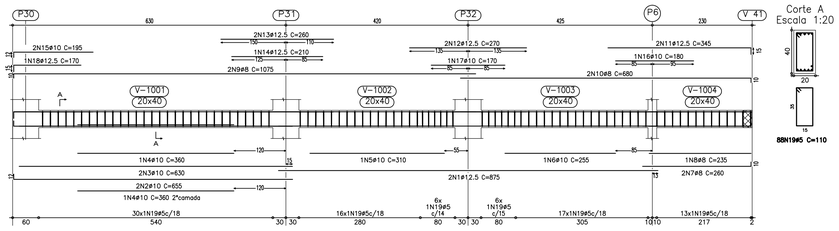
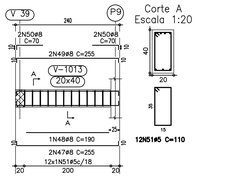
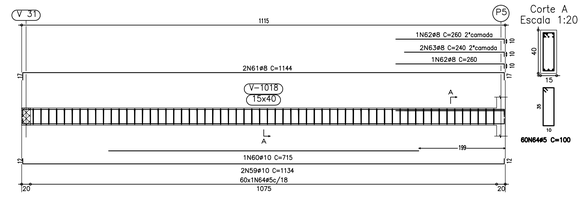
V 1
Escala 1:50



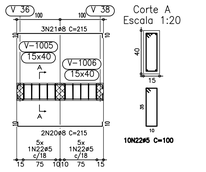
V 7
Escala 1:50



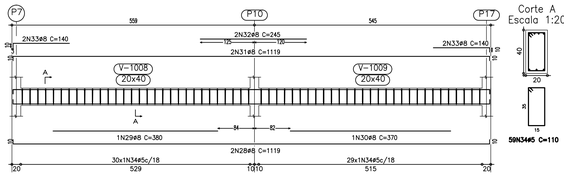
V 10
Escala 1:50



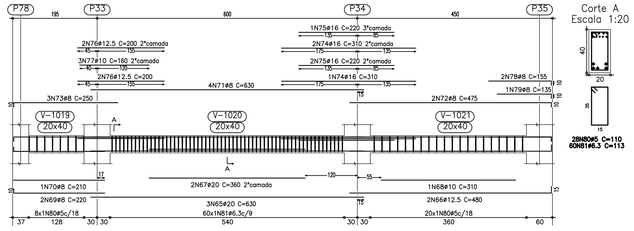
V 2
Escala 1:50



V 4
Escala 1:50



V 11
Escala 1:50



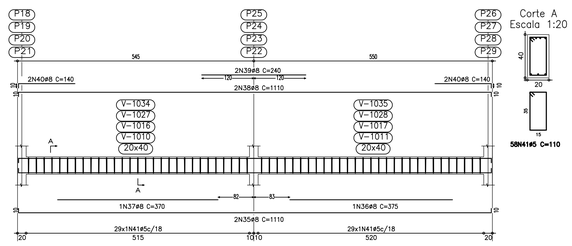
SUBSOLO
Desenho de vigas
Concreto: C25, em geral
Aço: CA-50-A e CA-60-B
Escala vigas: 1:50
Escala seções: 1:20

Resumo Aço SUBSOLO Vigas		Comp. total (m)	Peso+10% (kg)	Total
CA-50-A	ø6.3	77,6	21	
	ø8	2440.6	1054	
	ø10	379.1	262	
	ø12.5	215.1	232	
	ø16	86.5	149	
	ø20	46.2	126	1844
CA-60-B	ø5	2877.1	497	497
Total				2341

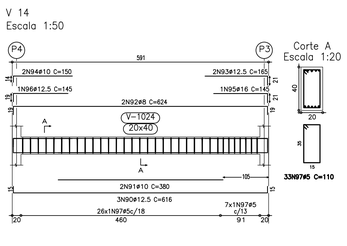
Elemento	Pos.	Diam.	Q	Dob. (cm)	Reta (cm)	Dob. (cm)	Comp. (cm)	Total (cm)	CA-50-A (kg)	CA-60-B (kg)
V 1	1	ø12.5	2				875	875	1750	17.2
	2	ø10	2	12	643			655	1310	8.2
	3	ø10	2		630			630	1260	7.9
	4	ø10	2		360			360	720	4.5
	5	ø10	1		310			310	310	1.9
	6	ø10	1		255			255	255	1.6
	7	ø8	1	10	250	10		270	520	2.0
	8	ø8	1		235			235	235	0.9
	9	ø8	2	10	1065			1075	2150	8.4
	10	ø8	2		670	10		680	1360	5.3
	11	ø12.5	2		330	15		345	690	6.8
	12	ø12.5	2		270			270	540	5.3
	13	ø12.5	2		260			260	520	5.1
	14	ø12.5	1	10	271	10		291	582	2.3
	15	ø10	2	12	183			195	390	2.4
	16	ø10	1		180			180	180	1.1
	17	ø10	1		170			170	170	1.1
	18	ø12.5	1	15	155			170	170	1.7
	19	ø5	88					110	9680		15.2
								Total+10%		91.9	16.7
V 2	20	ø8	2	10	195	10	215	430	1.7	
	21	ø8	3	10	195	10	215	645	2.5	
	22	ø5	10				100	1000		1.6
								Total+10%		4.6	1.8
V 3	23	ø8	2	10	235	10	255	510	2.0	
	24	ø8	2		190		190	190	0.7	
	25	ø8	2	10	235	10	255	510	2.0	
	26	ø8	4	10	60		70	280	1.1	
	27	ø5	12				110	1320		2.1
								Total+10%		6.4	2.3
V 4	28	ø8	2	10	1099	10	1119	2238	8.8	
	29	ø8	1		380		380	380	1.5	
	30	ø8	1		370		370	370	1.5	
	31	ø8	2	10	1099	10	1119	2238	8.8	
	32	ø8	2		245		245	490	1.9	
	33	ø8	4	10	130		140	560	2.2	
	34	ø5	59				110	6490		10.2
								Total+10%		27.2	11.2
V 5=V 9=V 17=V 22	35	ø8	2	10	1090	10	1110	2220	8.7	
	36	ø8	1		375		375	375	1.5	
	37	ø8	1		370		370	370	1.5	
	38	ø8	2	10	1090	10	1110	2220	8.7	
	39	ø8	2		240		240	480	1.9	
	40	ø8	4	10	130		140	560	2.2	
	41	ø5	58				110	6380		10.0
								Total+10%		27.0	11.0
								(x4)		108.0	44.0
V 6	42	ø6.3	4	44	9	44	97	388	1.0	
	43	ø16	2	10	552	19	590	1180	7.3	
	44	ø16	2		385		385	770	12.1	
	45	ø8	2	10	552	10	572	1144	4.5	
	46	ø5	30				100	3000		4.7
								Total+10%		39.7	5.2
V 7	47	ø8	2	10	235	10	255	510	2.0	
	48	ø8	1		190		190	190	0.7	
	49	ø8	2	10	235	10	255	510	2.0	
	50	ø8	4	10	60		70	280	1.1	
	51	ø5	12				110	1320		2.1
								Total+10%		6.4	2.3
V 8	52	ø8	2	10	1090	10	1110	2220	8.7	
	53	ø8	1		375		375	375	1.5	
	54	ø8	1		370		370	370	1.5	
	55	ø8	2	10	1090	10	1110	2220	8.7	
	56	ø8	2		240		240	480	1.9	
	57	ø8	4	10	130		140	560	2.2	
	58	ø5	58				110	6380		10.0
								Total+10%		27.0	11.0
V 10	59	ø10	2	12	1110	12	1134	2268	14.2	
	60	ø10	1		715		715	715	4.5	
	61	ø8	2	17	1110	17	1144	2288	9.0	
	62	ø8	2		250	10	260	520	2.0	
	63	ø8	2		230	10	240	480	1.9	
	64	ø5	60				100	6000		9.4
								Total+10%		34.8	10.3
V 11	65	ø20	3		630		630	1890	46.7	
	66	ø12.5	2		465	15	480	960	9.4	
	67	ø20	2		360		360	720	17.8	
	68	ø10	1		310		310	310	1.9	
	69	ø8	2	10	220		240	440	1.7	
	70	ø8	1		210		210	210	0.8	
	71	ø8	4		630		630	2520	9.9	
	72	ø8	2		465	10	475	950	3.7	
	73	ø8	3	10	240		250	750	2.9	
	74	ø16	3		310		310	930	14.6	
	75	ø16	3		220		220	660	10.4	
	76	ø12.5	3		200		200	800	7.9	
	77	ø10	3		160		160	480	3.0	
	78	ø10	2		145		155	310	1.2	
	79	ø8	2		125	10	135	135	0.5	
	80	ø5	28				110	3080		4.8
	81	ø6.3	60				113	6780	16.8	
								Total+10%		164.1	5.3
V 12	82	ø12.5	2	15	385	15	415	830	8.1	
	83	ø10	1		385		385	385	2.4	
	84	ø8	2	10	385	10	405	810	3.2	
	85	ø8	2	10	90		100	200	0.8	
	86	ø5	20				110	2200		3.5
								Total+10%		16.0	3.9
V 13	87	ø10	2	12	292	12	316	632	4.0	
	88	ø8	2	10	292	10	312	624	2.4	
	89	ø5	15				100	1500		2.4
								Total+10%		7.0	2.6
V 14	90	ø12.5	3	15	586	15	616	1848	18.1	
	91	ø10	2		380		380	760	4.8	
	92	ø8	2	19	586	19	624	1248	4.9	
	93	ø12.5	2		144	21	165	330	3.2	
	94	ø10	2	14	136		150	300	1.9	
	95	ø16	1		124	21	145	145	2.3	
	96	ø12.5	1	19	126		145	145	1.4	
	97	ø5	33				110	3630		5.7
								Total+10%		40.3	6.3
V 15	98	ø8	2	10	259	10	279	558	2.2	
	99	ø8	2	10	259	10	279	558	2.2	
	100	ø5	12				100	1200		1.9
								Total+10%		4.8	2.1
V 36=V 38	101	ø8	2	10	47	10	67	134	0.5	
	102	ø8	2	10	47	10	67	134	0.5	
	103	ø5	2				100	200		0.3
								Total+10%		1.1	0.3
								(x2)		2.2	0.6
V 34	104	ø8	4	50	9	50	109	436	1.7	
	105	ø20	2	26	575	26	627	1254	31.0	
	106	ø20	1		415		415	415	10.3	
	107	ø20	1		340		340	340	8.4	
	108	ø8	4	10	575	10	595	2380	9.3	
	109	ø5	60				100	6000		9.4
								Total+10%		66.8	10.3

V 3
Escala 1:50

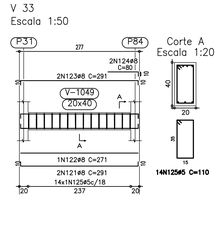
V 5
V 9
V 17
V 22
Escala 1:50



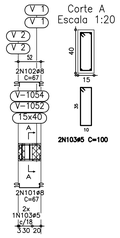
V 14
Escala 1:50



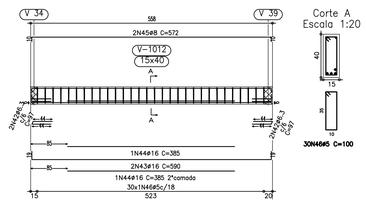
V 33
Escala 1:50



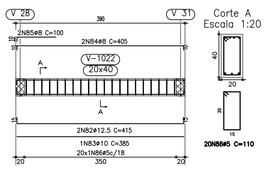
V 36
V 38
Escala 1:50



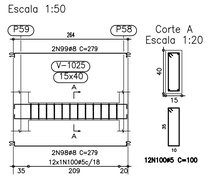
V 6
Escala 1:50



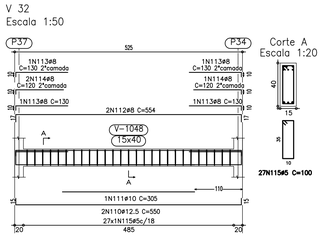
V 12
Escala 1:50

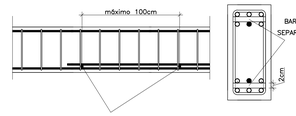


V 15
Escala 1:50



V 32
Escala 1:50





BARRA TRANSVERSAL SEPARADORA DE CAMADAS
Ø20.0mm
COMPRIMENTOS
10cm: PARA VIGAS COM LARGURA =15cm
15cm: PARA VIGAS COM LARGURA =20cm

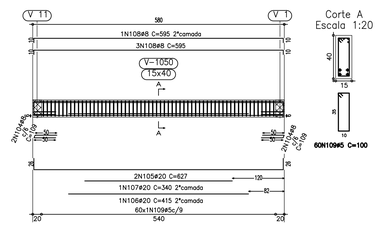
DETALHE TÍPICO DA FIXAÇÃO DAS BARRAS FLUTUANTES DE 2ª CAMADA

Resumo Aço FIXAÇÃO DAS ARMADURAS DE 2ª CAMADA	Comp. total (m)	Peso+10% (kg)	Total
CA-50-A ø20	6.12	16.6	16.6
Total			16.6

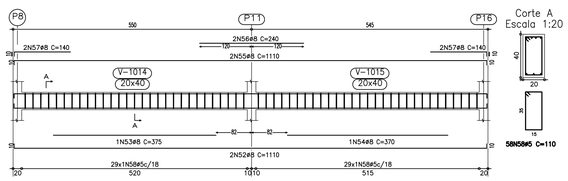
VIGAS COM CASO DE BARRAS FLUTUANTES:

V10, V11, V32

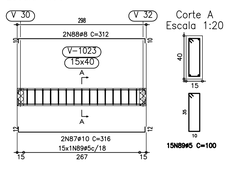
V 34
Escala 1:50



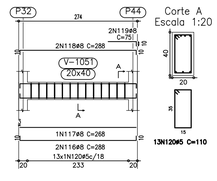
V 8
Escala 1:50



V 13
Escala 1:50



V 35
Escala 1:50



Nota:

PLANTA DE REFERÊNCIA: PRANCHA 03/64

AVALIAÇÃO DA QUALIDADE DA ESTRUTURA

RECEBIMENTO PROVISÓRIO	ACEITAÇÃO DEFINITIVA PRANCHA REVISADA
AVALIADOR/CREA: BRUNO SILVEIRA MARTINS – 148751/D	RT DO PROJETO ORIGINAL: KÊNIO ÁVILA FERNANDES AVALIADOR BRUNO SILVEIRA MARTINS – 148751/D

REVISÃO	DESCRIÇÃO	PROJ.	DATA
00	EMISSÃO INICIAL		15/09/17

REVISÕES

MINISTÉRIO PÚBLICO DO ESTADO DE MINAS GERAIS
SEDE DAS PROMOTORIAS DE JUSTIÇA DE PATOS DE MINAS

ENDEREÇO:
AVENIDA ANGRA DOS REIS, S/N – BAIRRO COPACABANA
PATOS DE MINAS – MG

ÁREA TERRENO: 10.293,06m²
ÁREA CONSTRUÍDA: 2.860,04m²

PROPRIETÁRIO:
PROCURADORIA GERAL DE JUSTIÇA DO ESTADO DE MINAS GERAIS

CNPJ: 20.971.057/0001-45

PROJETO DE ESTRUTURA DE CONCRETO ARMADO

EMPRESA:
PRIMEIRA ENGENHARIA LTDA

CNPJ: 14.920.928/0001-07

RESPONSÁVEIS TÉCNICOS:
KÊNIO ÁVILA FERNANDES

CREA: MG-70.918/D

CONTEÚDO:
DETALHAMENTO DE VIGAS – SUBSOLO

DATA: 15/09/17
ESCALA: INDICADA
FOLHA: 38/64