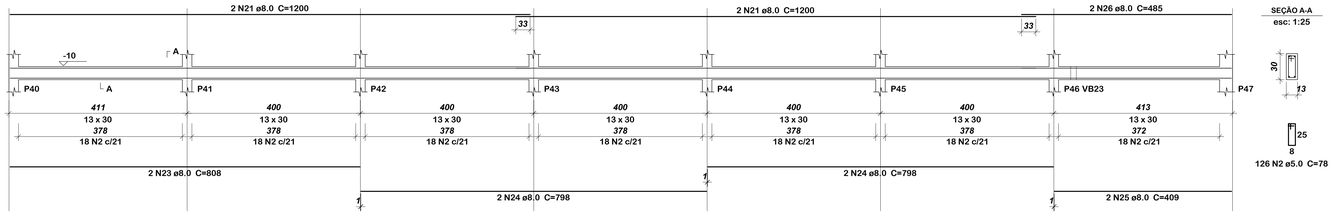
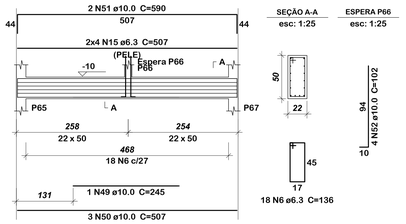
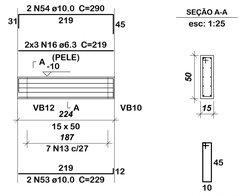
VB13 (13 x 30)
esc: 1:50



VB19 (22 x 50)
esc: 1:50



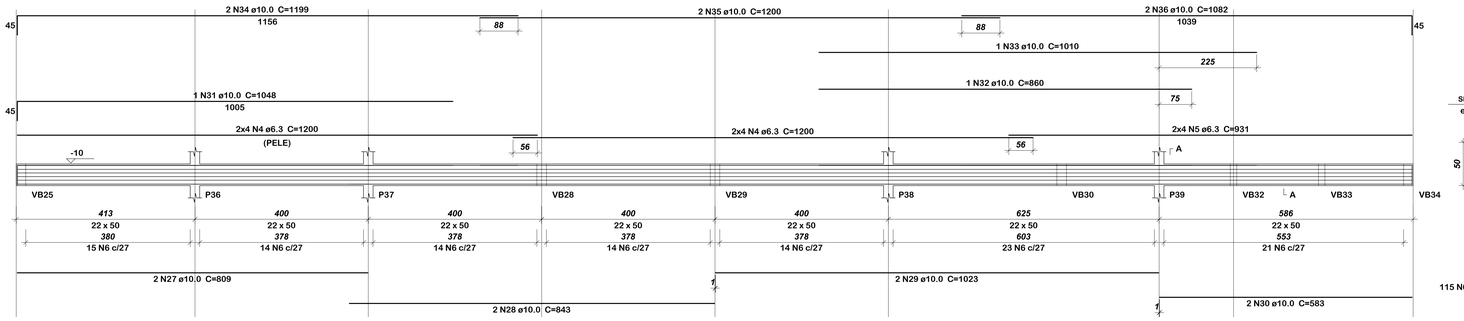
VB33 (15 x 50)
esc: 1:50



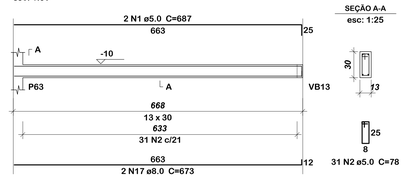
Relação do aço

AÇO	N	DIAM (mm)	QUANT (Barras)	UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	2	687	1374
	2	5.0	279	78	21762
	3	5.0	2	1200	2400
CA50	4	6.3	40	1200	48000
	5	6.3	8	931	7448
	6	6.3	273	136	37128
	7	6.3	8	236	1888
	8	6.3	16	186	2976
	9	6.3	6	250	1500
	10	6.3	16	222	3552
	11	6.3	6	235	1410
	12	6.3	2	99	198
	13	6.3	23	122	2806
	14	6.3	7	322	2254
	15	6.3	8	507	4056
	16	6.3	6	219	1314
	17	8.0	2	673	1346
	18	8.0	2	1172	2344
	19	8.0	2	887	1774
	20	8.0	2	852	1704
	21	8.0	6	1200	7200
	22	8.0	2	428	856
	23	8.0	2	808	1616
	24	8.0	4	798	3192
	25	8.0	2	409	818
	26	8.0	2	485	970
	27	10.0	2	809	1618
	28	10.0	2	843	1686
	29	10.0	2	1023	2046
	30	10.0	2	583	1166
	31	10.0	1	1048	1048
	32	10.0	1	860	860
	33	10.0	1	1010	1010
	34	10.0	2	1199	2398
	35	10.0	2	1200	2400
	36	10.0	2	1082	2164
	37	10.0	3	655	1965
	38	10.0	2	453	906
	39	10.0	3	715	2145
	40	10.0	2	363	726
	41	10.0	5	650	3250
	42	10.0	8	660	5280
	43	10.0	1	288	288
	44	10.0	2	233	466
	45	10.0	3	237	711
	46	10.0	2	370	740
	47	10.0	1	244	244
	48	10.0	2	730	1460
	49	10.0	1	245	245
	50	10.0	3	507	1521
	51	10.0	2	590	1180
	52	10.0	4	102	408
	53	10.0	2	229	458
	54	10.0	2	290	580
	55	12.5	2	435	870
	56	12.5	1	901	901
	57	12.5	2	1197	2394
	58	12.5	2	304	608
	59	12.5	2	400	800
	60	12.5	1	947	947
	61	12.5	1	1007	1007
	62	12.5	2	1197	2394
	63	12.5	2	295	590
	64	12.5	2	405	810
	65	12.5	1	946	946
	66	12.5	1	1026	1026
	67	12.5	2	1197	2394
	68	12.5	2	292	584

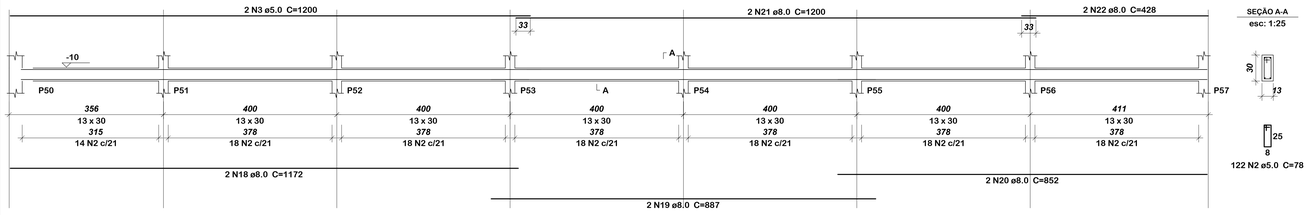
VB12 (22 x 50)
esc: 1:50



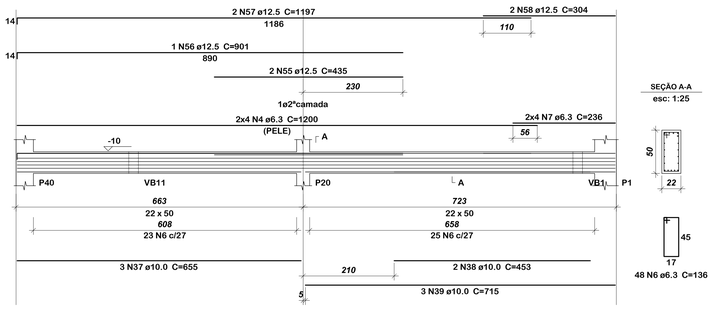
VB23 (13 x 30)
esc: 1:50



VB15 (13 x 30)
esc: 1:50



VB20 (22 x 50)
esc: 1:50



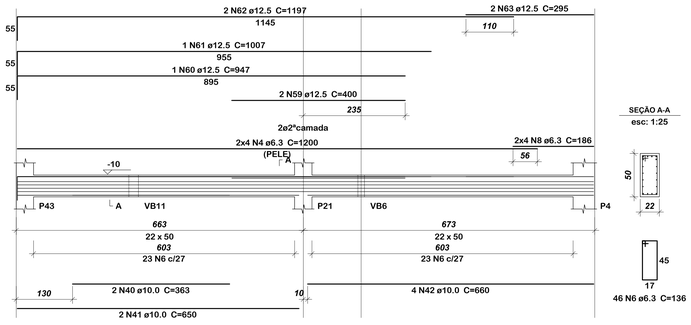
Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO (kg)
CA50	6.3	1145.3	280.3
	8.0	217.7	85.9
	10.0	389.7	240.3
	12.5	162.8	156.7
CA60	5.0	255.4	39.4

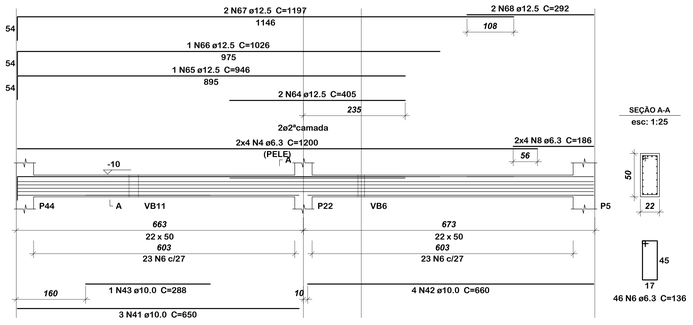
PESO TOTAL (kg)	
CA50	763.2
CA60	39.4

Volume de concreto (C-20) = 11.98 m³
Área de forma = 154.99 m²

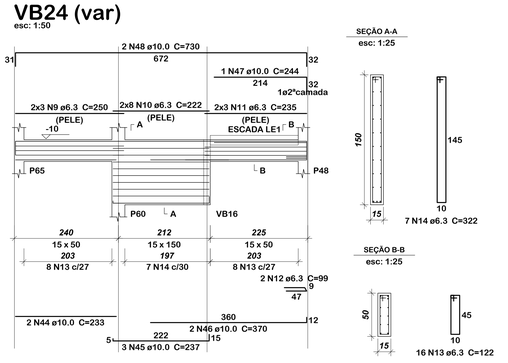
VB21 (22 x 50)
esc: 1:50



VB22 (22 x 50)
esc: 1:50



VB24 (var)
esc: 1:50



VB12 VB13 VB15
VB19 VB20 VB21
VB22 VB23 VB24
VB33

MINISTÉRIO DA EDUCAÇÃO
UNIVERSIDADE FEDERAL DE LAVRAS

EMPRESA:
AS BUILT ENGENHARIA DE PROJETOS LTDA
CNPJ: 09.480.531/0001-01

PROJETO

TÍTULO:
PROJETO ESTRUTURAL
DBI

CONTEÚDO:
FERRAGEM DAS VIGAS:
BALDRAMES (2/3)

AUTOR DO PROJETO:
CARLOS HENRIQUE DE SOUZA GONÇALVES
ENGENHEIRO CIVIL - CREA PR 156CO

EXECUÇÃO DE OBRA:

DATA:	REVISÃO DATA:	PROJETO:
12/2014	-	EXECUTIVO
ESCALA:	ÁREA: (m²)	FOLHA:
INDICADA	1.859,96	EST 06 /20