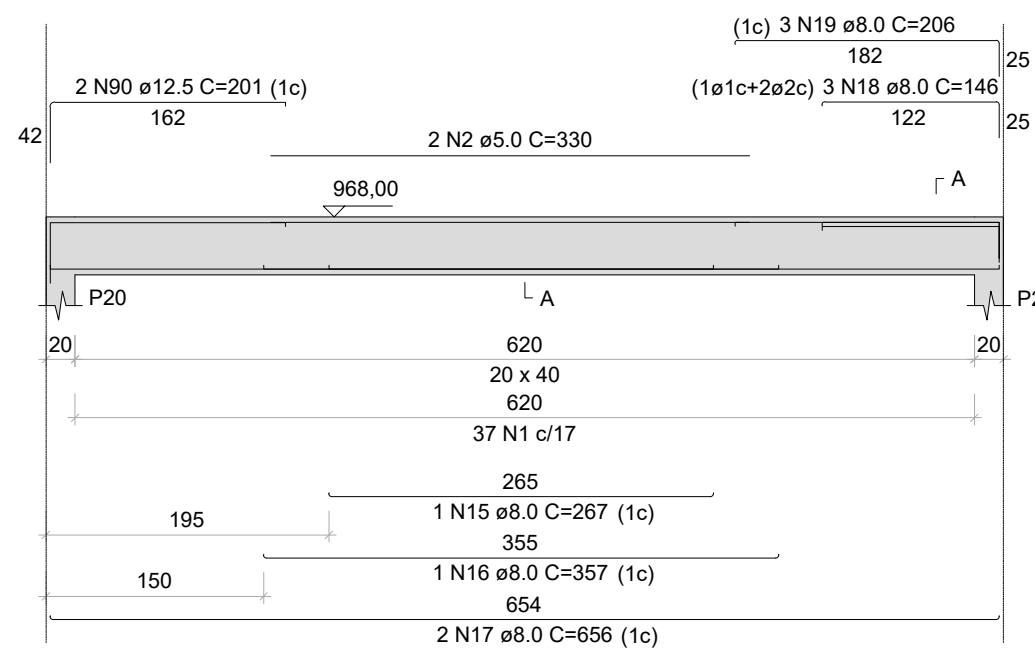


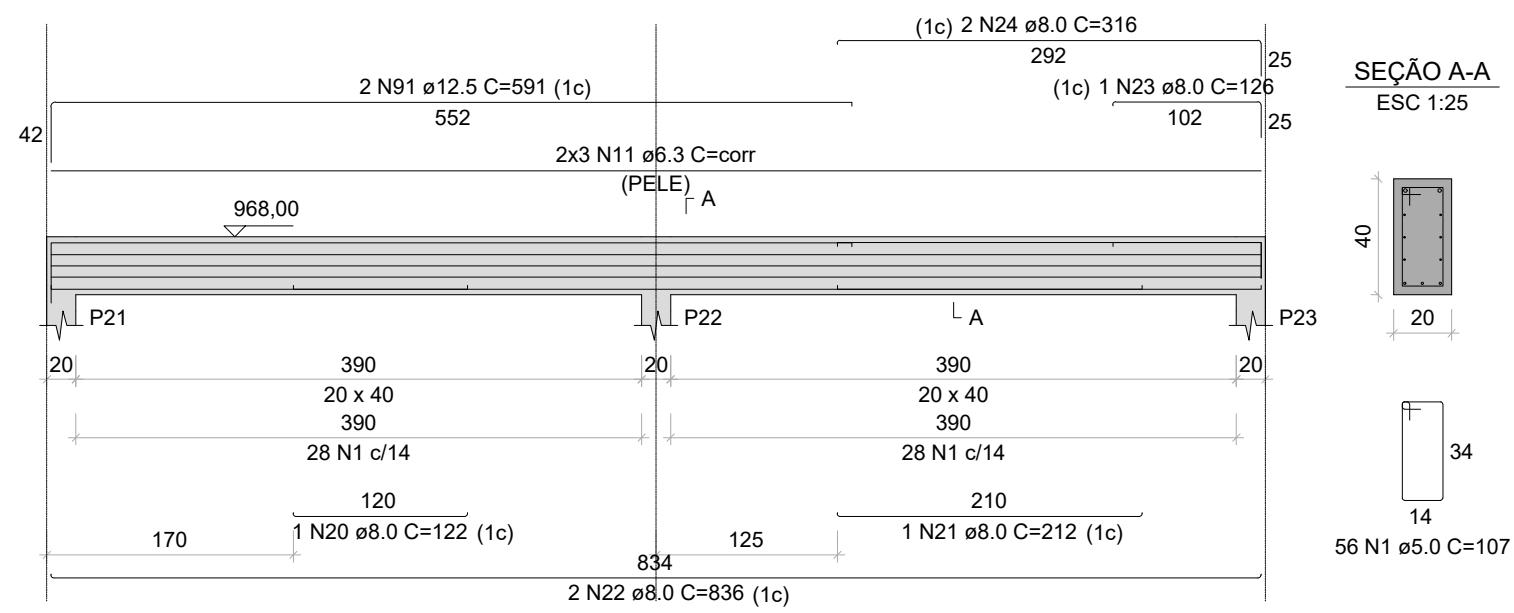
## V14

ESC 1:50



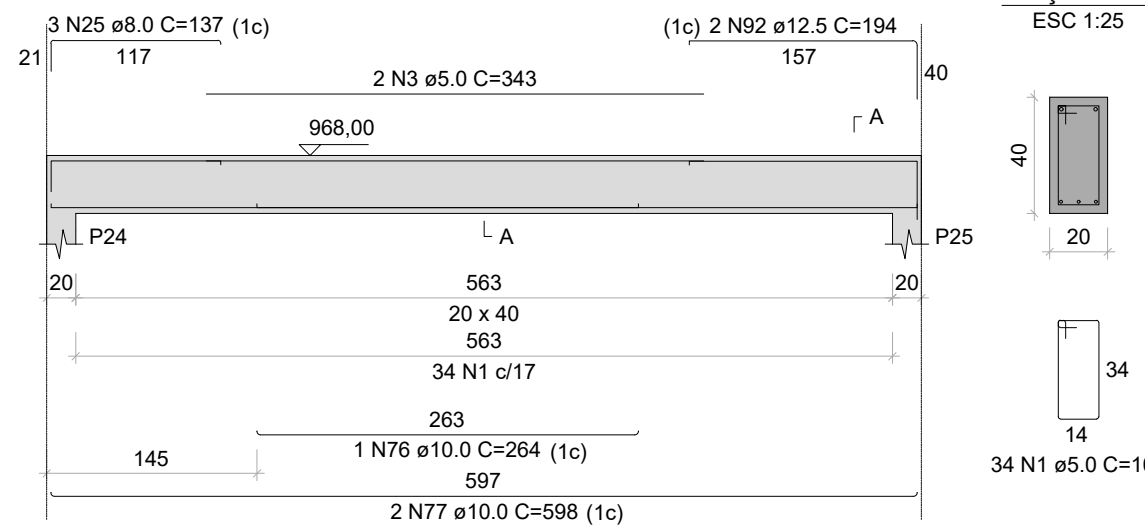
## V15

ESC 1:50



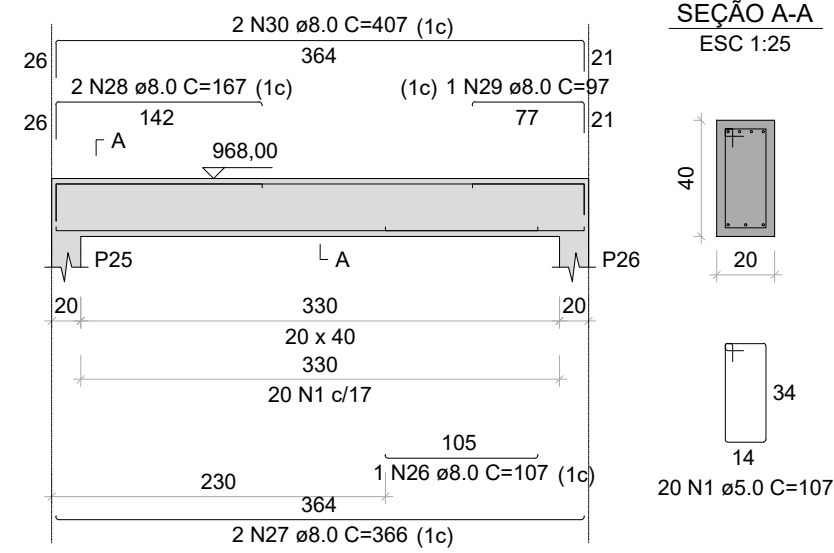
## V16

ESC 1:50



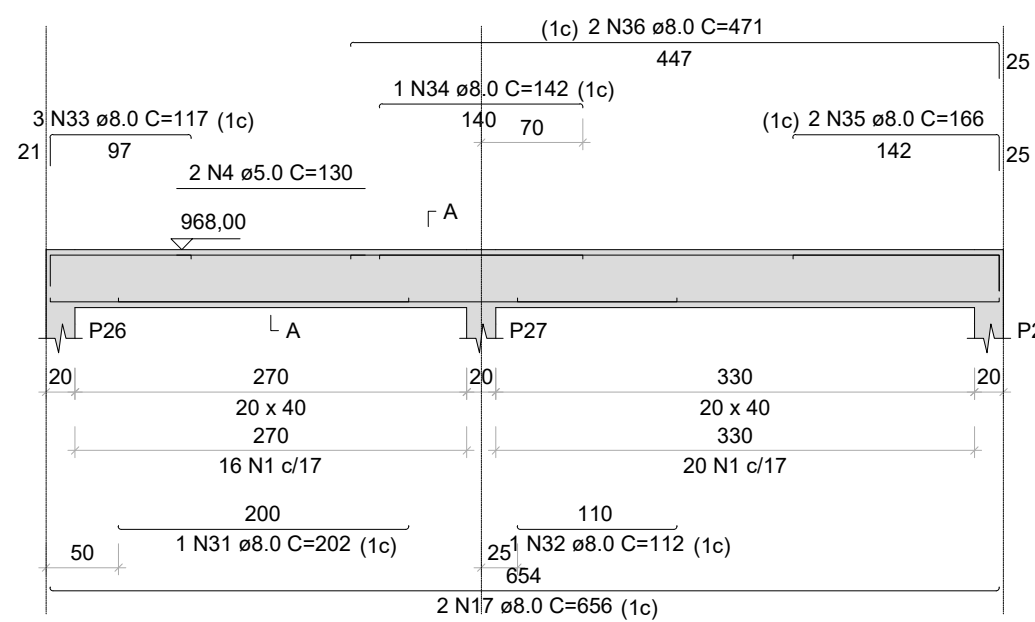
## V17

ESC 1:50



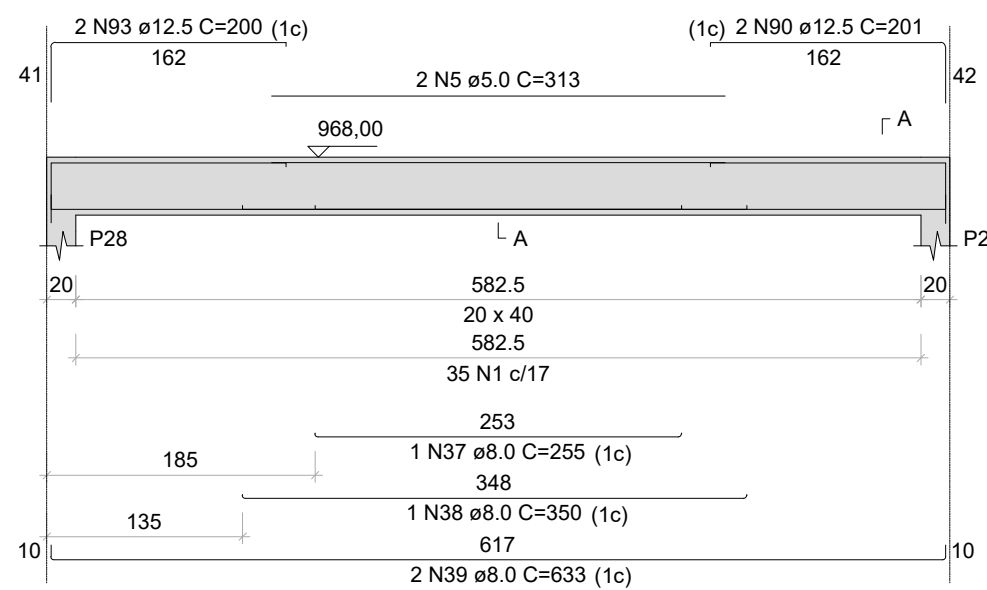
## V18

ESC 1:50



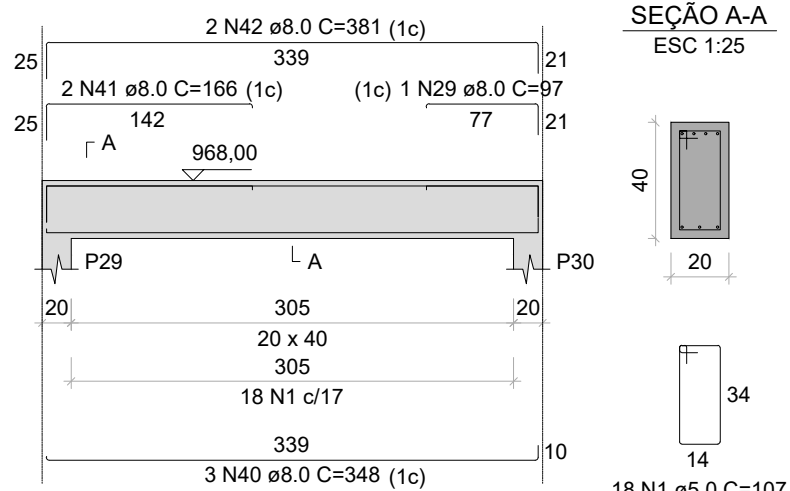
## V19

ESC 1:50



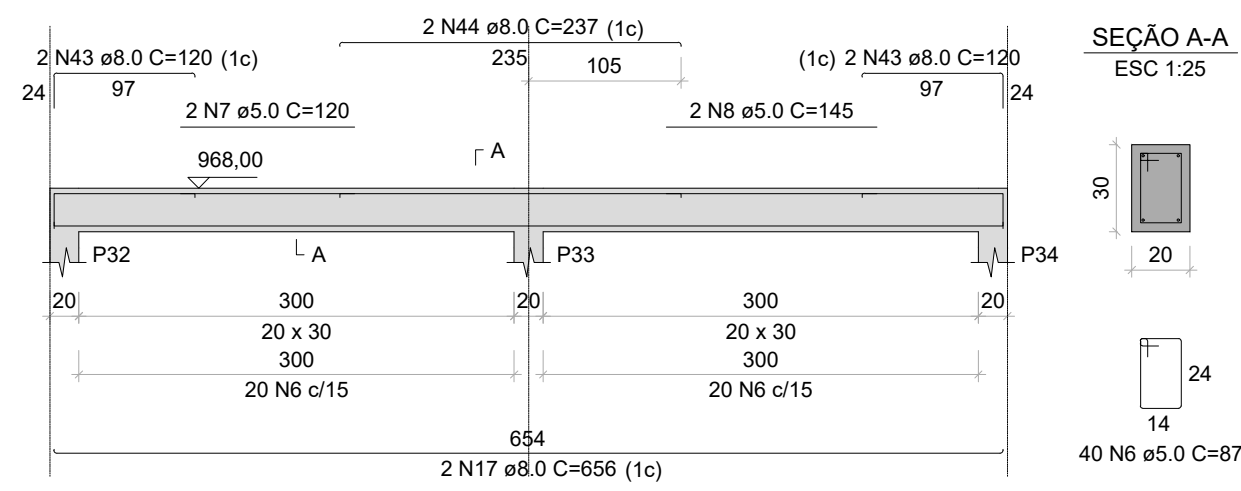
## V20

ESC 1:50



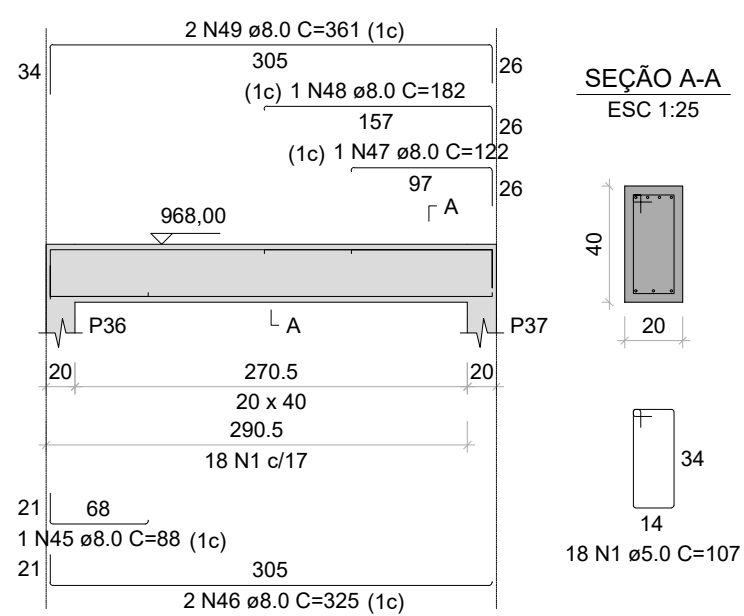
## V21

ESC 1:50



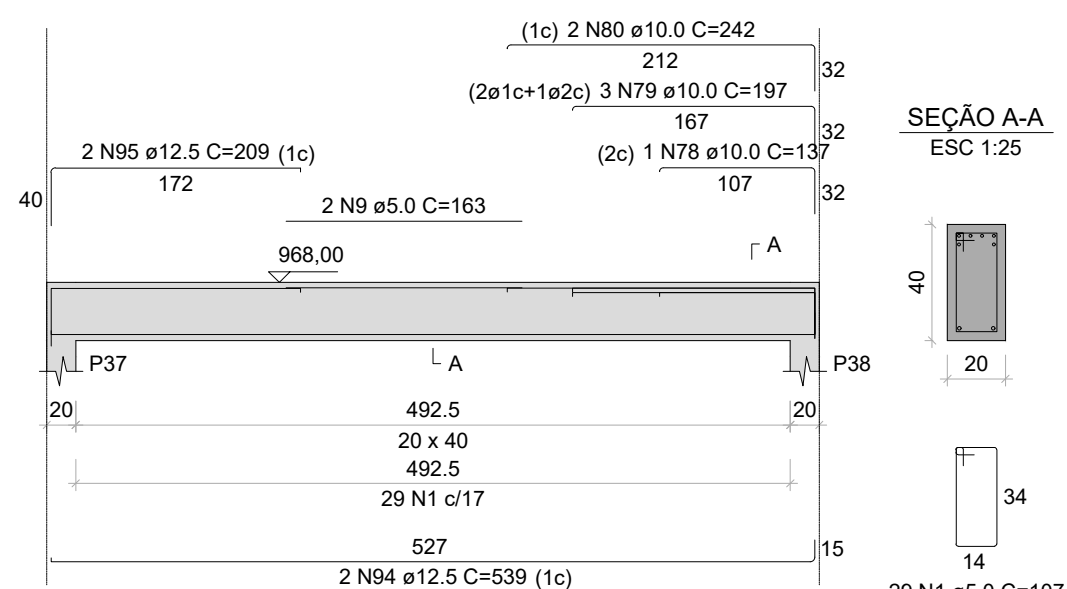
## V22

ESC 1:50



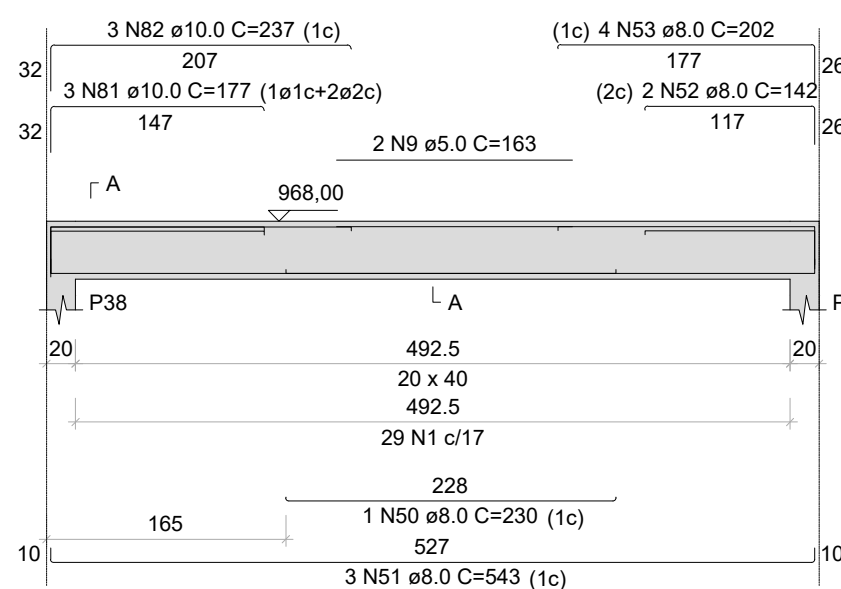
## V23

ESC 1:50



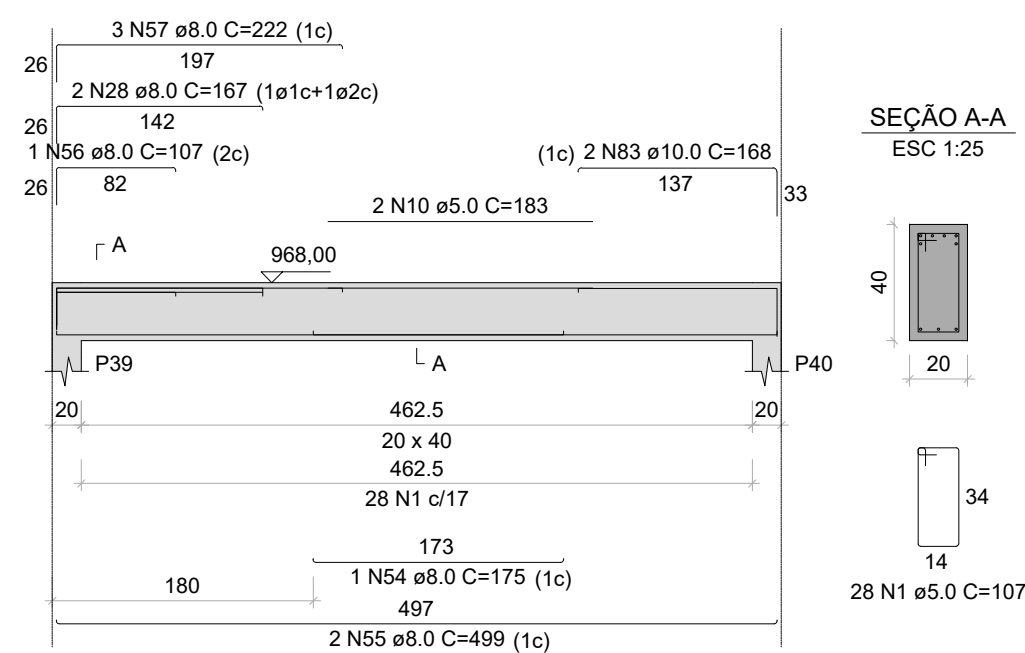
## V24

ESC 1:50



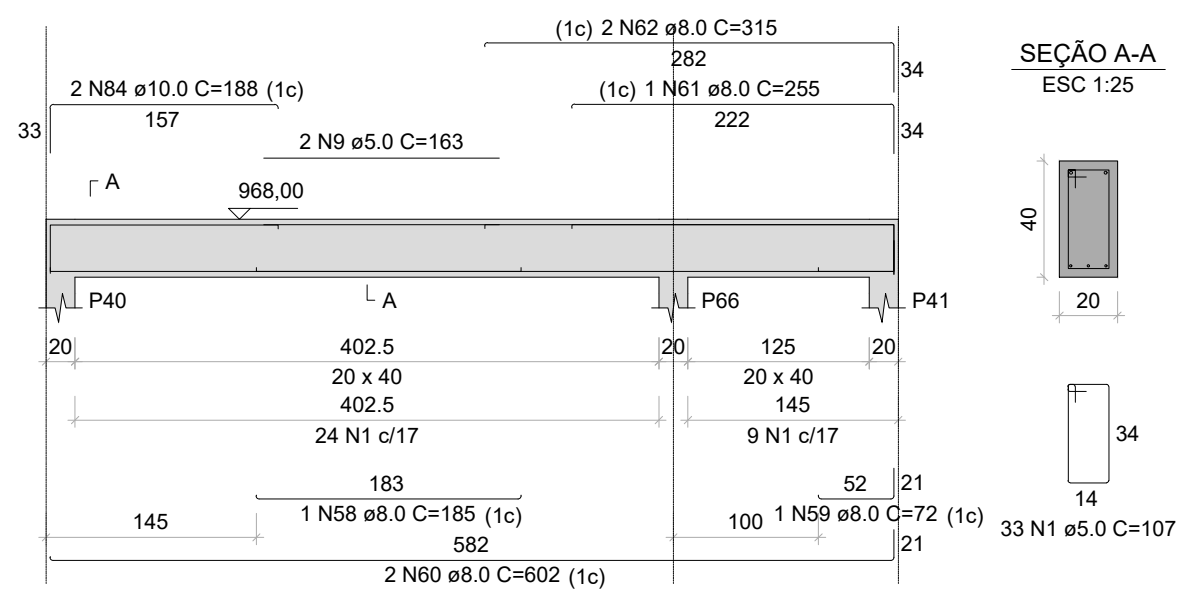
## V25

ESC 1:50



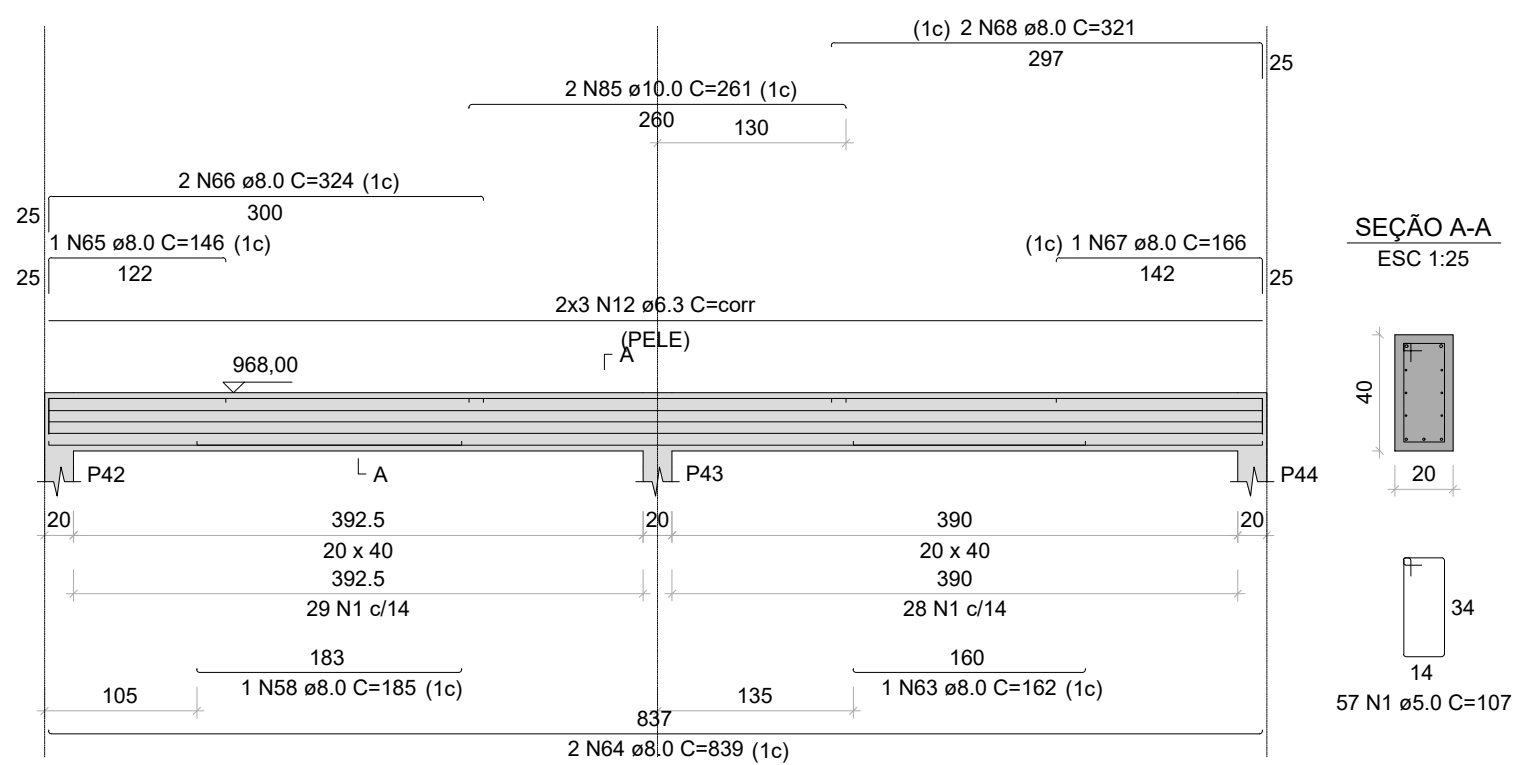
## V26

ESC 1:50



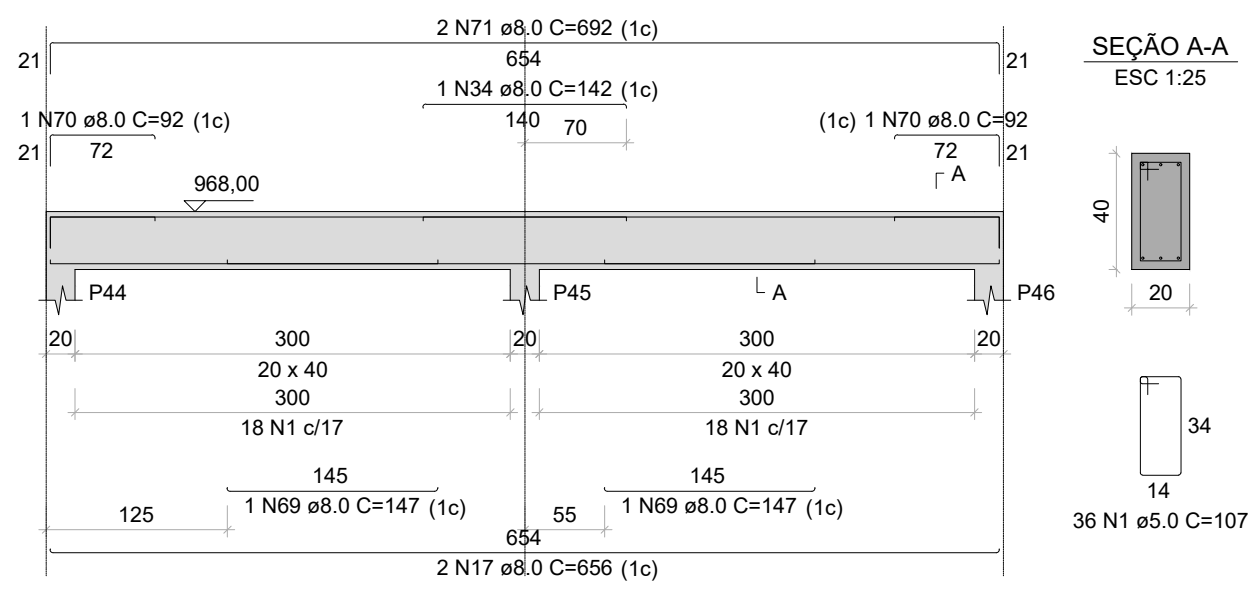
## V27

ESC 1:50



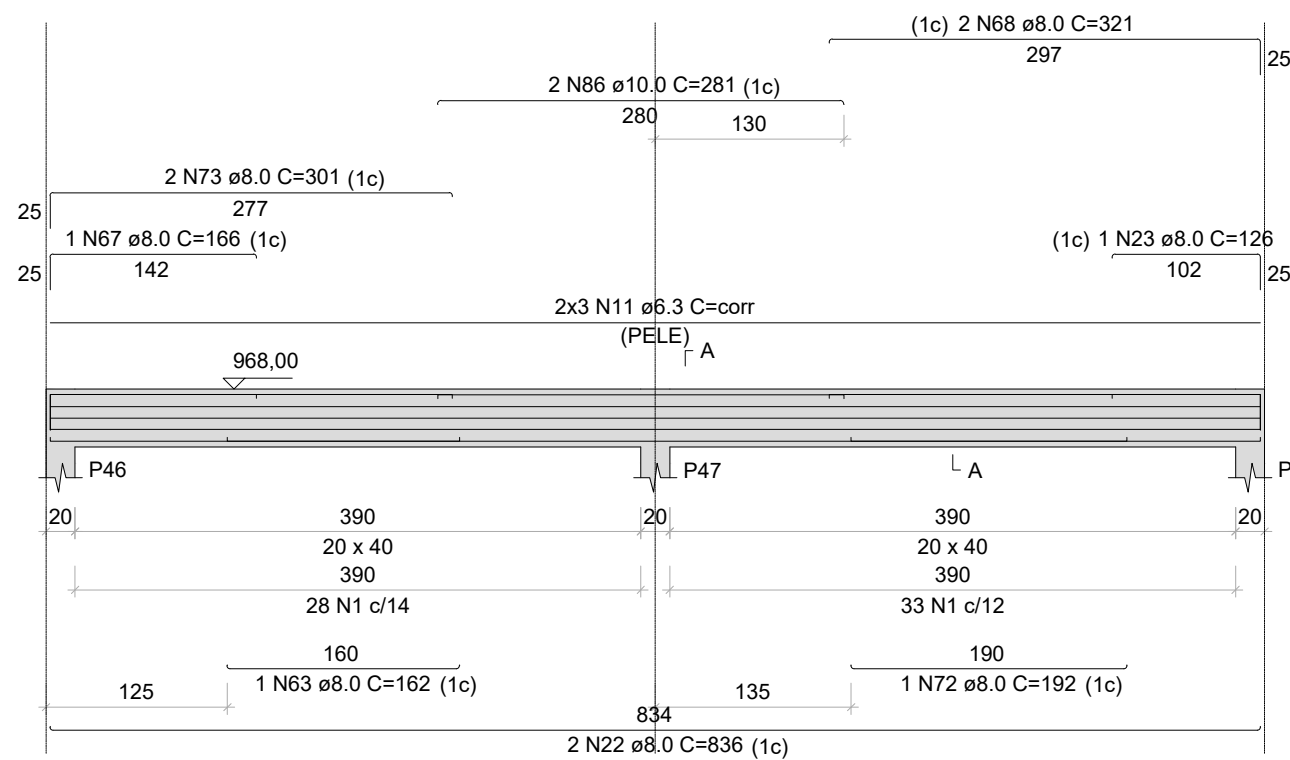
## V28

ESC 1:50



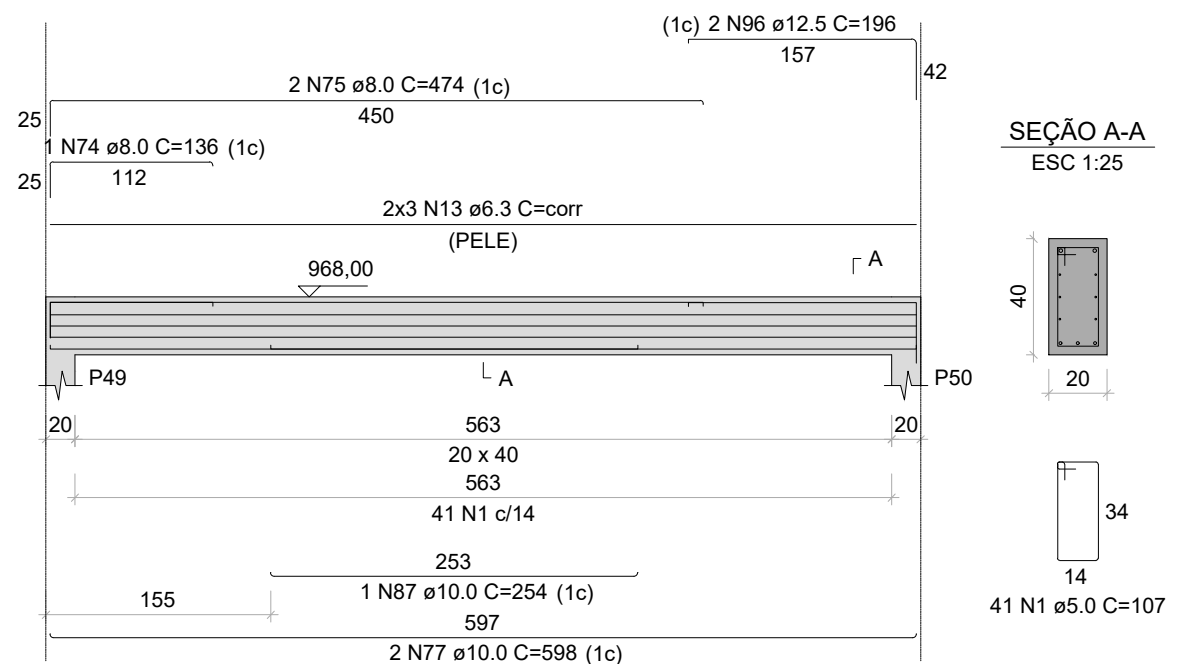
## V29

ESC 1:50



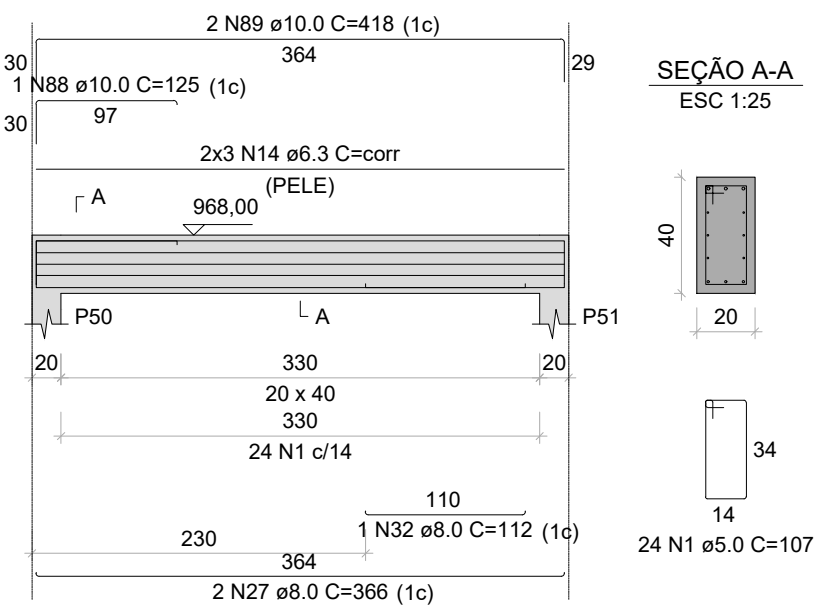
## V30

ESC 1:50



## V31

ESC 1:50



## RELAÇÃO DO AÇO

| AÇO  | N  | DIAM (mm) | QUANT | C.UNIT (cm) | C.TOTAL (cm) |
|------|----|-----------|-------|-------------|--------------|
| CA50 | 1  | 5.0       | 592   | 107         | 63344        |
|      | 2  | 5.0       | 2     | 330         | 660          |
|      | 3  | 5.0       | 2     | 343         | 686          |
|      | 4  | 5.0       | 2     | 130         | 260          |
|      | 5  | 5.0       | 2     | 313         | 626          |
|      | 6  | 5.0       | 48    | 87          | 3480         |
|      | 7  | 5.0       | 2     | 120         | 240          |
|      | 8  | 5.0       | 2     | 145         | 290          |
|      | 9  | 5.0       | 6     | 163         | 978          |
|      | 10 | 5.0       | 2     | 183         | 366          |
| CA50 | 11 | 6.3       | 12    | corr        | 10008        |
|      | 12 | 6.3       | corr  | 5022        | 438          |
|      | 13 | 6.3       | corr  | 3582        | 272          |
|      | 14 | 6.3       | corr  | 2184        | 168          |
|      | 15 | 8.0       | 1     | 267         | 480          |
|      | 16 | 8.0       | 1     | 357         | 357          |
|      | 17 | 8.0       | 8     | 656         | 5248         |
|      | 18 | 8.0       | 3     | 146         | 438          |
|      | 19 | 8.0       | 3     | 206         | 618          |
|      | 20 | 8.0       | 1     | 122         | 122          |
|      | 21 | 8.0       | 1     | 212         | 212          |
|      | 22 | 8.0       | 4     | 636         | 3344         |
|      | 23 | 8.0       | 2     | 126         | 252          |
|      | 24 | 8.0       | 2     | 316         | 632          |
|      | 25 | 8.0       | 3     | 137         | 411          |
|      | 26 | 8.0       | 1     | 107         | 107          |
|      | 27 | 8.0       | 4     | 366         | 1464         |
|      | 28 | 8.0       | 4     | 167         | 668          |
|      | 29 | 8.0       | 2     | 97          | 194          |
|      | 30 | 8.0       | 2     | 407         | 814          |
|      | 31 | 8.0       | 1     | 202         | 202          |
|      | 32 | 8.0       | 2     | 112         | 224          |
|      | 33 | 8.0       | 3     | 117         | 351          |
|      | 34 | 8.0       | 3     | 142         | 284          |
|      | 35 | 8.0       | 2     | 166         | 332          |
|      | 36 | 8.0       | 2     | 471         | 942          |
|      | 37 | 8.0       | 1     | 255         | 255          |
|      | 38 | 8.0       | 1     | 350         | 350          |
|      | 39 | 8.0       | 2     | 633         | 1266         |
|      | 40 | 8.0       | 1     | 348         | 1044         |
|      | 41 | 8.0       | 2     | 166         | 332          |
|      | 42 | 8.0       | 2     | 381         | 762          |
|      | 43 | 8.0       | 2     | 120         | 480          |
|      | 44 | 8.0       | 2     | 237         | 474          |
|      | 45 | 8.0       | 1     | 88          | 88           |
|      | 46 | 8.0       | 1     | 325         | 650          |
|      | 47 | 8.0       | 1     | 122         | 122          |
|      | 48 | 8.0       | 1     | 182         | 182          |
|      | 49 | 8.0       | 2     | 361         | 722          |
|      | 50 | 8.0       | 1     | 230         | 230          |
|      | 51 | 8.0       | 3     | 543         | 1629         |
|      | 52 | 8.0       | 2     | 142         | 284          |
|      | 53 | 8.0       | 4     | 202         | 808          |
|      | 54 | 8.0       | 1     | 175         | 175          |
|      | 55 | 8.0       | 2     | 499         | 998          |
|      | 56 | 8.0       | 1     | 107         | 107          |
|      | 57 | 8.0       | 3     | 222         | 666          |
|      | 58 | 8.0       | 2     | 185         | 370          |
|      | 59 | 8.0       | 1     | 72          | 72           |
|      | 60 | 8.0       | 2     | 602         | 1204         |
|      | 61 | 8.0       | 1     | 255         | 255          |
|      | 62 | 8.0       | 2     | 315         | 630          |
|      | 63 | 8.0       | 2     | 162         | 324          |
|      | 64 | 8.0       | 2     | 839         | 1678         |
|      | 65 | 8.0       | 1     | 146         | 146          |
|      | 66 | 8.0       | 2     | 324         | 648          |
|      | 67 | 8.0       | 2     | 166         | 332          |
|      | 68 | 8.0       | 2     | 321         | 642          |
|      | 69 | 8.0       | 2     | 147         | 294          |
|      | 70 | 8.0       | 2     | 92          | 184          |
|      | 71 | 8.0       | 2     | 692         | 1384         |
|      | 72 | 8.0       | 1     | 192         | 192          |
|      | 73 | 8.0       | 2     | 301         | 602          |
|      | 74 | 8.0       | 1     | 136         | 136          |
|      | 75 | 8.0       | 2     | 474         | 948          |
|      | 76 | 10.0      | 1     | 264         | 264          |
|      | 77 | 10.0      | 4     | 598         | 2392         |
|      | 78 | 10.0      | 1     | 137         | 137          |
|      | 79 | 10.0      | 3     | 197         | 591          |
|      | 80 | 10.0      | 2     | 242         | 484          |
|      | 81 | 10.0      | 3     | 177         | 531          |
|      | 82 | 10.0      | 3     | 237         | 711          |
|      | 83 | 10.0      | 2     | 168         | 336          |
|      | 84 | 10.0      | 1     | 188         | 188          |
|      | 85 | 10.0      | 2     | 261         | 522          |
|      | 86 | 10.0      | 2     | 281         | 562          |
|      | 87 | 10.0      | 1     | 254         | 254          |
|      | 88 | 10.0      | 1     | 125         | 125          |
|      | 89 | 10.0      | 2     | 418         | 836          |
|      | 90 | 12.5      | 4     | 201         | 804          |
|      | 91 | 12.5      | 2     | 591         | 1182         |
|      | 92 | 12.5      | 2     | 194         | 388          |
|      | 93 | 12.5      | 2     | 200         | 400          |
|      | 94 | 12.5      | 2     | 539         | 1078         |
|      | 95 | 12.5      | 2     | 209         | 418          |
|      | 96 | 12.5      | 2     | 196         | 392          |

## RESUMO DO AÇO

| AÇO             | DIAM (mm) | C.TOTAL (m) | PESO + 10% (kg) |
|-----------------|-----------|-------------|-----------------|
| CA50            | 6.3       | 208         | 56              |
|                 | 8.0       | 397.9       | 172.7           |
|                 | 10.0      | 81.2        | 55.1            |
|                 | 12.5      | 46.6        | 49.4            |
| CA60            | 5.0       | 709.3       | 120.3           |
| PESO TOTAL (kg) |           |             |                 |
| CA50            | 333.2     |             |                 |
| CA60            | 120.3     |             |                 |

Volume de concreto fck 3,0kN/cm² (C-30) = 7.63 m³  
Área de forma = 66.47 m²

|                       |   |                               |          |
|-----------------------|---|-------------------------------|----------|
| 06                    | 21/11/22  | REVISÃO CONFORME NOTA TÉCNICA | ATACIZIO |
| REVISÃO               | DATA  | DESCRIÇÃO                     | RESP.    |
| EMPRESA               | MARKA ARQUITETURA E ENGENHARIA LTDA<br>RUA PROFESSOR ABEYARD, 279, SALA 9<br>CENTRO, SETE LAGOAS/MG<br>apoio@markaprojetos.com.br<br>(31) 3177-4235<br>www.markaprojetos.com.br |                               |          |
| EMPREENHIMENTO - OBRA | ESCOLA MUNICIPAL BELVEDERE<br>RUA JOSÉ COELHO, RUA CANADÁ E RUA SÉRGIO JACOWLEWSKI<br>B. SIDERÓRGICO - CONSELHEIRO LAFAIETE/MG  |                               |          |
| ASSUNTO               | PRÓJETO DE ESTRUTURAS DE CONCRETO<br>ARMAÇÃO DAS VIGAS-BLOCO 01   |                               |          |
| ESPECIALIDADE         | ESTRUTURAL  |                               |          |
| FASE DO PROJETO       | EXECUTIVO   |                               |          |
| RESPONSÁVEL PROJETO   | JOSE ATACIZIO DA FE<br>ENC. ORÇ. ORÇ. ORÇ. 27.669/9   |                               |          |
| COORDENADOR PROJETO   | KARINE NARDY  |                               |          |
| PROJETISTA            | JOSE ATACIZIO DA FE   |                               |          |
| ESCALA                | INDICADA  |                               |          |
| DATA                  | 21/11/22  |                               |          |
| ARQUIVO               | 15  |                               |          |