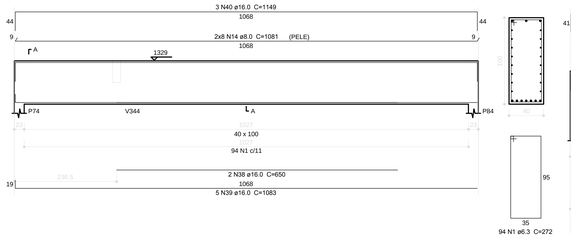
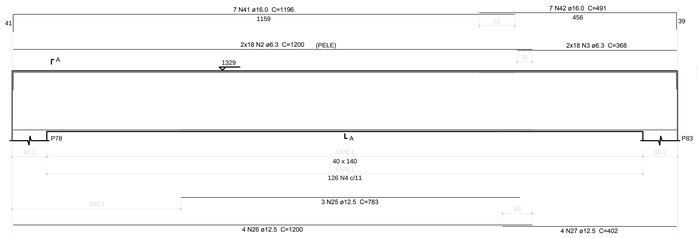
## V342
ESC 1:50



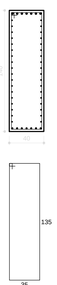

SEÇÃO A-A
ESC 1:25



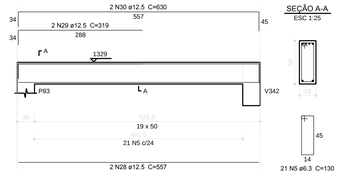

## V343
ESC 1:50




SEÇÃO A-A
ESC 1:25



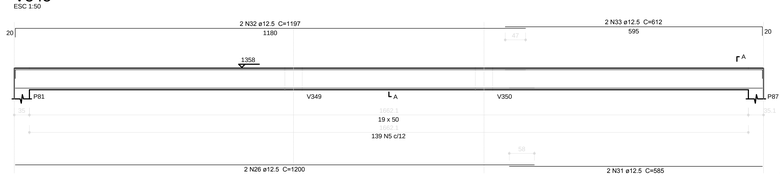

## V344
ESC 1:50



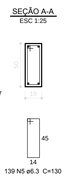

SEÇÃO A-A
ESC 1:25



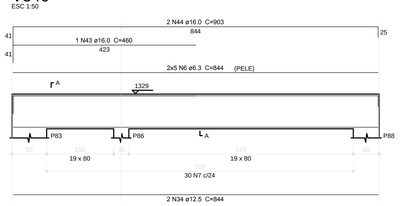

## V345
ESC 1:50



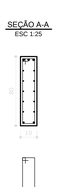

SEÇÃO A-A
ESC 1:25



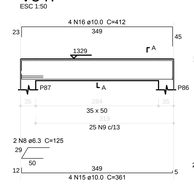

## V346
ESC 1:50



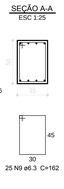

SEÇÃO A-A
ESC 1:25



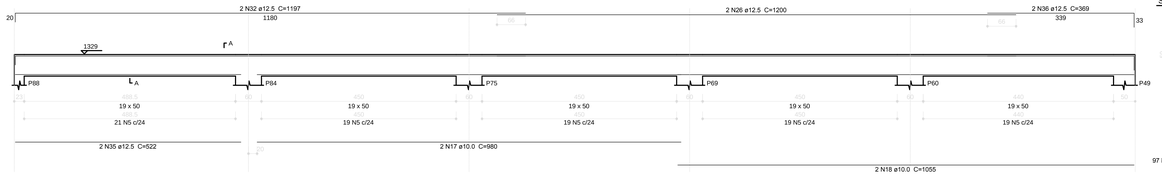

## V347
ESC 1:50



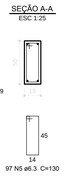

SEÇÃO A-A
ESC 1:25




## V348
ESC 1:50



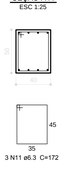

SEÇÃO A-A
ESC 1:25



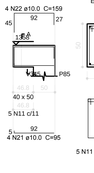

## V349
ESC 1:50



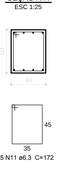

SEÇÃO A-A
ESC 1:25



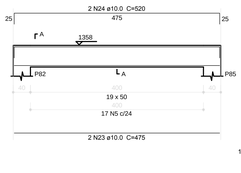

## V350
ESC 1:50



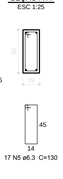

SEÇÃO A-A
ESC 1:25



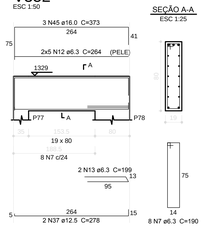

## V351
ESC 1:50




SEÇÃO A-A
ESC 1:25




## V352
ESC 1:50




SEÇÃO A-A
ESC 1:25




## Relação do aço

| | | |
|---|---|---|
| V342 | V343 | V344 |
| V345 | V346 | V347 |
| V348 | V349 | V350 |
| V351 | V352 | |

| AÇO | N | DIAM (mm) | QUANT (Barras) | UNIT (cm) | C.TOTAL (cm) |
|---|---|---|---|---|---|
| CA50 | 1 | 6.3 | 94 | 272 | 25568 |
| | 2 | 6.3 | 36 | 1200 | 43200 |
| | 3 | 6.3 | 36 | 368 | 13248 |
| | 4 | 6.3 | 126 | 352 | 44352 |
| | 5 | 6.3 | 274 | 130 | 35620 |
| | 6 | 6.3 | 10 | 844 | 8440 |
| | 7 | 6.3 | 38 | 190 | 7220 |
| | 8 | 6.3 | 2 | 125 | 250 |
| | 9 | 6.3 | 25 | 162 | 4050 |
| | 10 | 6.3 | 2 | 160 | 320 |
| | 11 | 6.3 | 8 | 172 | 1376 |
| | 12 | 6.3 | 10 | 264 | 2640 |
| | 13 | 6.3 | 2 | 199 | 398 |
| | 14 | 8.0 | 16 | 1081 | 17296 |
| | 15 | 10.0 | 4 | 361 | 1444 |
| | 16 | 10.0 | 4 | 412 | 1648 |
| | 17 | 10.0 | 2 | 980 | 1960 |
| | 18 | 10.0 | 2 | 1055 | 2110 |
| | 19 | 10.0 | 4 | 111 | 444 |
| | 20 | 10.0 | 4 | 141 | 564 |
| | 21 | 10.0 | 4 | 95 | 380 |
| | 22 | 10.0 | 4 | 159 | 636 |
| | 23 | 10.0 | 2 | 475 | 950 |
| | 24 | 10.0 | 2 | 520 | 1040 |
| | 25 | 12.5 | 3 | 783 | 2349 |
| | 26 | 12.5 | 8 | 1200 | 9600 |
| | 27 | 12.5 | 4 | 402 | 1608 |
| | 28 | 12.5 | 2 | 557 | 1114 |
| | 29 | 12.5 | 2 | 319 | 638 |
| | 30 | 12.5 | 2 | 630 | 1260 |
| | 31 | 12.5 | 2 | 585 | 1170 |
| | 32 | 12.5 | 4 | 1197 | 4788 |
| | 33 | 12.5 | 2 | 612 | 1224 |
| | 34 | 12.5 | 2 | 844 | 1688 |
| | 35 | 12.5 | 2 | 522 | 1044 |
| | 36 | 12.5 | 2 | 369 | 738 |
| | 37 | 12.5 | 2 | 278 | 556 |
| | 38 | 16.0 | 2 | 650 | 1300 |
| | 39 | 16.0 | 5 | 1083 | 5415 |
| | 40 | 16.0 | 3 | 1149 | 3447 |
| | 41 | 16.0 | 7 | 1196 | 8372 |
| | 42 | 16.0 | 7 | 491 | 3437 |
| | 43 | 16.0 | 1 | 460 | 460 |
| | 44 | 16.0 | 2 | 903 | 1806 |
| | 45 | 16.0 | 3 | 373 | 1119 |

## Resumo do aço

| AÇO | DIAM (mm) | C.TOTAL (m) | PESO + 10 % (kg) |
|---|---|---|---|
| CA50 | 6.3 | 1866.9 | 502.5 |
| | 8.0 | 173 | 75.1 |
| | 10.0 | 111.8 | 75.8 |
| | 12.5 | 277.8 | 294.3 |
| | 16.0 | 253.6 | 440.2 |
| PESO TOTAL (kg) | | | |
| CA50 | 1387.9 | | |

Volume de concreto (C-40) = 20.71 m³
Área de forma = 166.32 m²

## Relação do aço

| | | |
|---|---|---|
| V401 | V402 | V403 |
| V404 | V405 | V406 |
| V407 | V408 | |

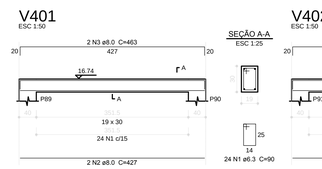
| AÇO | N | DIAM (mm) | QUANT (Barras) | UNIT (cm) | C.TOTAL (cm) |
|---|---|---|---|---|---|
| CA50 | 1 | 6.3 | 232 | 90 | 20880 |
| | 2 | 8.0 | 6 | 427 | 2562 |
| | 3 | 8.0 | 6 | 463 | 2778 |
| | 4 | 8.0 | 4 | 540 | 2160 |
| | 5 | 8.0 | 4 | 568 | 2272 |
| | 6 | 8.0 | 2 | 539 | 1078 |
| | 7 | 8.0 | 4 | 567 | 2268 |
| | 8 | 8.0 | 2 | 426 | 852 |
| | 9 | 8.0 | 2 | 462 | 924 |
| | 10 | 8.0 | 2 | 531 | 1062 |

## Resumo do aço

| AÇO | DIAM (mm) | C.TOTAL (m) | PESO + 10 % (kg) |
|---|---|---|---|
| CA50 | 6.3 | 208.8 | 56.2 |
| | 8.0 | 159.6 | 69.3 |
| PESO TOTAL (kg) | | | |
| CA50 | 125.5 | | |

Volume de concreto (C-40) = 2.21 m³
Área de forma = 30.59 m²

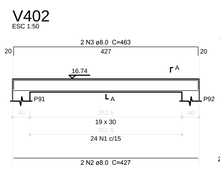
## V401
ESC 1:50




SEÇÃO A-A
ESC 1:25



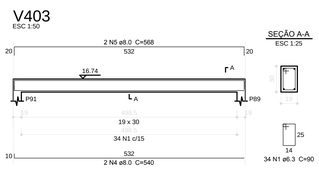

## V402
ESC 1:50




SEÇÃO A-A
ESC 1:25



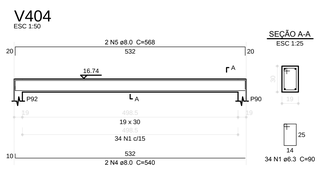

## V403
ESC 1:50




SEÇÃO A-A
ESC 1:25



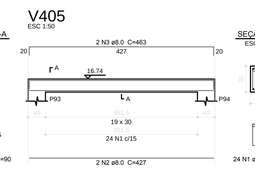

## V404
ESC 1:50




SEÇÃO A-A
ESC 1:25



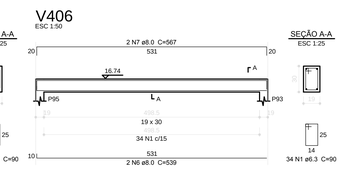

## V405
ESC 1:50




SEÇÃO A-A
ESC 1:25



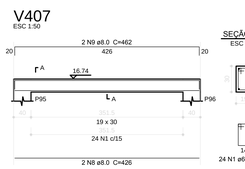

## V406
ESC 1:50




SEÇÃO A-A
ESC 1:25



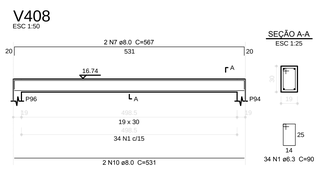

## V407
ESC 1:50




SEÇÃO A-A
ESC 1:25

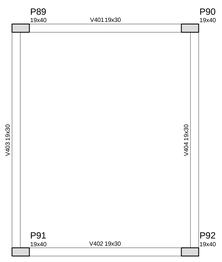



## V408
ESC 1:50




SEÇÃO A-A
ESC 1:25



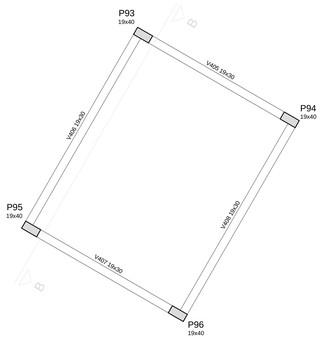




| Vigas | | | |
|---|---|---|---|
| Norme | Seção (cm) | Elevação (cm) | Nível (cm) |
| V401 | 19x30 | 0 | 1674 |
| V402 | 19x30 | 0 | 1674 |
| V403 | 19x30 | 0 | 1674 |
| V404 | 19x30 | 0 | 1674 |
| V405 | 19x30 | 0 | 1674 |
| V406 | 19x30 | 0 | 1674 |
| V407 | 19x30 | 0 | 1674 |
| V408 | 19x30 | 0 | 1674 |

| Características dos materiais | | |
|---|---|---|
| fck (kgf/cm²) | ECs (kgf/cm²) | Abatimento (cm) |
| 400 | 351259 | 8.00 |

Dimensão máxima do agregado = 19 mm

| Legenda dos Pilares |
|---|
| Pilar que morre |
| Pilar que passa |
| Pilar que nasce |
| Pilar com mudança de seção |




Forma do pavimento cx agua
escala 1:50

MINISTÉRIO DA EDUCAÇÃO
UNIVERSIDADE FEDERAL DE LAVRAS

PROJETO

TÍTULO:
PROJETO EXECUTIVO - ENGENHARIAS

CONTEÚDO:
PROJETO DE ESTRUTURA
VIGAS: V342 À V351

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: | ÁREA: (m²) | FOLHA: |
| INDICADA | 4772.00 m² | 32/40 |