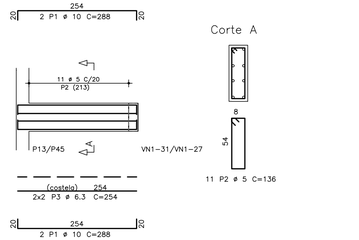
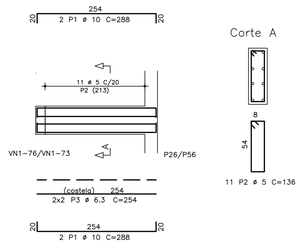
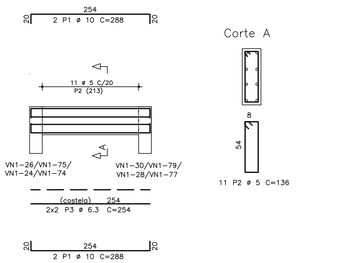
VN1–2=VN1–20 14/60



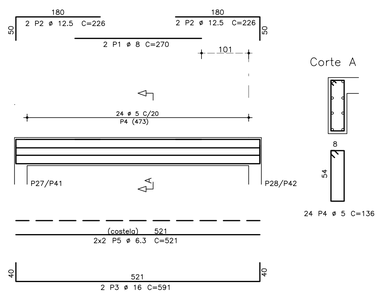
VN1–3=VN1–21 14/60



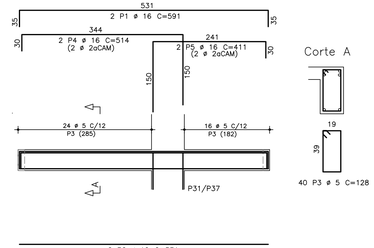
VN1–5=VN1–7=VN1–16=VN1–18 14/60



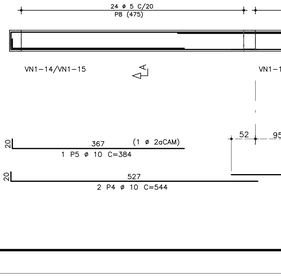
VN1–6=VN1–17 14/60



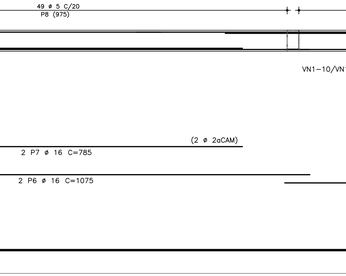
VN1–8=VN1–14 25/45



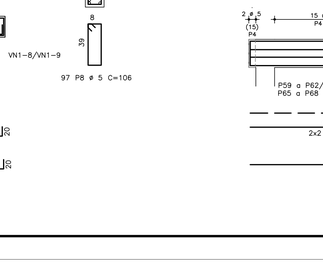
VN1–9=VN1–15 25/45



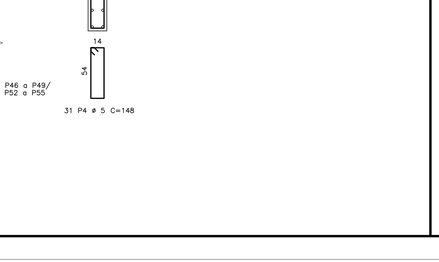
VN1–10=VN1–12 25/40



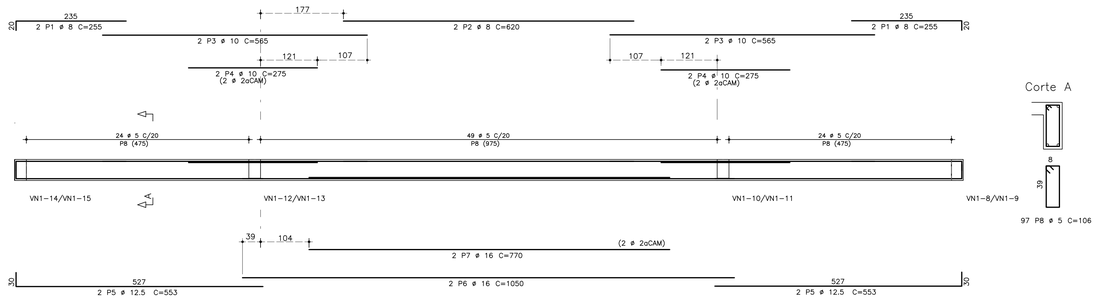
VN1–11=VN1–13 25/40



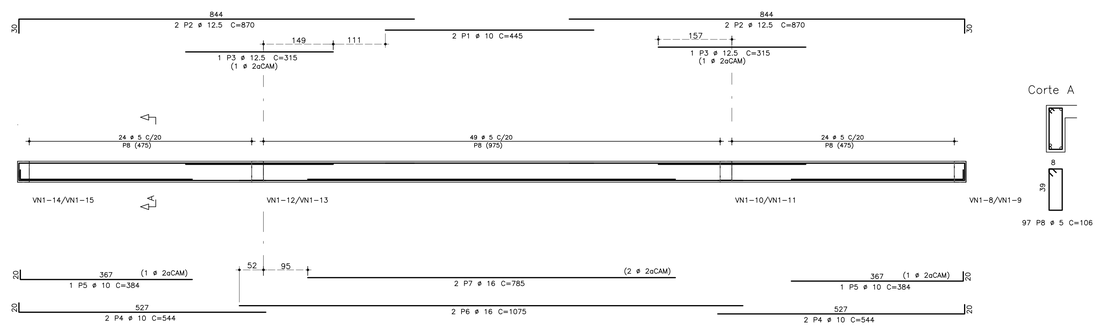
VN1–27=VN1–73 20/60



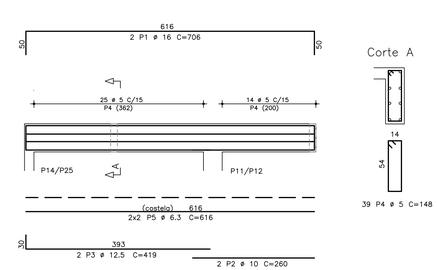
VN1–23=VN1–80 14/45



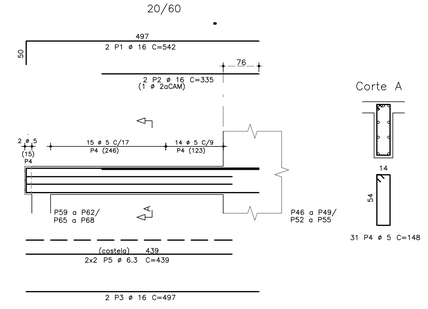
VN1–29=VN1–72 14/45



VN1–31=VN1–76 20/60

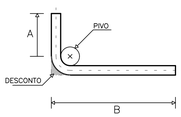


VN1–32=VN1–36=VN1–40=VN1–44= VN1–56=VN1–60=VN1–64=VN1–68 20/60



AÇO	POS	BIT (mm)	QUANT	COMPRIMENTO UNIT (cm)	COMPRIMENTO TOTAL (cm)
VN1–2=VN1–20 (X2)					
50	1	10	8	288	2304
60	2	5	22	136	2992
50	3	6.3	8	254	2032
VN1–3=VN1–21 (X2)					
50	1	10	8	288	2304
60	2	5	22	136	2992
50	3	6.3	8	254	2032
VN1–5=VN1–7=VN1–16=VN1–18 (X4)					
50	1	10	16	288	4608
60	2	5	44	136	5984
50	3	6.3	16	254	4064
VN1–6=VN1–17 (X2)					
50	1	8	4	270	1080
50	2	12.5	8	226	1808
50	3	16	4	591	2364
60	4	5	48	136	6528
50	5	6.3	8	521	4168
VN1–8=VN1–14 (X2)					
50	1	16	4	591	2364
50	2	10	4	531	2124
60	3	5	80	128	10240
50	4	16	4	514	2056
50	5	16	4	411	1644
VN1–9=VN1–15 (X2)					
50	1	16	4	591	2364
50	2	10	4	531	2124
60	3	5	80	128	10240
50	4	16	4	514	2056
50	5	16	4	411	1644
VN1–10=VN1–12 (X2)					
50	1	20	8	579	4632
50	2	12.5	8	100	800
50	3	12.5	6	531	3186
60	4	5	80	118	9440
50	5	20	8	479	3832
50	7	20	8	404	3232
VN1–11=VN1–13 (X2)					
50	1	20	8	579	4632
50	2	12.5	8	100	800
50	3	12.5	6	531	3186
60	4	5	80	118	9440
50	5	20	2	559	1118
VN1–23=VN1–80 (X2)					
50	1	8	8	255	2040
50	2	8	4	620	2480
50	3	10	8	565	4520
50	4	10	8	275	2200
50	5	12.5	8	553	4424
50	6	16	4	1050	4200
50	7	16	4	770	3080
60	8	5	194	106	20564
VN1–27=VN1–73 (X2)					
50	1	16	4	706	2824
50	2	10	4	260	1040
50	3	12.5	4	419	1676
60	4	5	78	148	11544
50	5	6.3	8	616	4928
VN1–29=VN1–72 (X2)					
50	1	10	4	445	1780
50	2	12.5	8	870	6960
50	3	12.5	4	315	1260
50	4	10	8	544	4352
50	5	10	4	384	1536
50	6	16	4	1075	4300
50	7	16	4	785	3140
60	8	5	194	106	20564
VN1–31=VN1–76 (X2)					
50	1	16	4	706	2824
50	2	10	4	260	1040
50	3	12.5	4	419	1676
60	4	5	78	148	11544
50	5	6.3	8	616	4928
VN1–32=VN1–36=VN1–40=VN1–44=... (X8)					
50	1	16	16	542	8672
50	2	16	16	335	5360
50	3	16	16	497	7952
60	4	5	248	148	36704
50	5	6.3	32	439	14048

RESUMO AÇO CA 50–60			
AÇO	BIT (mm)	COMPR (m)	PESO (kg)
60	5	1588	254
50	6.3	362	91
50	8	56	22
50	10	299	189
50	12.5	258	258
50	16	568	910
50	20	174	436
Peso Total	60 =		254 kg
Peso Total	50 =		1905 kg

DETALHE DE DOBRAMENTO DOS FERROS	Ø	RAIO (cm)	DESCONTO(cm)
	10.0	7.5	3.0
	12.5	9.3	4.0
	16.0	12.0	5.0
	20.0	15.0	6.0
	25.0	18.5	8.0

REVISÃO	DESCRIÇÃO	SOLICITADO POR	DATA	RESPONSÁVEL

TAUFIG ASFURA CREA 1086 – PE/TN
GAMAL ASFURA CREA 16973 – PE/TN
ITALO B. SCHMITZ CREA PE045.442
engest engenharia estrutural ltda.
RUA ARNÓBIO MARQUES, 271 STO. AMARO RECIFE–PE – CEP:50.100–130.
FONE:(081)3222–6652 – FAX:3231–2500 E–MAIL:engestpe@terra.com.br

OBRA GINÁSIO DE ESPORTES (PREFEITURA DE LIMOEIRO)
LIMOEIRO – PE

01/2017	RESP. TÉCNICO GAMAL ASFURA	AÇO CA– 50 e 60	ESCALA 1:50	P 04/02
	PROJETO ESTRUTURAL	CONCRETO fck > 35 MPa	DATA ABRIL/2017	
	DESENHO AMARO CORTEZ	ARQUIVO P04–02.DWG	REVISÃO 0	

NÍVEL 1 – ARMAÇÃO DAS VIGAS (PARTE 02/04)

F:106.0x69.0