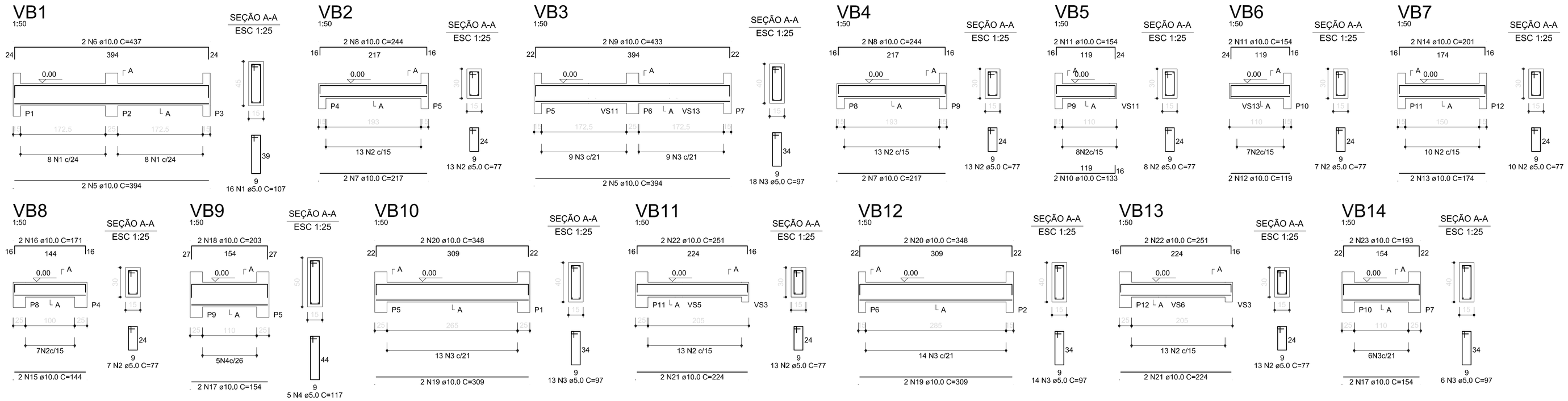


RELAÇÃO DO AÇO

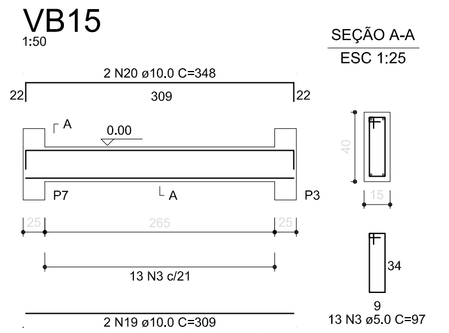
VS1	VS2	VS3
VS4	VS5	VS6
VS7	VS8	VS9
VS10	VS11	VS12
VS13	VS14	VS15

AÇO	N	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
60	1	5.0	16	107	1712
	2	5.0	84	77	6468
	3	5.0	64	97	6208
	4	5.0	5	117	585
50	5	10.0	4	394	1576
	6	10.0	2	437	874
	7	10.0	4	217	868
	8	10.0	4	244	976
	9	10.0	2	433	866
	10	10.0	2	133	266
	11	10.0	4	154	616
	12	10.0	2	119	238
	13	10.0	2	174	348
	14	10.0	2	201	402
	15	10.0	2	144	288
	16	10.0	2	171	342
	17	10.0	4	154	616
	18	10.0	2	203	406
	19	10.0	6	309	1854
	20	10.0	6	348	2088
	21	10.0	4	224	896
	22	10.0	4	251	1004
	23	10.0	2	193	386

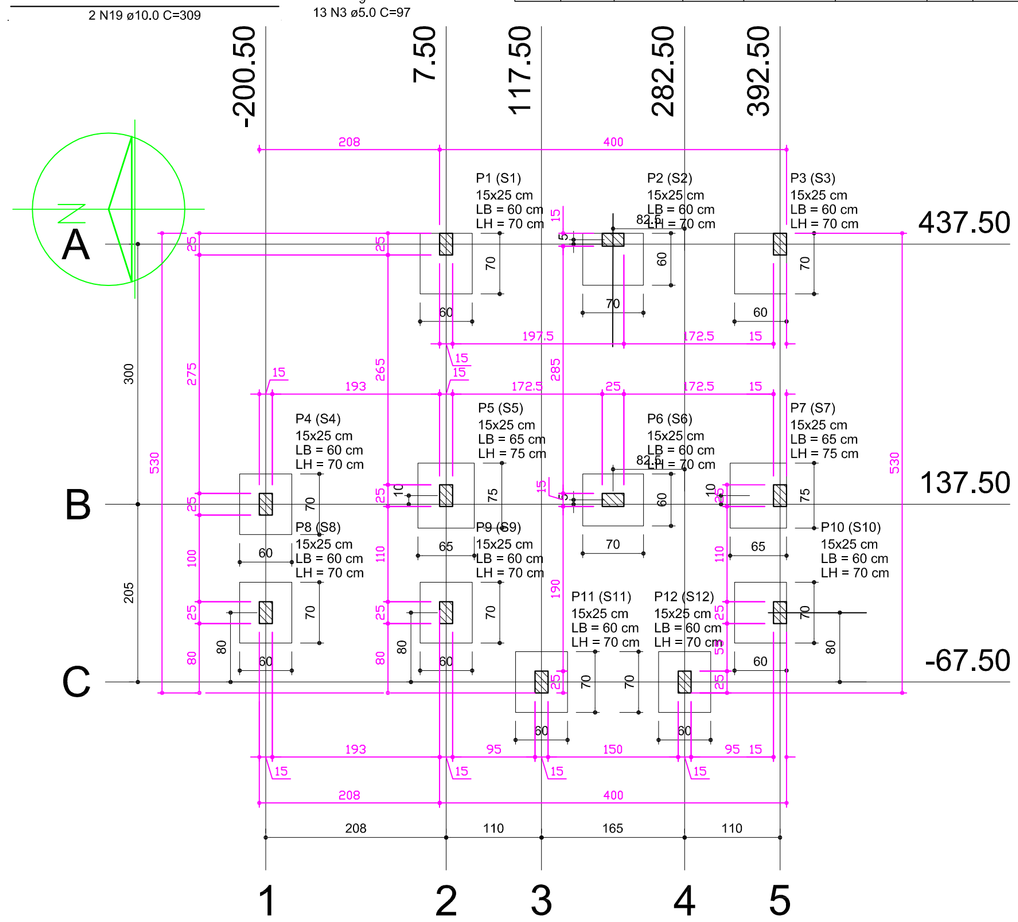
RESUMO DO AÇO

AÇO	DIAM	C.TOTAL (m)	PESO+10% (kg)
CA50	10.0	149.2	101.2
CA60	5.0	150.6	25.5
PESO TOTAL			
CA50	101.2		
CA60	25.5		

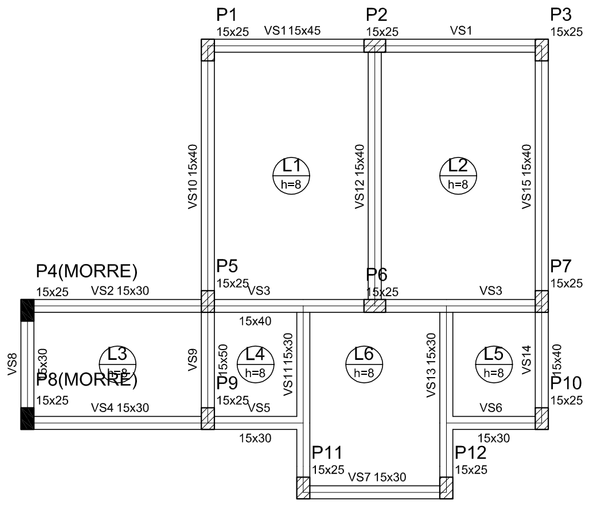
Vol. de concreto total =1.96 m³
Área de forma total = 31.48 m²



Pilar						Fundação					
Nome	Seção (cm)	X (cm)	Y (cm)	Carga Máx. (kN)	Carga Mín. (kN)	Nome	Lado B (cm)	Lado H (cm)	h0 / ha (m)	h1 / hb (m)	df (m)
P1	15x25	7.50	437.50	52	32	S1	60	70	0.25	0.25	1.50
P2	15x25	200.00	442.50	97	55	S2	60	70	0.25	0.25	1.50
P3	15x25	392.50	437.50	51	31	S3	60	70	0.25	0.25	1.50
P4	15x25	-200.50	137.50	5	4	S4	60	70	0.25	0.25	1.50
P5	15x25	7.50	147.50	109	65	S5	65	75	0.25	0.25	1.50
P6	15x25	200.00	142.50	94	48	S6	60	70	0.25	0.25	1.50
P7	15x25	392.50	147.50	106	62	S7	65	75	0.25	0.25	1.50
P8	15x25	-200.50	12.50	4	3	S8	60	70	0.25	0.25	1.50
P9	15x25	7.50	12.50	15	10	S9	60	70	0.25	0.25	1.50
P10	15x25	392.50	12.50	12	9	S10	60	70	0.25	0.25	1.50
P11	15x25	117.50	-67.50	35	22	S11	60	70	0.25	0.25	1.50
P12	15x25	282.50	-67.50	37	23	S12	60	70	0.25	0.25	1.50



Planta de locação
escala 1:50



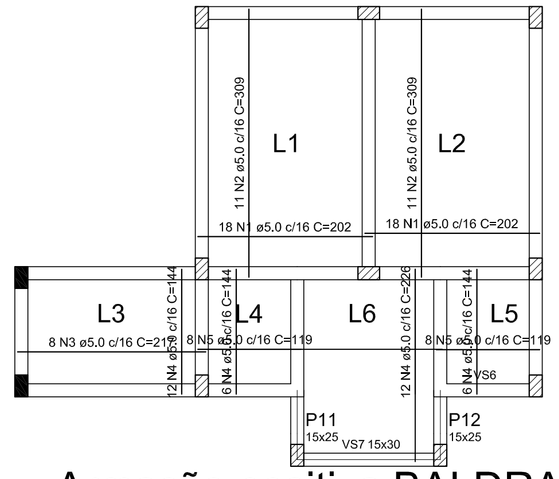
Forma do pavimento BALDRAME
escala 1:50

Vigas			
Nome	Seção (cm)	Elevação (cm)	Nível (cm)
VS1	15x45	0	0
VS2	15x30	0	0
VS3	15x40	0	0
VS4	15x30	0	0
VS5	15x30	0	0
VS6	15x30	0	0
VS7	15x30	0	0
VS8	15x30	0	0
VS9	15x50	0	0
VS10	15x40	0	0
VS11	15x30	0	0
VS12	15x40	0	0
VS13	15x30	0	0
VS14	15x40	0	0
VS15	15x40	0	0

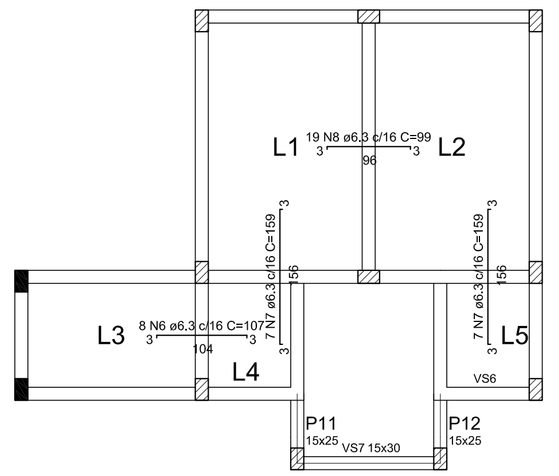
Lajes				
Nome	Tipo	Altura (cm)	Elevação (cm)	Sobrecarga (kN/m²)
L1	Maciça	8	0.00	2.50
L2	Maciça	8	0.00	2.50
L3	Maciça	8	0.00	2.50
L4	Maciça	8	0.00	2.50
L5	Maciça	8	0.00	2.50

Características dos Materiais

Fck (MPa)	Ecs (MPa)
25	23800

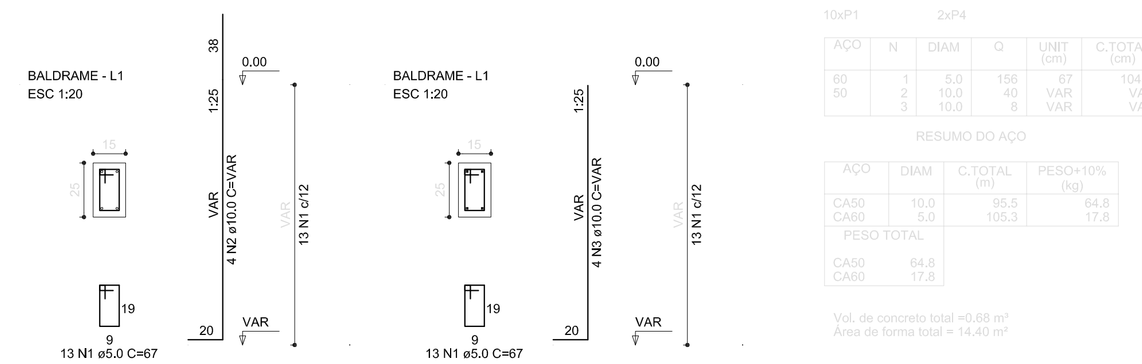


Armação positiva BALDRAME
escala 1:50



Armação negativa lajes BALDRAME
escala 1:50

P1=P2=P3=P5=P6=P7=P9=P10=P11=P12 P4=P8



RELAÇÃO DO AÇO

10xP1 2xP4

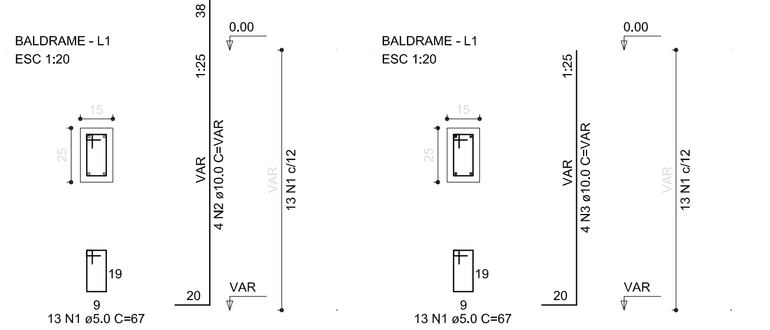
AÇO	N.	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
60	1	5.0	156	67	10452
50	2	10.0	40	VAR	VAR
	3	10.0	8	VAR	VAR

RESUMO DO AÇO

AÇO	DIAM	C.TOTAL (m)	PESO+10% (kg)
CA50	10.0	95.5	64.8
CA60	5.0	105.3	17.8
PESO TOTAL			
CA50	64.8		
CA60	17.8		

Vol. de concreto total =0.68 m³
Área de forma total = 14.40 m²

P1=P2=P3=P6=P9=P10=P11=P12 P4=P8



RELAÇÃO DO AÇO

8xP1 2xP4 2xP5
10xS2 2xS5

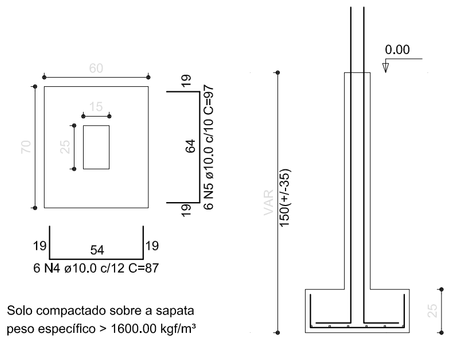
AÇO	N	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
60	1	5.0	156	67	10452
50	2	10.0	40	VAR	VAR
	3	10.0	8	VAR	VAR
	4	10.0	60	87	5220
	5	10.0	60	97	5820
	6	10.0	12	92	1104
	7	10.0	12	102	1224

RESUMO DO AÇO

AÇO	DIAM	C.TOTAL (m)	PESO+10% (kg)
CA50	10.0	229.8	155.9
CA60	5.0	105.3	17.8
PESO TOTAL			
CA50	155.9		
CA60	17.8		

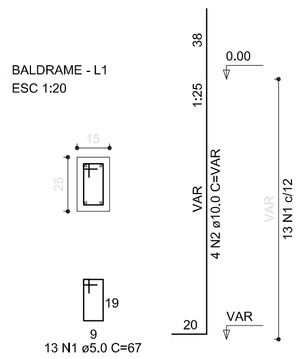
Vol. de concreto total =1.97 m³
Área de forma total = 22.30 m²

S1=S2=S3=S4=S6=S8=S9=S10=S11=S12

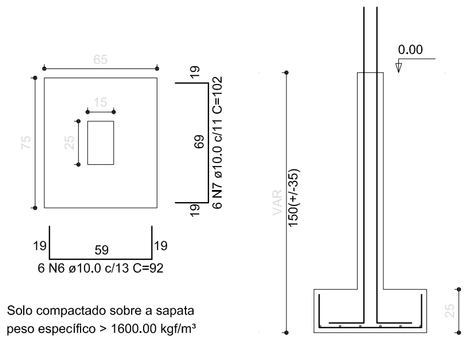


Solo compactado sobre a sapata
peso específico > 1600.00 kgf/m³

P5=P7



S5=S7



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

PROPRIETÁRIO:
IMACULADA CONCEIÇÃO

PROJETO:
BANHEIROS/QUADRA ESPORTIVA

MODAL:
E

ÁREA: 44,43 m²
DATA: 2019OUT03
ESCALAS: INDICADAS
LOCALIZAÇÃO: RUA DR. JOÃO PEDRO ORTIZ, 895 GUAPORÉ - RS

CÉSAR EMÍLIO DELLA VALENTINA
ENGENHEIRO CIVIL CREA 69348D
RUA MARCIO F. QUATRIERIO - 1295 - SALA 02 - GUAPORÉ - RS
54 3443-3302 e 54 99973-3420 mail@valentinaengenharia.com.br

TÓPICO:
ESTRUTURAL
PAVIMENTO BALDRAME
LOC.PILARES/SAPATAS/PILARES
FORMAS/VIGAS

PRANCHA: 1