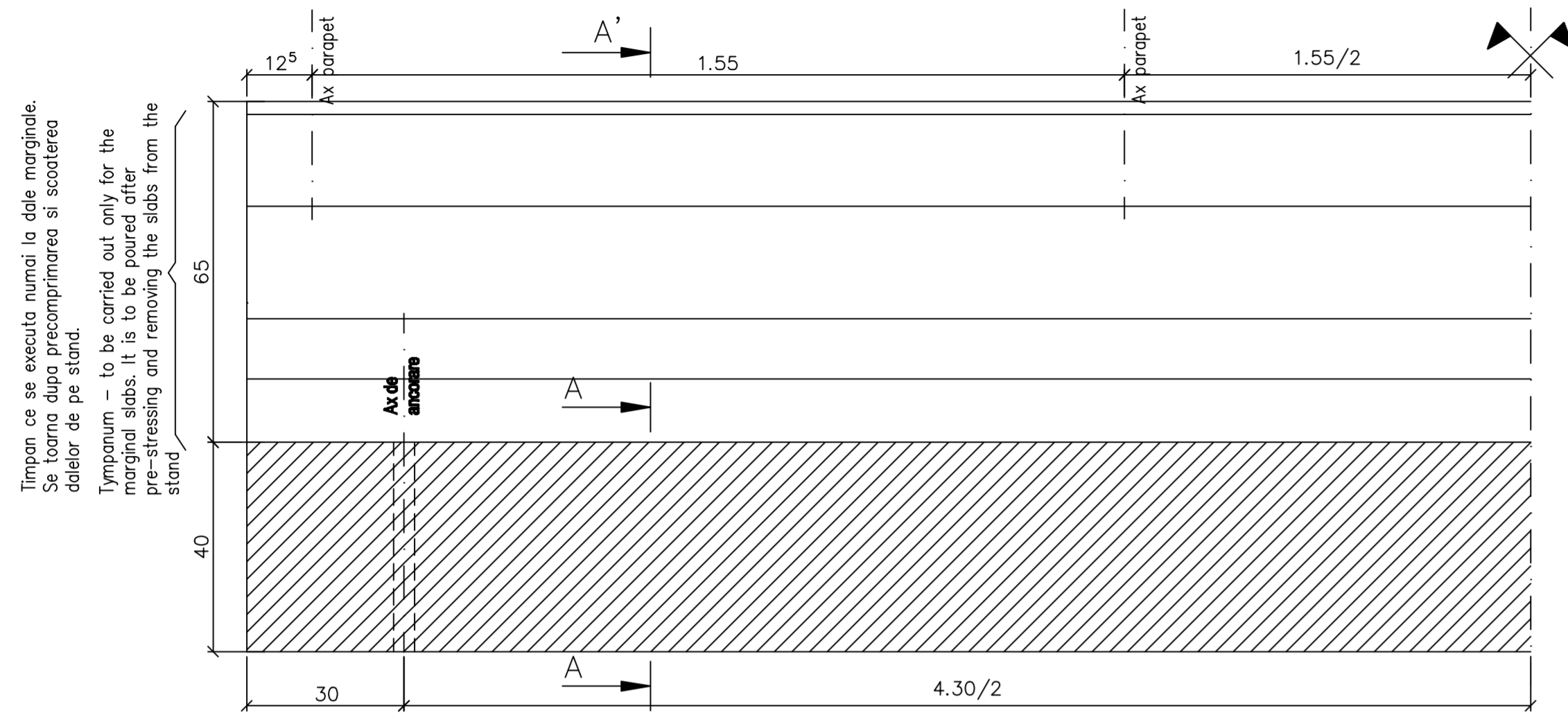
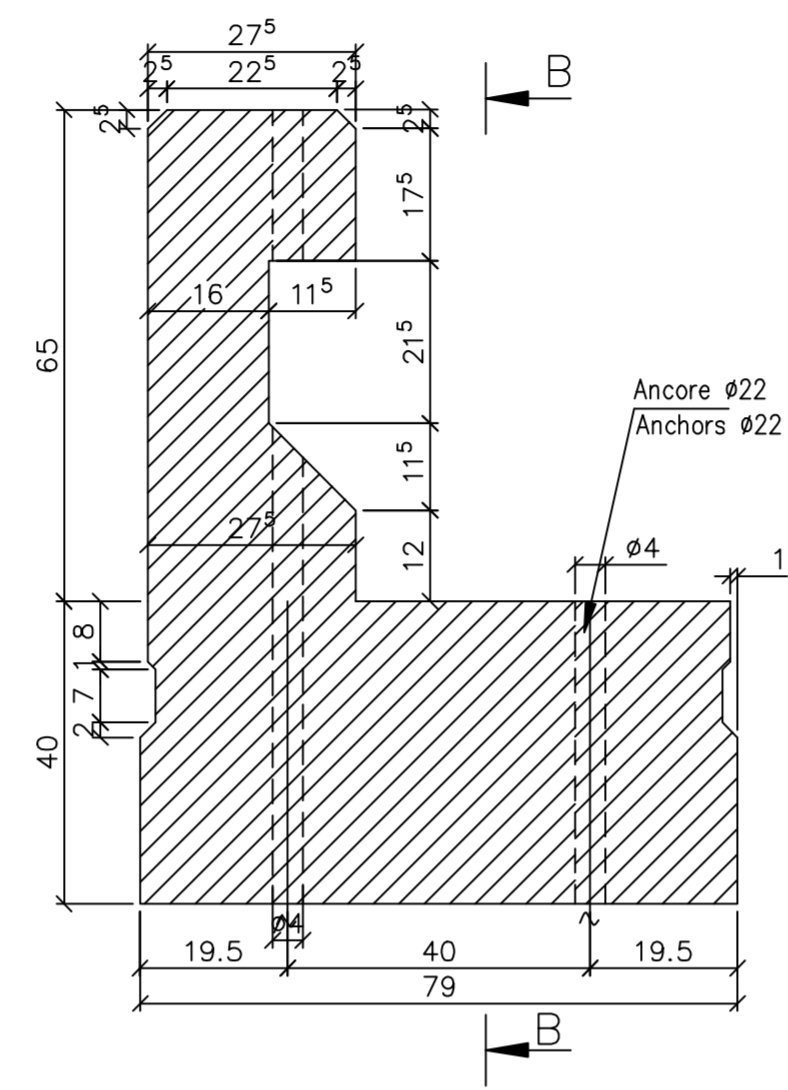


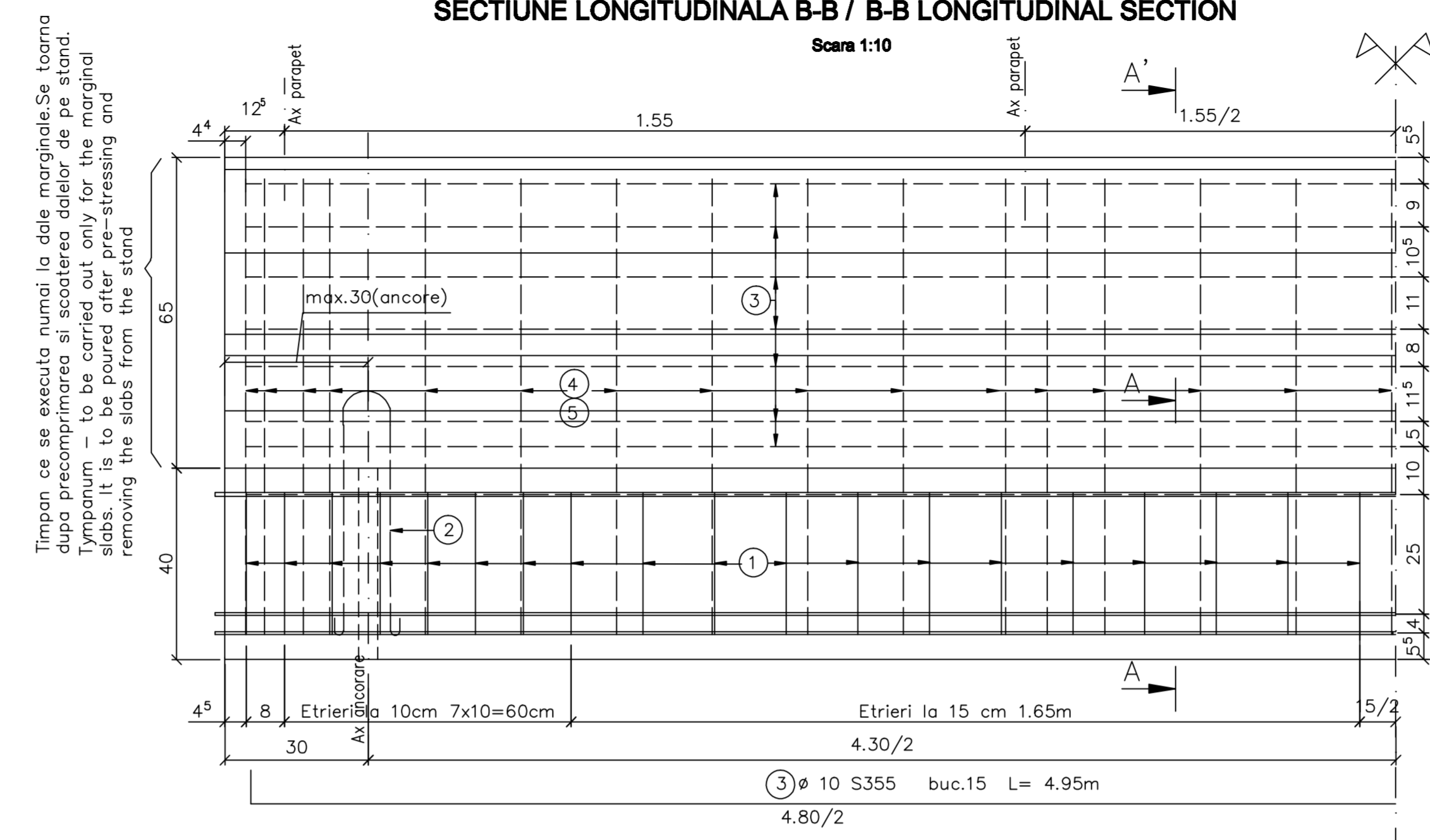
**SECTIUNE LONGITUDINALA B-B
B-B LONGITUDINAL SECTION**



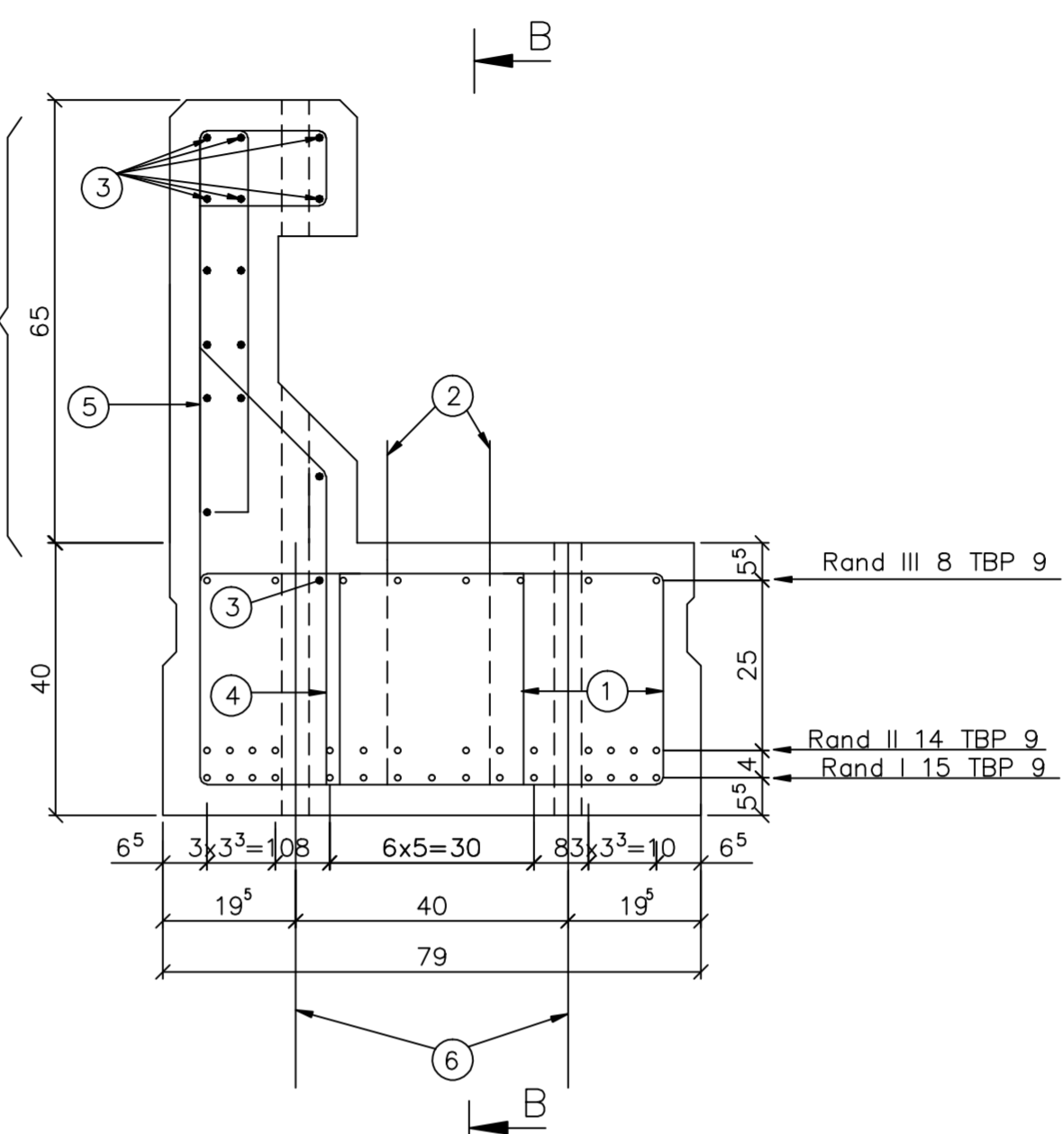
**DALA MARGINALA/MARGINAL SLAB
SECTIUNE TRANSVERSALA A-A'
A-A' CROSS SECTION**



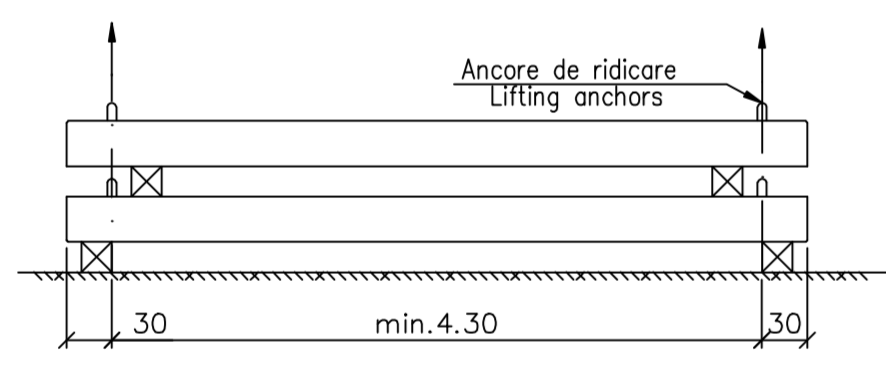
SECTIUNE LONGITUDINALA B-B / B-B LONGITUDINAL SECTION



**DALA MARGINALA /MARGINAL SLAB
SECTIUNE TRANSVERSALA A-A' / A-A' CROSS SECTION**



**CONDITII DE MANIPULARE SI DEPOZITARE
HANDLING AND STORAGE CONDITIONS**



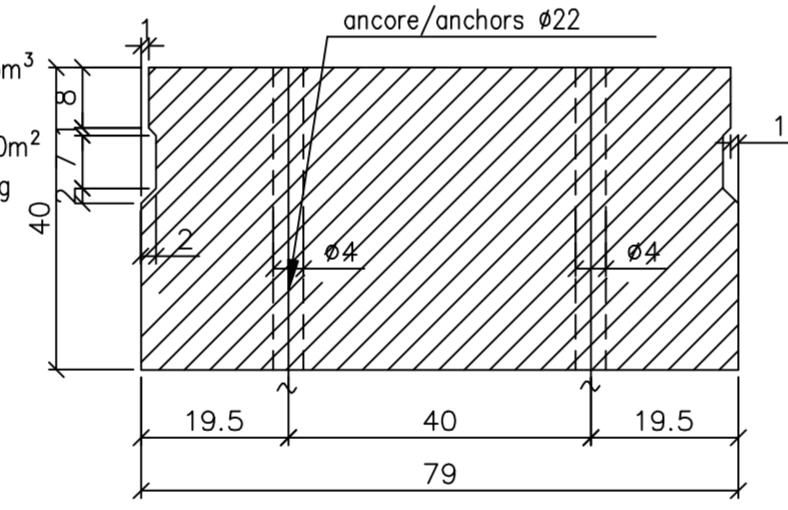
**CARACTERISTICI DALA MARGINALA
EDGE SLAB CHARACTERISTICS**

| | |
|---|---------------------|
| Beton clasa C35/45(Concrete)..... | 1.55m ³ |
| Beton clasa C35/45(Concrete)..... | 0.75m ³ |
| Greutate(Weight)..... | 4.00t |
| Suprafata cofraj(Surface shuttering)..... | 6.00m ² |
| Otel beton S355(Steel)..... | 16.80m ² |
| Otel beton S235(Steel)..... | 195kg |
| Otel beton S345(Steel)..... | 10kg |
| Otel beton S345(Steel)..... | 10kg |
| Toroane TBP9(din 7#3mmSBPI)(Strands)..... | 75kg |

**CARACTERISTICI DALA CURENTA
CURRENT SLAB CHARACTERISTICS**

| | |
|---|--------------------|
| Beton clasa C35/45(Concrete)..... | 1.55m ³ |
| Beton clasa C35/45(Concrete)..... | 0.75m ³ |
| Greutate(Weight)..... | 4.00t |
| Suprafata cofraj(Surface shuttering)..... | 9.10m ² |
| Otel beton S355(Steel)..... | 83 kg |
| Otel beton S235(Steel)..... | 10kg |
| Otel beton S345(Steel)..... | 10kg |
| Toroane TBP9(din 7#3mmSBPI)(Strands)..... | 75kg |

**DALA CURENTA/INTERMEDIARY SLAB
SECTIUNE TRANSVERSALA A-A
A-A CROSS SECTION**



**EXTRAS DE ARMATURA DALA MARGINALA
STANDARD FOR REINFORCEMENT MARGINAL SLAB**

| MARCA | DIAMETRU | BUCATI ASEMENEA | LUNGIME PE BUCATA | LUNGIME PE DIAMETRU | | | |
|---------------------------|----------|-----------------|-------------------|---------------------|-------|-------|--------|
| | | | | S355 | S235 | S345 | TBP9 |
| 1 | 10 | 76 | 1.75 | 133.00 | | | |
| 2 | 16 | 4 | 1.45 | | 5.80 | | |
| 3 | 10 | 15 | 4.95 | 74.25 | | | |
| 4 | 10 | 31 | 1.85 | 57.35 | | | |
| 5 | 10 | 31 | 1.60 | 49.60 | | | |
| 6 | 22 | 4 | 0.80 | | | 3.20 | |
| Rand III 8 TBP 9 | 8 | | * 5.15 | | | | 41.20 |
| Rand II 14 TBP 9 | 14 | | * 5.15 | | | | 72.10 |
| Rand I 15 TBP 9 | 15 | | * 5.15 | | | | 77.25 |
| LUNGIMI PE DIAMETRE (m) | | | | 314.20 | 5.80 | 3.20 | 190.55 |
| GREUTATI PE ml (Kg/ml) | | | | 0.617 | 1.578 | 2.983 | 0.390 |
| GREUTATI PE DIAMETRU (Kg) | | | | 195,00 | 10,00 | 11,00 | 74,50 |
| GREUTATE TOTALA | | | | 195 | 10 | 10 | 75 |

**EXTRAS DE ARMATURA DALA CURENTA
STANDARD FOR REINFORCEMENT INTERMEDIARY SLAB**

| MARCA | DIAMETRU | BUCATI ASEMENEA | LUNGIME PE BUCATA | LUNGIME PE DIAMETRU | | | |
|---------------------------|----------|-----------------|-------------------|---------------------|-------|-------|--------|
| | | | | S355 | S235 | S345 | TBP9 |
| 1 | 10 | 76 | 1.75 | 133.00 | | | |
| 2 | 16 | 4 | 1.45 | | 5.80 | | |
| 3 | 10 | 15 | 4.95 | 74.25 | | | |
| 4 | 10 | 31 | 1.85 | 57.35 | | | |
| 5 | 10 | 31 | 1.60 | 49.60 | | | |
| 6 | 22 | 4 | 0.80 | | | 3.20 | |
| Rand III 8 TBP 9 | 8 | | * 5.15 | | | | 41.20 |
| Rand II 15 TBP 9 | 15 | | * 5.15 | | | | 77.25 |
| LUNGIMI PE DIAMETRE (m) | | | | 133.00 | 5.80 | 3.20 | 190.55 |
| GREUTATI PE ml (Kg/ml) | | | | 0.617 | 1.578 | 2.983 | 0.390 |
| GREUTATI PE DIAMETRU (Kg) | | | | 83,00 | 10,00 | 11,00 | 74,50 |
| GREUTATE TOTALA | | | | 83 | 10 | 10 | 75 |

* INCLUSIV PIERDERI TEHNOLOGICE 5%

NOTA

1. Datele marginale s-au prevazut armaturile (mustatiile) marca 1, 2, 3, 4, 5, 6 pentru armarea timpanului. Timpanul se va executa din beton marca C35/45 si se va turna numai dupa scoaterea dalelor de pe stand (transmiterea precomprimarii).
2. Pozitia armaturilor, deajjarilor si gaurilor se vor respecta cu strictete.

NOTA

1. Reinforcing bars (extensions) mark 1, 2, 3, 4, 5, 6 were provided for the marginal slabs to reinforce the tympanum. The tympanum will be made of C35/45 class concrete and will be poured only after taking the slabs out of the stand (pre-stressing transmission).
2. The position of the reinforcing bars, of the concrete removal places and of the holes will be strictly observed.

NOTA

1. Dalele se vor executa din beton armat precomprimat clasa C35/45 cu toroane tip TBP9, alcatuite din cite 7#3mm S.B.P.I.
2. La dimensionare s-au avut in vedere urmatoarele elemente:
 - caracteristici materiale conform SR EN 1992-1-1.2004
 - forta de intindere a toroanelor $\sigma=13.500\text{kg/cm}^2$
 - scaparea toroanelor la blocarea pe stand $\lambda=3\text{mm}$.
 - temperatura aburului la tratarea termica $t=70\text{C}$.
 - rezistenta minima a betonului la transferul precomprimarii va fi corespunzator clasei C35/45
 - momente maxime: $M_a=24.60\text{ tfm}$ $M_c=32.00\text{ tfm}$.
3. Transmiterea precomprimarii se va realiza in mod lent.

NOTA

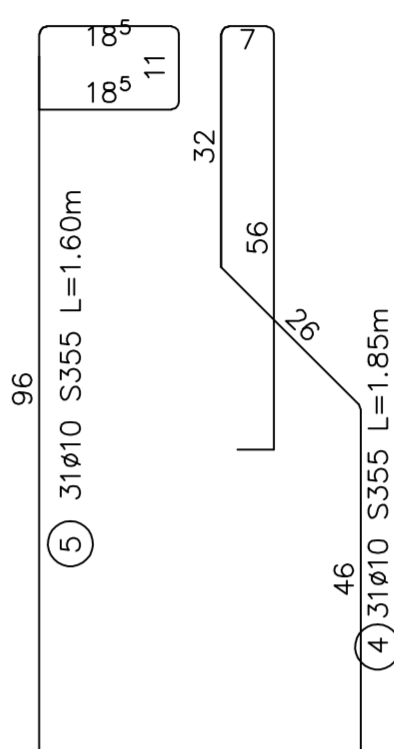
1. The slabs will be made of C35/45 class pre-stressed concrete with TBP9 type strands made of 7#3mm S.B.P.I.
2. For the dimensioning, the following elements were taken into consideration:
 - material characteristics according to SR EN 1992-1-1.2004
 - tensile stress of the strands $\sigma=13.500\text{kg/cm}^2$
 - limit for strand dropping when blocked on the stand $\lambda=3\text{mm}$.
 - steam temperature: for thermal aging $t=70\text{C}$.
 - the minimum concrete resistance during the pre-stressing transfer will correspond to class C34/45
 - maximum moments: $M_a=24.60\text{ tfm}$ $M_c=32.00\text{ tfm}$.
3. The pre-stressing transmission will be carried out slowly.

LEGENDA BETOANELOR/CONCRETE LEGEND

Beton armat element prefabricat
Reinforcement concrete precast element
C 35/45 - CEM II A S 42,5 - (XC4+XF3+XA1)
A/C=0.50 - Dmax 16 - Cl 0.10

CLASA DE PRECIZIE/CLASS PRECISION = 7
CONFORM/ACCORDING SR EN 13369-89

CLASA DE DURABILITATE/CLASS DURABILITY: D32/45a (XC4+XF3+XA1)
ACOPERIRE/COVERAGE: 5 cm S4(XC4+XF3+XA2) pentru o durata de viata de 50 ani/for a life duration of 50 years
OTEL BETON/CONCRETE STEEL -S355;S235;S345
TORON TBP(S1770)
BETON DALA/CONCRETE SLAB - C 35/45



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| | | | | | |
|--------|---------|-----------------------|-------------------|---------------------|--------------|
| D | | | | | |
| C | | | | | |
| B | | | | | |
| A | 12.2011 | Revizie 1 | Campan Maria | | |
| Indice | Data | Modificari | Proiectant | Approbat | Approbat CFR |
| | | Modification/Revision | Approved Designer | Approved Consultant | Approved CFR |

GVERNUL ROMANIEI
ROMANIAN GOVERNMENT

PROIECT FINANAT DE UNIUNEA EUROPEA
EUROPEAN UNION FINANCED PROJECT

CFR

C.N.C.F. "C.F.R." - S.A.

CLIENT / CLIENT

ITALFERR GRUPPO FERROVIE DELLO STATO
Joint Venture leader

Scott Wilson

OBERMEYER PLANEN + BERATEN GmbH

TECNIC Consulting Engineers

| CONSULTANT / CONSULTANT | | Date | Semnatura |
|-------------------------|-----------------------|------------------|-----------|
| Approbat | Self project | | |
| Approved | Project manager | | |
| Approbat | Coordinator | R. Lizza | |
| Approved | Section 1 Coordinator | | |
| Verificat | Expert Chief | C. Gambell | |
| Checked | Checking Expert | | |
| | | V. Kallidromitis | |

| SUBCONTRACTANT / SUBCONTRACTOR | | Date | Semnatura |
|--------------------------------|----------------------------|----------------------|-----------|
| Approbat | Responsabil Subcontractant | | |
| Approved | Subcontractant Responsible | | |
| Elaborat | Proiectant | A. Dinulescu Stanciu | 11.2011 |
| | Designer | Campan Maria | 11.2011 |

Reabilitarea liniei de cale ferata Brasov - Simeria, parte component a coridorului IV Pan European, pentru circulatia trenurilor cu viteza maxima de 160 km/h, Tronsoanel: Brasov - Slighioara
Rehabilitation of the railway line Brasov - Simeria, component Part of the IV Pan-European Corridor, for the trains circulation with maximum speed of 160 km/h, Section: Brasov - Slighioara

Proiect/Project
2004/RO/16/P/PA/003

Faza / Phase:
PTH / T.D.

Denumire desen / Drawing Title :

PLAN COFRAJ SI ARMARE DALA PREFABRICATA D4
SHUTTERING AND REINFORCEMENT PLAN PRECAST SLAB D4

| | | | |
|----------------------------------|--------------------|-----------|-------------------------|
| Codificare / Codification System | Scara / Scale 1:10 | LOT / LOT | Nr. / No 01 / 01 |
| E A 5 1 | 0 1 | E 0 0 | B K P O 0 0 0 0 0 0 3 1 |