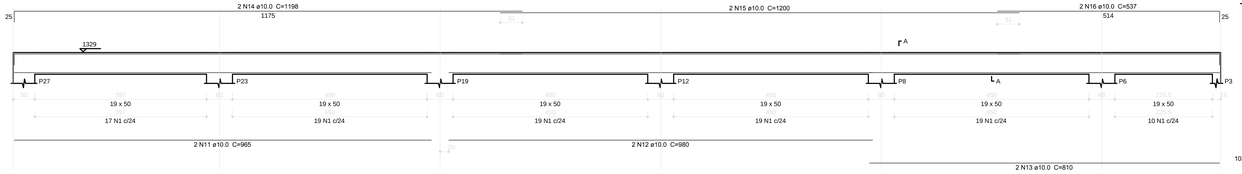
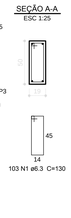
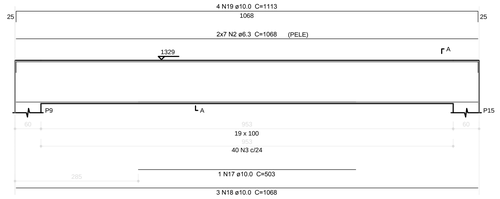
V319
ESC 1:50



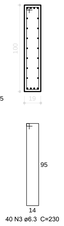
SEÇÃO A-A
ESC 1:25



V320
ESC 1:50



SEÇÃO A-A
ESC 1:25



Relação do aço

V319	V320	V321
V322	V323	V324
V325	V326	V327
V328	V329	V330
V331	V332	V333
V334	V335	V336
V337	V338	V339
V340	V341	

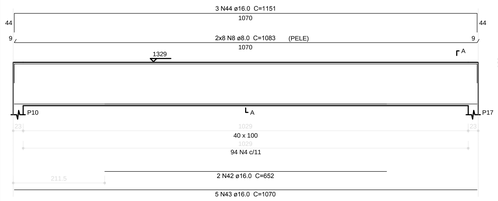
AÇO	N	DIAM (mm)	QUANT (Barras)	UNIT (cm)	C.TOTAL (cm)
CA50	1	6.3	551	130	71630
	2	6.3	14	1068	14952
	3	6.3	40	230	9200
	4	6.3	940	272	255680
	5	6.3	12	1200	14400
	6	6.3	12	84	1008
	7	6.3	60	198	11880
	8	8.0	16	1083	17328
	9	8.0	128	1081	138368
	10	8.0	16	1113	17808
	11	10.0	4	965	3860
	12	10.0	6	980	5880
	13	10.0	6	810	4860
	14	10.0	4	1198	4792
	15	10.0	4	1200	4800
	16	10.0	4	537	2148
	17	10.0	1	503	503
	18	10.0	3	1068	3204
	19	10.0	4	1113	4452
	20	10.0	28	146	4088
	21	10.0	2	964	1928
	22	10.0	2	919	1838
	23	10.0	2	964	1928
	24	10.0	2	319	638
	25	10.0	4	364	1456
	26	10.0	4	1078	4312
	27	10.0	4	175	700
	28	10.0	6	786	4716
	29	10.0	6	831	4986
	30	10.0	2	496	992
	31	10.0	2	531	1062
	32	10.0	2	1017	2034
	33	12.5	2	1197	2394
	34	12.5	2	1200	2400
	35	12.5	2	558	1116
	36	12.5	2	319	638
	37	12.5	1	191	191
	38	12.5	2	1012	2024
	39	12.5	2	539	1078
	40	12.5	2	1197	2394
	41	12.5	2	996	1992
	42	16.0	2	652	1304
	43	16.0	5	1070	5350
	44	16.0	3	1151	3453
	45	16.0	4	500	2000
	46	16.0	39	1068	41652
	47	16.0	24	1149	27576
	48	16.0	1	570	570
	49	16.0	2	594	1188
	50	16.0	7	1105	7735
	51	16.0	5	412	2060
	52	16.0	3	1185	3555
	53	16.0	2	605	1210
	54	16.0	9	1099	9891
	55	16.0	2	650	1300
	56	16.0	1	495	495
	57	16.0	2	574	1148
	58	16.0	2	638	1276
	59	16.0	2	1166	2332
	60	16.0	2	273	546

Resumo do aço

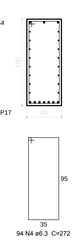
AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6.3	3787.5	1019.5
	8.0	1735.1	753.1
	10.0	651.8	442
	12.5	142.3	150.8
	16.0	1146.5	1990.4
PESO TOTAL (kg)			
CA50	4355.7		

Volume de concreto (C-40) = 61.56 m³
Área de forma = 481.98 m²

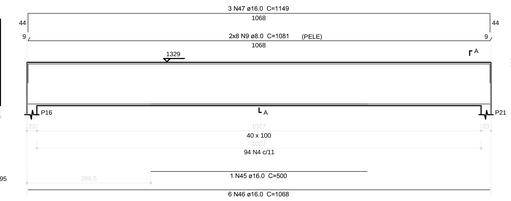
V321
ESC 1:50



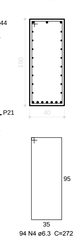
SEÇÃO A-A
ESC 1:25



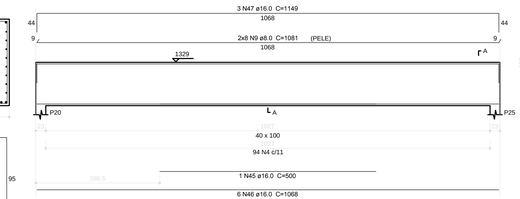
V322
ESC 1:50



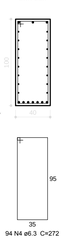
SEÇÃO A-A
ESC 1:25



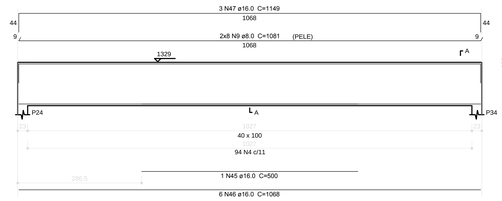
V323
ESC 1:50



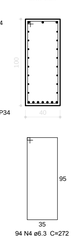
SEÇÃO A-A
ESC 1:25



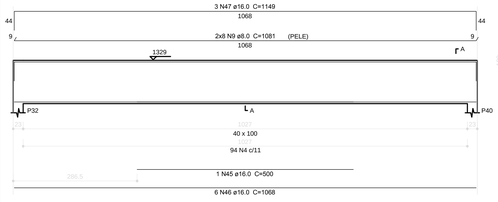
V324
ESC 1:50



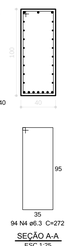
SEÇÃO A-A
ESC 1:25



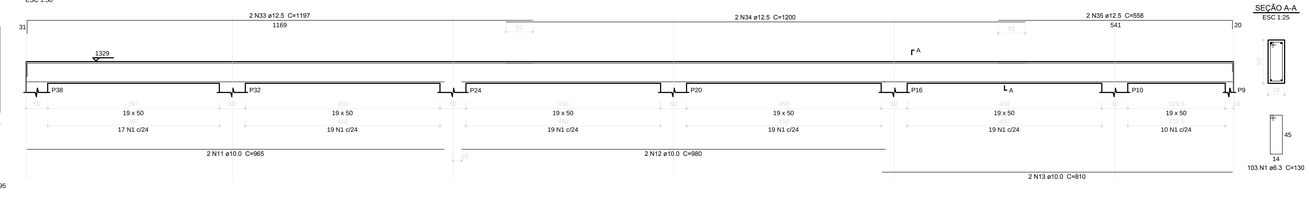
V325
ESC 1:50



SEÇÃO A-A
ESC 1:25

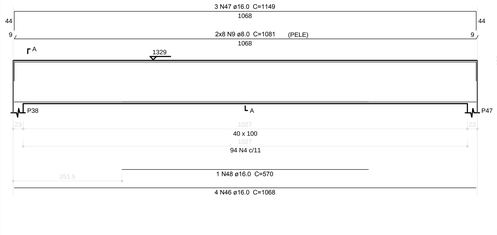


V326
ESC 1:50

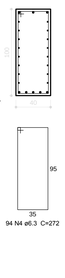


SEÇÃO A-A
ESC 1:25

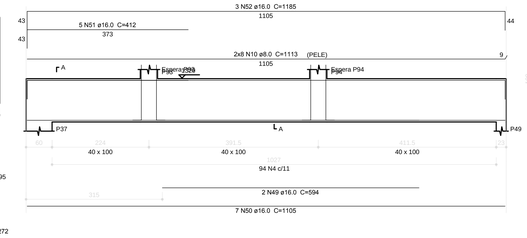
V327
ESC 1:50



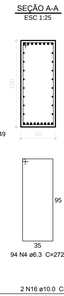
SEÇÃO A-A
ESC 1:25



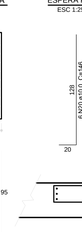
V328
ESC 1:50



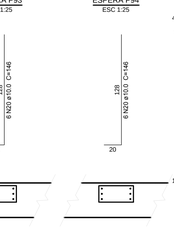
SEÇÃO A-A
ESC 1:25



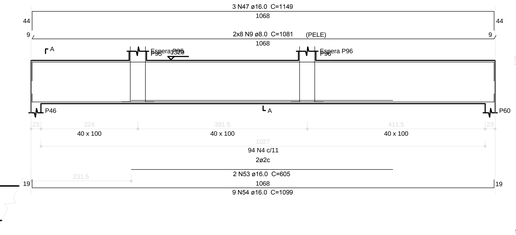
ESPERA P93
ESC 1:25



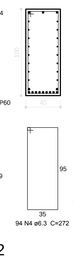
ESPERA P94
ESC 1:25



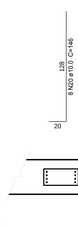
V329
ESC 1:50



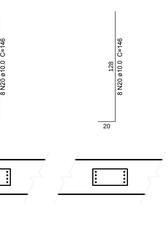
SEÇÃO A-A
ESC 1:25



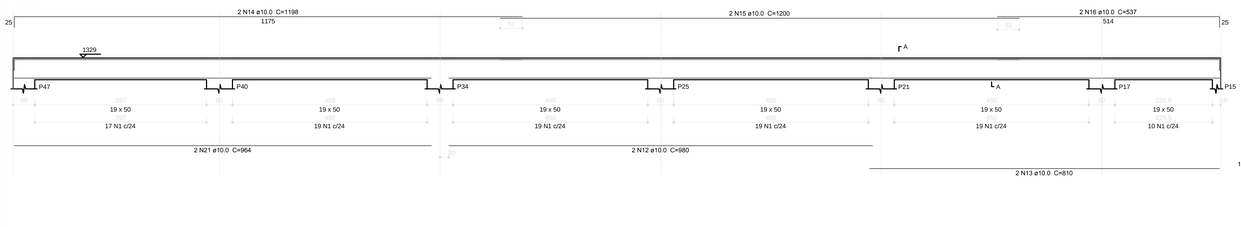
ESPERA P95
ESC 1:25



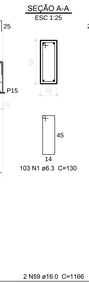
ESPERA P96
ESC 1:25



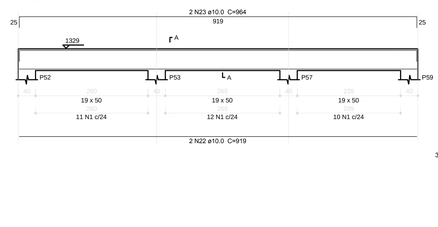
V330
ESC 1:50



SEÇÃO A-A
ESC 1:25



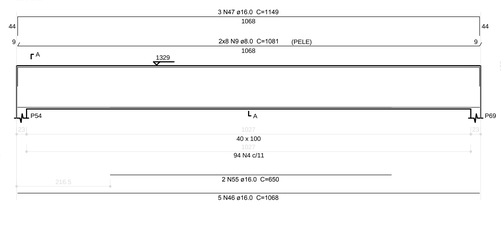
V331
ESC 1:50



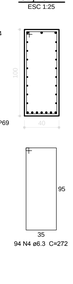
SEÇÃO A-A
ESC 1:25



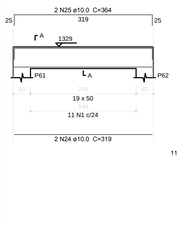
V332
ESC 1:50



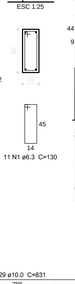
SEÇÃO A-A
ESC 1:25



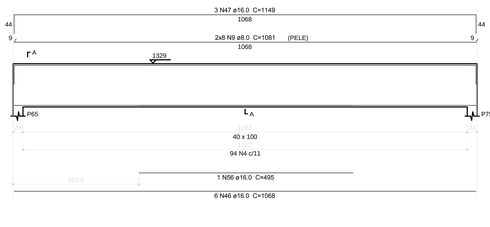
V333
ESC 1:50



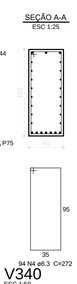
SEÇÃO A-A
ESC 1:25



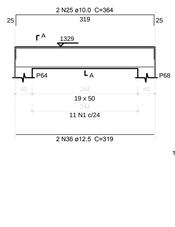
V334
ESC 1:50



SEÇÃO A-A
ESC 1:25



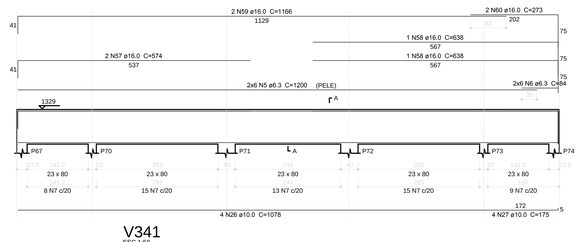
V335
ESC 1:50



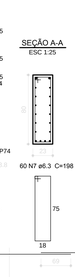
SEÇÃO A-A
ESC 1:25



V336
ESC 1:50



SEÇÃO A-A
ESC 1:25



V337
ESC 1:50

SEÇÃO A-A
ESC 1:25

V338
ESC 1:50

V339
ESC 1:50

SEÇÃO A-A
ESC 1:25

V340
ESC 1:50

SEÇÃO A-A
ESC 1:25

V341
ESC 1:50

SEÇÃO A-A
ESC 1:25

MINISTÉRIO DA EDUCAÇÃO
UNIVERSIDADE FEDERAL DE LAVRAS

PROJETO

TÍTULO:
PROJETO EXECUTIVO - ENGENHARIAS

CONTEÚDO:
PROJETO DE ESTRUTURA
VIGAS: V319 A V341

AUTOR DO PROJETO:
MARIUS OLIVEIRA COSTA CREA 90786/D

EXECUÇÃO DE OBRA:

APROVAÇÃO DO LAYOUT (PROF. RESPONSÁVEL):

DATA:	REVISÃO DATA:	PROJETO:
03/09/2018		ESTRUTURA
ESCALA: INDICADA	ÁREA: (m²) 4772.00 m²	FOLHA: 31/40