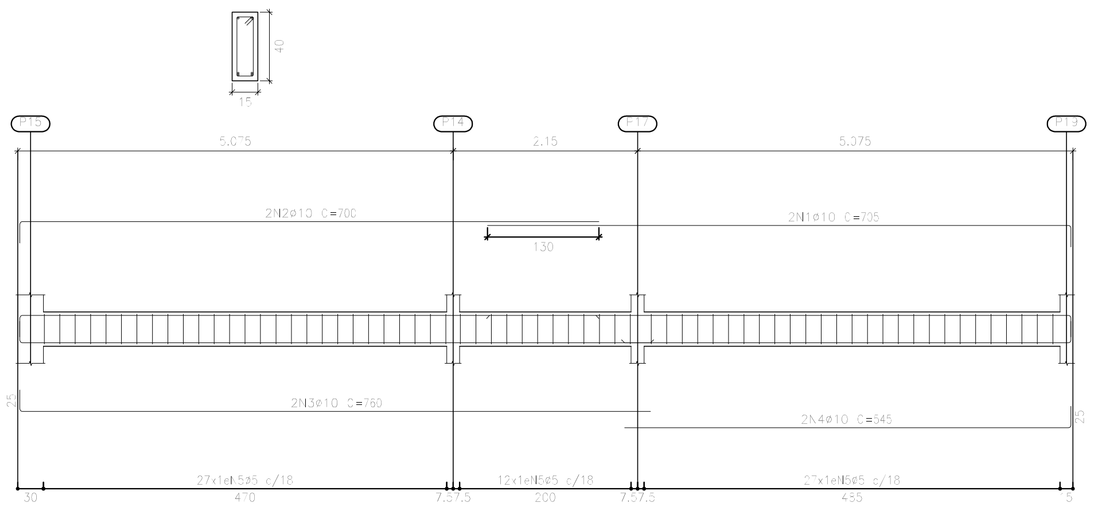
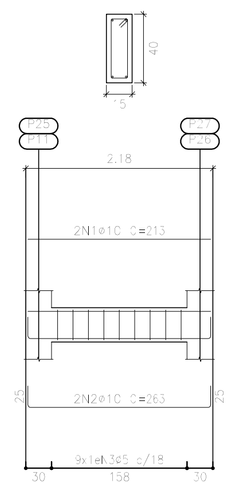
Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V 24	1	ø10	2	660 / 45	705	1410	8.7	
	2	ø10	2	535 / 165	700	1400	8.6	
	3	ø10	2	145 / 615	760	1520	9.4	
	4	ø10	2	295 / 250 / 45	545	1090	6.7	
	5	ø5	66	40 / 15	98	6468		10.2
					Total+10%:		36.7	11.2
V 25=V 27	1	ø10	2	213	213	426	2.6	
	2	ø10	2	215 / 48	263	526	3.2	
	3	ø5	9	40 / 15	98	882		1.4
					Total+10%:		6.4	1.5
					(x2):		12.8	3.0
V 26=V 28	1	ø10	2	201	201	402	2.5	
	2	ø10	2	251 / 48	251	502	3.1	
	3	ø5	9	40 / 15	98	882		1.4
					Total+10%:		6.2	1.5
					(x2):		12.4	3.0
V 29=V 30	1	ø10	4	316 / 45	360	1440	8.9	
	2	ø5	15	40 / 15	98	1470		2.3
					Total+10%:		9.8	2.5
					(x2):		19.6	5.0
V 31=V 32	1	ø10	4	275 / 45	325	1300	8.0	
	2	ø5	14	40 / 15	98	1372		2.2
					Total+10%:		8.8	2.4
					(x2):		17.6	4.8
					ø5:		0.0	27.0
					ø10:		99.1	0.0
					Total:		99.1	27.0

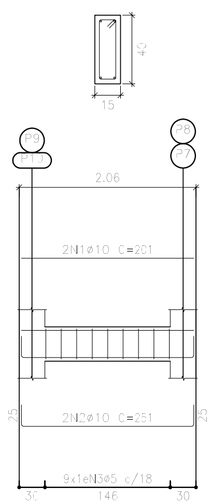
V 24



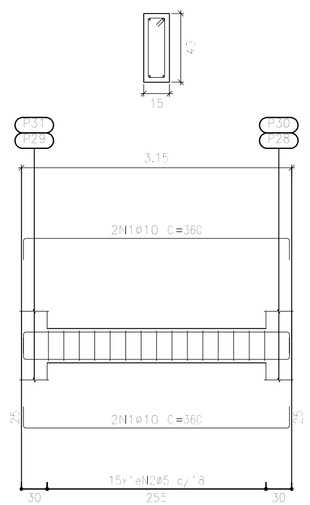
V 25
V 27



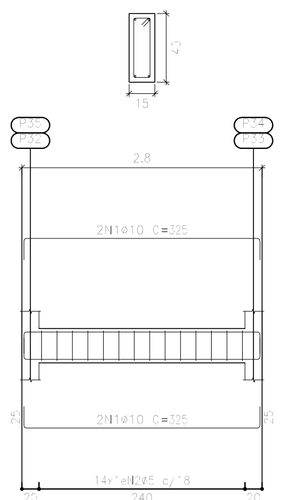
V 26
V 28



V 29
V 30

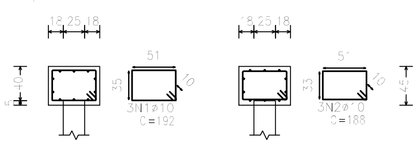


V 31
V 32

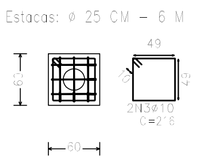


Elemento	Pos.	Diam.	Q.	Dob. (cm)	Reta (cm)	Dob. (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
P1=P2=P3=P4	1	ø10	3		192		192	576	3.5	
P5=P6=P7=P8	2	ø10	3		188		188	564	3.5	
P9=P10=P11	3	ø10	2		216		216	432	2.7	
P12=P13=P14										
P15=P16=P17										
P18=P19=P20										
P21=P22=P23										
P24=P25=P26										
P27=P28=P29										
P30=P31=P32								Total+10%:	10.7	
P33=P34=P35								(x35):	374.5	
								ø10:	374.5	0.0
								Total:	374.5	0.0

P1, P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12, P13, P14, P15, P16, P17, P18, P19, P20, P21, P22, P23, P24, P25, P26, P27, P28, P29, P30, P31, P32, P33, P34 e P35



Estacas: ø 25 CM - 6 M

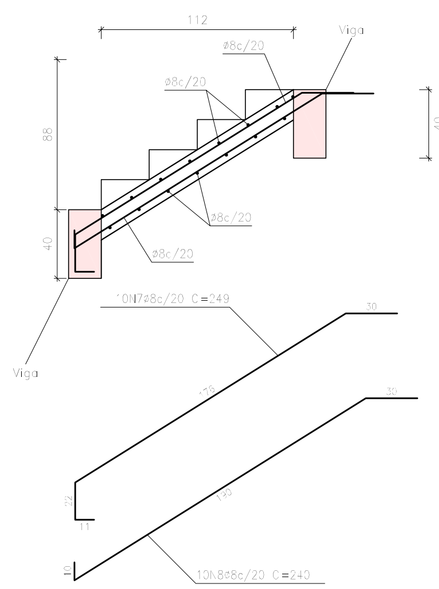


Resumo Aço Subsolo Detalhamento fundação		Comp. total (m)	Peso+10% (kg)
CA-50	ø10	550.2	373

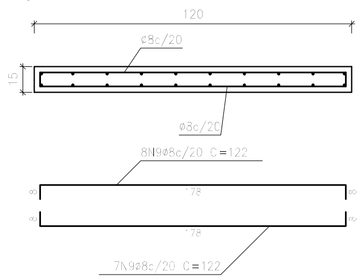
Escada 1

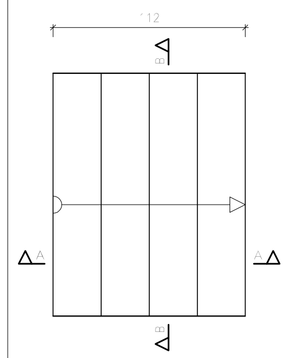
Tramo 1		
CONCRETO	Largura	1.220 m
	Espessura	0.15 m
	Piso	0.30 m
	Espelho	0.175 m
	Vertical que vence	1.98 m
	Nº de degraus	9
	Piso final	Fundação 2
	Piso inicial	Baldrame 1
CARGA	Peso próprio	1.375 t/m2
	Degraus	
	Reafaixo com tijolos	0.1 9 t/m2
	Revestimento	0.100 t/m2
	Parapeito=corpos	0.300 t/m
	Sobrecarga	0.300 t/m2
CA-50 e CA-60	Concreto	C20, em geral
	Aço	CA-50 e CA-60
	Cob. geométrico	2.5 cm

Seção A-A



Seção B-B





Resumo Aço escada	Comp. total (m)	Peso+10% (kg)
CA-50 ø8	31.3	18.1

Escala 1:25

Terreo - Superior total: 2.87 m2			
Elemento	Volume (m3)	Fôrma (m2)	Barras (kg)
Vigas Baldrames	20.54	3.47	679
Fundo (geral)	107.38		
Barras (Cap. Formas)	3.57	0.35	256
Total	131.73	3.47	935
Relação por m2	6.05%	0.43%	4.384

Térreo:
Desenho de vigas
Concreto: C20, em geral
Aço das barras: CA-50 e CA-60
Aço dos estribos: CA-50 e CA-60
Escala vigas 1:50
Escala seções 1:25
Escala aberturas 1:25

Resumo Aço Desenho de vigas		Comp. total (m)	Peso+10% (kg)	Total
CA-50	ø10	661.5	448	448
CA-60	ø5	757.5	131	131
Total				579

Assinado de forma digital por EDUARDO JOSE BARBOZA DE OLIVEIRA PRATA:30924256850
Dados: 2021.12.09 23:14:27 -03'00'

REVISÃO	DATA	DESCRIÇÃO	RESP.

EXATA
ENGENHARIA E COMÉRCIO LTDA.

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Campinas / SP - CEP:13015-320
Fone / Fax: (19) 3236 - 1034

Site: www.exatacampinas.com.br
e-mail: contato@exatacampinas.com.br

CONTRATANTE: PREFEITURA MUNICIPAL DE HORTOLÂNDIA

LOCAL: CENTRO DE CONVIVÊNCIA DA MELHOR IDADE
RUA EUCLIDES PIRES DE ASSIS, Nº 200
REMANSO CAMPINEIRO

OBRA: MUNICIPAL

Nº OBRA: -

Nº ART: 28027230211821242

TÍTULO: PROJETO ESTRUTURAL

VIGAS BALDRAMES
DETALHAMENTO DE ESCADA

FOLHA: E 04/08

AUTOR DO PROJETO: EDUARDO PRATA

DATA: 11/2021

DESENHO: EXATA ENGENHARIA

ESCALA: INDICADA