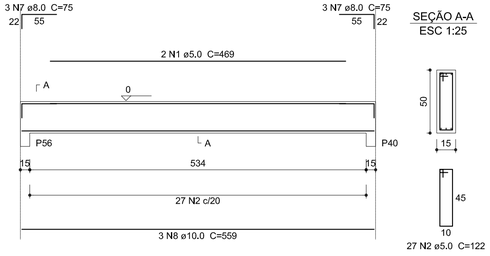
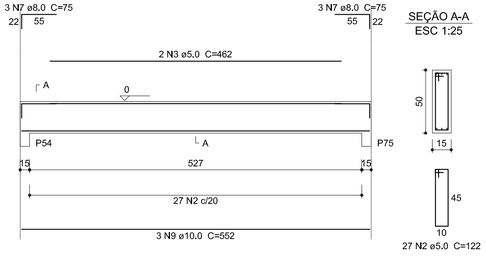
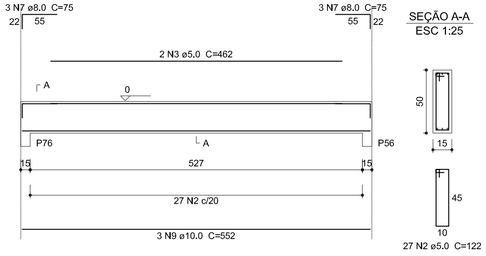
VB110
1:50



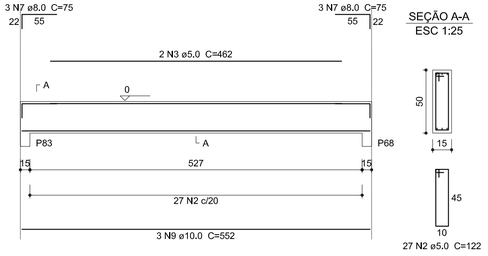
VB111
1:50



VB112
1:50



VB116
1:50



Relação do aço

VB110 VB111 VB112
VB116 VB117 VB118
VB121 VB123 VB124

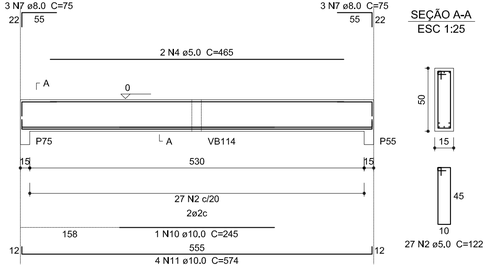
AÇO	N	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
CA60	1	5,0	2	469	938
	2	5,0	243	122	29646
	3	5,0	8	462	3696
	4	5,0	4	465	1860
	5	5,0	2	468	936
	6	5,0	2	466	932
CA50	7	8,0	54	75	4050
	8	10,0	3	559	1677
	9	10,0	12	552	6624
	10	10,0	1	245	245
	11	10,0	4	574	2296
	12	10,0	3	558	1674
	13	10,0	1	246	246
	14	10,0	4	575	2300
	15	10,0	3	555	1665

Resumo do aço

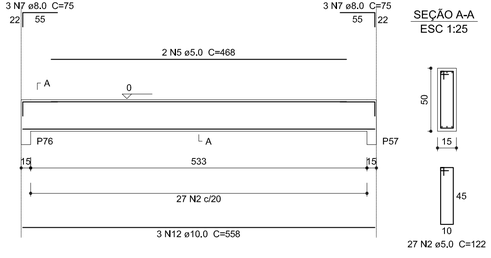
AÇO	DIAM	C.TOTAL (m)	PESO + 10 % (kg)
CA50	8,0	40,5	17,6
	10,0	167,3	113,4
CA60	5,0	380,1	64,4
PESO TOTAL			
CA50	131		
CA60	64,4		

Vol. de concreto total (C-25) = 3,78 m³
Área de forma total = 57,92 m²

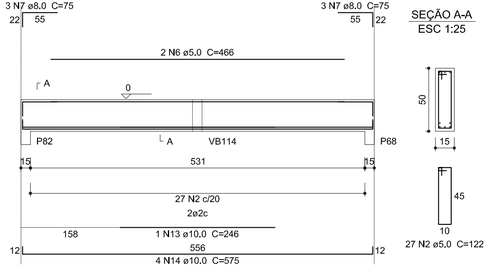
VB117
1:50



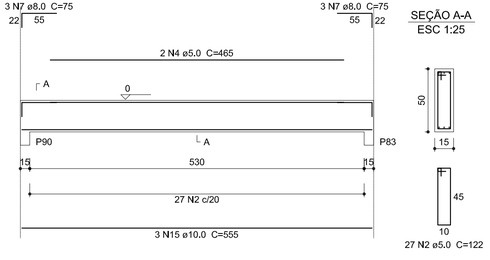
VB118
1:50



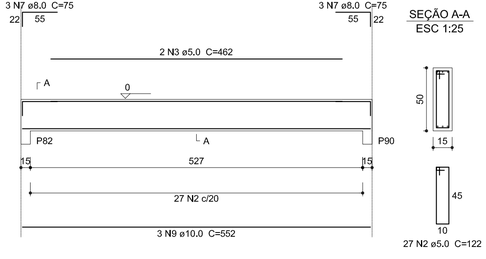
VB121
1:50



VB124
1:50



VB123
1:50



AMPLIAÇÃO

SECRETARIA DE EDUCAÇÃO DE JOINVILLE

OBSERVAÇÕES

ASSINATURAS

RESPONSÁVEL TÉCNICO:

REQUERENTE:

VEGA ENGENHARIA PROJETOS
www.vegaengenharia.com.br

AV. MARQUÊS DE OLINDA, 1.821
RESIDENCIAL ESPANHA - SALA 01
BAIRRO AMÉRICA - CEP 89204-415
JOINVILLE - SC - BRASIL
FONE: (47) 3427 - 1577

AV. MAL. DEODORO, 972, SALA 26
CENTRO - CEP 89251-000
JARAGUÁ DO SUL - SC - BRASIL
FONE: (47) 3055 - 2905

E-MAIL: vega@vegaengenharia.com.br

PROJETO ESTRUTURAL

OBRA:	CEI ULYSSES GUIMARÃES
PROPRIETÁRIO:	PREFEITURA MUNICIPAL DE JOINVILLE - SC
REQUERENTE:	SECRETARIA DE EDUCAÇÃO
LOCAL:	RUA CIDADE DE BARRETOS
CONTEÚDO:	**VIGAS 05-05**

EQUIPE TÉCNICA:
Arq. e Urb. Letice Dal Carobbo --------- CREA/SC: 079.486-5
Eng. Civil Cíntia Busatto ---------- CREA/SC: 066.279-3
Eng. Civil João R. Lisbôa Oneda ----- CREA/SC: 069.906-6
Eng Civil Mychel Bressiani ---------- CREA/SC: 093.314-4
Eng. Civil Valdir Campos Jr. ---------- CREA/SC: 047.770-4
Eng. Elét. Ivo Gilmar Petri ---------- CREA/SC: 014.163-8

PRANCHA Nº
ES 08
Nº DE PRANCHAS 09

PROJETO	ADEMILSON
DESENHO	ADEMILSON
ARQUIVO	VG 1001
DATA	03/05/2010

RESPONSÁVEL TÉCNICO:
VALDIR CAMPOS JUNIOR
Engenheiro Civil - CREA 047.770-4 SC