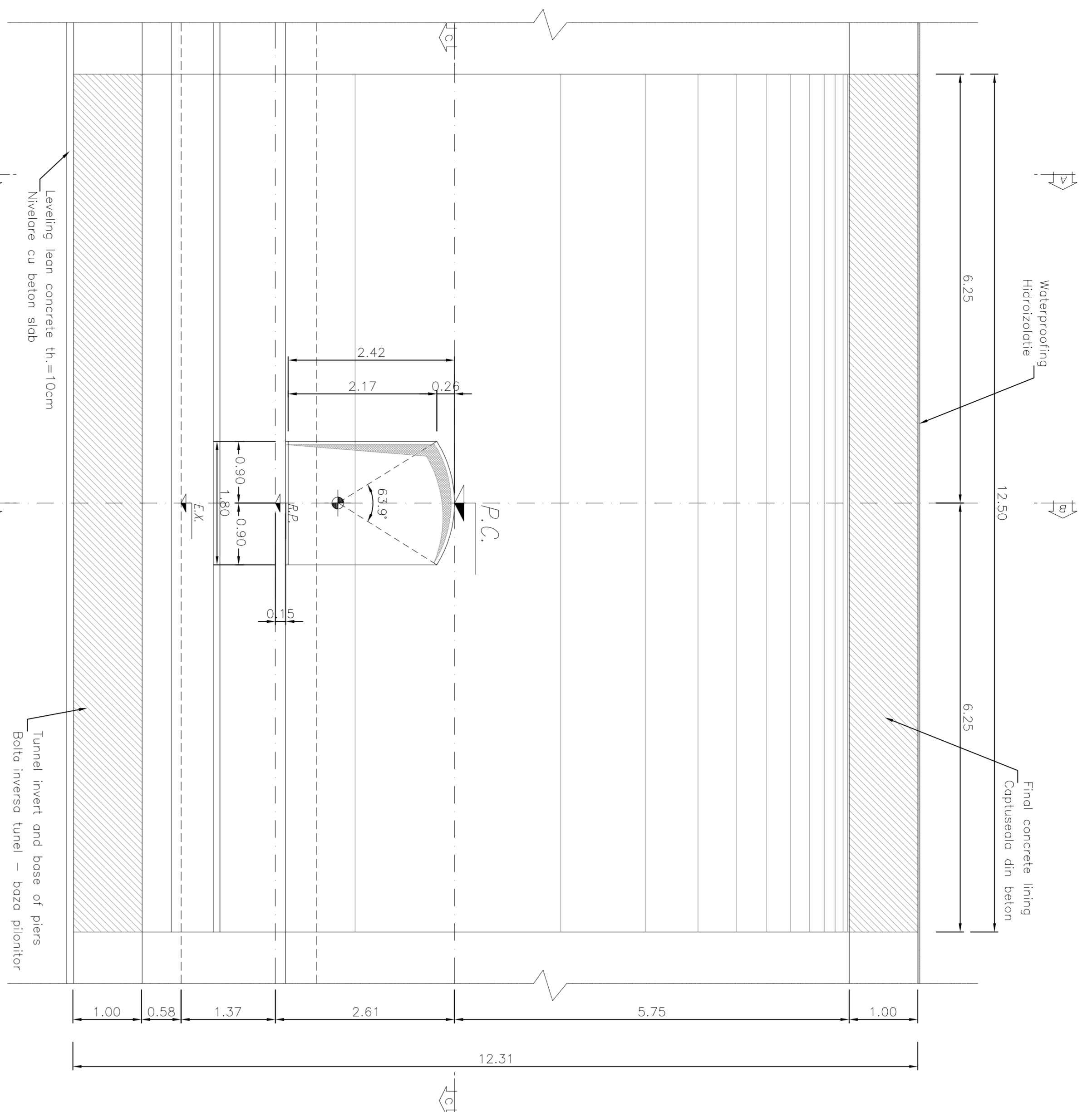
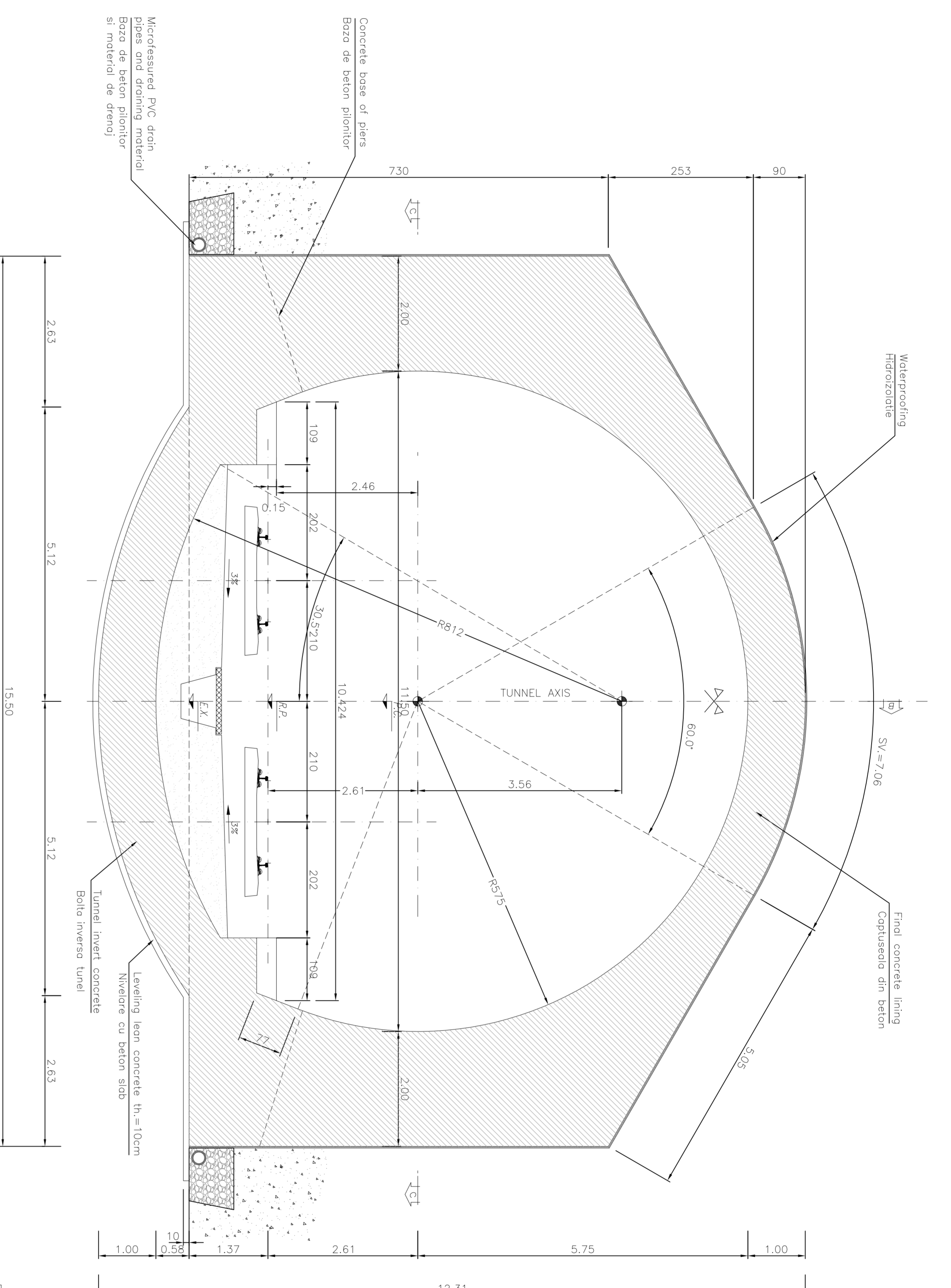


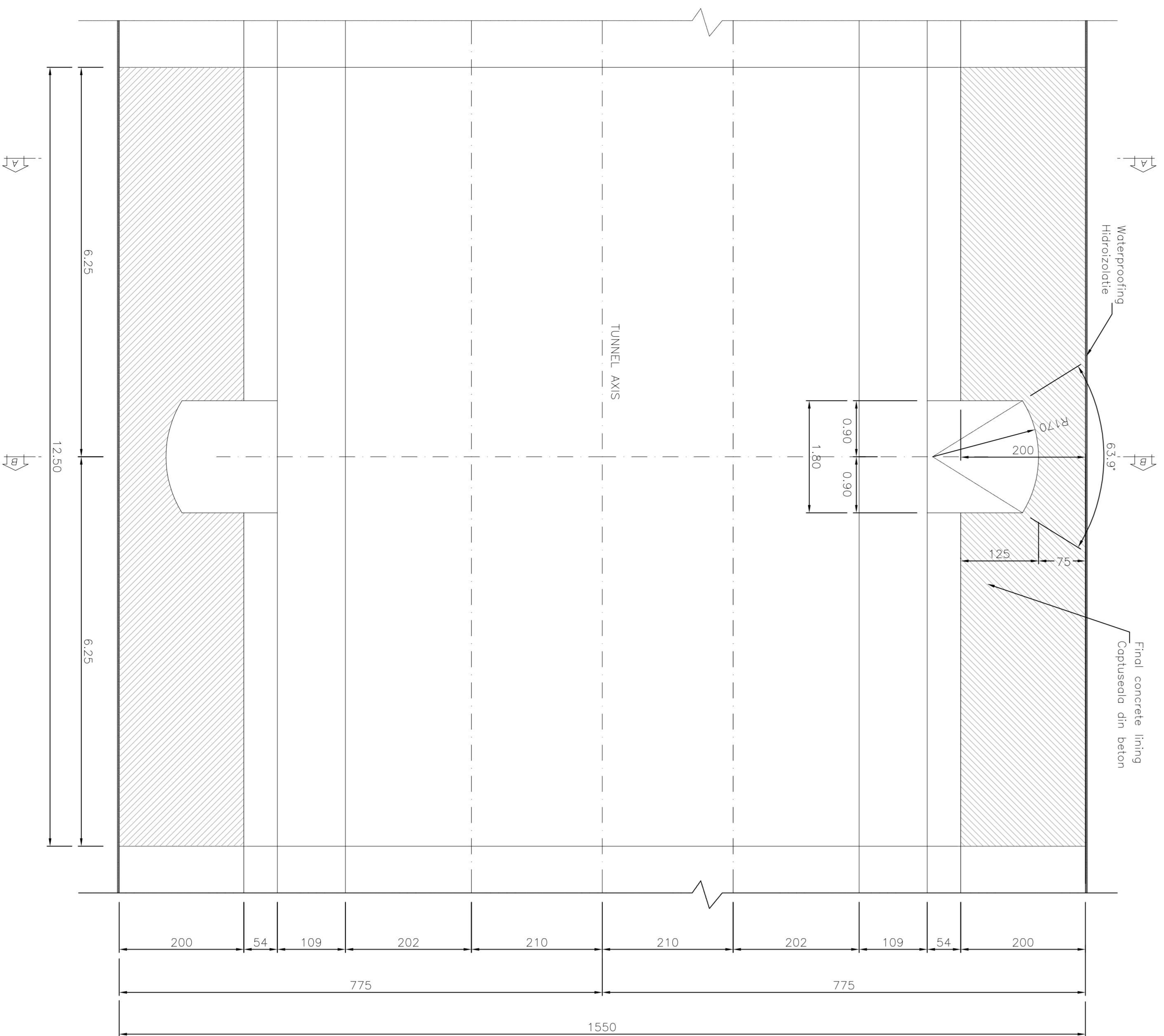
SECTION B-B
SECTIUNEA CURENTA B-B
Scale/Scara 1:50



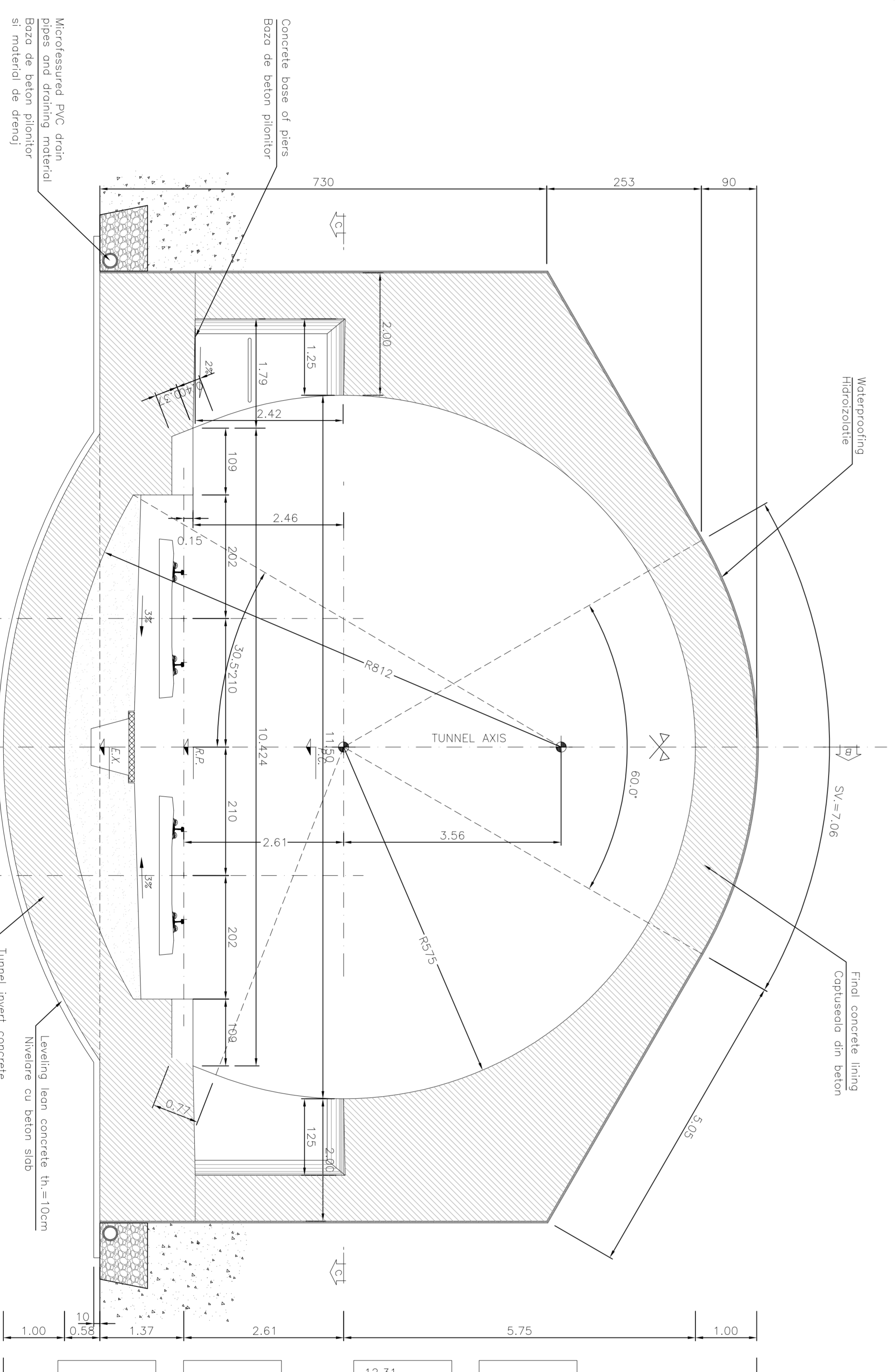
SECTION A-A
SECTIUNEA CURENTA A-A
Scale/Scara 1:50



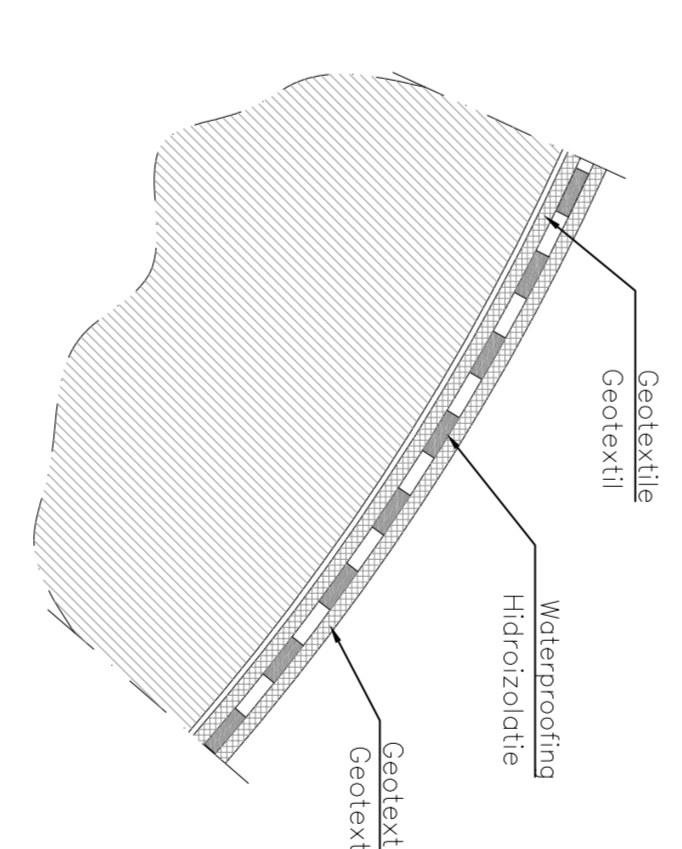
SECTION C-C
SECTIUNEA CURENTA C-C
Scale/Scara 1:50



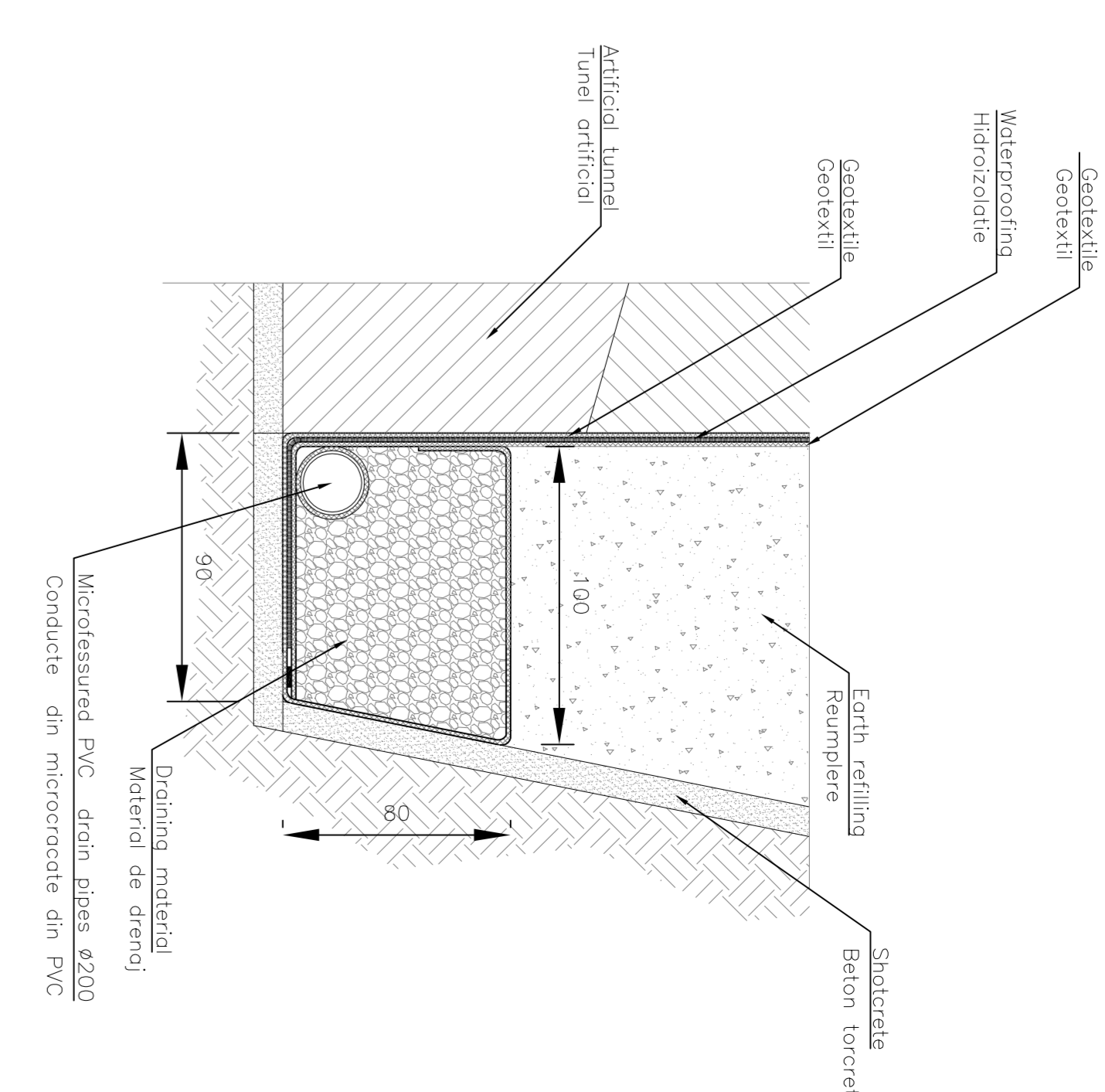
SECTION WITH SHELTER STAFF NICHE B-B
SECTIUNEA CU NISE PENTRU ADAPOSTUL PERSONALULUI B-B
Scale/Scara 1:50



WATERPROOFING TUNNEL CROWN DETAIL
DETALIUL CORONA TUNELULUI HIDROIZOLATIEI
Scale/Scara 1:20



WATERPROOFING PIER DETAIL
DETALIUL PILONIULOR HIDROIZOLATIEI
Scale/Scara 1:20



MATERIAL TABLE

TUNNEL INVERT CONCRETE

- Type C2
- f_{ck} >= 30 MPa
- f_{ctd} (characteristic) >= 4.5 MPa
- Max. aggregate size: S3/5
- Exposure class related to environmental conditions: XA2
- Class of chloride content: C 0.20
- ϕ max aggregate = 32 mm

TUNNEL CROWN CONCRETE

- Type C1
- f_{ck} >= 30 MPa
- Water/cement ratio: 0.23
- Max. aggregate size: S3/5
- Exposure class related to environmental conditions: XA2
- Class of chloride content: C 0.20
- ϕ max aggregate = 32 mm

REFERENCE SHEET

- Reinforced concrete
- LEAN CONCRETE
- Type I
- f_{ck} >= 12 MPa
- Cement type: CEM I/V

LEGEND

RP = REFERENCE PLANE
EX = EXCAVATIONS PLANE
PC = CENTERS PLANE

Index	Date	Modification	Project Engineer	Approved Consultant	Approved Client
B					
C					
A					

CLIENT / CLIENT

ROMANIA GOVERNMENT
GOVERNUL ROMÂNIEI
ROMANIAN GOVERNMENT
PROIECT FINANȚAT DE UNIUNEA EUROPEANĂ
EUROPEAN UNION FINANCED PROJECT

CN.C.F. "C.F.R." S.A.

CONSULTANT / CONSULTANT

TECNIC
OBERMEYER
CONSULTING ENGINEERS

SUBCONSULTANT / SUBCONSULTANT

ARCHITECTURA S.A.

NOTES:

1. The integrity of the concrete structures of the artificial and natural tunnels have to be maintained in case of fire (4.2.2.3 fire protection requirements for structure IS) Technical Specification for Integritability).

2. Integritability structure of beton a tunelului artificial si natural, trebuie sa ramana intacta in caz de incendiu (4.2.2.3 cerinta de protectie la foc pentru structuri SI Specificatii tehnice pentru integritabilitate).

3. Handrail shall be installed approximately at 1 m above walking providing a route to a safe area (4.2.2.7 Escape walkways IS).

4. Bara de maina trebuie sa fie instalata aproximativ la 1 m deasupra cazi de mers si sa ofere drum in siguranta catre siguranta (4.2.2.7 escape walkways IS).

5. Escape signs shall be installed on the safe walls at a maximum distance between escape signs of 50m (4.2.2.9 Escape Signage IS).

6. Semnala de evacuare trebuie sa fie instalate pe peretii laterali, la o distanta maxima intre semne de evacuare de 50m (4.2.2.9 Escape Signage IS).

PROJECT INFORMATION

Project/Proiect: Z04/R016/2003
Faza / Faza: P.I.N. / I.D.
Scale/Scara: 1:50