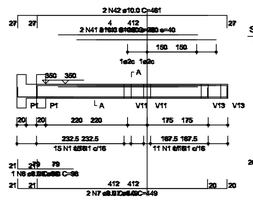
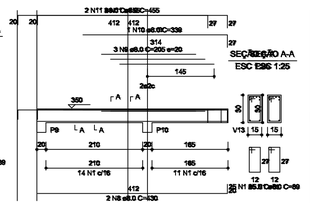
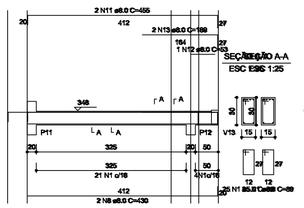
## V1
1:20



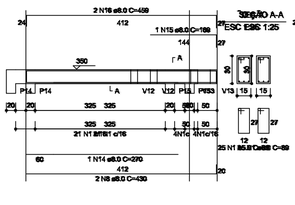

## V2V2
1:20 1:20



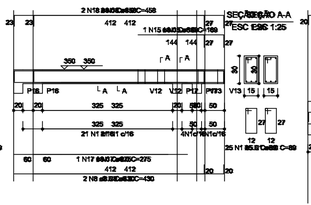

## V3V3
1:20 1:20



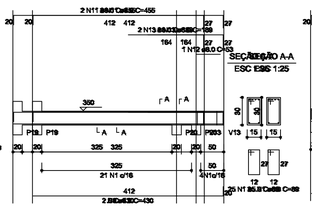

## V4
1:20



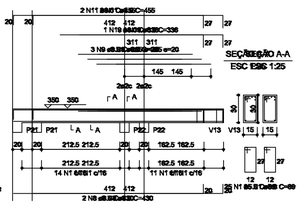

## V5V5
1:20 1:20



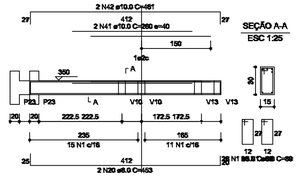

## V6V6
1:20 1:20



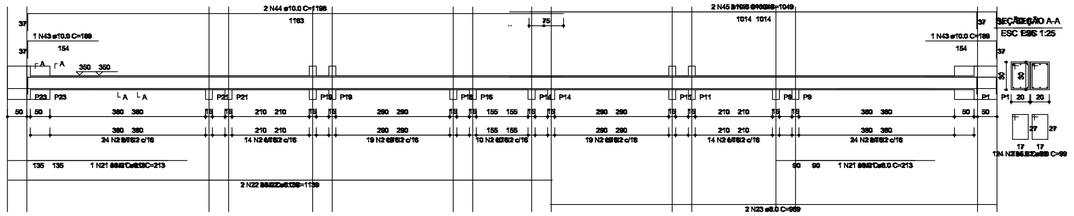

## V7V7
1:20 1:20



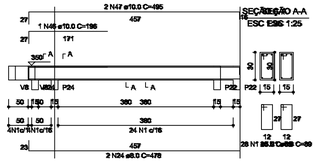

## V8
1:20



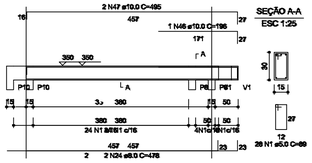

## V9V9
1:20 1:20



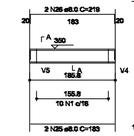

## V10V10
1:20



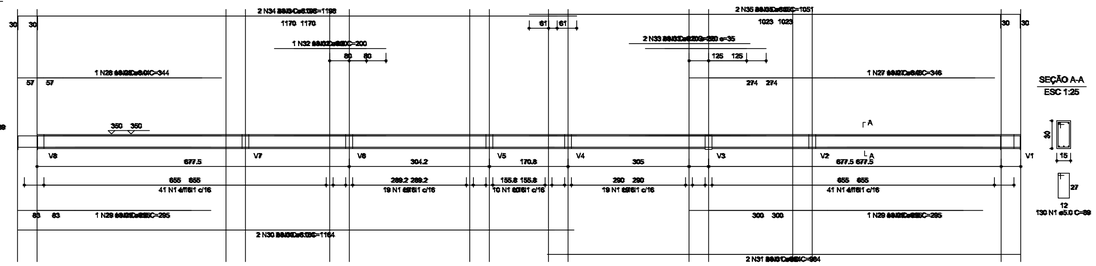

## V11
1:20



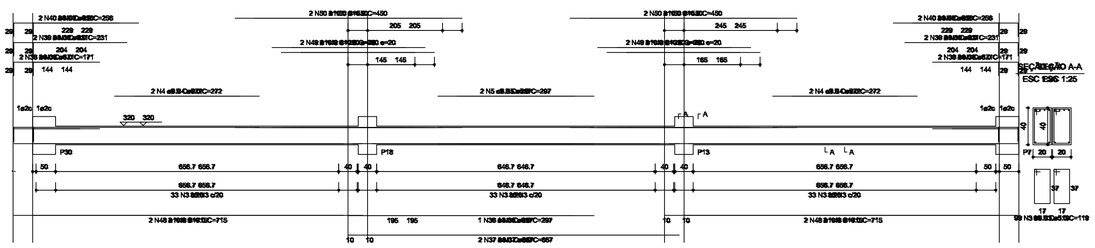

## V12
1:20




## V13
1:20 1:20




## V14V14
1:50 1:50




RELAÇÃO DE POSIÇÃO AÇO

| | | | |
|---|---|---|---|
| V1 | V1 | V2 | V3 |
| V4 | V4 | V5 | V6 |
| V7 | V7 | V8 | V9 |
| V10 | V10 | V11 | V12 |
| V13 | V13 | V14 | V14 |

| AÇO | AÇO | | BIAM | DIAM | QUANT | UNIT | TOTAL | TOTAL |
|---|---|---|---|---|---|---|---|---|
| | | | | | (un) | (m) | (m) | (kg) |
| 60 | 60 | 1 | 1510 | 6.0000 | 398.60 | 89 | 35422.5 | 8122 |
| | | 2 | 2920 | 6.0234 | 134.60 | 88 | 12076.1 | 2976 |
| | | 3 | 3530 | 6.0.99 | 68.19 | 119 | 11791.1 | 1291 |
| | | 4 | 4530 | 6.0 | 4.1 | 672 | 1099 | 1099 |
| | | 5 | 5530 | 8.0 | 2.2 | 2697 | 594 | 594 |
| | | 6 | 6530 | 8.0 | 1 | 1.95 | 95 | 95 |
| | | 7 | 7530 | 8.0 | 2 | 2.48 | 495 | 895 |
| | | 8 | 8530 | 8.0 | 1 | 1.20 | 520 | 5150 |
| | | 9 | 9530 | 8.0 | 1 | 1.20 | 520 | 5150 |
| | | 10 | 10630 | 8.0 | 1 | 339 | 339 | 339 |
| | | 11 | 11750 | 8.0 | 2 | 1.20 | 403 | 3640 |
| | | 12 | 12810 | 8.0 | 2 | 2.53 | 103 | 106 |
| | | 13 | 13810 | 8.0 | 2 | 2.53 | 106 | 716 |
| | | 14 | 14810 | 8.0 | 1 | 270 | 270 | 270 |
| | | 15 | 15810 | 8.0 | 2 | 2.69 | 139 | 338 |
| | | 16 | 16810 | 8.0 | 2 | 2.39 | 459 | 918 |
| | | 17 | 17810 | 8.0 | 1 | 325 | 275 | 275 |
| | | 18 | 18810 | 8.0 | 2 | 2.48 | 458 | 916 |
| | | 19 | 19810 | 8.0 | 2 | 2.69 | 336 | 336 |
| | | 20 | 20810 | 8.0 | 2 | 2.53 | 453 | 906 |
| | | 21 | 21810 | 8.0 | 2 | 213 | 213 | 426 |
| | | 22 | 22810 | 8.0 | 2 | 2.39 | 1139 | 2278 |
| | | 23 | 23810 | 8.0 | 2 | 3.69 | 969 | 1938 |
| | | 24 | 24810 | 8.0 | 4 | 4.39 | 478 | 1912 |
| | | 25 | 25810 | 8.0 | 2 | 2.69 | 183 | 366 |
| | | 26 | 26810 | 8.0 | 2 | 219 | 438 | 438 |
| | | 27 | 27810 | 8.0 | 2 | 3.46 | 346 | 346 |
| | | 28 | 28830 | 8.0 | 1 | 344 | 344 | 344 |
| | | 29 | 29830 | 8.0 | 2 | 3.46 | 692 | 692 |
| | | 30 | 30830 | 8.0 | 2 | 1164 | 2328 | 2328 |
| | | 31 | 31830 | 8.0 | 2 | 964 | 1908 | 1908 |
| | | 32 | 32830 | 8.0 | 2 | 300 | 300 | 300 |
| | | 33 | 33830 | 8.0 | 2 | 220 | 440 | 440 |
| | | 34 | 34830 | 8.0 | 2 | 1164 | 2328 | 2328 |
| | | 35 | 35830 | 8.0 | 2 | 2051 | 2102 | 2102 |
| | | 36 | 36830 | 8.0 | 2 | 297 | 297 | 297 |
| | | 37 | 37830 | 8.0 | 2 | 2667 | 667 | 1334 |
| | | 38 | 38830 | 8.0 | 4 | 4171 | 171 | 684 |
| | | 39 | 39830 | 8.0 | 4 | 4231 | 231 | 924 |
| | | 40 | 40830 | 8.0 | 4 | 4256 | 256 | 1024 |
| | | 41 | 41830 | 10.0 | 4 | 4260 | 260 | 1040 |
| | | 42 | 42830 | 10.0 | 4 | 4461 | 461 | 1844 |
| | | 43 | 43830 | 10.0 | 2 | 2.69 | 189 | 378 |
| | | 44 | 44830 | 10.0 | 2 | 1198 | 1198 | 2396 |
| | | 45 | 45830 | 10.0 | 2 | 1049 | 1049 | 2098 |
| | | 46 | 46830 | 10.0 | 2 | 2196 | 196 | 392 |
| | | 47 | 47830 | 10.0 | 4 | 4490 | 495 | 1980 |
| | | 48 | 48830 | 10.0 | 4 | 4715 | 715 | 2860 |
| | | 49 | 49830 | 10.0 | 4 | 4490 | 290 | 1160 |
| | | 50 | 50830 | 10.0 | 4 | 4490 | 490 | 1800 |

RESUMO DE AÇO

| AÇO | AÇO | BIAM | DIAM | TOTAL (m) | TOTAL (m) | PESO+10% (kg) | PESO+10% (kg) |
|---|---|---|---|---|---|---|---|
| CA50 | CA60 | 6.0 | 8.0 | 385.3 | 385.3 | 197.5 | 197.5 |
| | | 10.0 | 10.0 | 159.5 | 159.5 | 108.2 | 108.2 |
| CA50 | CA60 | 5.0 | 5.0 | 614.7 | 614.7 | 104.1 | 104.1 |
| PESO TOTAL | | | | | | | |
| CA50 | | | | 275.7 | 275.7 | | |
| CA60 | | | | 104.1 | 104.1 | | |

Vol. de concreto estrutural = 5.68 m³
Área de forma total = 97.45 m²

DATA | REVISÃO

PREFEITURA
Lorena

folha
11/11

obra: PROJETO QUADRA COBERTA COM VESTIÁRIO - ESCOLA APARECIDA GUEDES

proprietário: PREFEITURA MUNICIPAL DE LORENA

Fábio Marcondes
Prefeito Municipal

Marcos Aurélio Souza Anjos
Secretário de Obras e Planej. Urbano
Engº Civil - CREA: 506036111 0

Ana Carolina Sazo Tana
Engª Civil - CREA: 5069043325
Responsável Técnica

escala: 1/125

desenho: EST.

data: MAI/2015

descrição: ESTRUTURA DE CONCRETO
VIGAS NIVEL 320

Secretaria Municipal de Obras e Planejamento Urbano
Rua Comendador Custódio Vieira, nº 333, Edifício Guaypacaré, 1º andar, Centro
CEP: 12.600-030 - e-mail: planejamento@lorena.sp.gov.br