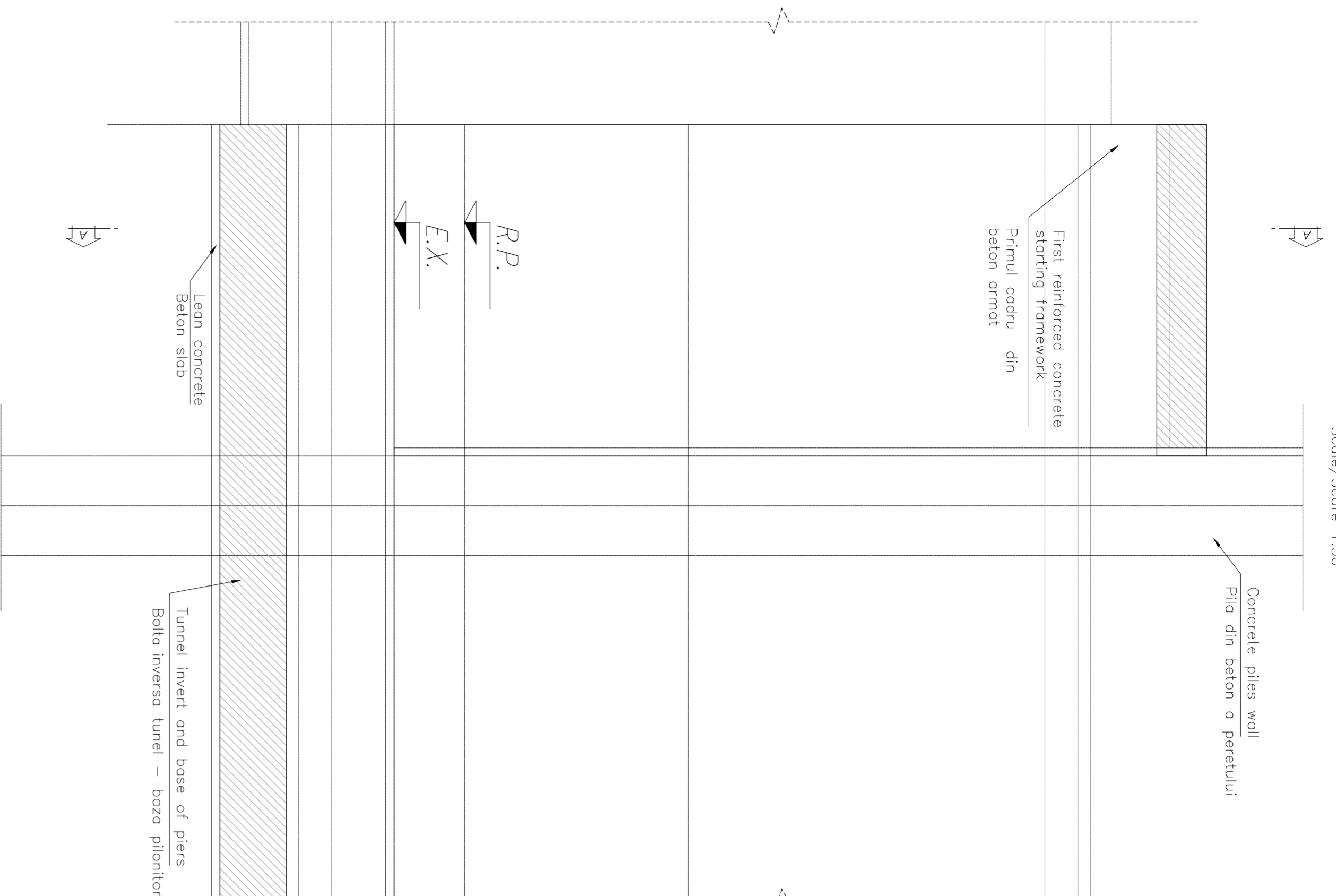


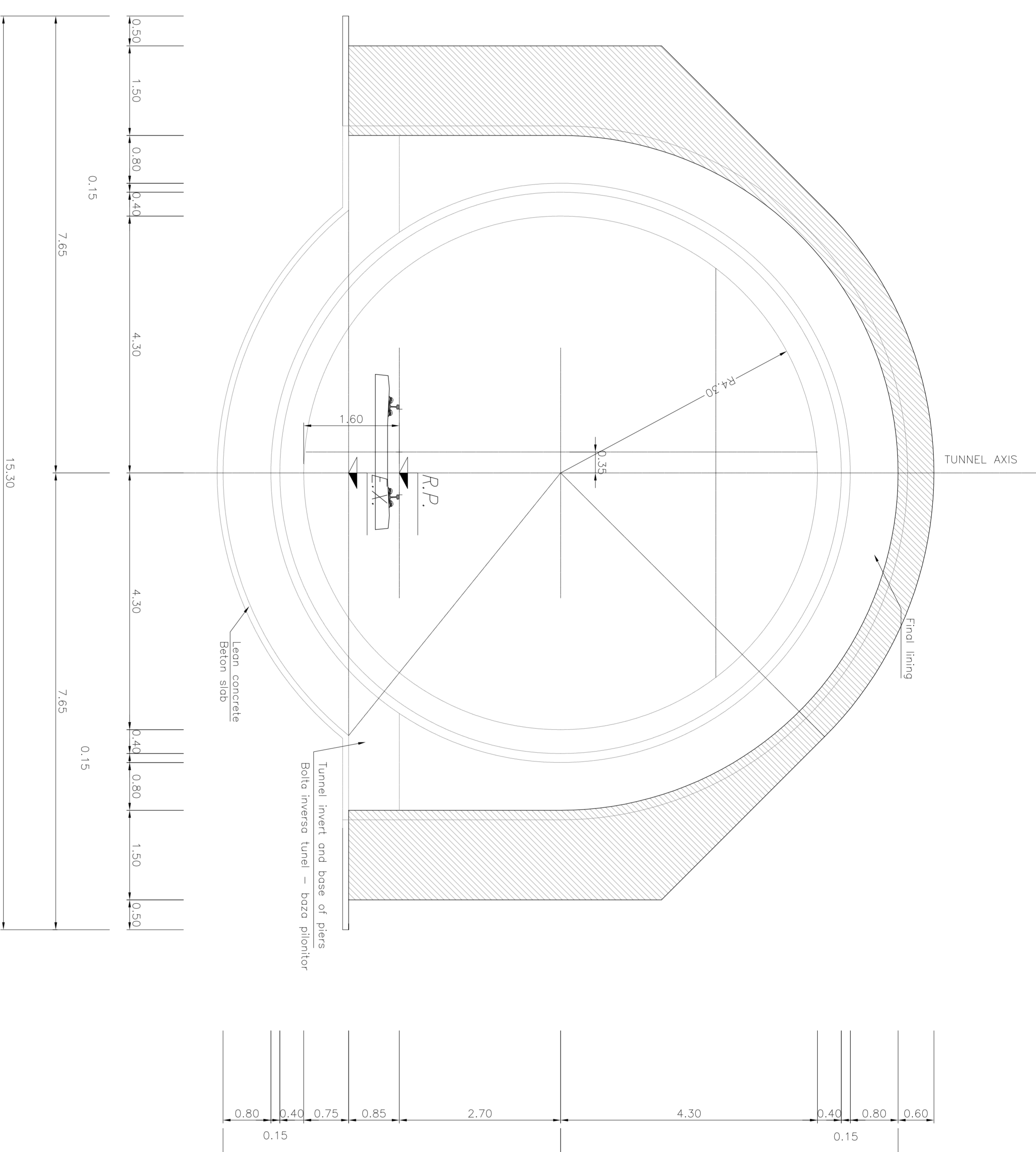
LONGITUDINAL SECTION  
SECTIUNEA LONGITUDINALA

Scale/Scara 1:50



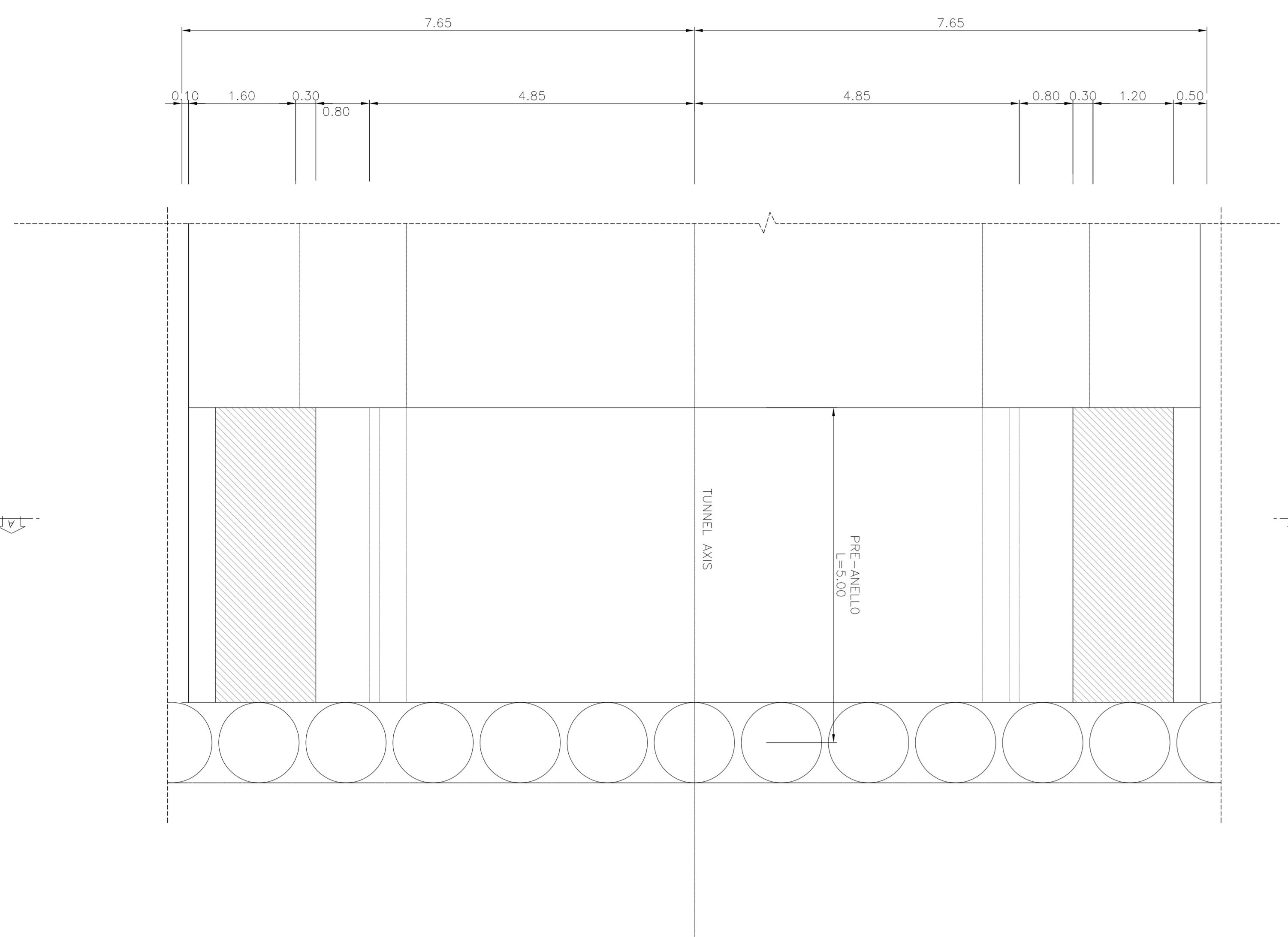
SECTION A-A  
SECTIUNEA CURENTA A-A

Scale/Scara 1:50



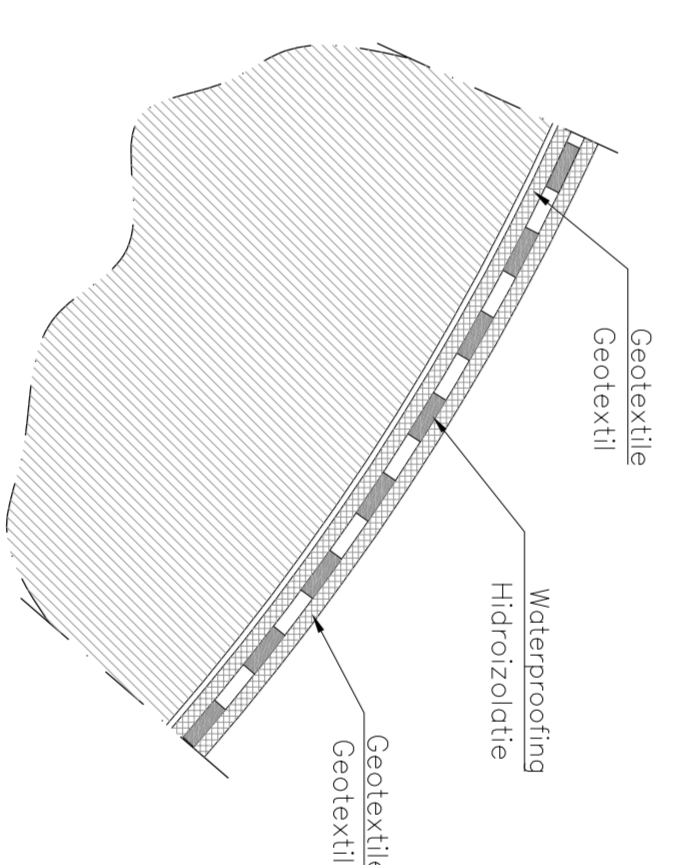
PLAN

Scale/Scara 1:50



WATERPROOFING TUNNEL CROWN DETAIL  
DETALIU COROANA TUNELULUI HIDROIZOLATIEI

Scale/Scara 1:20



MATERIAL TABLE

TUNNEL INVERT CONCRETE

- Type C20 MPa
- Water/cement ratio <math>0.150</math>
- Minimum structural class SY/S5
- Expansion coefficient <math>10^{-4}</math> symmetrical conditions: M2
- Cement type CEM II/V,  $\Omega < 0.20</math>$
- $\phi$  max aggregate = 22 mm

TUNNEL CROWN CONCRETE

- Type C15
- $f_{ck} < 7-8.0 </math> MPa$
- Minimum structural class SY/S5
- Expansion coefficient <math>10^{-4}</math> to environmental conditions: M2
- Cement type CEM II/V,  $\Omega < 0.20</math>$
- Class of chloride content:  $\Omega < 0.20</math>$
- $\phi$  max aggregate = 22 mm

REINFORCING STEEL

- BARS: conform by establishment
- WELDED

LEAN CONCRETE

- Type I
- $f_{ck} < 3-12 </math> MPa$
- Cement type CEM II/V

LEGEND

- RP = REFERENCE PLANE
- EX = EXPANSIONS PLANE
- PC = CENTERS PLANE

NOTE:

- The integrity of the concrete structures of the artificial and natural tunnels have to monitored in case of fire (4.2.2.3 Fire protection requirements for structure TSJ Technical Specification for Interoperability).

NOTE:

- Inteplicarea structurilor de beton a tunelului, artificiale si naturale, trebuie sa se realizeze in conformitate cu cerintele art.4.2.2.3 din prezenta Directiva de interoperabilitate pentru structuri SJI Specificatii tehnice pentru interoperabilitate.

NOTE:

- Lemnii shall be installed approximately of 1 m above walkways providing a route to a safe area ( 4.2.2.7 Escape walkways TSJ).

NOTE:

- Boro de marna trebuie sa fie instalate aproximativ la 1 m deasupra calii de evacuare oferind un traseu sigur (4.2.2.7 evacuare traseu sigur).

NOTE:

- Escape signs shall be installed on the side walls at a maximum distance between escape signs of 50m (4.2.2.9 Escape Signs TSJ).

NOTE:

- Semnale de evacuare trebuie sa fie instalate pe pereții laterali la o distanță maximă între semne de evacuare de 50m (4.2.2.9 Escape Signs TSJ).

Index	DATA	TITLUL	PROIECTANT	APROBAT	APROBAT CDR
A					
B					
C					
D					

CLIENT / CLIENT

**CFR**

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

CONSULTANT / CONSULTANT

**MAIER** **WILCOX** **SCOTT**

**OBERMEYER** **TECNIC**

Consulting Engineers

SUBCONSULTANT / SUBCONSULTANT

Approved	Approved	Approved	Approved
Signature	Signature	Signature	Signature
Stamp	Stamp	Stamp	Stamp

REPUBLICA ROMANIA - Romania, partea componenta a conditiilor IV Part European, partea

SECTIUNEA CURENTA A-A

Part European Corridor for the trunks circulation with maximum speed of 180 km/h.

Section I Braşov - Sibiu

Denumire desen / Drawing Title :

**HOMEROD TUNNEL**

Staia / Station

Stadiul realizării / Construction Stage

Incepând calculul / Starting from construction

Confidența / Confidential System

versi / version

L07

K: / No

E | A | 5 | 1 | 0 | 1 | C | 1 | 2 | B | B | G | A | 0 | 3 | 0 | 0 | 0 | 3 | 0