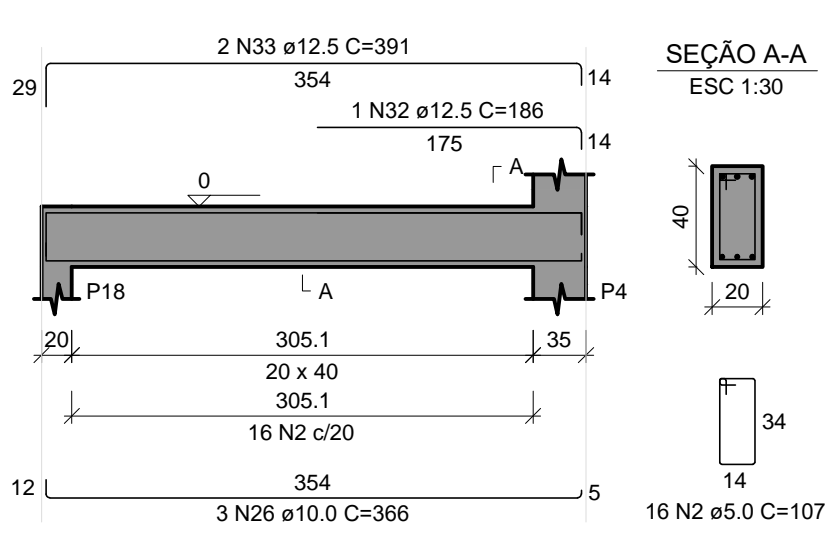
V26
ESC 1:50



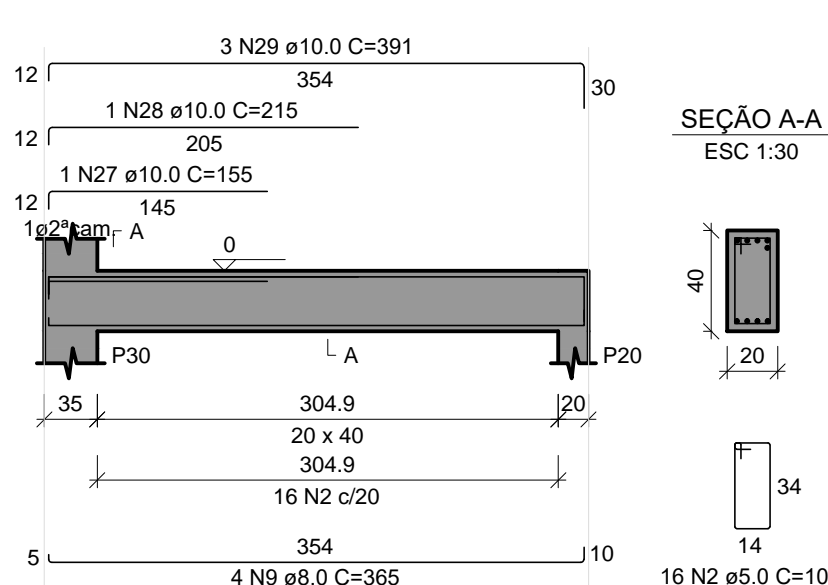
V27
ESC 1:50



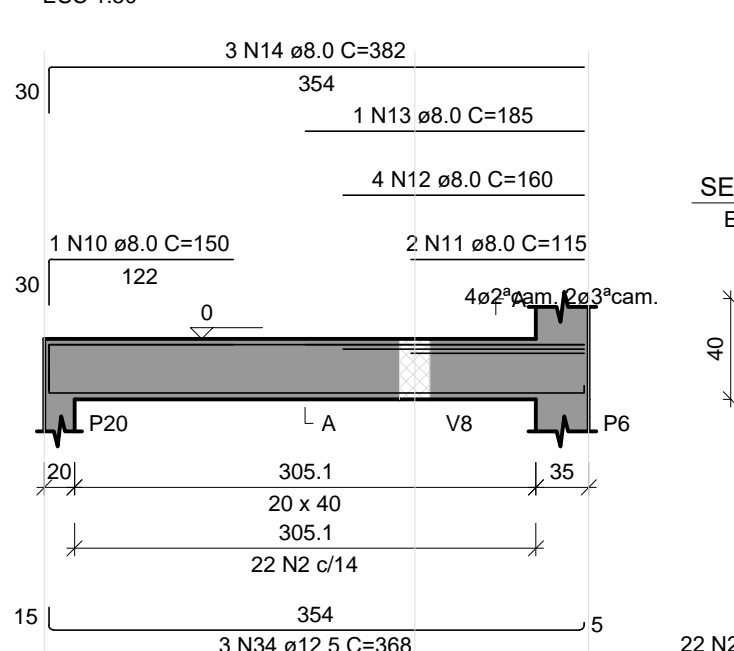
V28
ESC 1:50



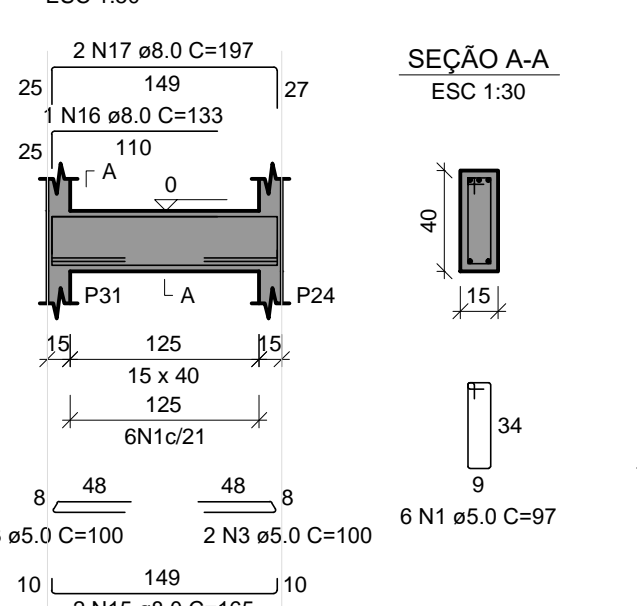
V29
ESC 1:50



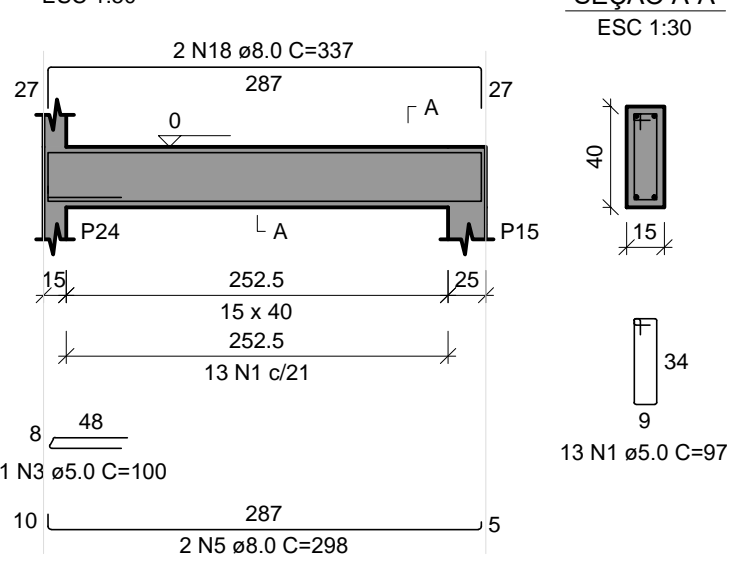
V30
ESC 1:50



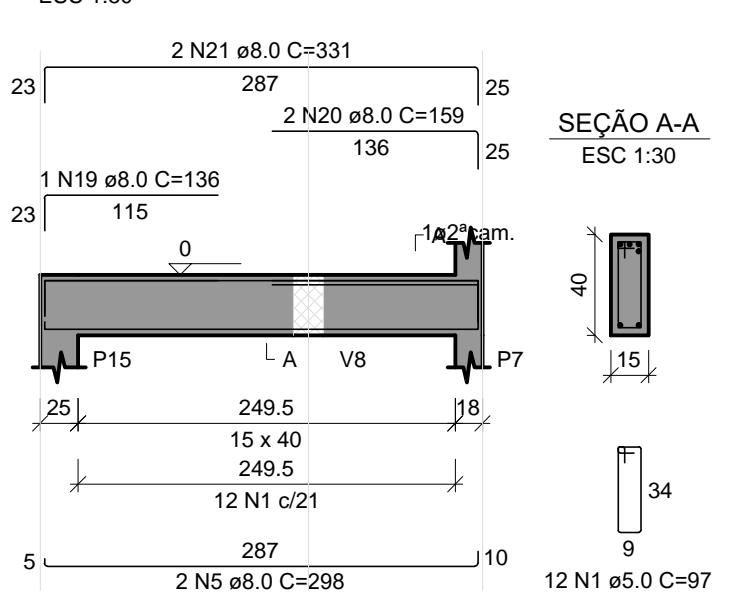
V31
ESC 1:50



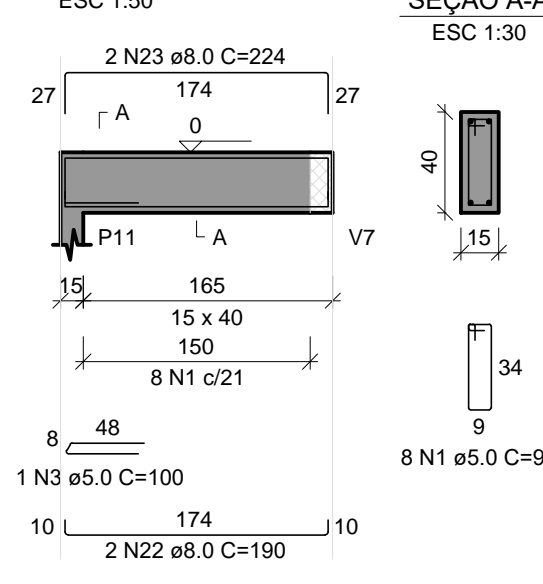
V32
ESC 1:50



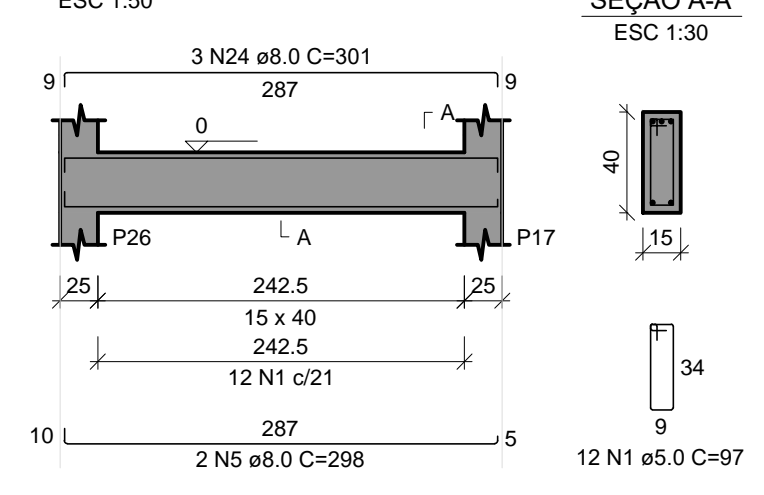
V33
ESC 1:50



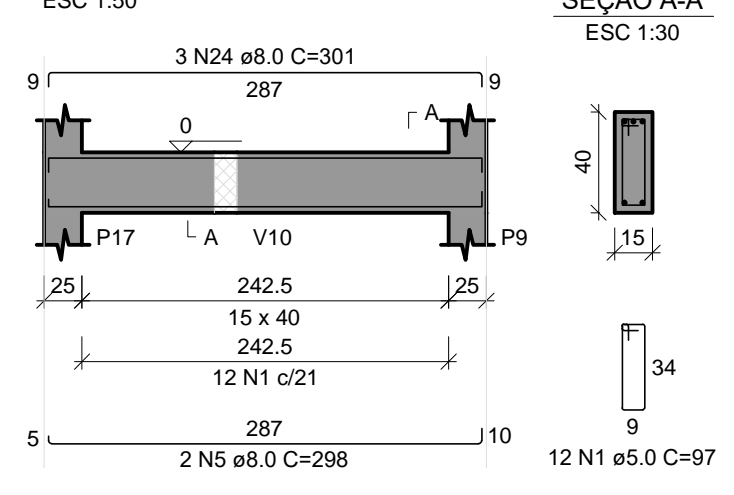
V34
ESC 1:50



V35
ESC 1:50



V36
ESC 1:50



RELAÇÃO DO AÇO

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	75	97	7275
CA60	2	5.0	70	107	7490
CA60	3	5.0	6	100	600
CA60	4	8.0	1	125	125
CA60	5	8.0	10	298	2980
CA60	6	8.0	1	139	139
CA60	7	8.0	1	179	179
CA60	8	8.0	2	336	672
CA60	9	8.0	4	365	1460
CA60	10	8.0	1	150	150
CA60	11	8.0	2	115	230
CA60	12	8.0	4	160	640
CA60	13	8.0	1	185	185
CA60	14	8.0	3	362	1146
CA60	15	8.0	2	165	330
CA60	16	8.0	1	133	133
CA60	17	8.0	2	197	394
CA60	18	8.0	2	337	674
CA60	19	8.0	1	136	136
CA60	20	8.0	2	159	318
CA60	21	8.0	2	331	662
CA60	22	8.0	2	190	380
CA60	23	8.0	2	224	448
CA60	24	8.0	6	301	1806
CA60	25	10.0	3	366	1098
CA60	26	10.0	3	366	1098
CA60	27	10.0	1	155	155
CA60	28	10.0	1	215	215
CA60	29	10.0	3	391	1173
CA60	30	12.5	1	189	189
CA60	31	12.5	2	422	844
CA60	32	12.5	1	186	186
CA60	33	12.5	2	391	782
CA60	34	12.5	3	368	1104

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	8.0	131.9	57.2
CA50	10.0	37.4	25.4
CA60	12.5	31.1	32.9
CA60	5.0	153.7	26.1
PESO TOTAL (kg)			
CA50	115.5		
CA60	26.1		

Volume de concreto (C-25) = 2,23 m³
Área de forma = 31,48 m²

EDIFICAÇÃO PÚBLICA Prefeitura Municipal de **Rolante**

Projeto Estrutural Portal Kuchenfest - Parque Municipal de Eventos **Alvenaria**


obra: **Portal Kuchenfest - Parque Municipal de Eventos** material: **Alvenaria**

local: **Rua Júlio Kohlarusch, 524 - Centro**

prancha: **Vigas - Baldrame V26 - V36** nº **E 07**

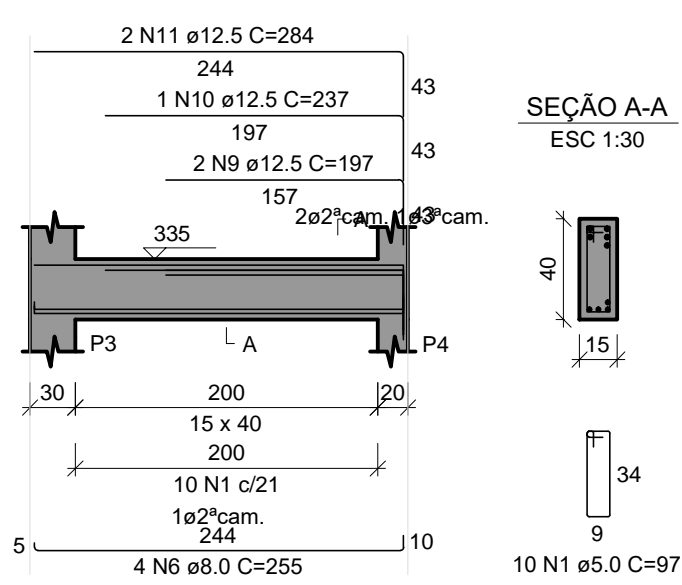
extensão/área: **205,00 m²** escala: **indicada** unidade: **centímetro** data: **Maio/2019**

proprietário: **Régis Luiz Zimmer** responsável técnico: **Jainara Garcia Fischer**
Eng. Civil CREA/RS 237284

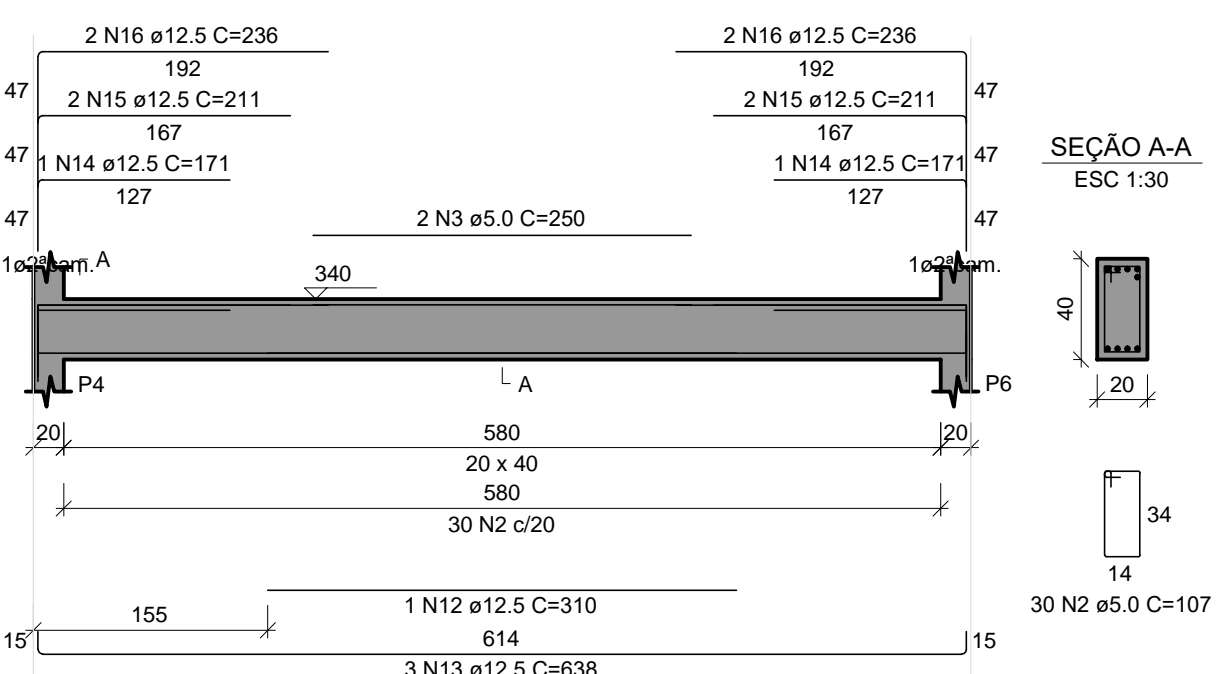




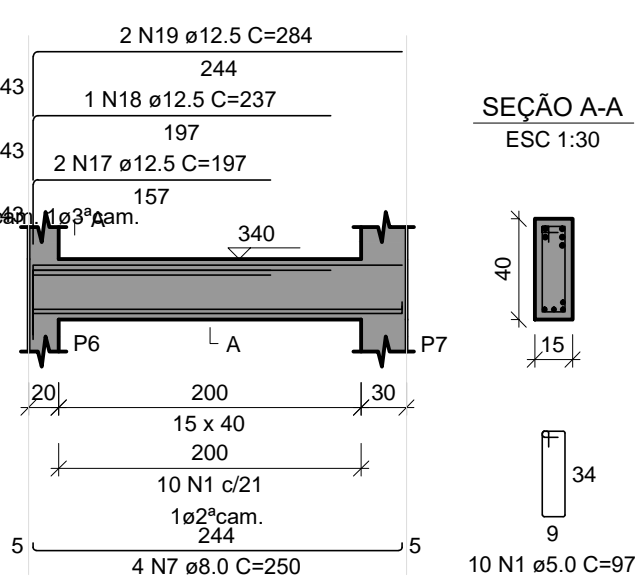
V1
ESC 1:50



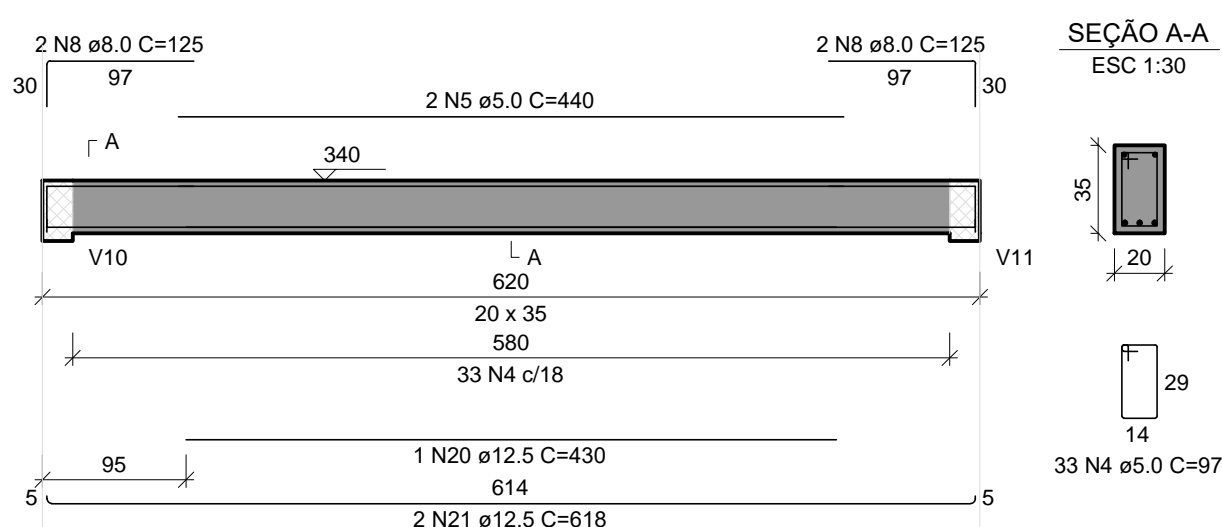
V2
ESC 1:50



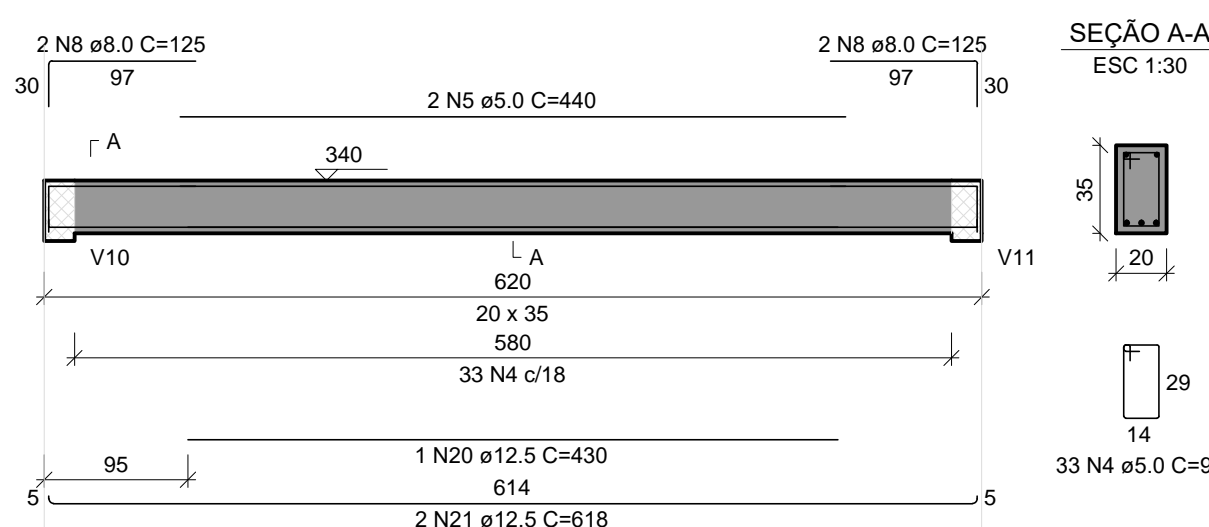
V3
ESC 1:50



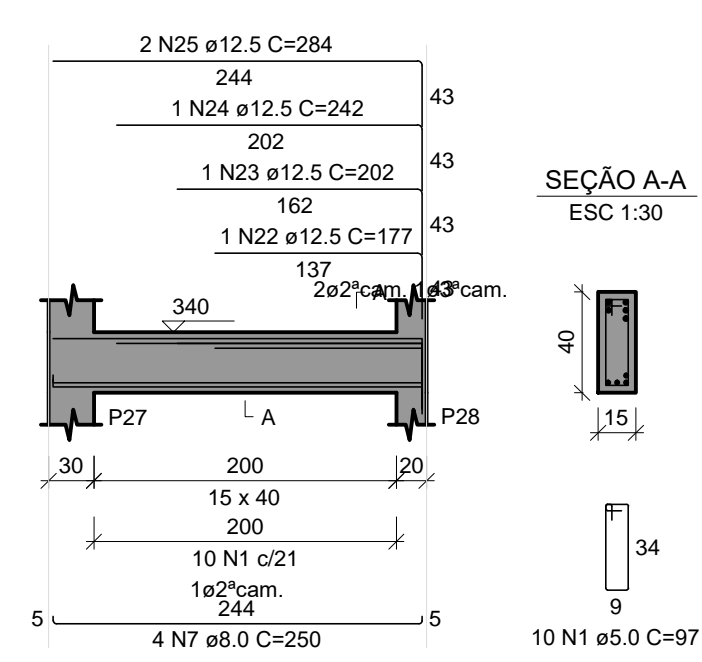
V4
ESC 1:50



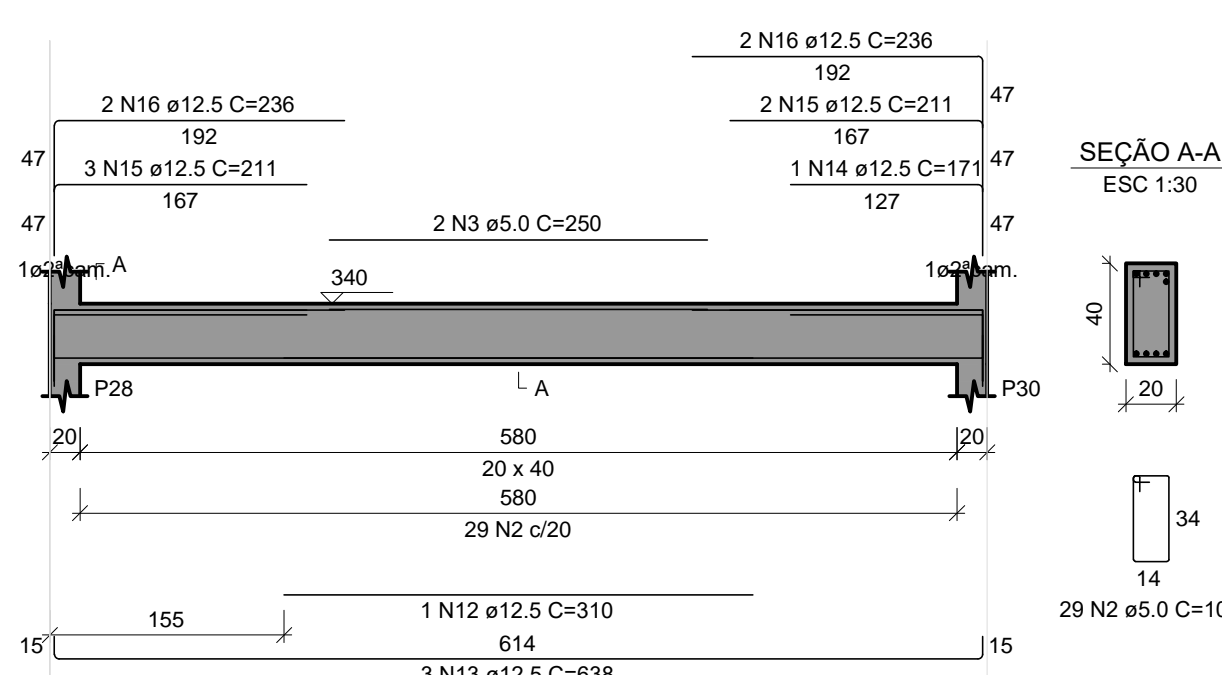
V5
ESC 1:50



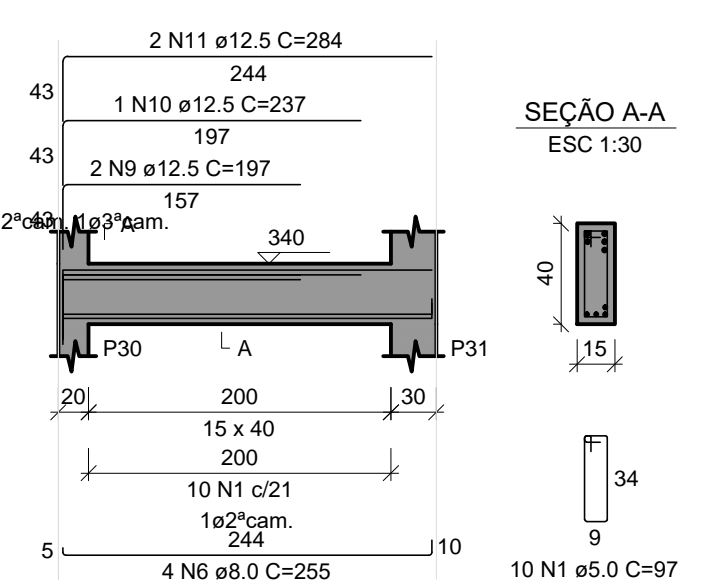
V6
ESC 1:50



V7
ESC 1:50



V8
ESC 1:50



RELAÇÃO DO AÇO

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	40	97	3880
CA50	2	5.0	59	107	6313
CA60	3	5.0	4	250	1000
CA60	4	5.0	66	97	6402
CA50	5	5.0	4	440	1760
CA60	6	8.0	8	255	2040
CA60	7	8.0	8	250	2000
CA60	8	8.0	8	125	1000
CA60	9	12.5	4	197	788
CA60	10	12.5	2	237	474
CA60	11	12.5	4	284	1136
CA60	12	12.5	2	310	620
CA60	13	12.5	6	638	3828
CA60	14	12.5	3	171	513
CA60	15	12.5	9	211	1899
CA60	16	12.5	8	236	1888
CA60	17	12.5	2	197	394
CA60	18	12.5	1	237	237
CA60	19	12.5	2	284	568
CA60	20	12.5	2	430	860
CA60	21	12.5	4	618	2472
CA60	22	12.5	1	177	177
CA60	23	12.5	1	202	202
CA60	24	12.5	1	242	242
CA60	25	12.5	2	284	568

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	8.0	50.4	21.9
CA60	12.5	168.7	178.7
CA60	5.0	193.6	32.8
PESO TOTAL (kg)			
CA50	200.6		
CA60	32.8		

Volume de concreto (C-25) = 2.46 m³
Área de forma = 33.06 m²

EDIFICAÇÃO PÚBLICA Prefeitura Municipal de Rolante

Projeto Estrutural Portal Kuchenfest - Parque Municipal de Eventos material: Alvenaria

local: Rua Júlio Kohlarausch, 524 - Centro n°: E 08

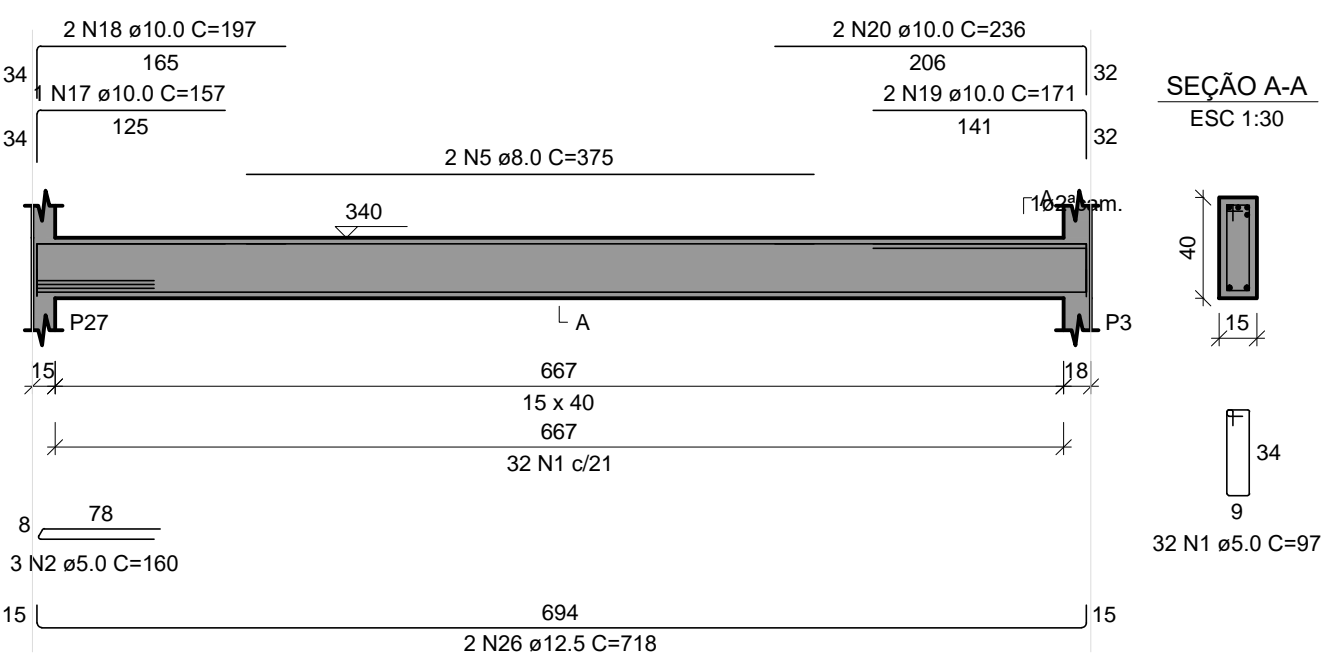
prancha: Vigas - Térreo VI - V8

extensão/área: 205,00 m² escala: indicada unidade: centímetro data: Maio/2019

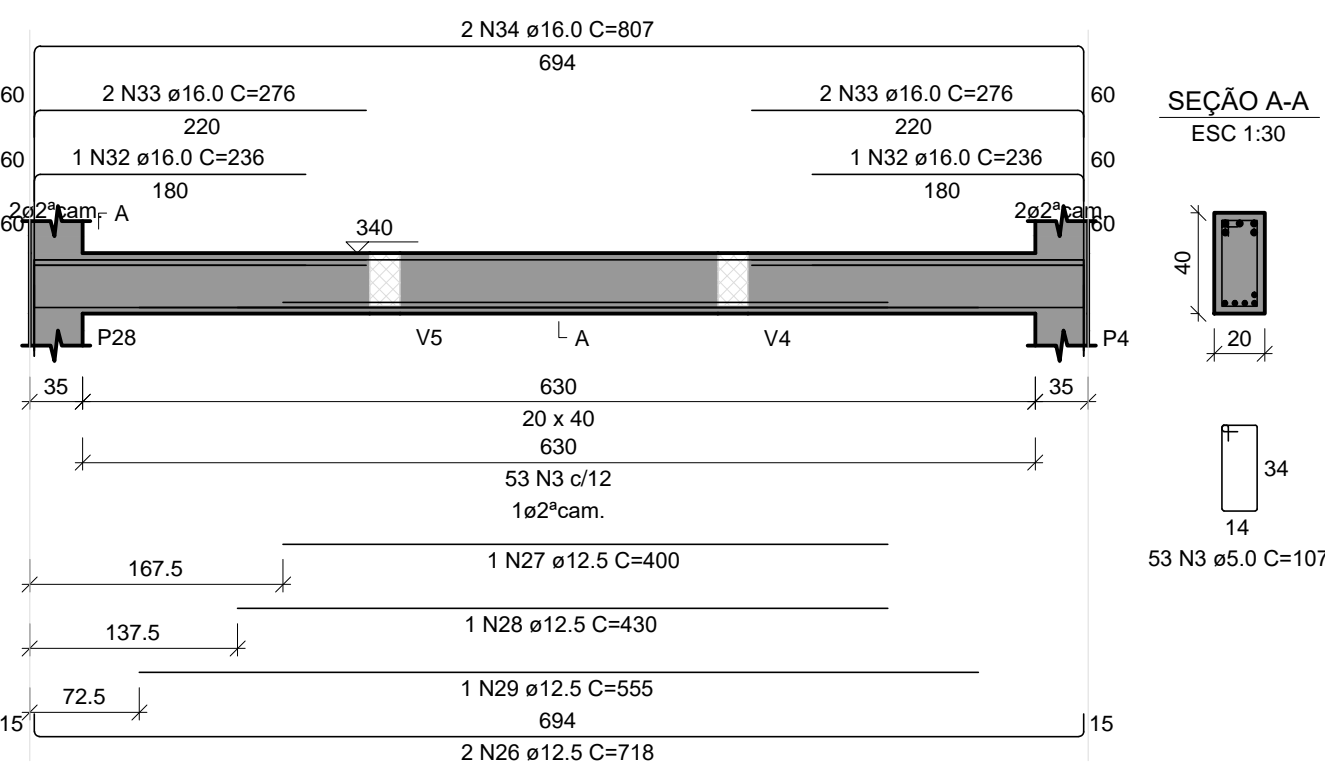
proprietário: Régis Luiz Zimmer Prefeito Municipal responsável técnico: Jainara Garcia Fischer Eng. Civil CREA/RS 237284



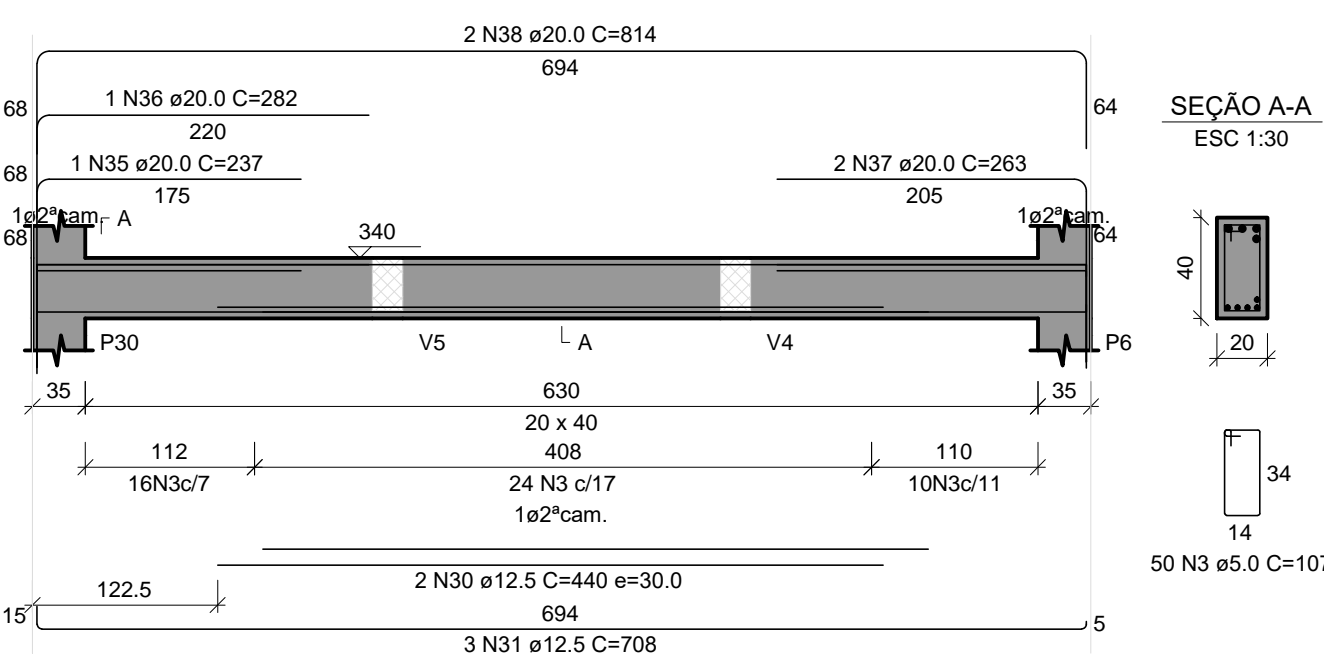
V9
ESC 1:50



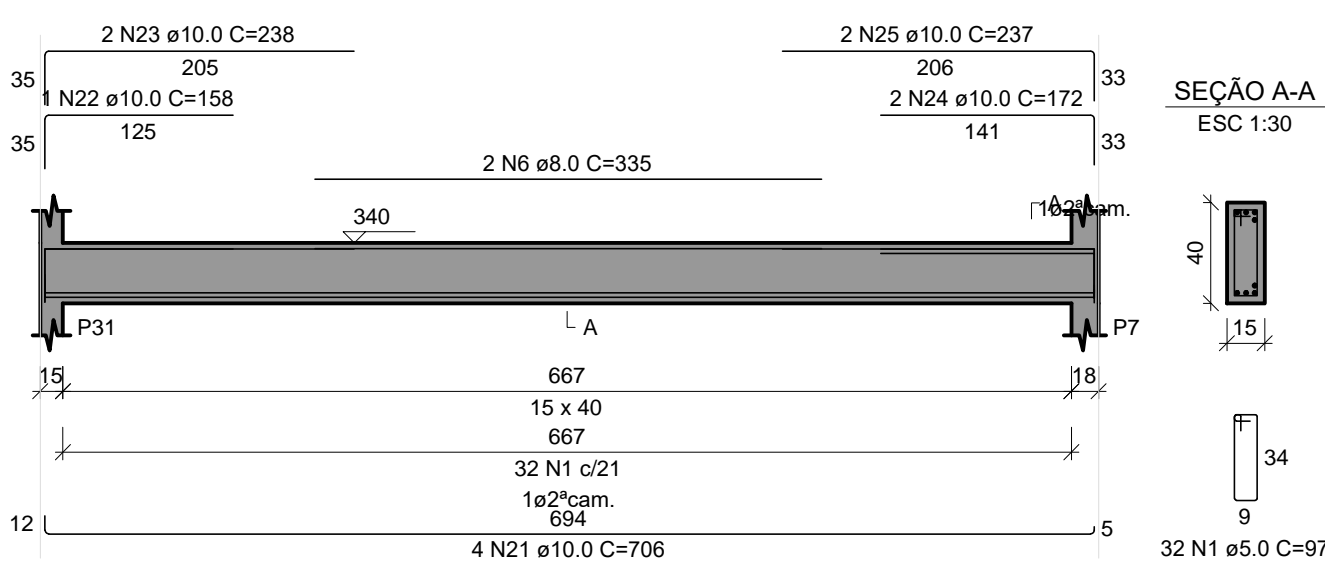
V10
ESC 1:50



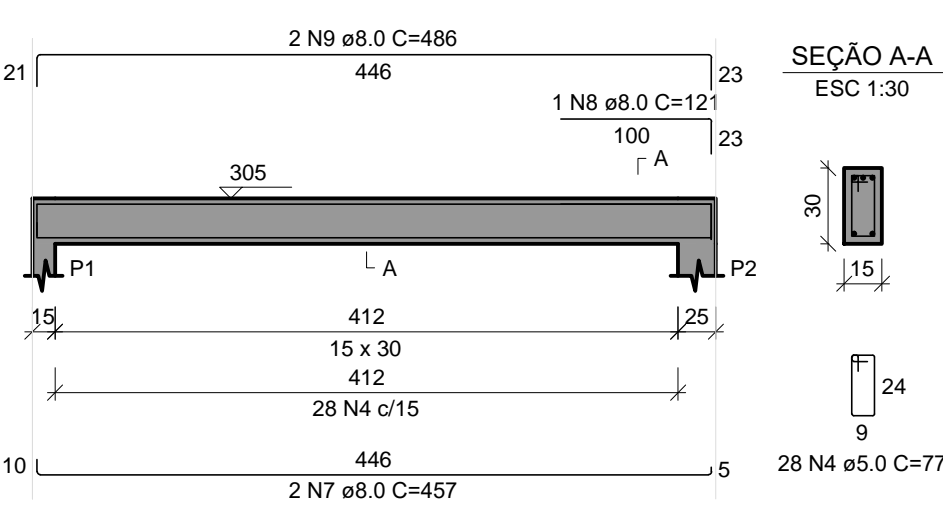
V11
ESC 1:50



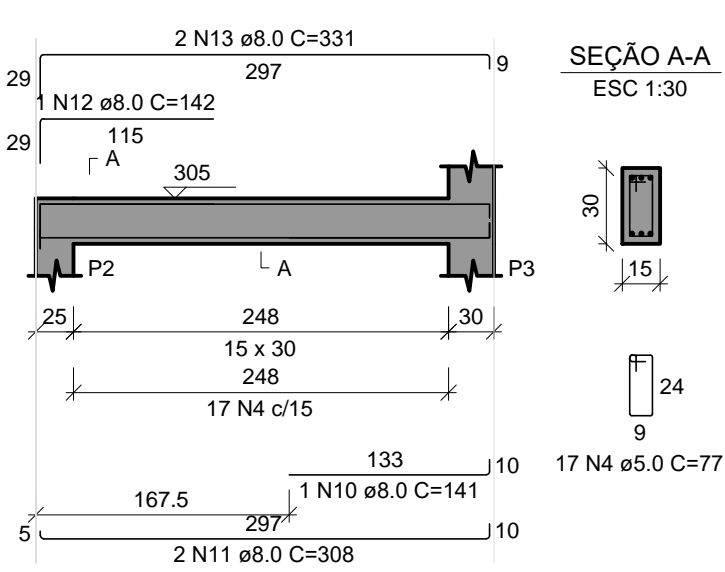
V12
ESC 1:50



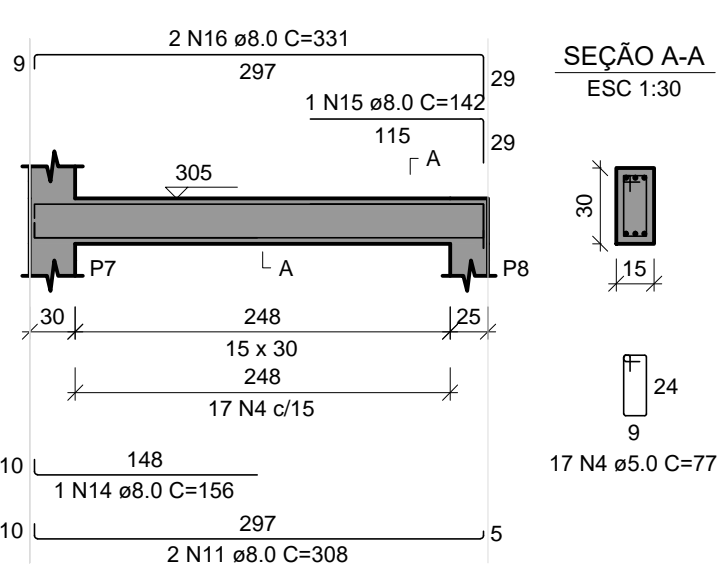
V13
ESC 1:50



V14
ESC 1:50



V15
ESC 1:50



RELAÇÃO DO AÇO

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	64	97	6208
	2	5.0	3	160	480
	3	5.0	103	107	11021
	4	5.0	62	77	4774
CA50	5	8.0	2	375	750
	6	8.0	2	335	670
	7	8.0	2	457	914
	8	8.0	1	121	121
	9	8.0	2	486	972
	10	8.0	1	141	141
	11	8.0	4	308	1232
	12	8.0	1	142	142
	13	8.0	2	331	662
	14	8.0	1	156	156
	15	8.0	1	142	142
	16	8.0	2	331	662
	17	10.0	1	157	157
	18	10.0	2	197	394
	19	10.0	2	171	342
	20	10.0	2	236	472
	21	10.0	4	706	2824
	22	10.0	1	158	158
	23	10.0	2	238	476
	24	10.0	2	172	344
	25	10.0	2	237	474
	26	12.5	4	718	2872
	27	12.5	1	400	400
	28	12.5	1	430	430
	29	12.5	1	555	555
	30	12.5	2	440	880
	31	12.5	3	708	2124
	32	16.0	2	236	472
	33	16.0	4	276	1104
	34	16.0	2	807	1614
	35	20.0	1	237	237
	36	20.0	1	282	282
	37	20.0	2	263	526
	38	20.0	2	814	1628

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	8.0	85.6	28.5
	10.0	56.4	38.3
	12.5	72.6	76.9
	16.0	31.9	55.4
	20.0	26.7	72.5
CA60	5.0	224.8	38.1
PESO TOTAL (kg)			
CA50		271.6	
CA60		38.1	

Volume de concreto (C-25) = 2.44 m³
Área de forma = 35.23 m²

EDIFICAÇÃO PÚBLICA

Prefeitura Municipal de

Rolante

Projeto Estrutural

obra: Portal Kuchenfest - Parque Municipal de Eventos

material: Alvenaria

local: Rua Júlio Kohlarausch, 524 - Centro

prancha: Vigas - Térreo V9 - V15

nº: E 09

extensão/área: 205,00 m²

escala: indicada

unidade: centímetro

data: Maio/2019



proprietário:

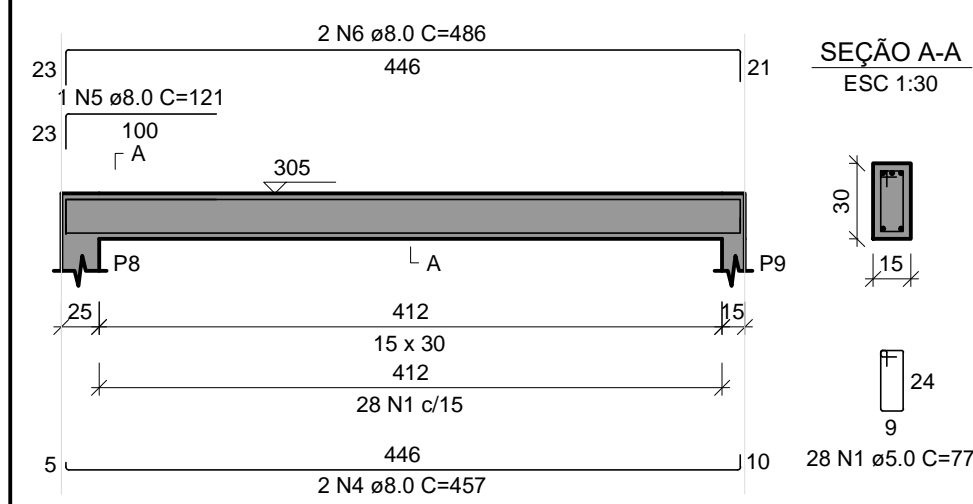
responsável técnico:

Régis Luiz Zimmer
Prefeito Municipal

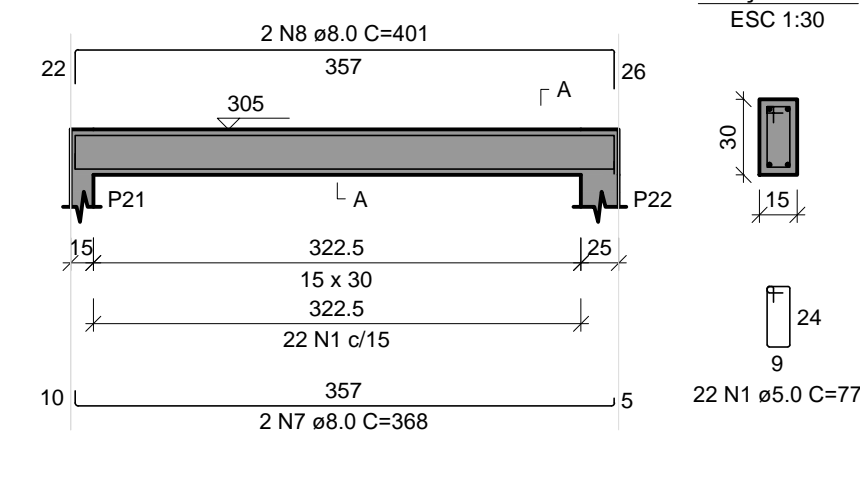
Jainara Garcia Fischer
Eng. Civil CREA/RS 237284



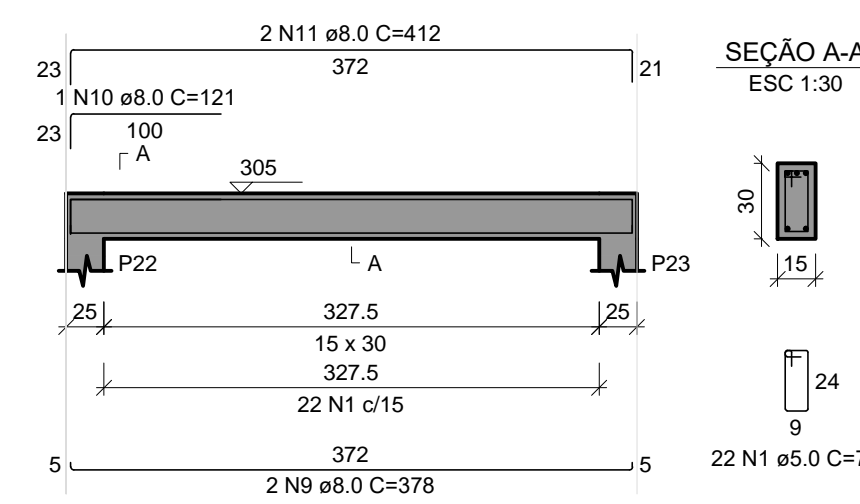
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ESC 1:50



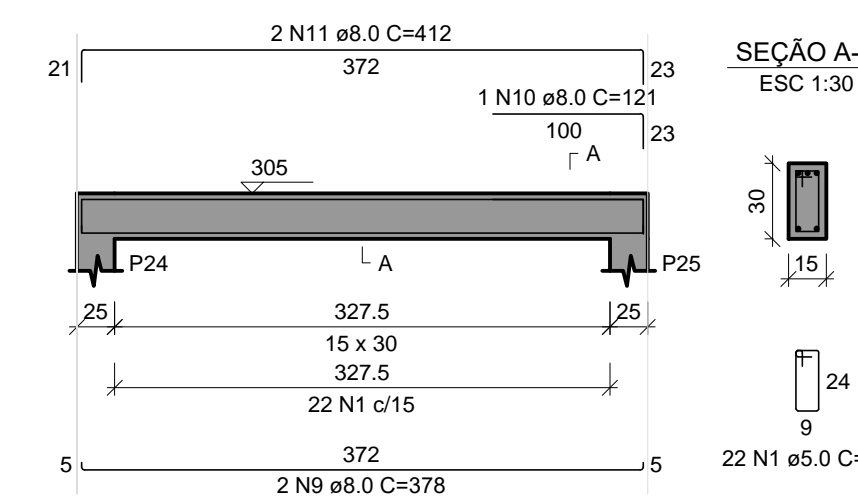
V17
ESC 1:50



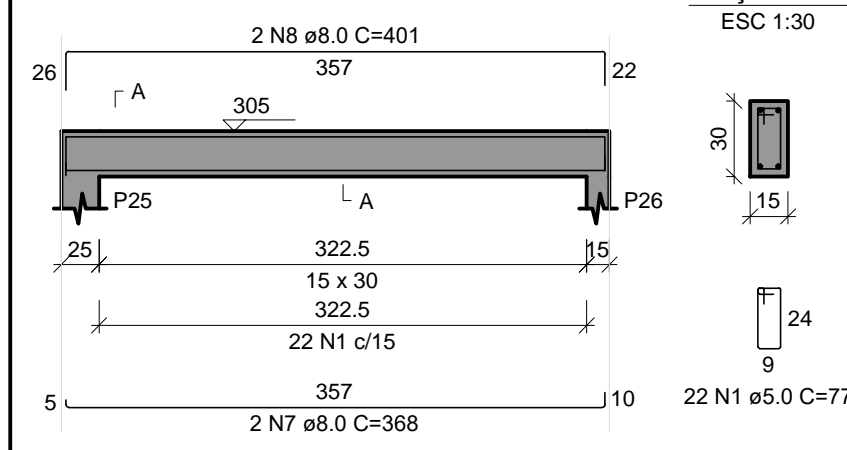
V18
ESC 1:50



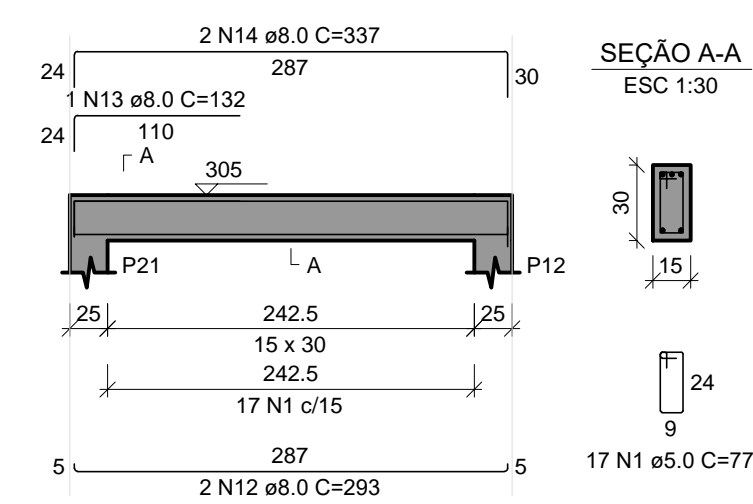
V19
ESC 1:50



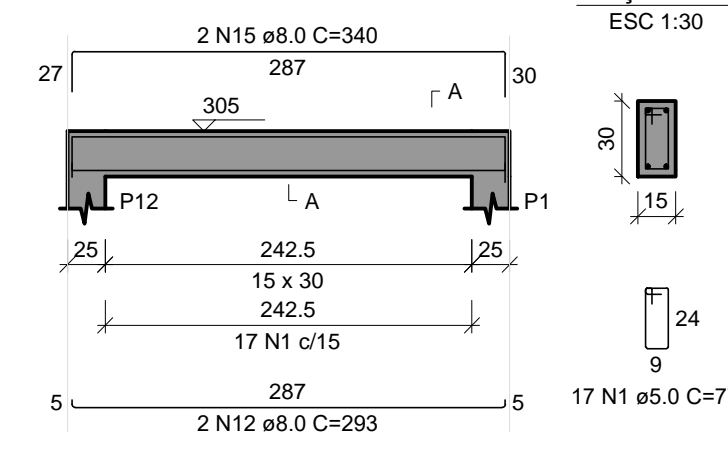
V20
ESC 1:50



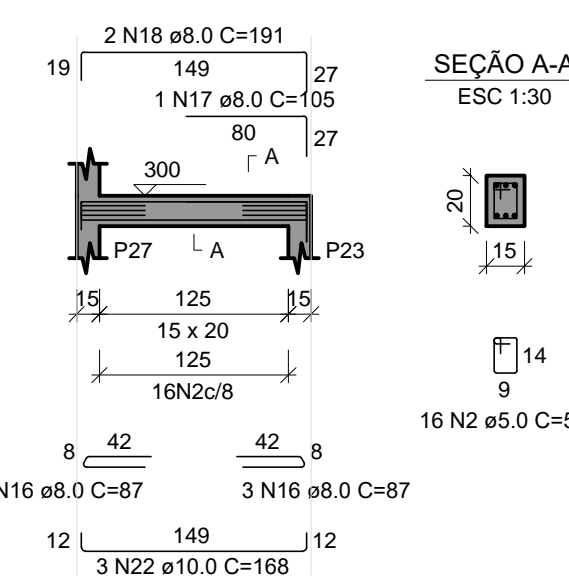
V21
ESC 1:50



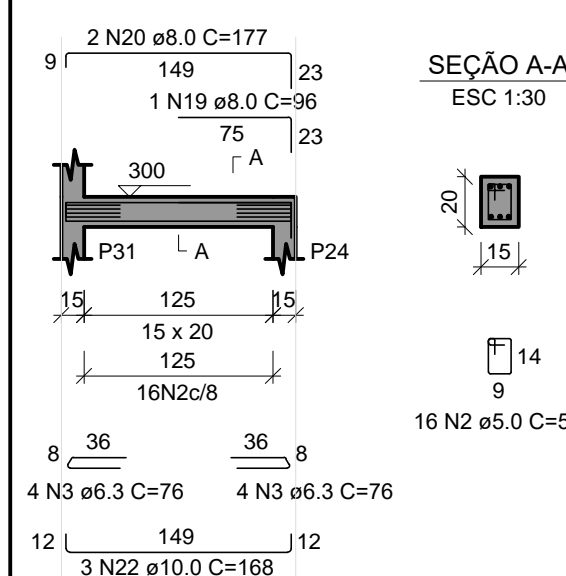
V22
ESC 1:50



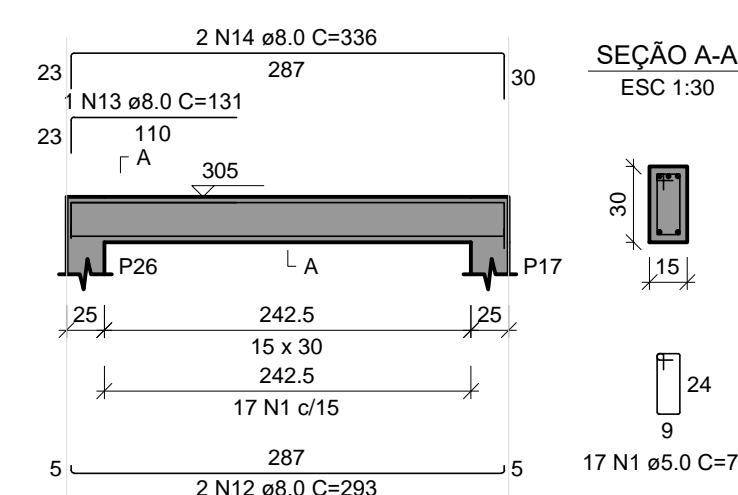
V23
ESC 1:50



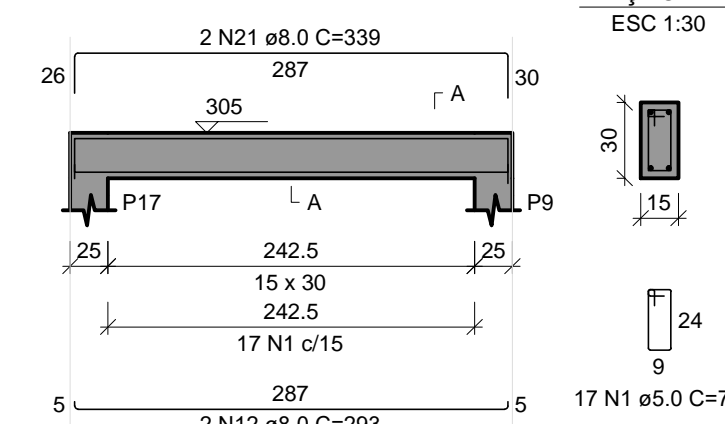
V24
ESC 1:50



V25
ESC 1:50



V26
ESC 1:50



RELAÇÃO DO AÇO
V16 V18
V19 V21
V22 V24
V25 V26

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	184	77	14168
	2	5.0	32	57	1824
	3	6.3	8	76	608
	4	8.0	2	457	914
	5	8.0	1	121	121
	6	8.0	2	486	972
	7	8.0	4	368	1472
	8	8.0	4	401	1604
	9	8.0	4	378	1512
	10	8.0	2	121	242
	11	8.0	4	412	1648
	12	8.0	8	293	2344
	13	8.0	2	132	264
	14	8.0	4	337	1348
	15	8.0	2	340	680
	16	8.0	6	87	522
	17	8.0	1	105	105
	18	8.0	2	191	382
	19	8.0	1	96	96
	20	8.0	2	177	354
	21	8.0	2	339	678
	22	10.0	6	168	1008

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	6.3	6.1	1.6
	8.0	152.6	66.2
	10.0	10.1	6.8
CA60	5.0	159.9	27.1
PESO TOTAL (kg)			
CA50		74.7	
CA60		27.1	

Volume de concreto (C-25) = 1.49 m³
Área de forma = 24.97 m²

EDIFICAÇÃO PÚBLICA

Prefeitura Municipal de

Rolante

Projeto Estrutural

obra: Portal Kuchenfest - Parque Municipal de Eventos

material: Alvenaria

local: Rua Júlio Kohlarausch, 524 - Centro

prancha: Vigas - Térreo V16 - V26

nº: E 10

extensão/área: 205,00 m²

escala: indicada

unidade: centímetro

data: Maio/2019

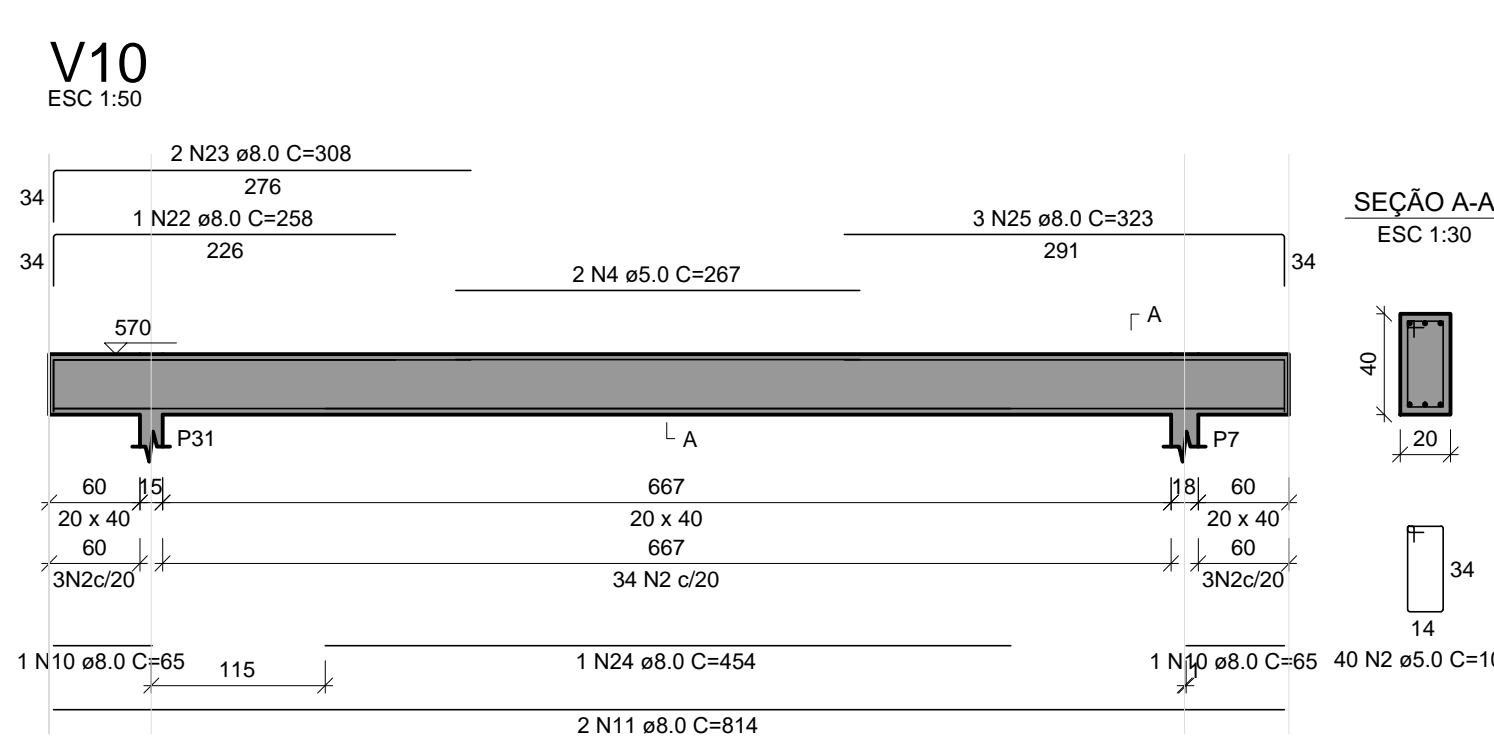
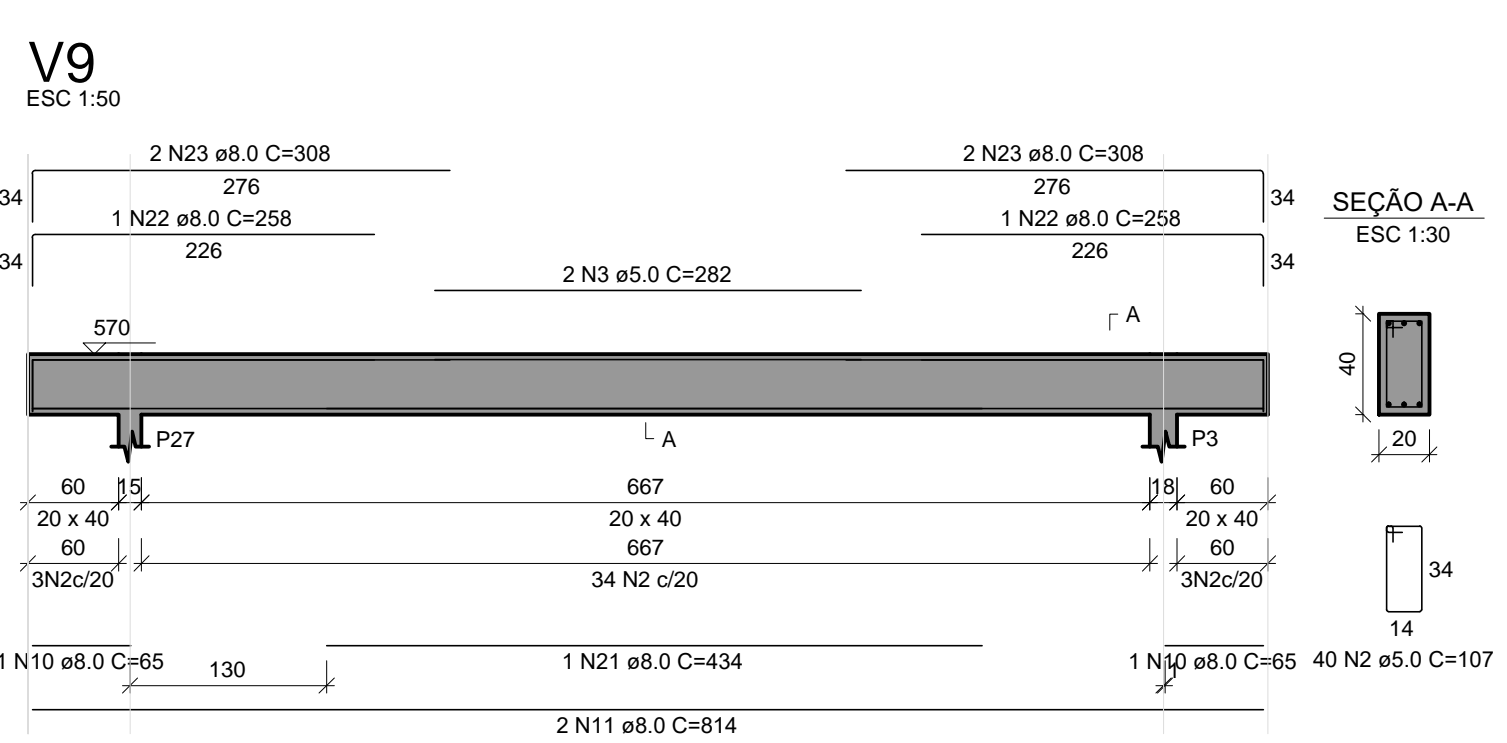
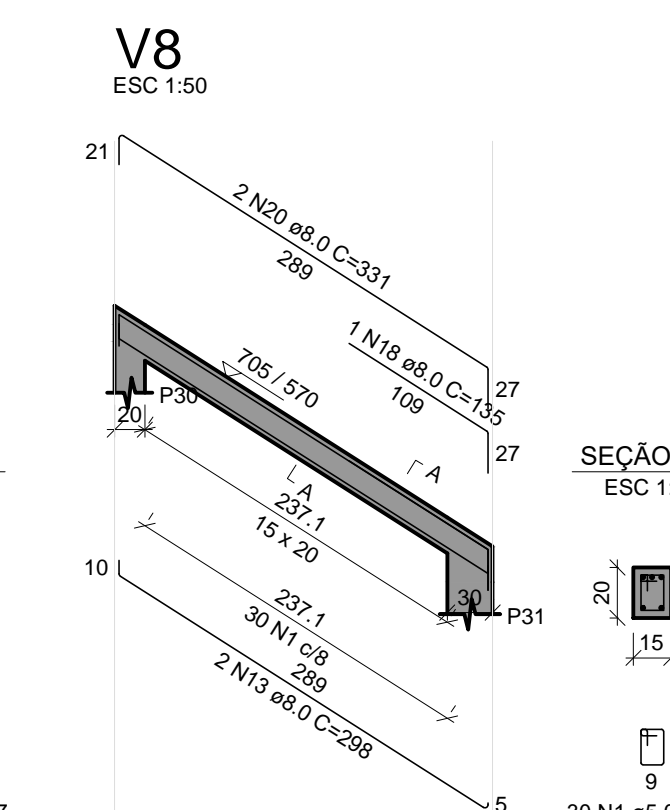
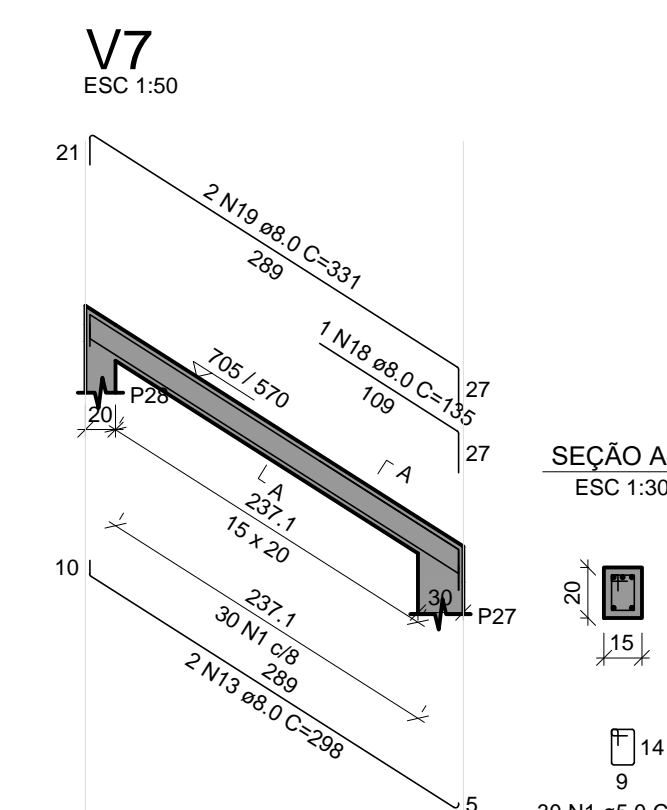
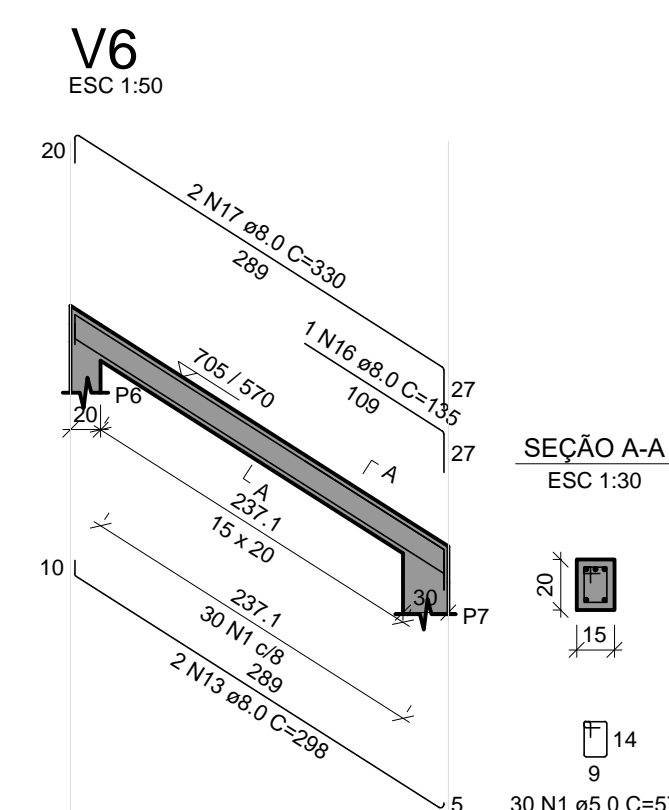
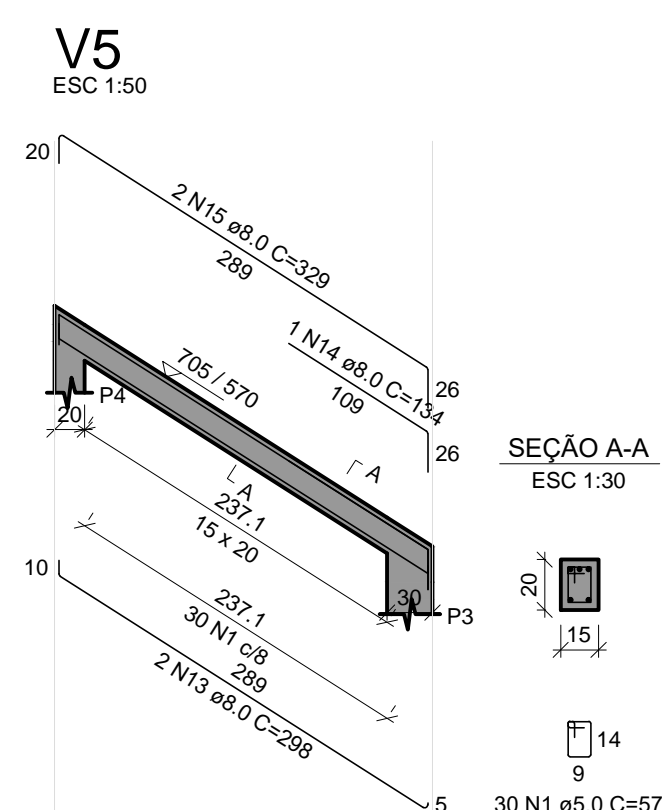
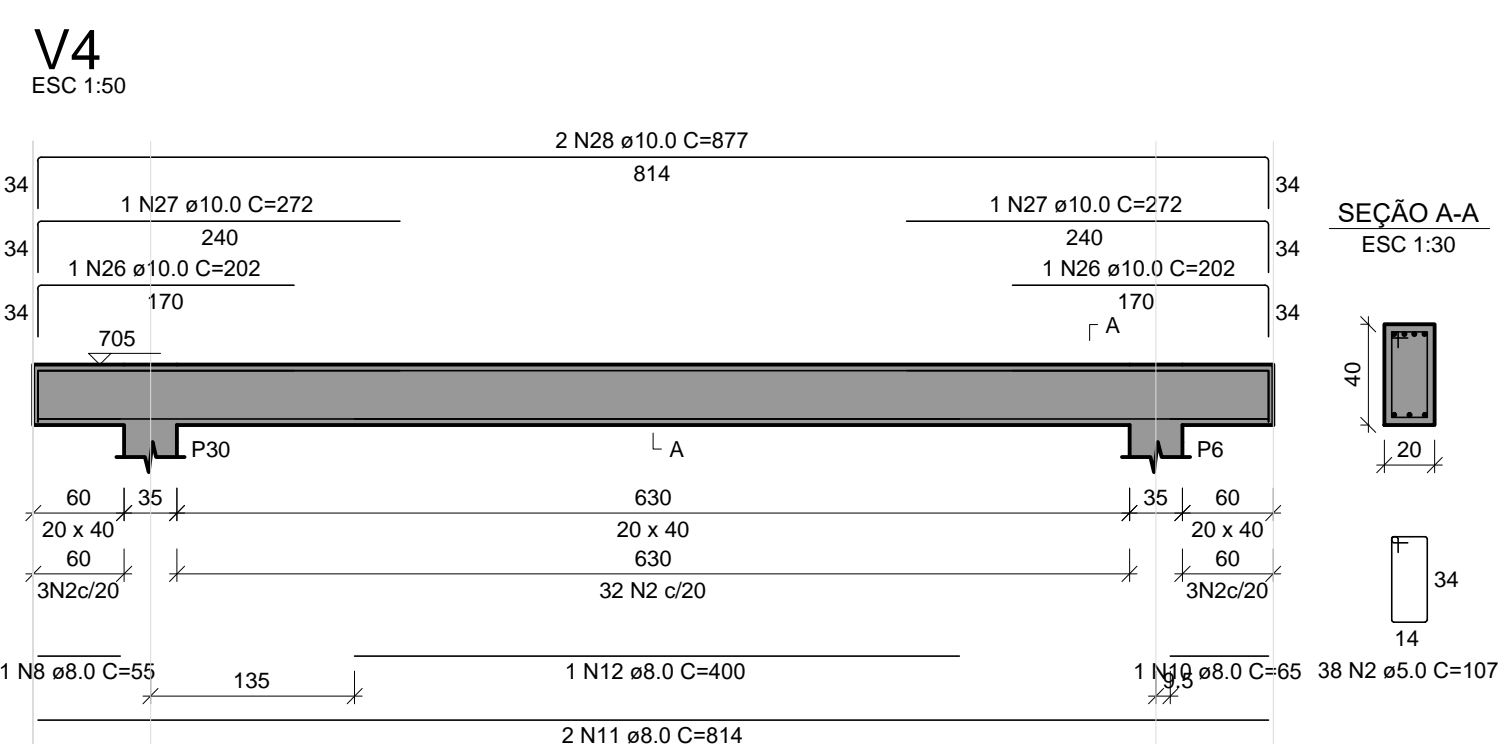
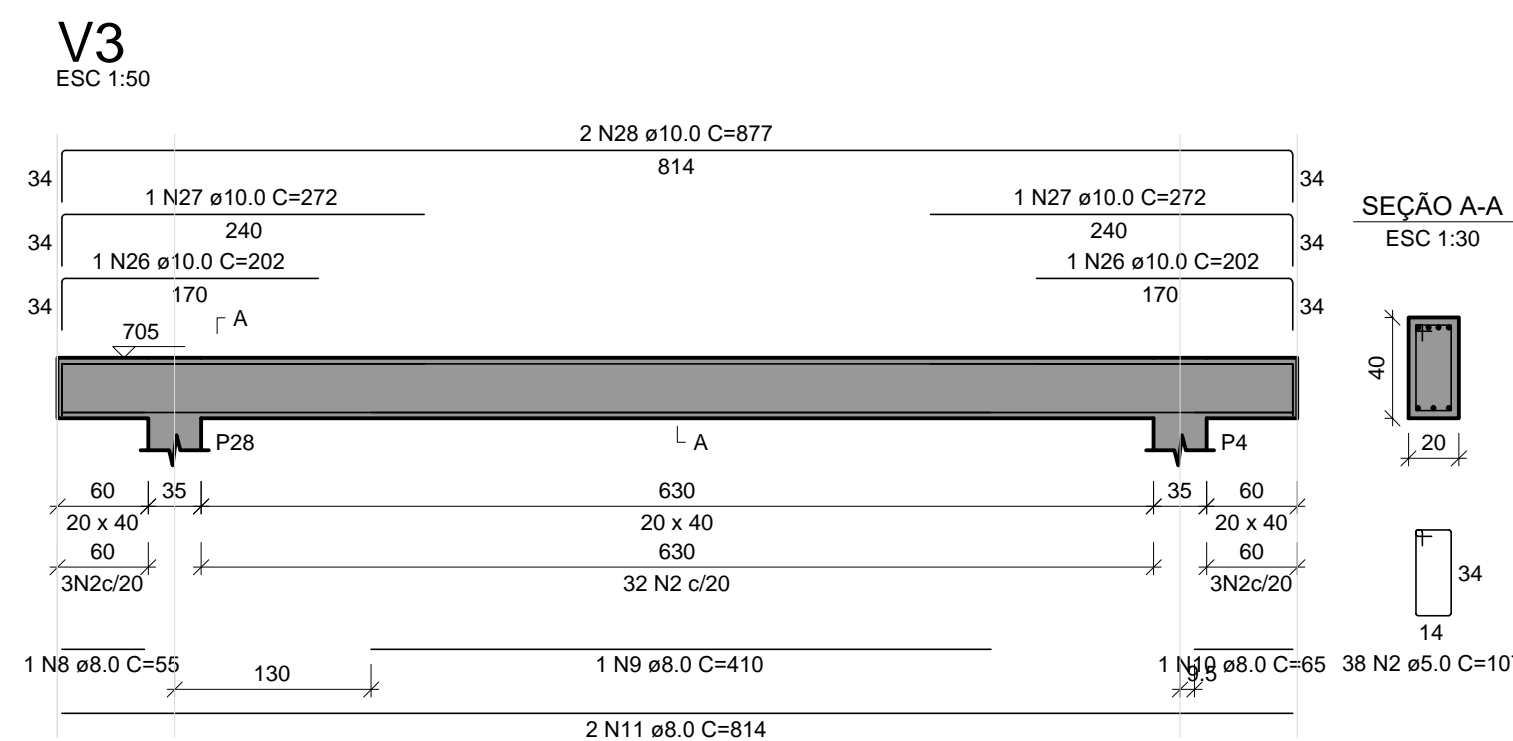
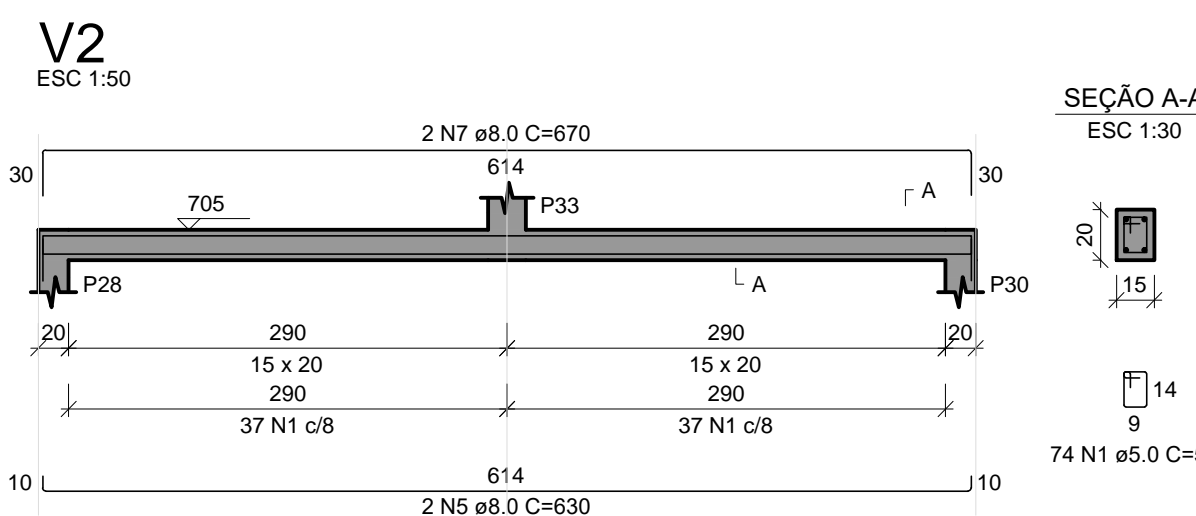
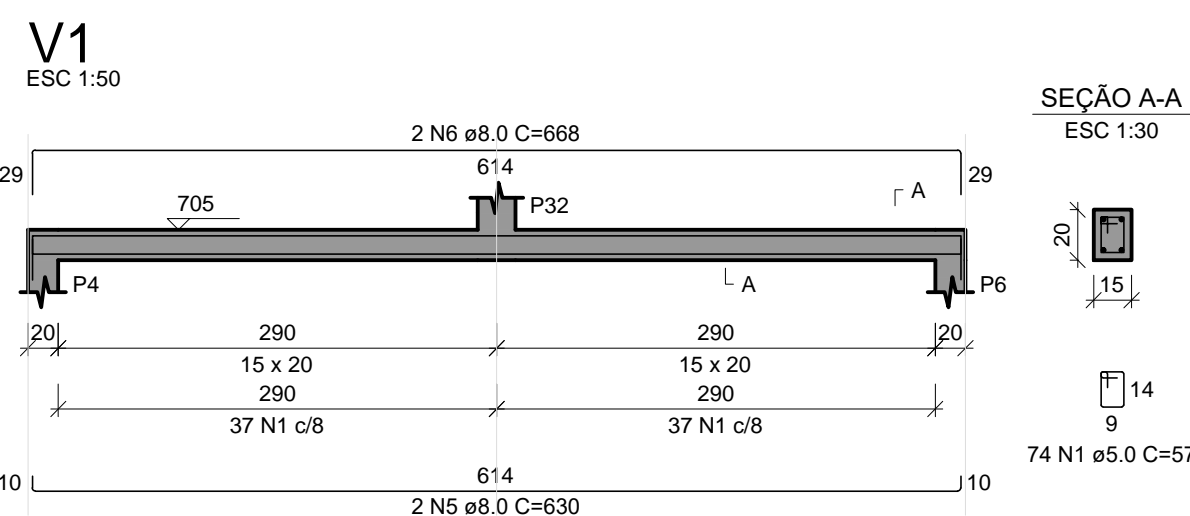


proprietário:

responsável técnico:

Régis Luiz Zimmer
Prefeito Municipal

Jainara Garcia Fischer
Eng. Civil CREA/RS 237284



RELAÇÃO DO AÇO

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	268	57	15276
	2	5.0	166	107	16692
	3	5.0	2	282	564
	4	5.0	2	267	534
CA50	5	8.0	4	630	2520
	6	8.0	2	668	1336
	7	8.0	2	670	1340
	8	8.0	2	55	110
	9	8.0	1	410	410
	10	8.0	6	65	390
	11	8.0	8	814	6512
	12	8.0	1	400	400
	13	8.0	8	298	2384
	14	8.0	1	134	134
	15	8.0	2	329	658
	16	8.0	1	135	135
	17	8.0	2	330	660
	18	8.0	2	135	270
19	8.0	2	331	662	
20	8.0	2	331	662	
21	8.0	1	434	434	
22	8.0	3	258	774	
23	8.0	6	308	1848	
24	8.0	1	454	454	
25	8.0	3	323	969	
26	10.0	4	202	808	
27	10.0	4	272	1088	
28	10.0	4	877	3508	

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	8.0	230.6	100.1
CA60	10.0	54	36.6
CA60	5.0	330.7	56.1
PESO TOTAL (kg)			
CA50		136.7	
CA60		56.1	

Volume de concreto (C-25) = 3.30 m³
Área de forma = 45.12 m²

EDIFICAÇÃO PÚBLICA Prefeitura Municipal de **Rolante**

Projeto Estrutural

obra: Portal Kuchenfest - Parque Municipal de Eventos Alvenaria

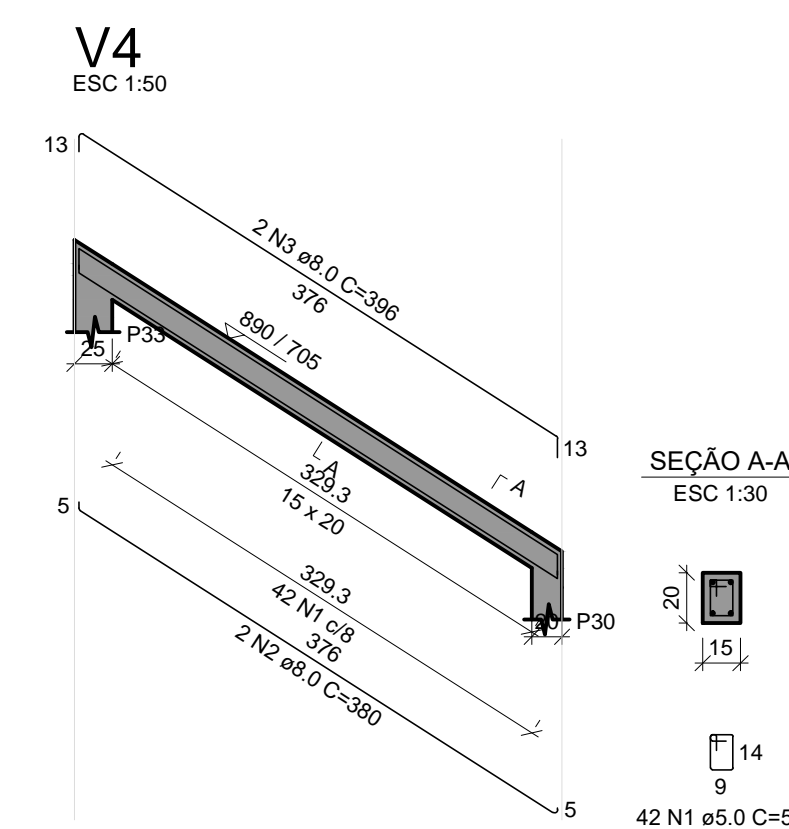
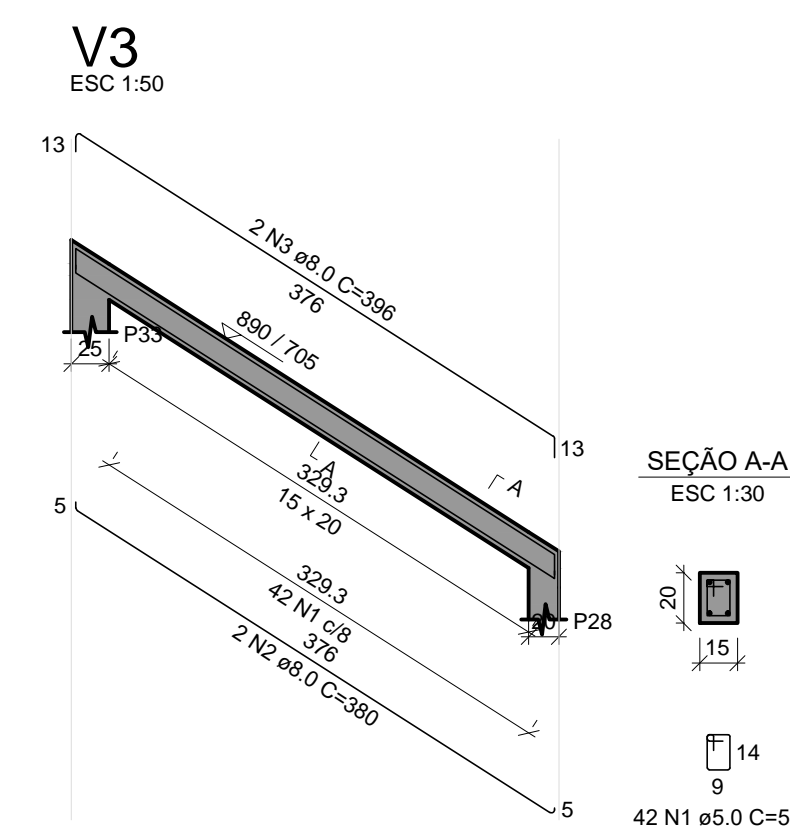
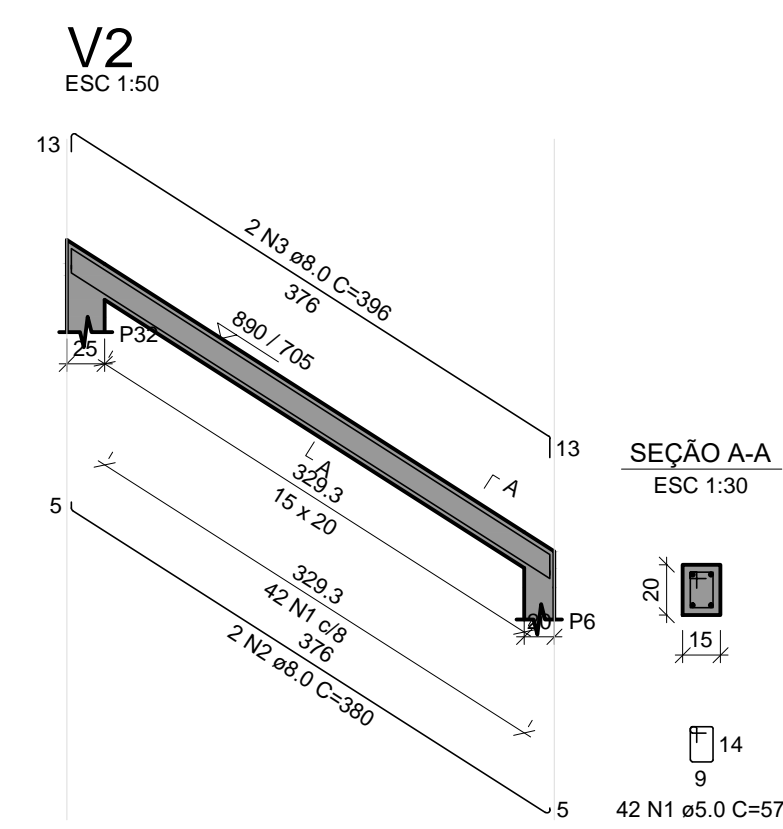
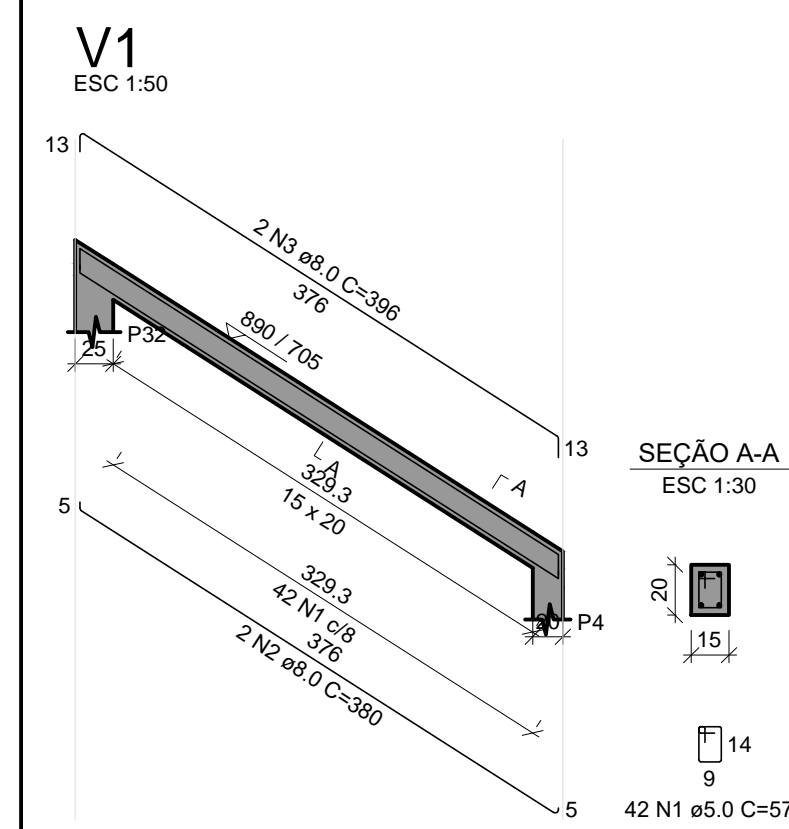
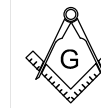
local: Rua Júlio Kohlarusch, 524 - Centro

prancha: Vigas - Pavimento VI - V10 E 11

extensão/área: 205,00 m² escala: indicada unidade: centímetro data: Maio/2019

proprietário: responsável técnico:

Régis Luiz Zimmer Prefeito Municipal
Jainara Garcia Fischer Eng. Civil CREA/RS 237284



RELAÇÃO DO AÇO

AÇO	N	DIAM (mm)	QUANT	C. UNIT (cm)	C. TOTAL (cm)
CA60	1	5.0	168	57	9576
CA50	2	8.0	8	380	3040
CA50	3	8.0	8	396	3168

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	8.0	62.1	26.9
CA60	5.0	95.8	16.2
PESO TOTAL (kg)			
CA50			26.9
CA60			16.2

Volume de concreto (C-25) = 0.39 m³
Área de forma = 7.10 m²

EDIFICAÇÃO PÚBLICA

Prefeitura Municipal de

Rolante

Projeto Estrutural

obra: Portal Kuchenfest - Parque Municipal de Eventos

material: Alvenaria

local: Rua Júlio Kohlarusch, 524 - Centro

prancha: Vigas - Cobertura VI - V4

n^o: E 12

extensão/área: 205.00 m²

escala: indicada

unidade: centímetro

data: Maio/2019

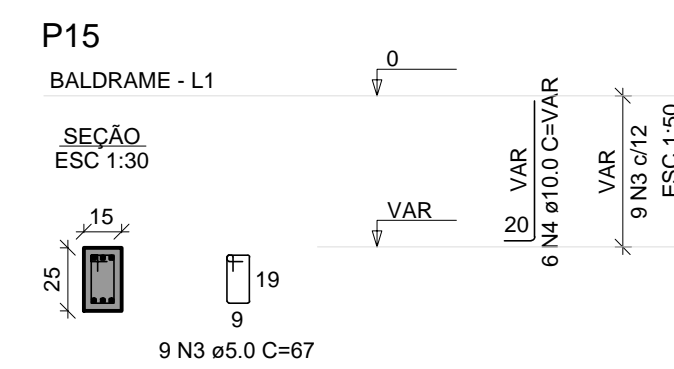
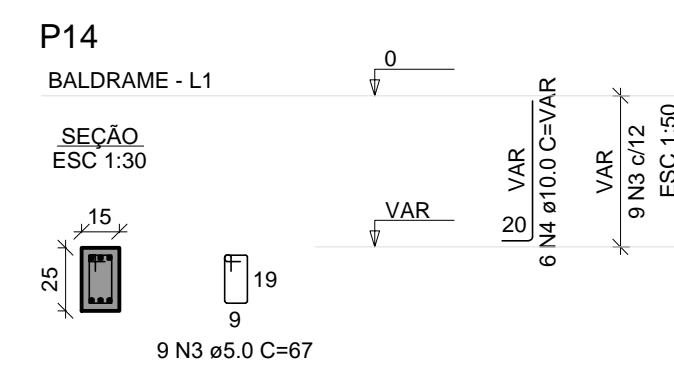
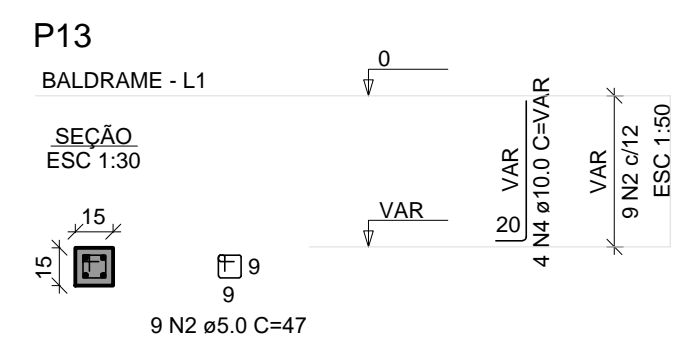
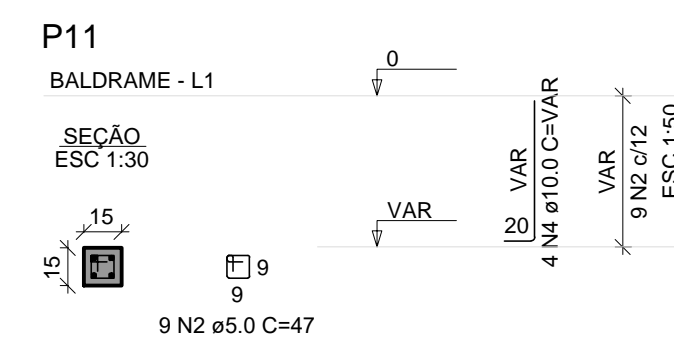
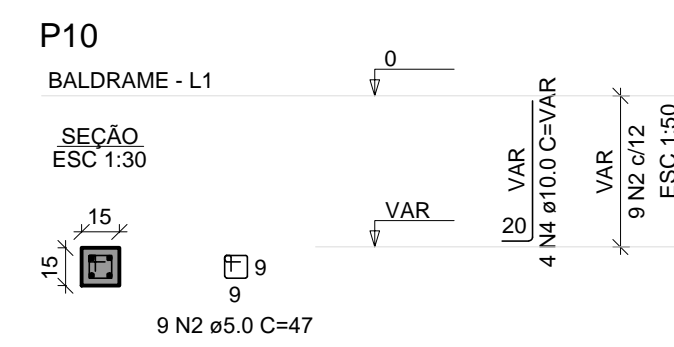
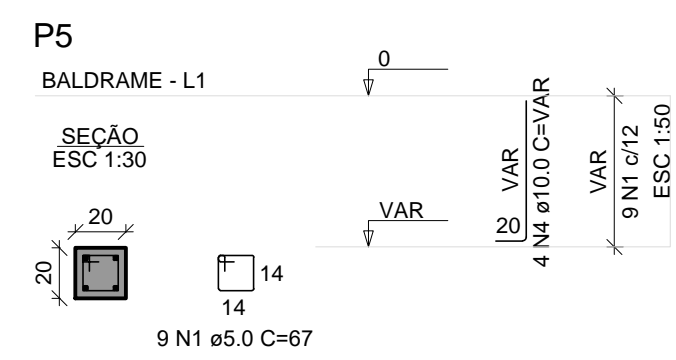
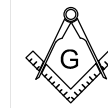


proprietário:

responsável técnico:

Régis Luiz Zimmer
Prefeito Municipal

Jainara Garcia Fischer
Eng. Civil CREA/RS 237284



RELAÇÃO DO AÇO

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	9	67	603
	2	5.0	27	47	1269
	3	5.0	18	67	1206
CA50	4	10.0	28	VAR	VAR

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	10.0	31.1	21.1
CA60	5.0	30.8	5.2
PESO TOTAL (kg)			
CA50		21.1	
CA60		5.2	

Volume de concreto (C-25) = 0.18 m³
Área de forma = 4.20 m²

EDIFICAÇÃO PÚBLICA Prefeitura Municipal de **Rolante**

Projeto Estrutural material: Alvenaria

obra: Portal Kuchenfest - Parque Municipal de Eventos

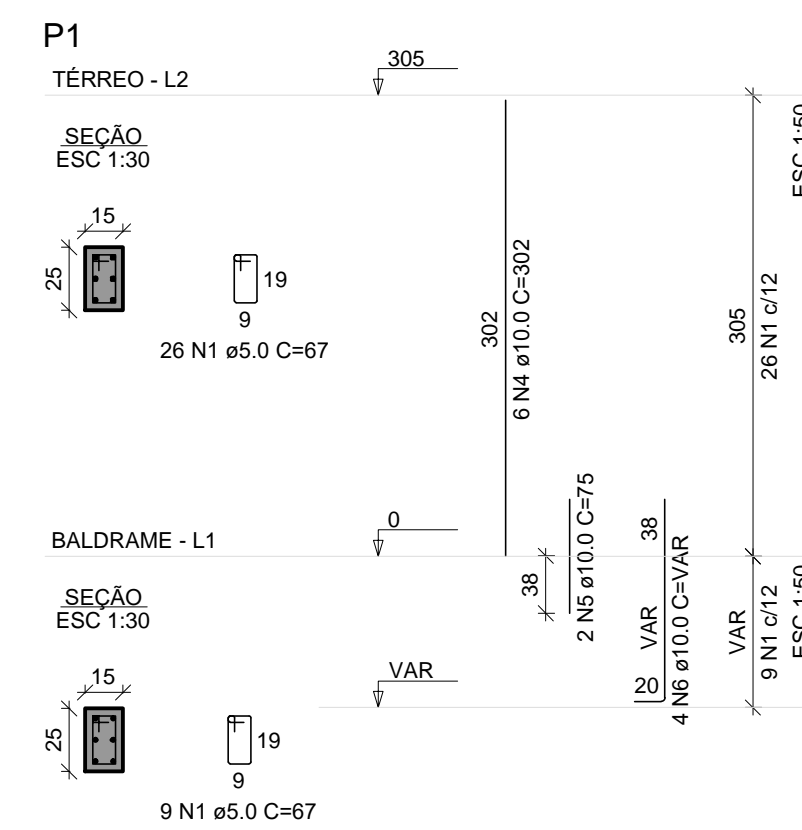
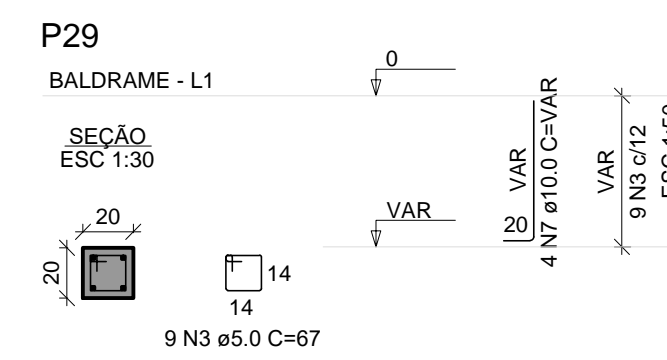
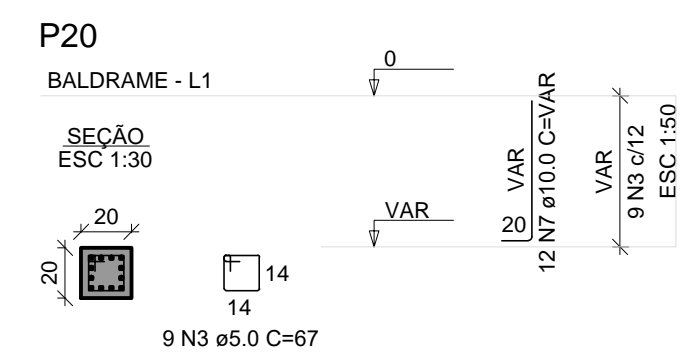
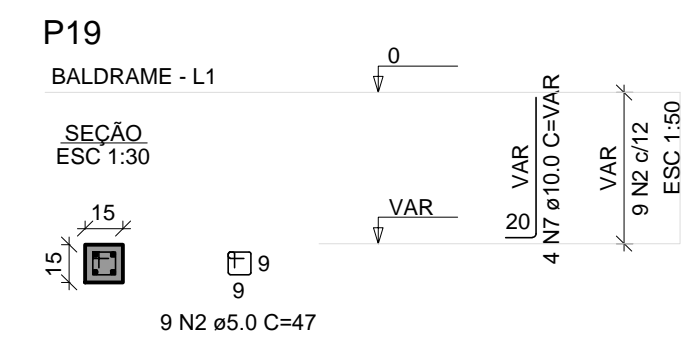
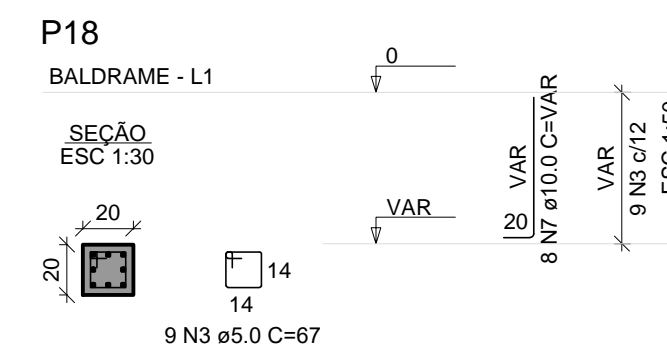
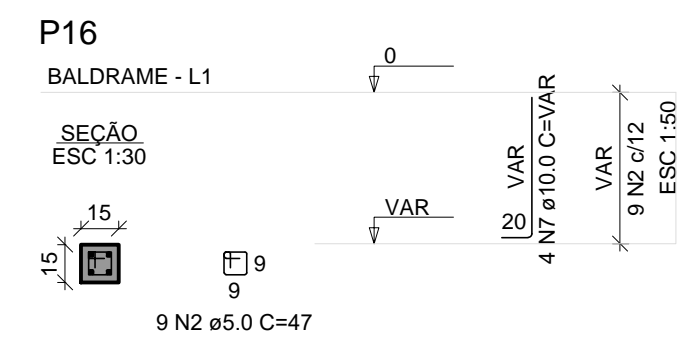
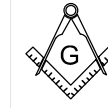
local: Rua Júlio Kohlarusch, 524 - Centro

prancha: Pilares - 5/10/11/13/14/15 nº: E 13

extensão/área: 205,00 m² escala: indicada unidade: centímetro data: Maio/2019

proprietário:  responsável técnico:

Régis Luiz Zimmer Jainara Garcia Fischer
Prefeito Municipal Eng. Civil CREA/RS 237284



RELAÇÃO DO AÇO

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	35	67	2345
	2	5.0	18	47	846
	3	5.0	27	67	1809
CA50	4	10.0	6	302	1812
	5	10.0	2	75	150
	6	10.0	4	VAR	VAR
	7	10.0	32	VAR	VAR

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	10.0	61.2	41.5
CA60	5.0	50	8.5
PESO TOTAL (kg)			
CA50			41.5
CA60			8.5

Volume de concreto (C-25) = 0.32 m³
Área de forma = 6.84 m²

EDIFICAÇÃO PÚBLICA

Prefeitura Municipal de

Rolante

Projeto Estrutural

Portal Kuchenfest - Parque Municipal de Eventos

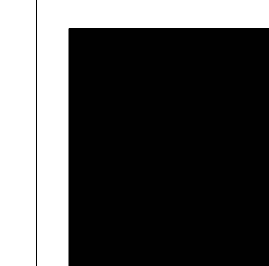
material: Alvenaria

local: Rua Júlio Kohlarasch, 524 - Centro

prancha: Pilares - 16/18/19/20/29/1

nº: E 14

extensão/área: 205,00 m² escala: indicada unidade: centímetro data: Maio/2019

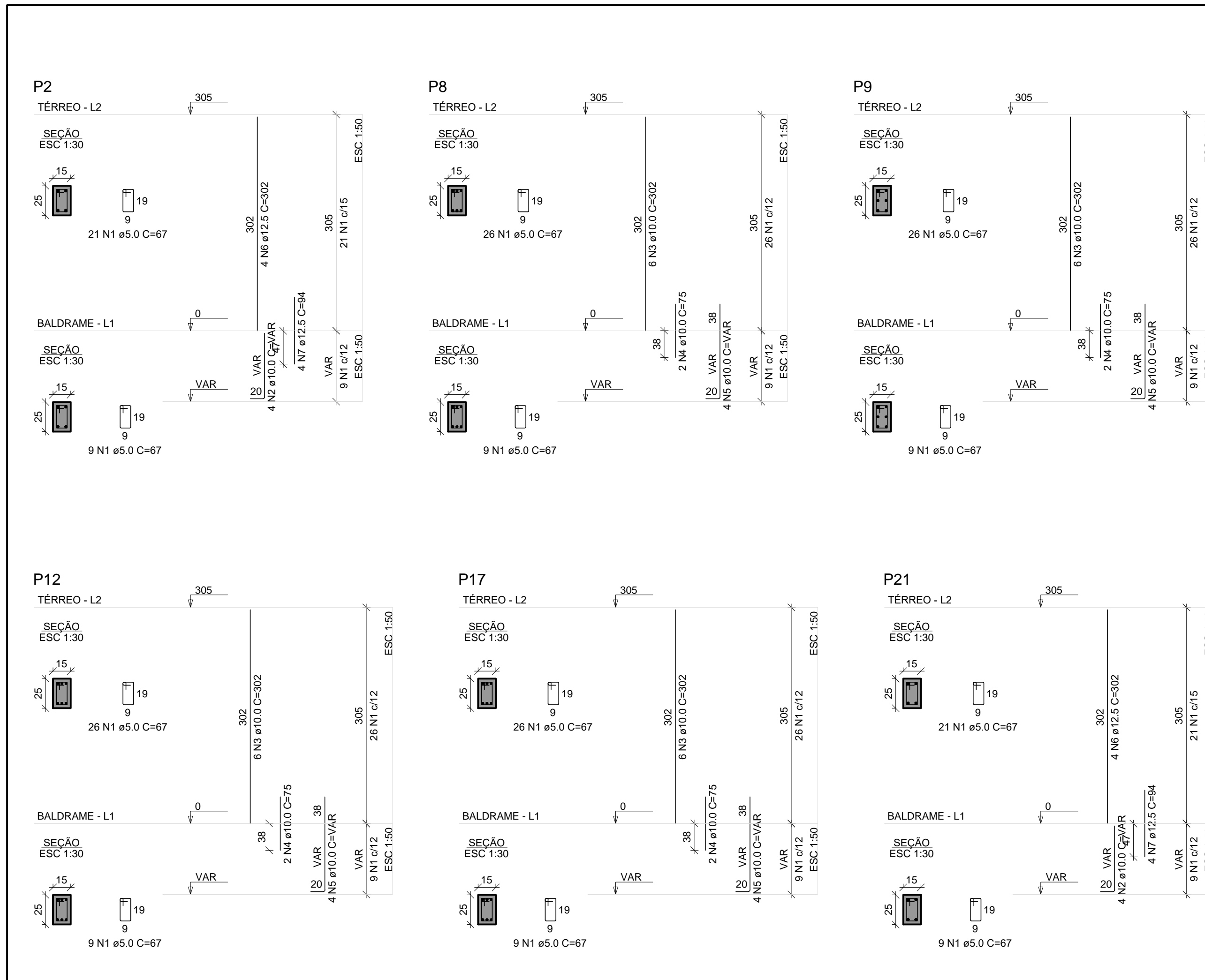
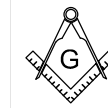


proprietário:

responsável técnico:

Régis Luiz Zimmer
Prefeito Municipal

Jainara Garcia Fischer
Eng. Civil CREA/RS 237284



RELAÇÃO DO AÇO

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	200	67	13400
CA50	2	10.0	8	VAR	VAR
	3	10.0	24	302	7248
	4	10.0	8	75	600
	5	10.0	16	VAR	VAR
	6	12.5	8	302	2416
	7	12.5	8	94	752

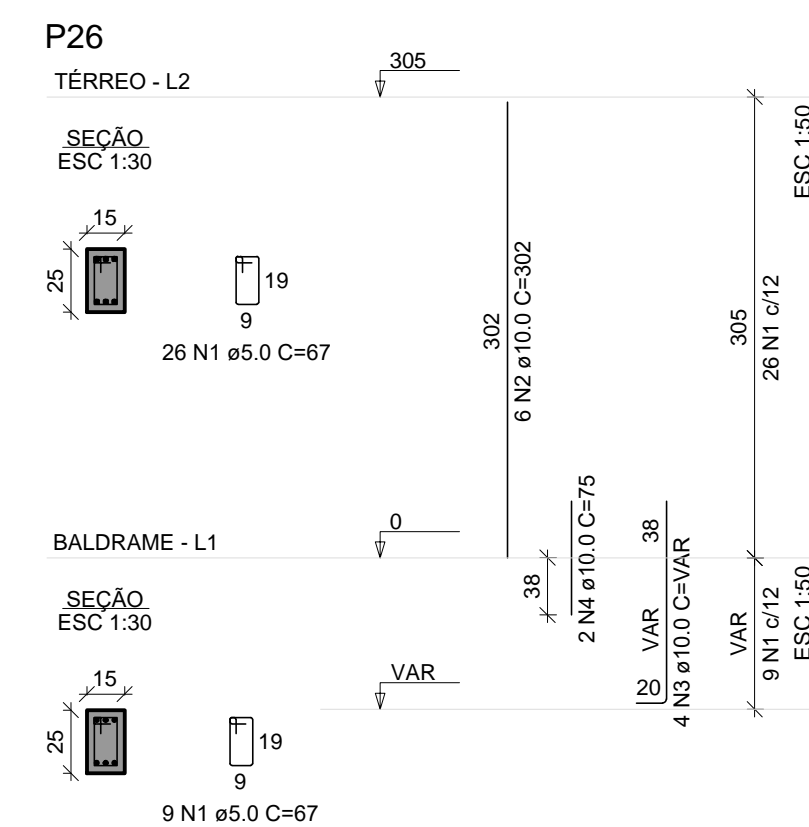
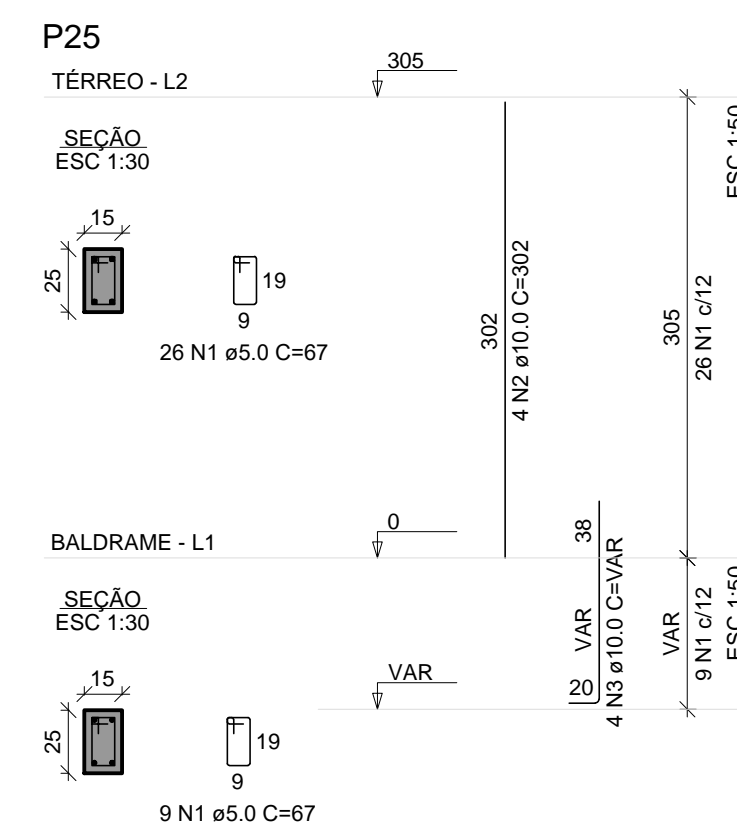
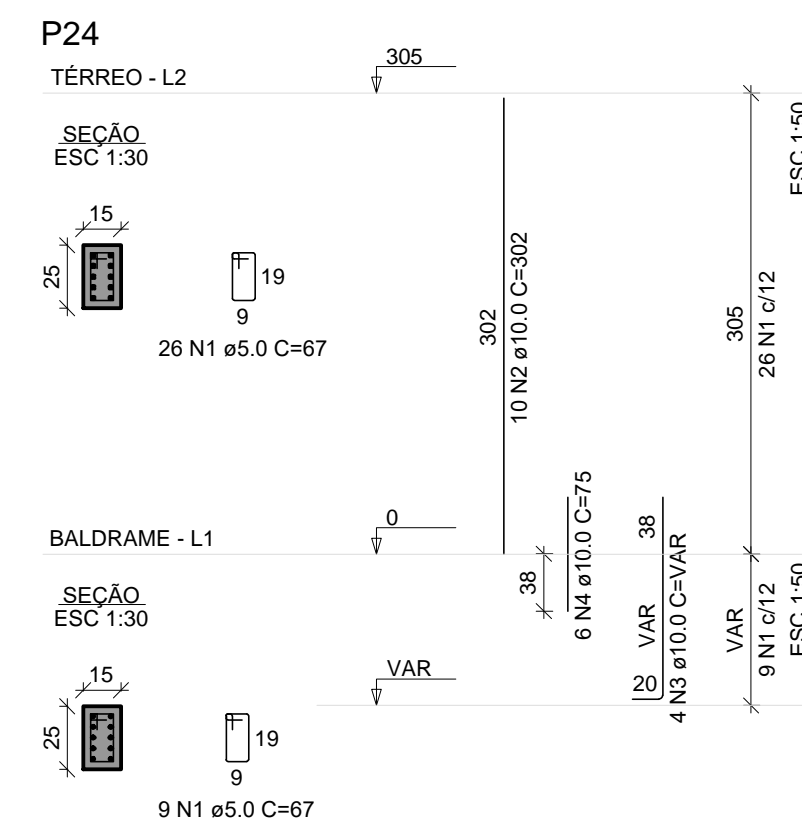
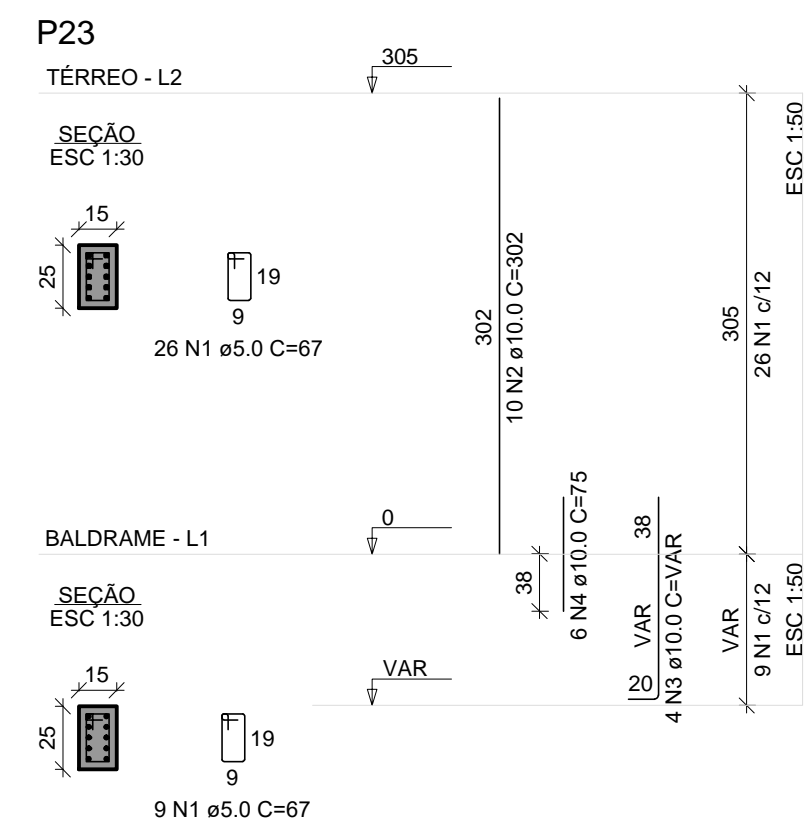
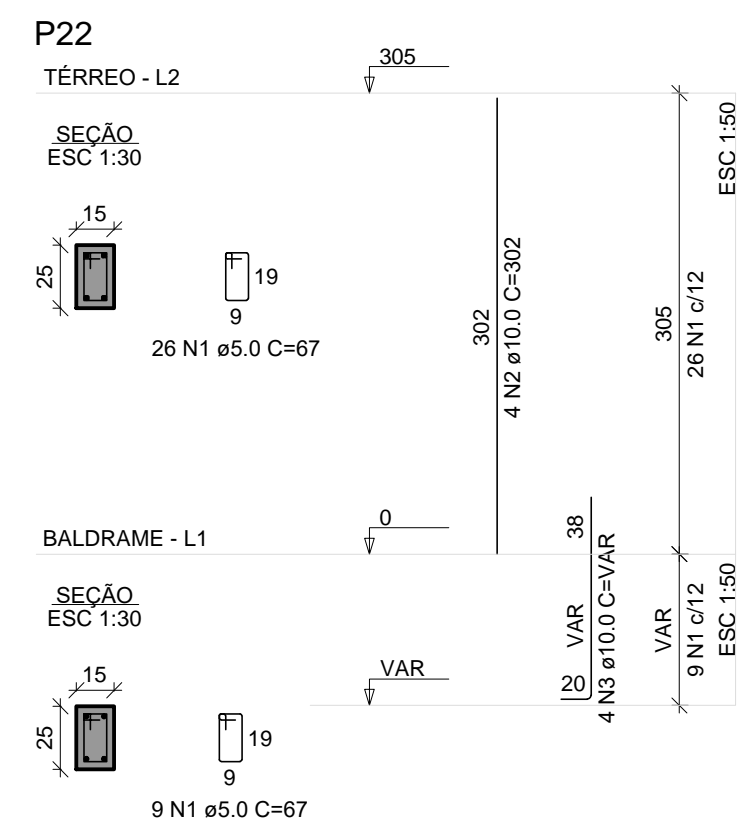
RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	10.0	111.7	75.7
CA60	12.5	31.7	33.6
CA60	5.0	134	22.7
PESO TOTAL (kg)			
CA50	109.3		
CA60	22.7		

Volume de concreto (C-25) = 0.91 m³
Área de forma = 19.44 m²

EDIFICAÇÃO PÚBLICA
obra: Portal Kuchenfest - Parque Municipal de Eventos material: Alvenaria
local: Rua Júlio Kohlarusch, 524 - Centro
prancha: Pilares - 2/8/9/12/17/21 n°: E 15
extensão/área: 205,00 m² escala: indicada unidade: centímetro data: Maio/2019

proprietário: responsável técnico:
Régis Luiz Zimmer Prefeito Municipal
Jainara Garcia Fischer Eng. Civil CREA/RS 237284



RELAÇÃO DO AÇO

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	175	67	11725
CA50	2	10.0	34	302	10268
	3	10.0	20	VAR	VAR
	4	10.0	14	75	1050

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	10.0	143.6	97.4
CA60	5.0	117.3	19.9
PESO TOTAL (kg)			
CA50		97.4	
CA60		19.9	

Volume de concreto (C-25) = 0,76 m³
Área de forma = 16,20 m²

EDIFICAÇÃO PÚBLICA

Prefeitura Municipal de

Rolante

Projeto Estrutural

obra: Portal Kuchenfest - Parque Municipal de Eventos

material: Avenaria

local: Rua Júlio Kohlarusch, 524 - Centro

prancha: Pilares - 22/23/24/25/26

nº: E 16

extensão/área: 205,00 m²

escala: indicada

unidade: centímetro

data: Maio/2019

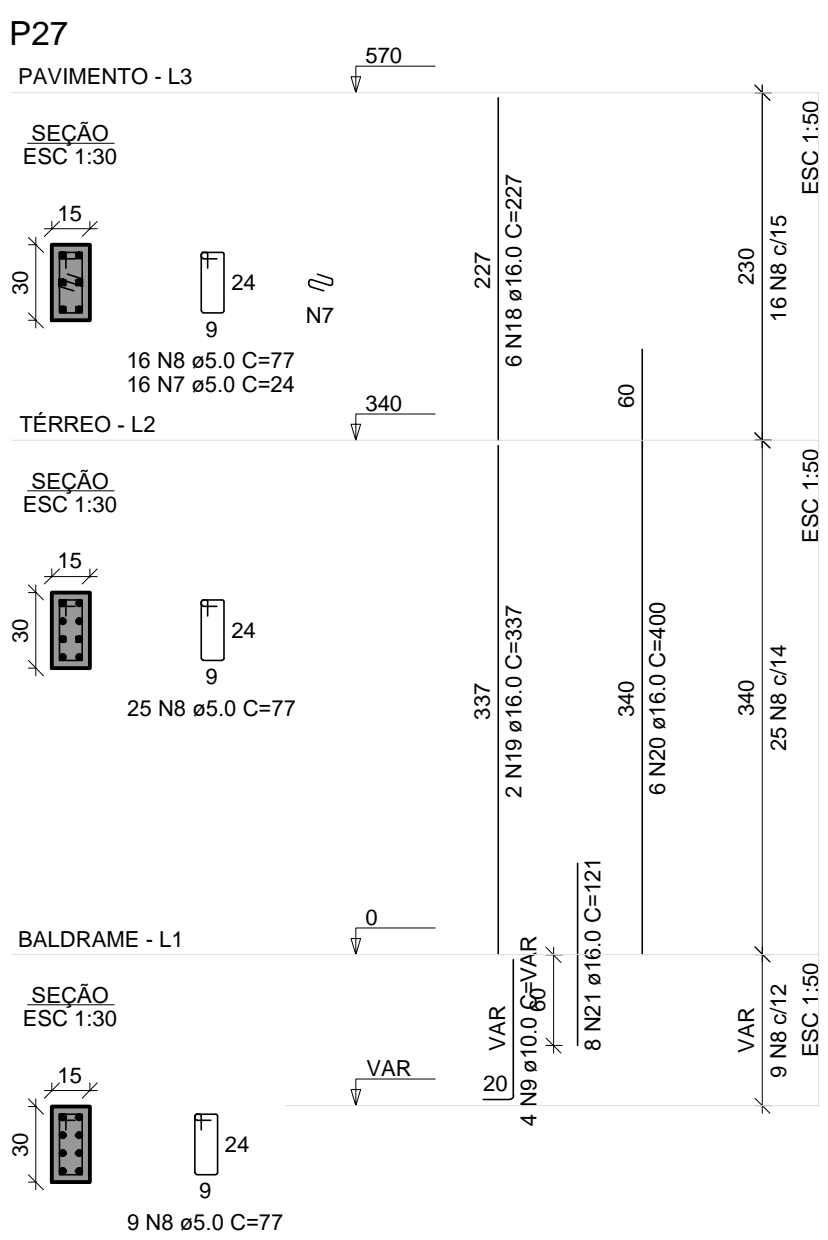
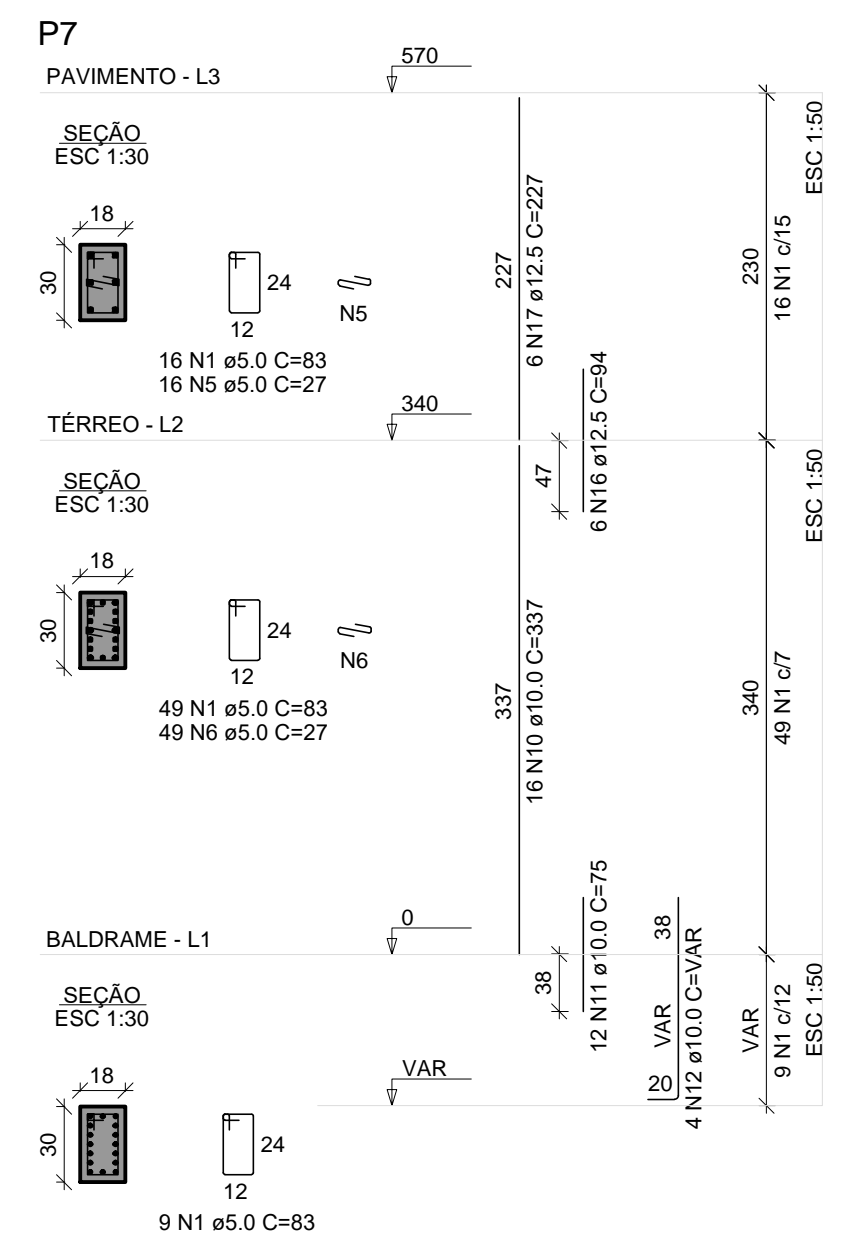
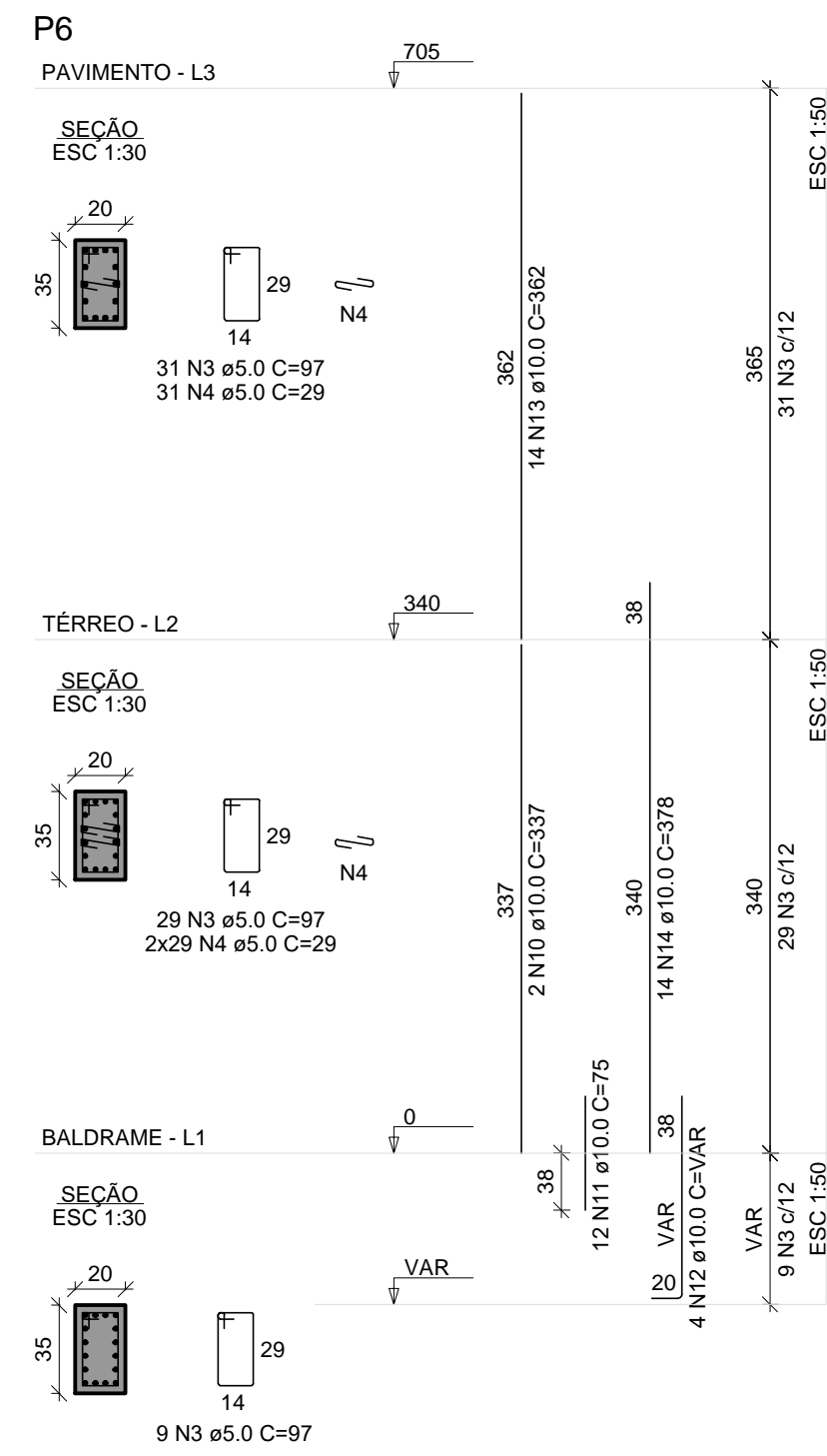
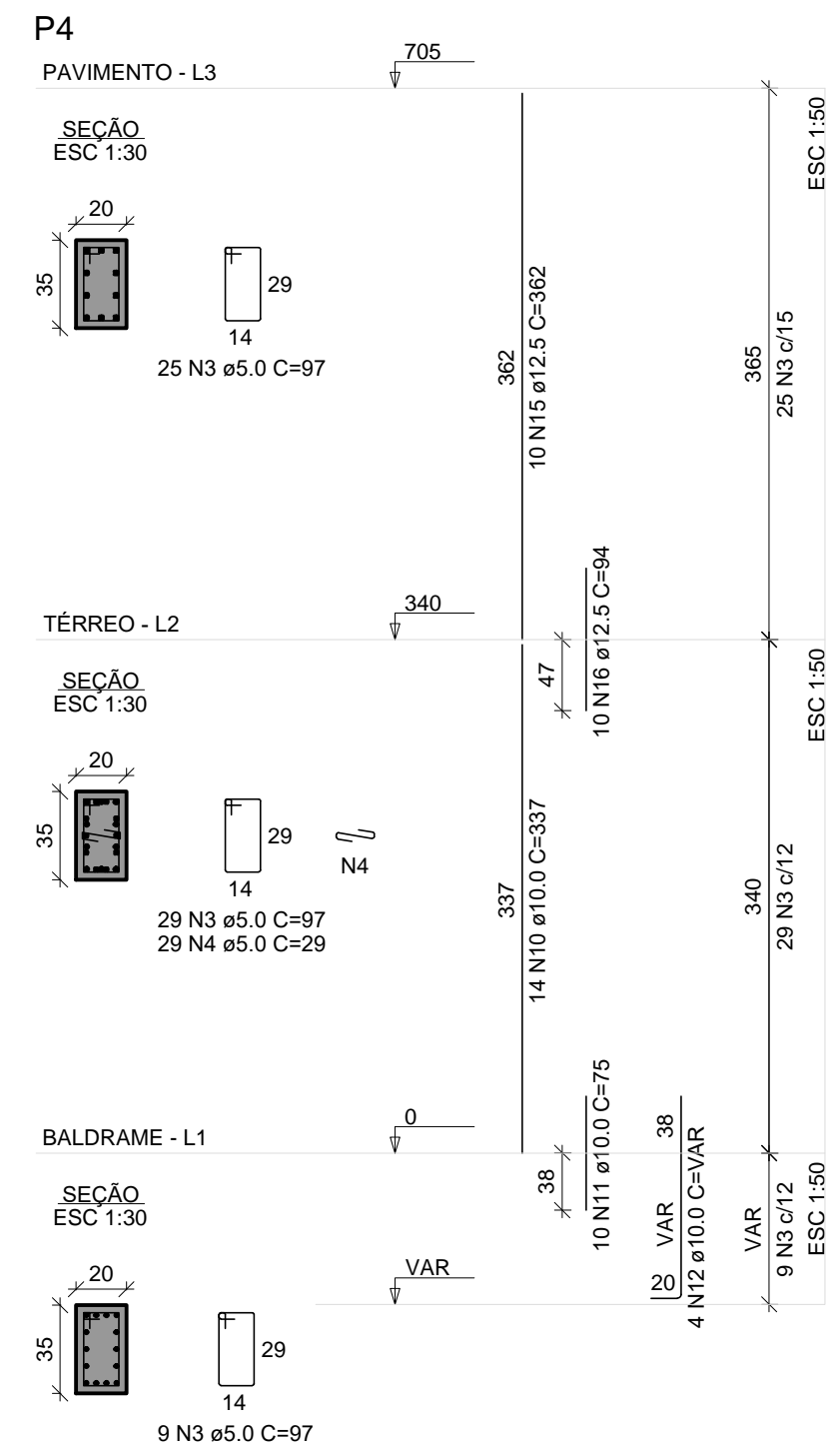
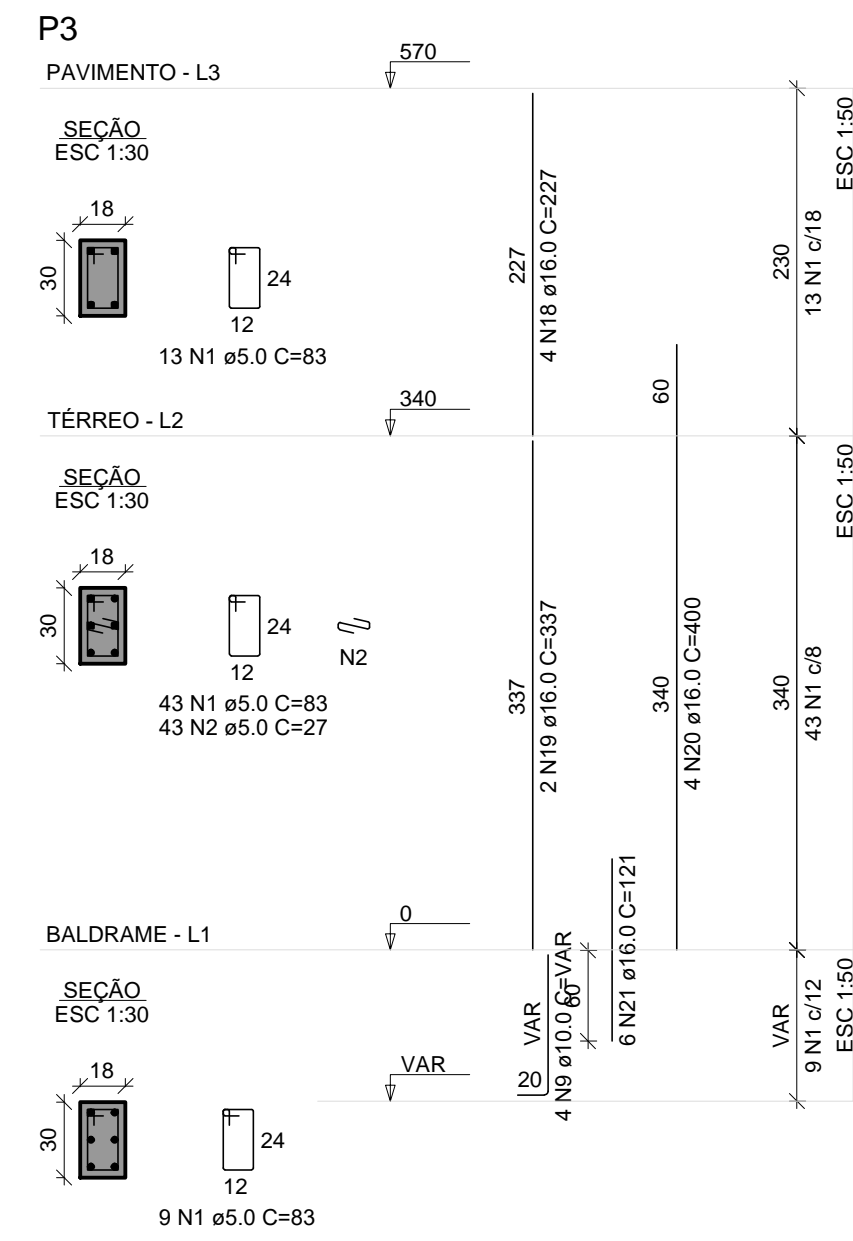
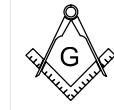


proprietário:

Régis Luiz Zimmer
Prefeito Municipal

responsável técnico:

Jainara Garcia Fischer
Eng. Civil CREA/RS 237284



RELAÇÃO DO AÇO

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	139	83	11537
	2	5.0	43	27	1161
	3	5.0	132	97	12804
	4	5.0	118	29	3422
	5	5.0	16	27	432
	6	5.0	49	27	1323
	7	5.0	16	24	384
	8	5.0	50	77	3850
CA50	9	10.0	8	VAR	VAR
	10	10.0	32	337	10784
	11	10.0	34	75	2550
	12	10.0	12	VAR	VAR
	13	10.0	14	362	5068
	14	10.0	14	378	5292
	15	12.5	10	362	3620
	16	12.5	19	84	1504
	17	12.5	6	227	1362
	18	16.0	16	227	2270
	19	16.0	4	337	1348
	20	16.0	10	400	4000
	21	16.0	14	121	1694

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	10.0	264.1	179.1
	12.5	64.9	68.7
	16.0	93.1	161.7
CA60	5.0	349.1	59.2

PESO TOTAL (kg)
CA50 409.5
CA60 59.2

Volume de concreto (C-25) = 2.15 m³
Área de forma = 36.60 m²

EDIFICAÇÃO PÚBLICA Prefeitura Municipal de **Rolante**

Projeto Estrutural


obra: Portal Kuchenfest - Parque Municipal de Eventos material: Alvenaria

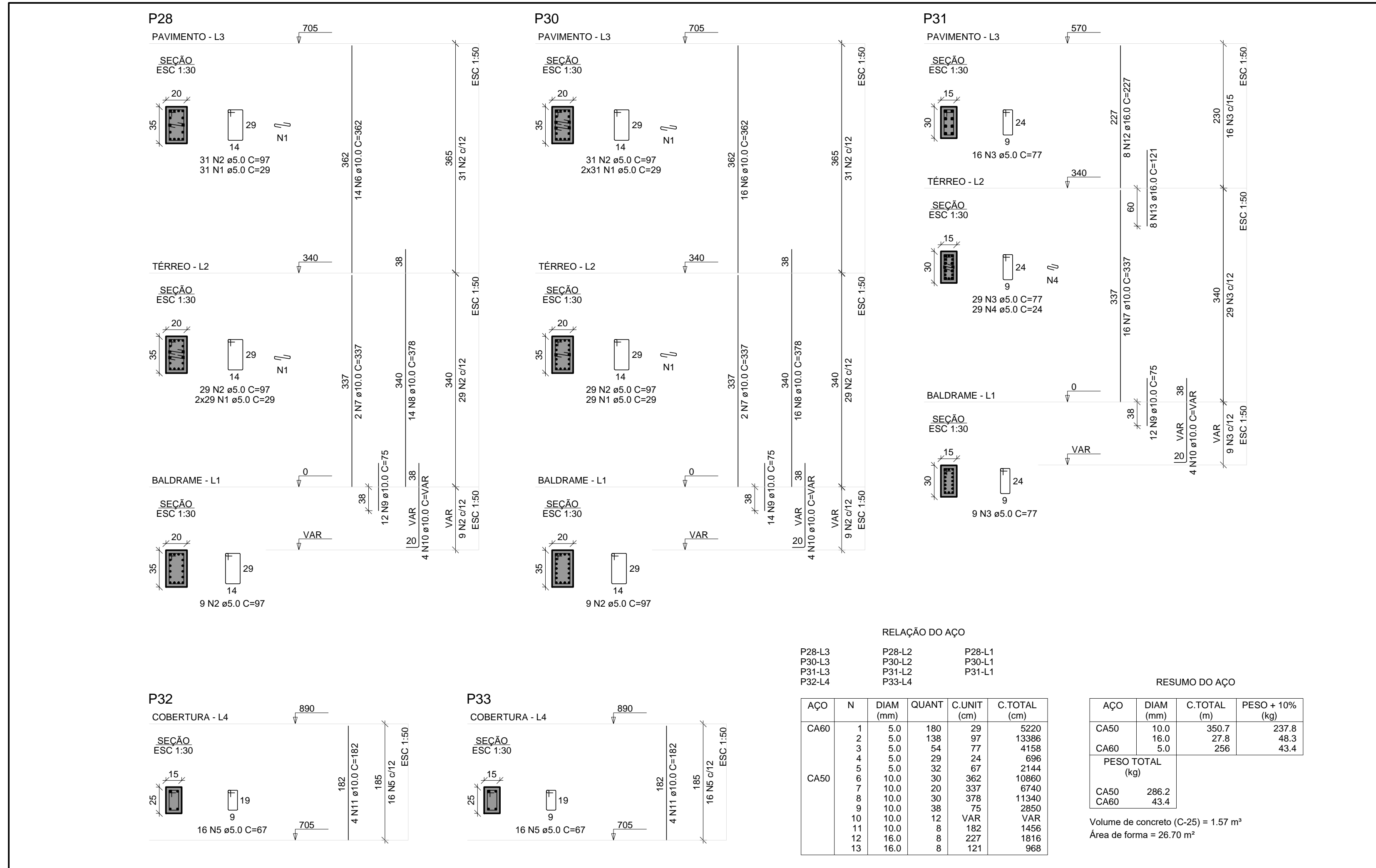
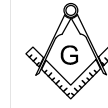
local: Rua Júlio Kohlarusch, 524 - Centro

prancha: Pilares - 3/4/6/7/27 n°: E 17

extensão/área: 205,00 m² escala: indicada unidade: centímetro data: Maio/2019

proprietário: Rêgis Luiz Zimmer Prefeito Municipal responsável técnico: Jainara Garcia Fischer Eng. Civil CREA/RS 237284





EDIFICAÇÃO PÚBLICA

Prefeitura Municipal de **Rolante**

Projeto Estrutural

obra: Portal Kuchenfest - Parque Municipal de Eventos material: Alvenaria

local: Rua Júlio Kohlarusch, 524 - Centro

prancha: Pilares - 28/30/31/32/33 n°: E 18

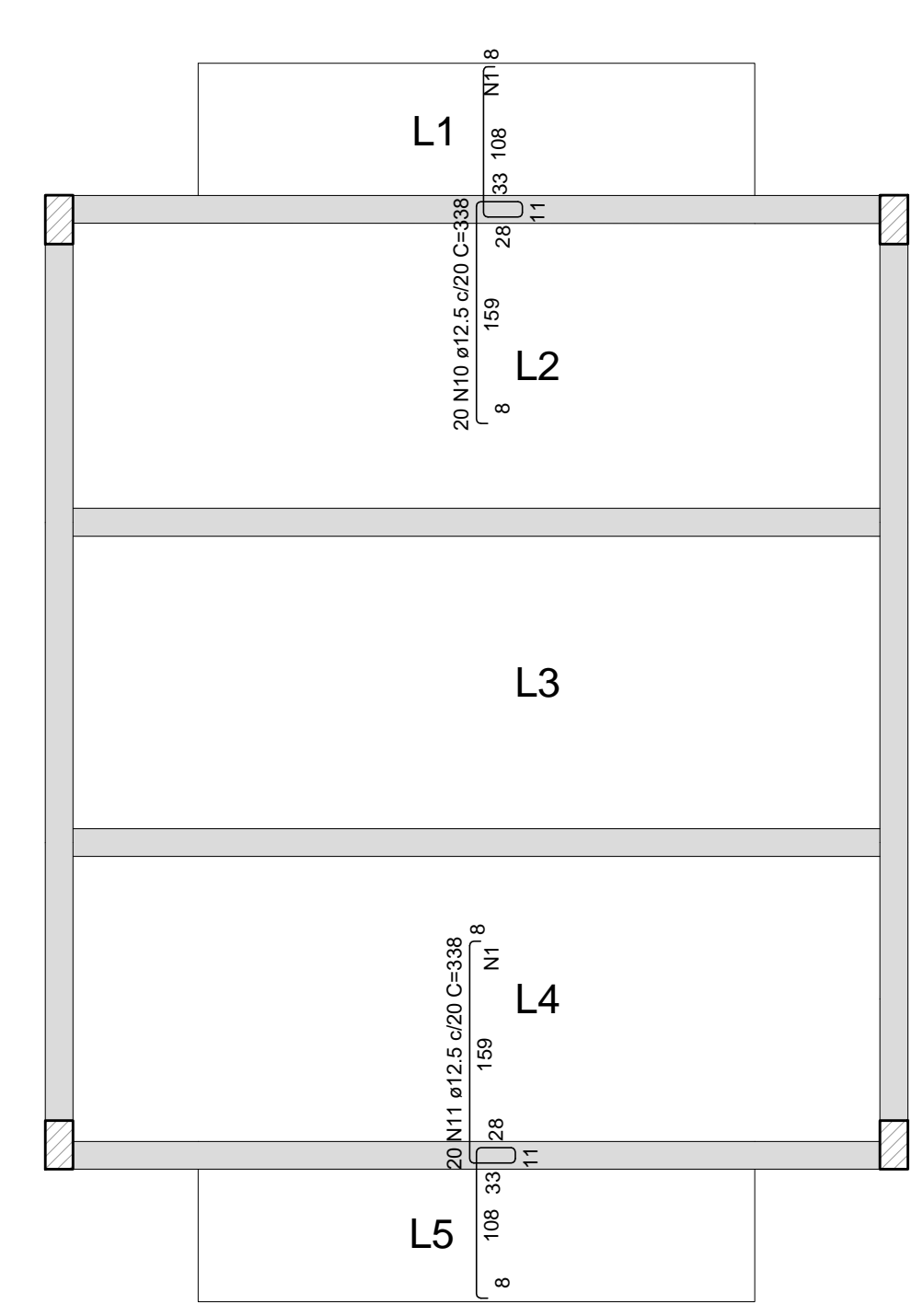
extensão/área: 205,00 m² escala: indicada unidade: centímetro data: Maio/2019

proprietário: responsável técnico:

Régis Luiz Zimmer
Prefeito Municipal

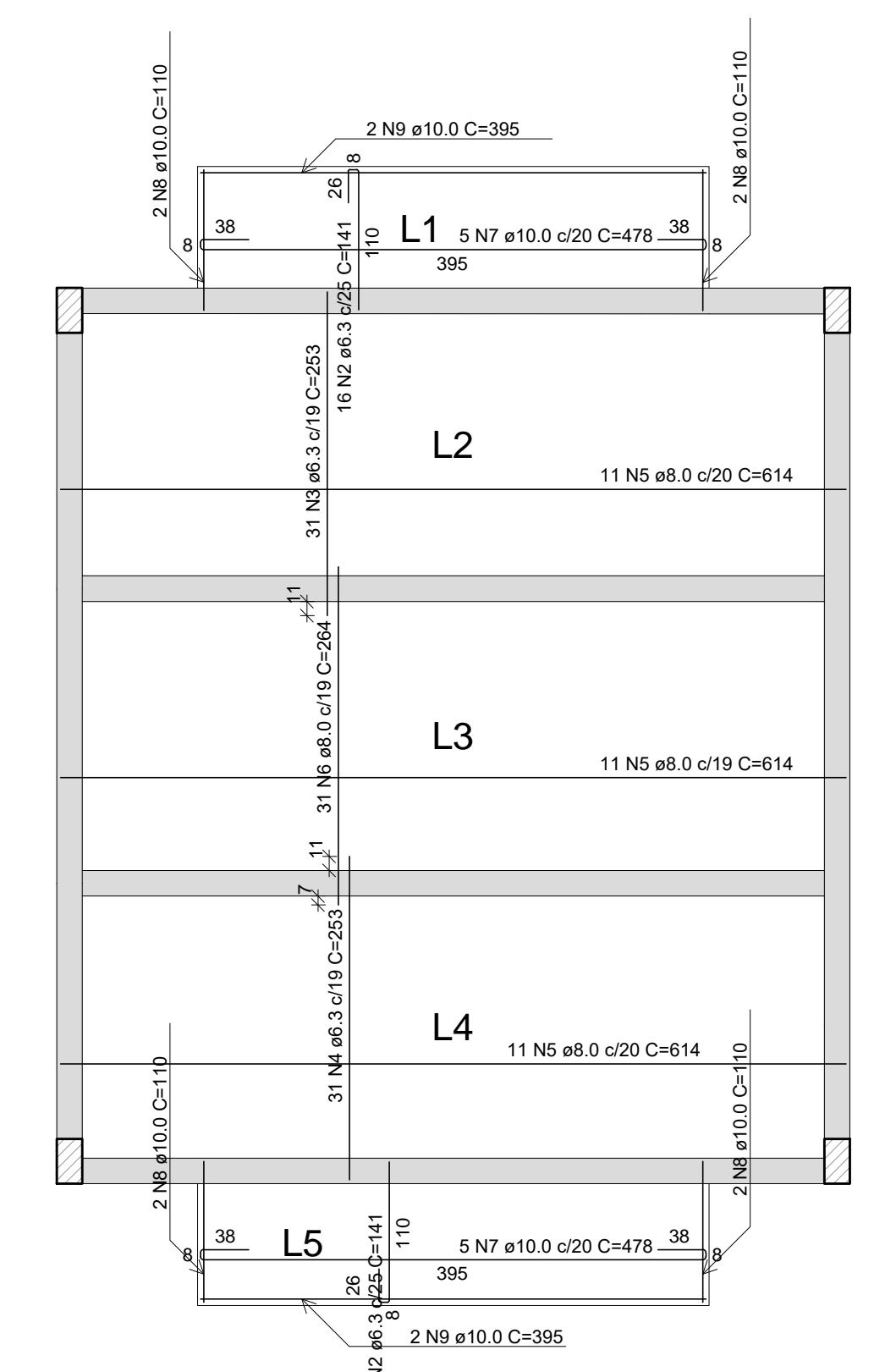
Jainara Garcia Fischer
Eng. Civil CREA/RS 237284



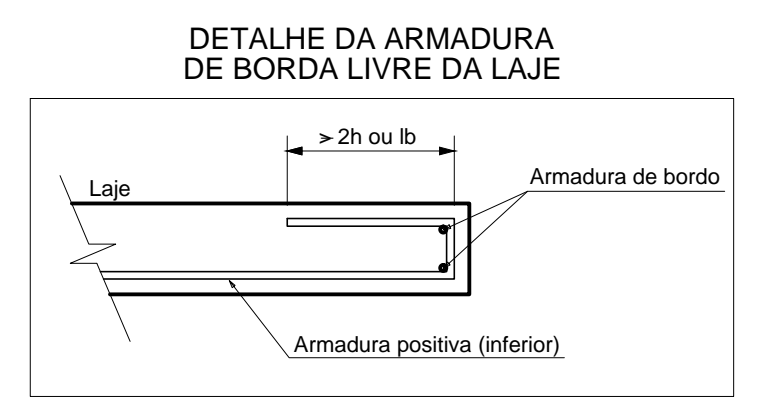
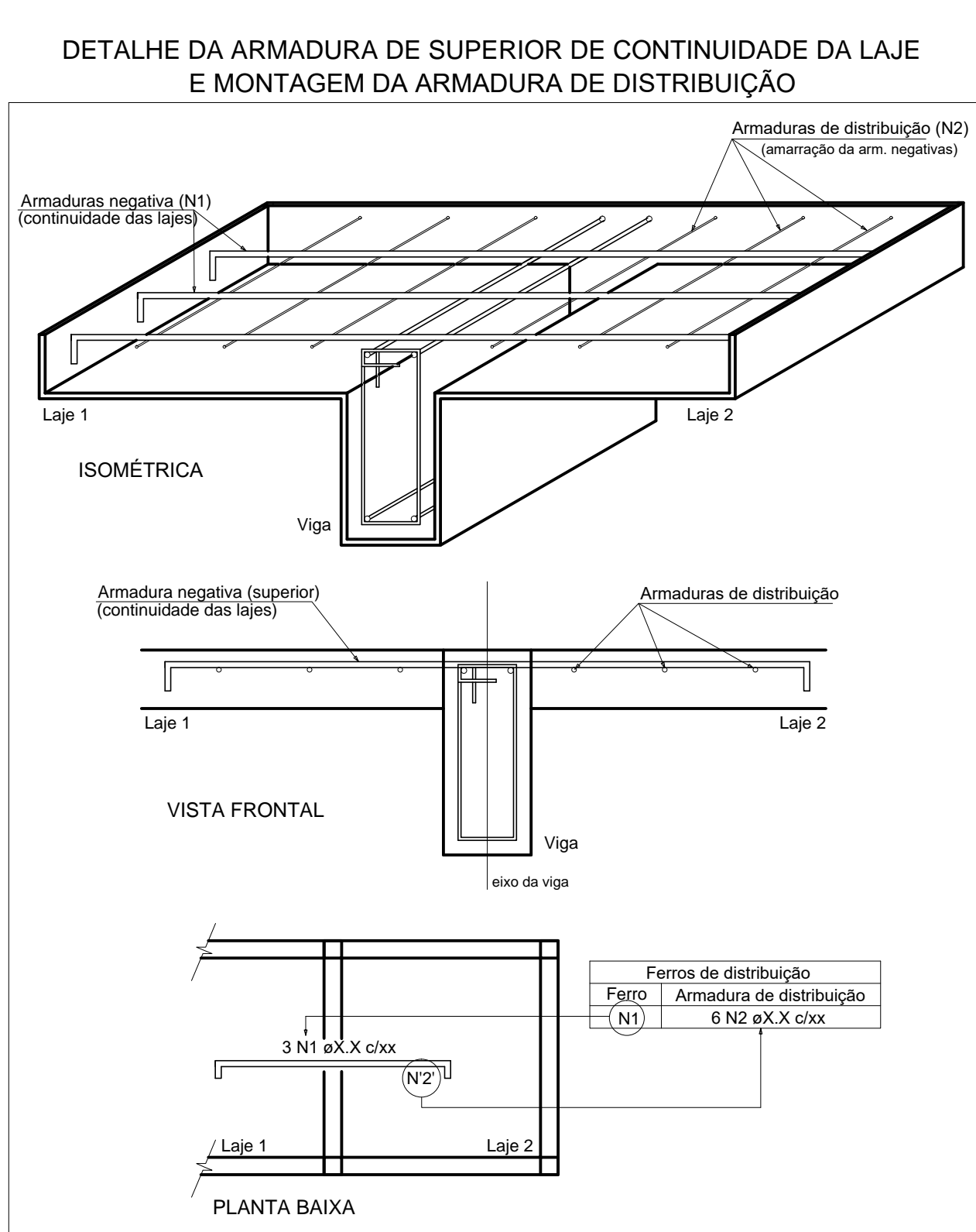


Armação negativa das lajes do pavimento Térreo
escala 1:50

Armaduras de distribuição	
Armadura	Armadura de distribuição
N10	16 N1 #5,0 c/19 C=400
N11	16 N1 #5,0 c/19 C=400



Armação positiva das lajes do pavimento Térreo
escala 1:50



RELAÇÃO DO AÇO

Negativos		Positivos			
AÇO	N	DIAM (mm)	QUANT (cm)	C UNIT (cm)	C.TOTAL (cm)
CA50	1	5,0	32	400	12800
CA50	2	6,3	32	141	4512
CA50	3	6,3	31	253	7843
CA50	4	6,3	31	253	7843
CA50	5	8,0	33	614	20262
CA50	6	8,0	31	254	8154
CA50	7	10,0	10	478	4780
CA50	8	10,0	8	110	880
CA50	9	10,0	4	395	1580
CA50	10	12,5	20	338	6760
CA50	11	12,5	20	338	6760

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	5,0	202	54,4
CA50	6,3	284,5	123,5
CA50	8,0	72,4	49,1
CA50	10,0	135,2	143,3
CA50	12,5	128	21,7
PESO TOTAL (kg)			
CA50		379,2	
CA50		21,7	

Volume de concreto (C-25) = 5,68 m³
Área de forma = 45,25 m²

EDIFICAÇÃO PÚBLICA

Projeto Estrutural

Portal Kuchenfest - Parque Municipal de Eventos

Rua Júlio Kohlarusch, 524 - Centro

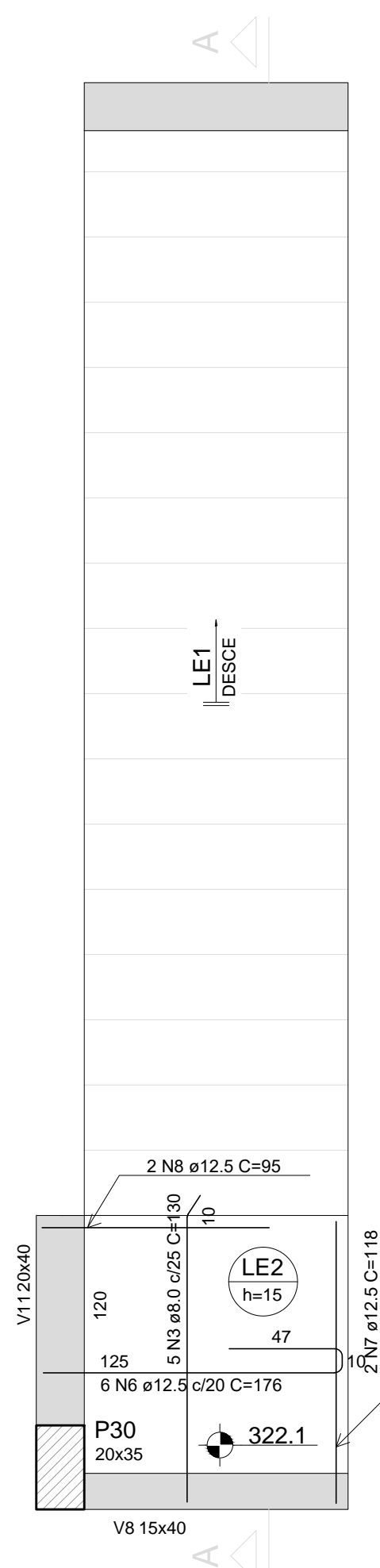
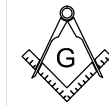
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material: **Alvenaria**

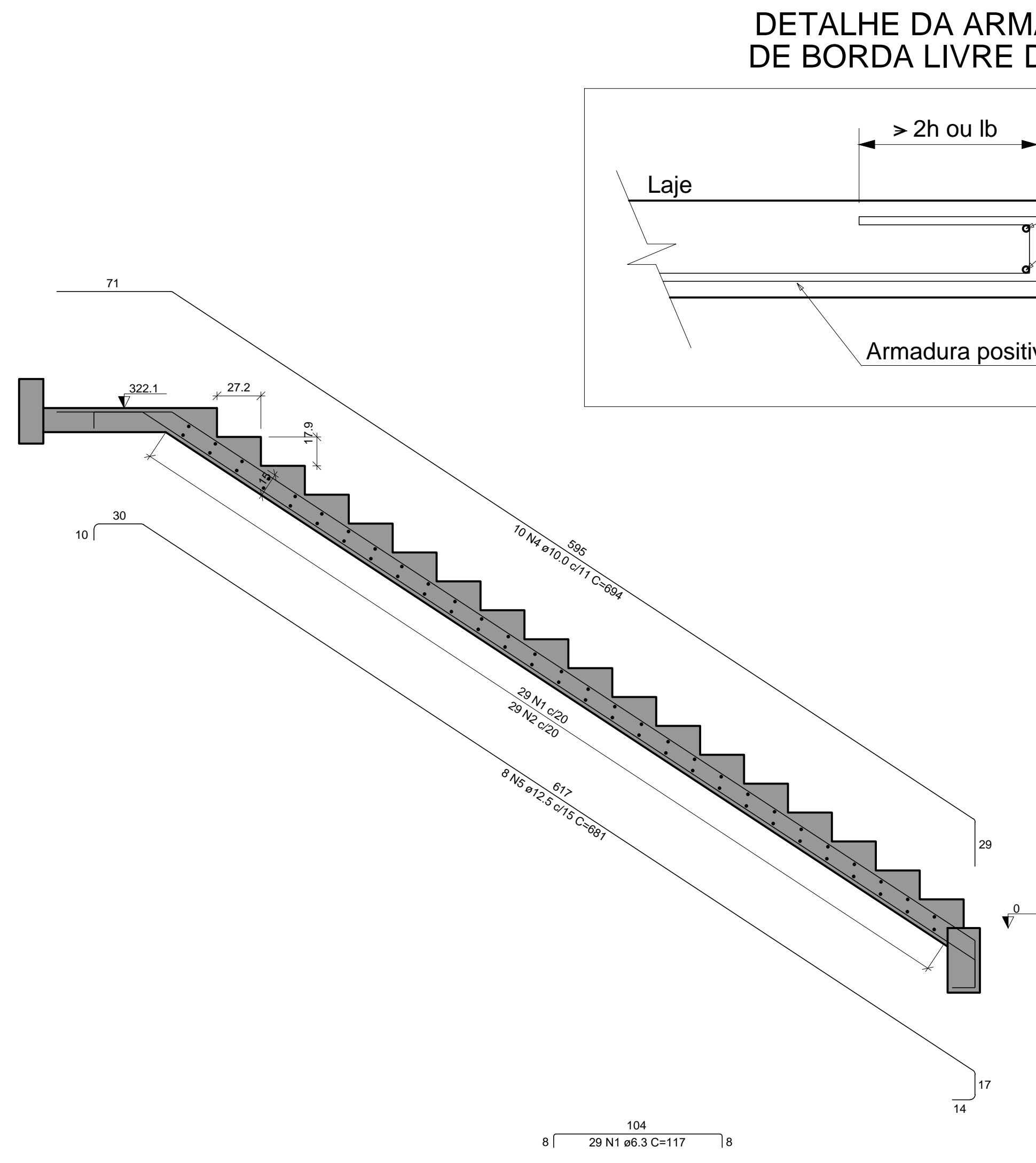
n^o: **E 19**

responsável técnico: **Régis Luiz Zimmer** Prefeitura Municipal

responsável técnico: **Jainara Garcia Fischer** Eng. Civil CREA/R5 237284

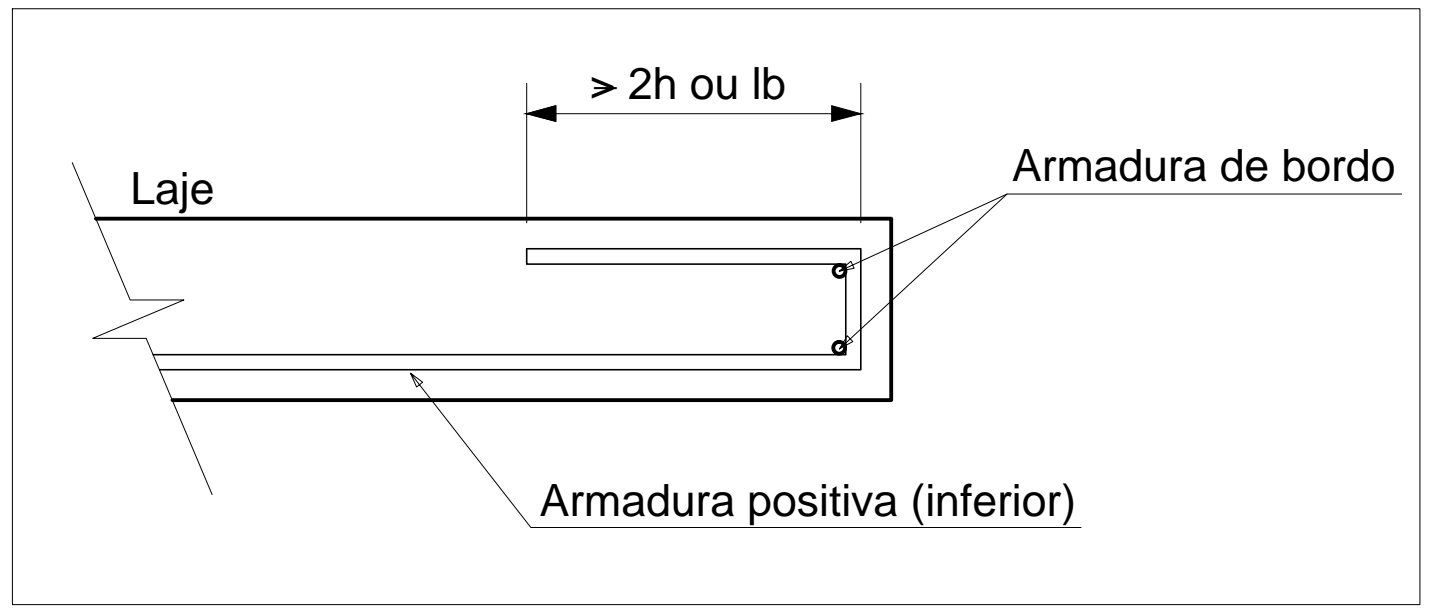


Armação positiva da escada E1
ESC 1:25



Corte A-A (LE1)
ESC 1:25

DETALHE DA ARMADURA DE BORDA LIVRE DA LAJE



RELAÇÃO DO AÇO

LE1		LE2			
AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA50	1	6.3	29	117	3393
	2	8.0	29	116	3364
	3	8.0	5	130	650
	4	10.0	10	694	6940
	5	12.5	8	681	5448
	6	12.5	6	176	1056
	7	12.5	2	118	236
	8	12.5	2	95	190

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	6.3	33.9	9.1
	8.0	40.1	17.4
	10.0	69.4	47.1
	12.5	69.3	73.4
PESO TOTAL (kg)			147.1
CA50			147.1

Volume de concreto (C-25) = 1.56 m³
Área de forma = 14.68 m²

EDIFICAÇÃO PÚBLICA

Projeto Estrutural

obra: Portal Kuchenfest - Parque Municipal de Eventos

material: Alvenaria

local: Rua Júlio Kohlarusch, 524 - Centro

prancha: Escada nº E 20

extensão/área: 205,00 m²

escala: indicada

unidade: centímetro

data: Maio/2019

proprietário: Régis Luiz Zimmer
Prefeito Municipal

responsável técnico: Jainara Garcia Fischer
Eng. Civil CREA/RS 237284