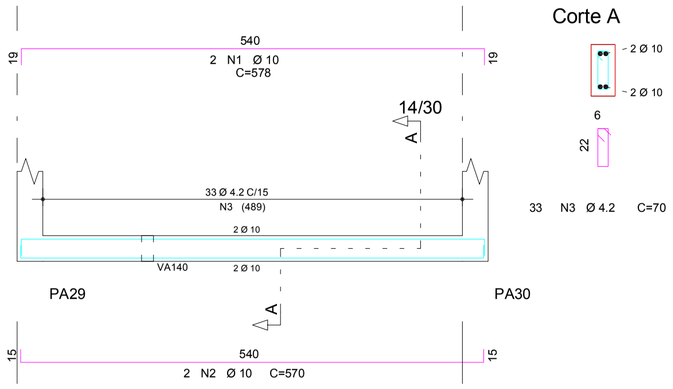
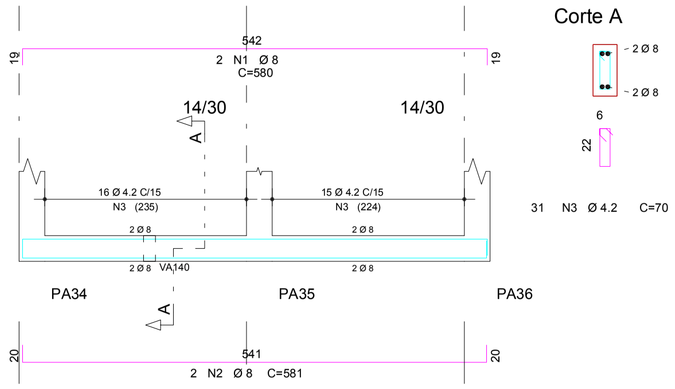
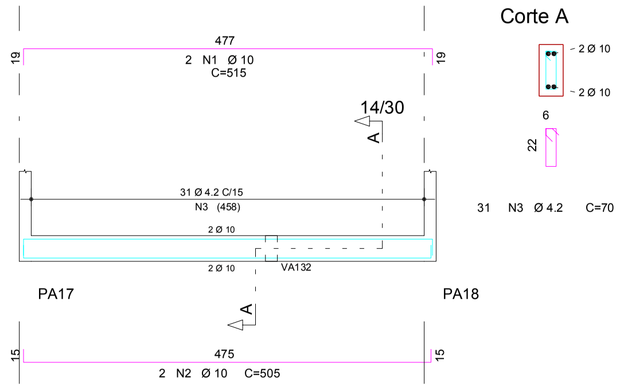
VA113



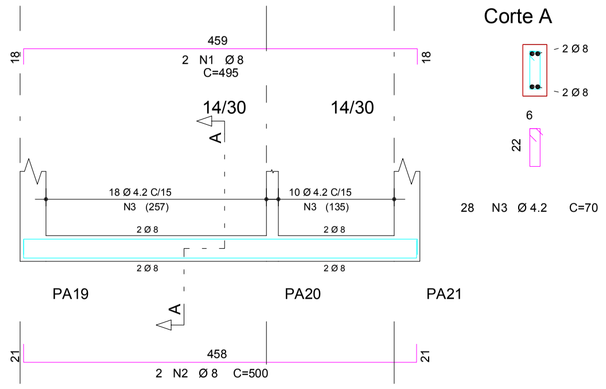
VA116



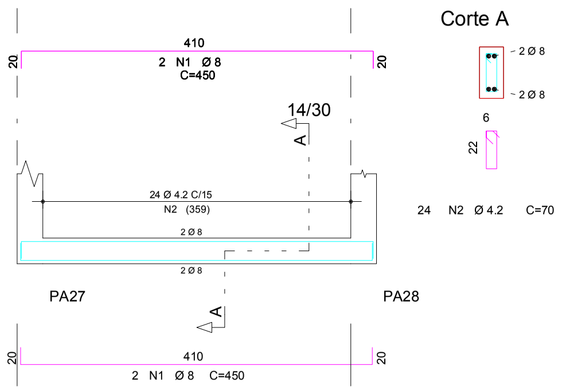
VA107



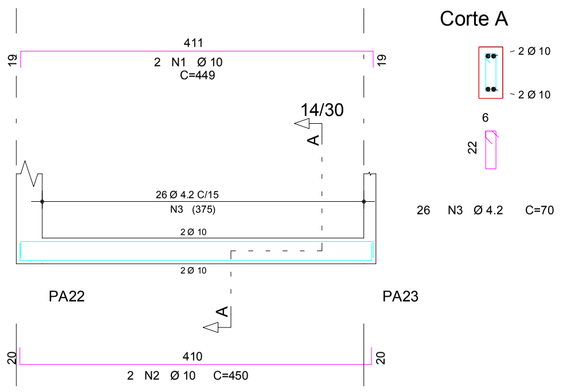
VA108



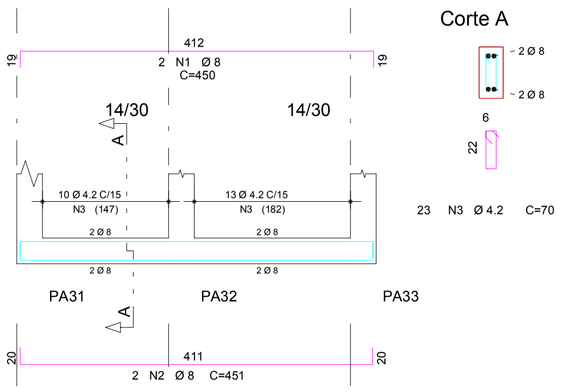
VA112



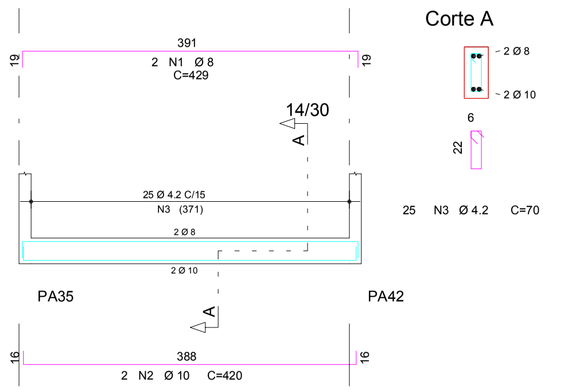
VA109



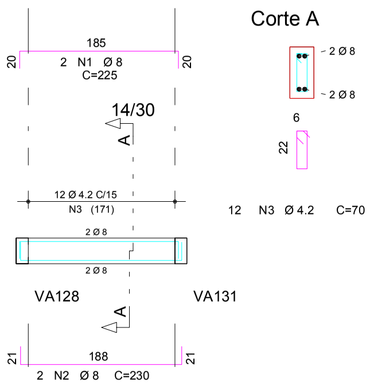
VA115



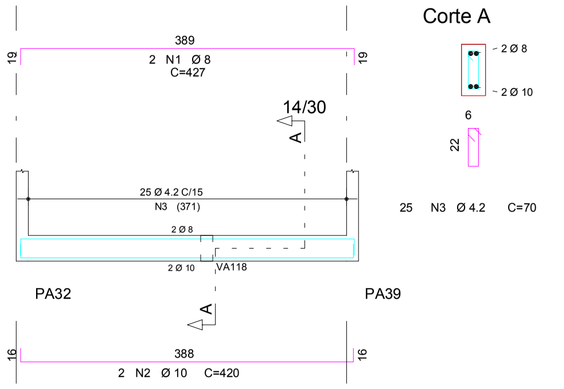
VA142



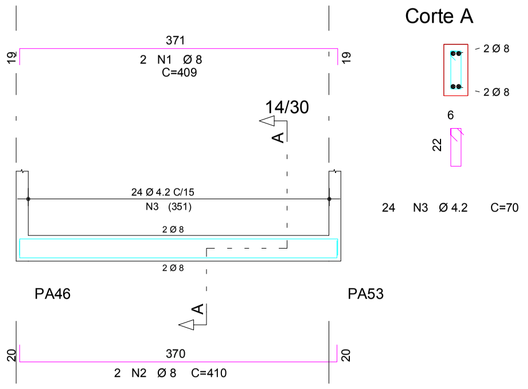
VA118



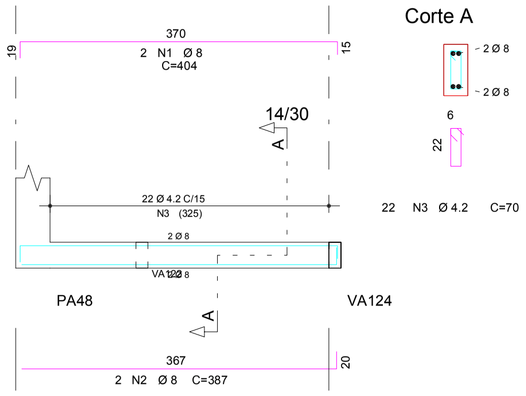
VA131



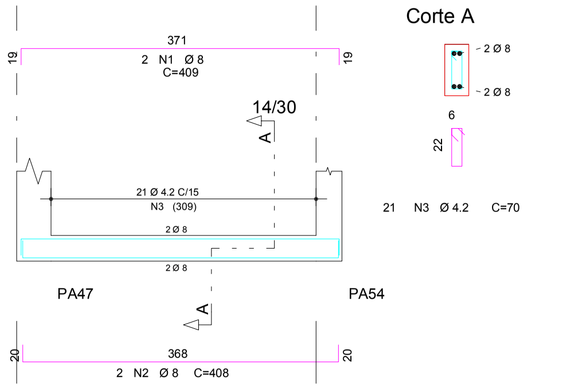
VA144



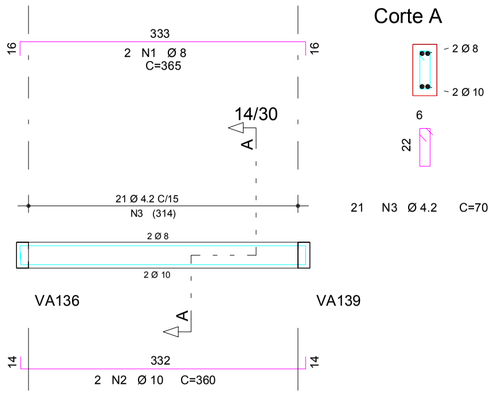
VA134



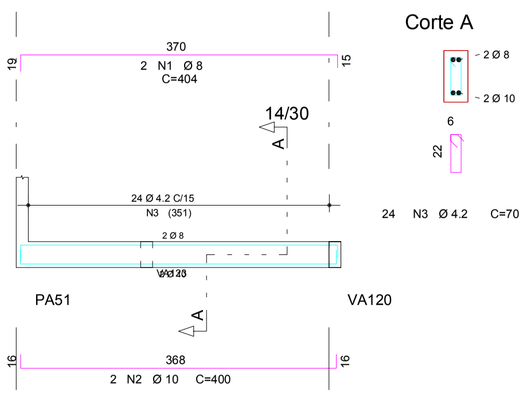
VA145



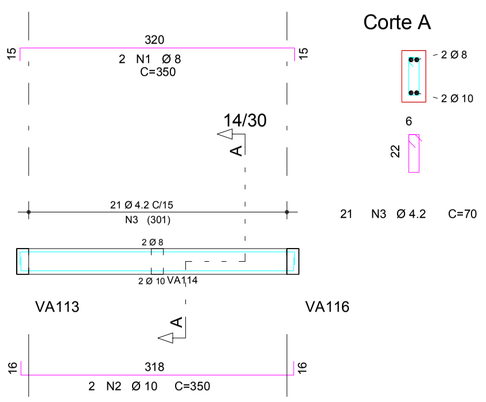
VA106



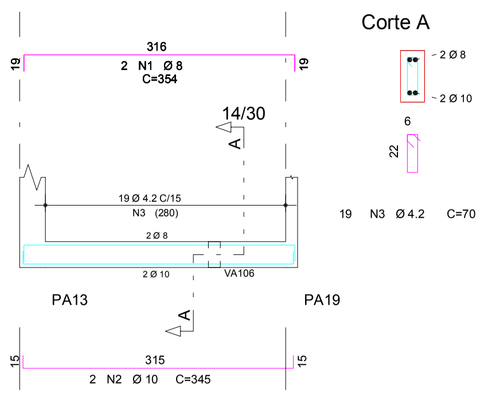
VA130



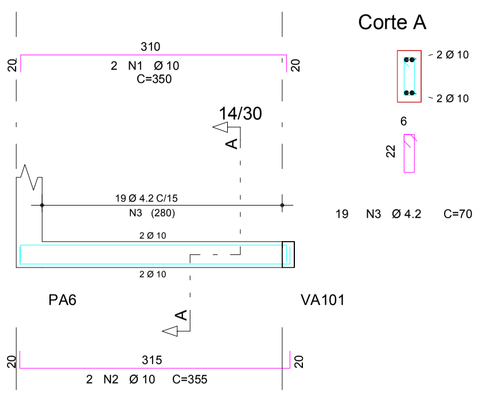
VA140



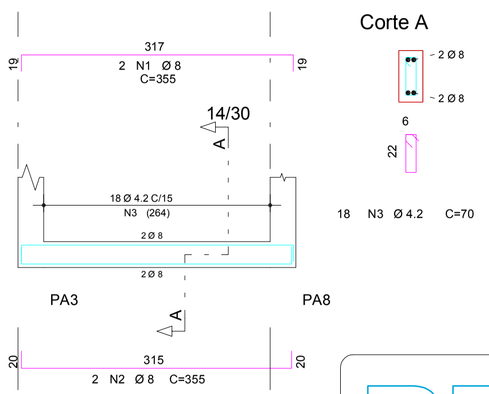
VA139



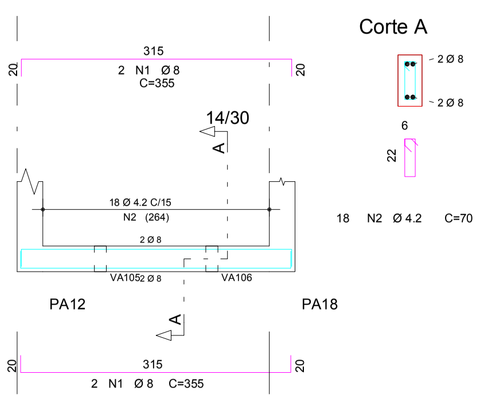
VA133



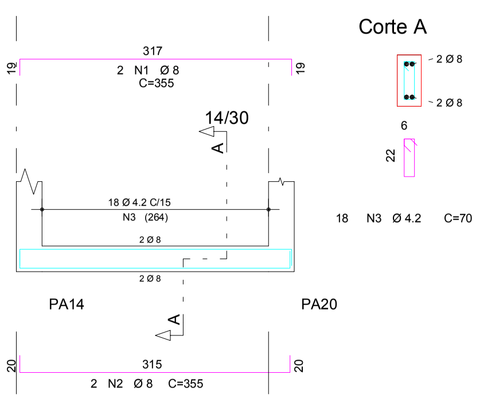
VA141



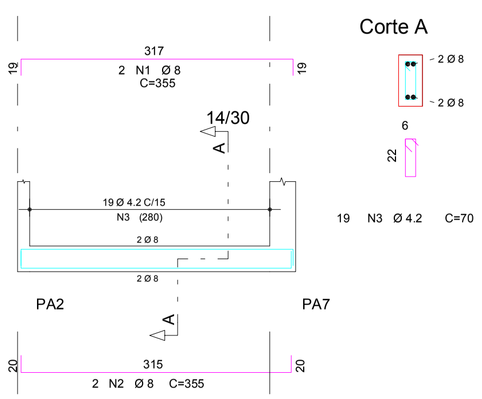
VA136



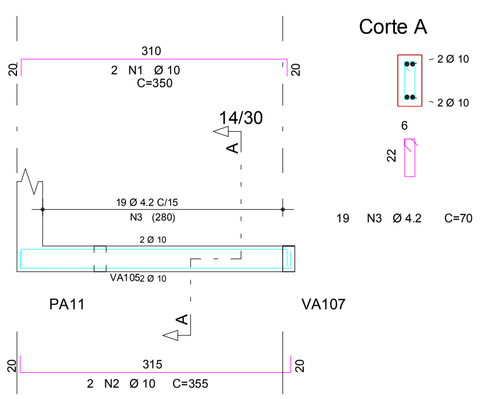
VA143



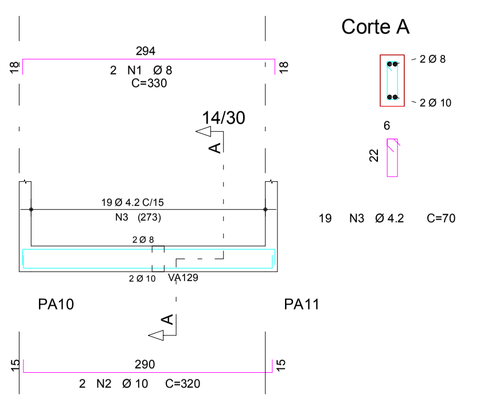
VA137



VA132



VA103



AÇO	POS	BIT (mm)	QUANT	COMPRIMENTO UNIT (cm)	COMPRIMENTO TOTAL (cm)
VA103					
50A	1	8	2	330	660
50A	2	10	2	320	640
60B	3	4.2	19	70	1330
VA106					
50A	1	8	2	365	730
50A	2	10	2	360	720
60B	3	4.2	21	70	1470
VA107					
50A	1	10	2	515	1030
50A	2	10	2	505	1010
60B	3	4.2	31	70	2170
VA108					
50A	1	8	2	495	990
50A	2	8	2	500	1000
60B	3	4.2	28	70	1960
VA109					
50A	1	10	2	449	898
50A	2	10	2	450	900
60B	3	4.2	26	70	1820
VA112					
50A	1	8	8	450	3600
60B	2	4.2	24	70	1680
VA113					
50A	1	10	2	578	1156
50A	2	10	2	570	1140
60B	3	4.2	33	70	2310
VA115					
50A	1	8	2	450	900
50A	2	8	2	451	902
60B	3	4.2	23	70	1610
VA116					
50A	1	8	2	580	1160
50A	2	8	2	581	1162
60B	3	4.2	31	70	2170
VA118					
50A	1	8	2	225	450
50A	2	8	2	230	460
60B	3	4.2	12	70	840
VA130					
50A	1	8	2	404	808
50A	2	10	2	400	800
60B	3	4.2	24	70	1680
VA131					
50A	1	8	2	427	854
50A	2	10	2	420	840
60B	3	4.2	25	70	1750
VA132					
50A	1	10	2	350	700
50A	2	10	2	355	710
60B	3	4.2	19	70	1330
VA133					
50A	1	10	2	350	700
50A	2	10	2	355	710
60B	3	4.2	19	70	1330
VA134					
50A	1	8	2	404	808
50A	2	8	2	387	774
60B	3	4.2	22	70	1540
VA136					
60B	1	8	4	355	1420
60B	2	4.2	18	70	1260
VA137					
50A	1	8	2	355	710
50A	2	8	2	355	710
60B	3	4.2	19	70	1330
VA139					
50A	1	8	6	354	2124
50A	2	10	2	345	690
60B	3	4.2	19	70	1330
VA140					
50A	1	8	2	350	700
50A	2	10	2	350	700
60B	3	4.2	21	70	1470
VA141					
50A	1	8	2	355	710
50A	2	8	2	355	710
60B	3	4.2	18	70	1260
VA142					
50A	1	8	2	429	858
50A	2	10	2	420	840
60B	3	4.2	25	70	1750
VA143					
50A	1	8	2	355	710
50A	2	8	2	355	710
60B	3	4.2	18	70	1260
VA144					
50A	1	8	2	409	818
50A	2	8	2	410	820
60B	3	4.2	24	70	1680
VA145					
50A	1	8	2	409	818
50A	2	8	2	408	816
60B	3	4.2	21	70	1470

RESUMO AÇO CA 50-60			
AÇO	BIT (mm)	COMPR (m)	PESO (kg)
60B	4.2	378	41
50A	8	279	112
50A	10	142	89
Peso Total	60B =		41 kg
Peso Total	50A =		201 kg

PROJESUL
Assessoria e Projetos Técnicos LTDA

PROJETO ESTRUTURAL

OBRA N.º 0001

CLIENTE: PREFEITURA MUNICIPAL DE MATINHOS

OBRA: UNIDADE DE PRONTO ATENDIMENTO 24H

DES. N.º 07/53

TITULO:
VA103 / VA106 / VA107
VA108 / VA109 / VA112
VA113 / VA115 / VA116
VA118 / VA130 / VA131
VA132 / VA133 / VA134
VA136 / VA137 / VA139
VA140 / VA141 / VA142

CALCULISTA: MARCEL CASSANDRI ROMERO FARINHA
ENGENHEIRO CIVIL
CREA 127502D-PR

PREFEITURA M. DE MATINHOS
CNPJ: 76.017.466/0001-61

REV. N.º 00

DATA: 07/01/2014 | ESCALA: | FCK: 30MPa | DESENHO: ENG MARCEL FARINHA