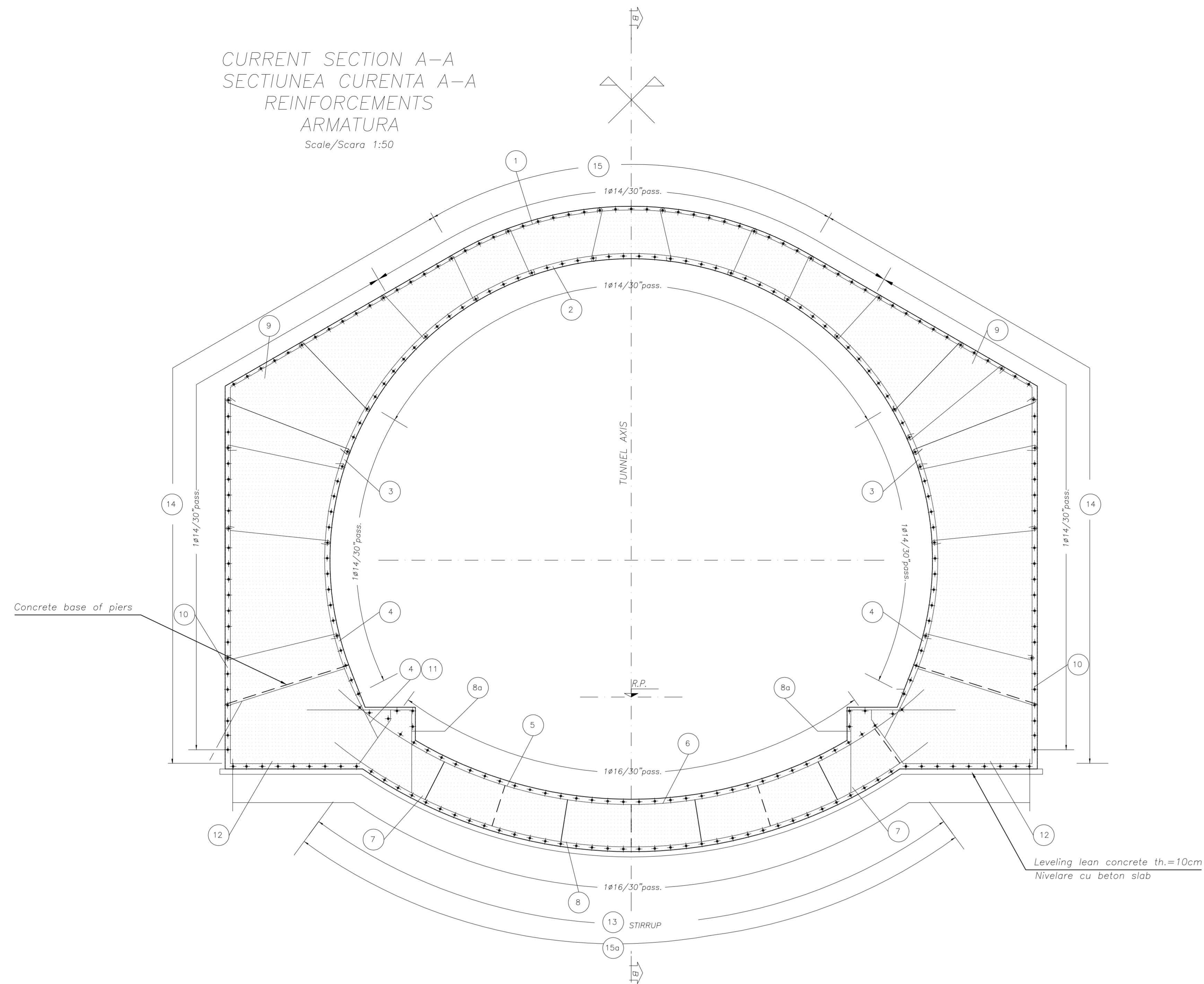
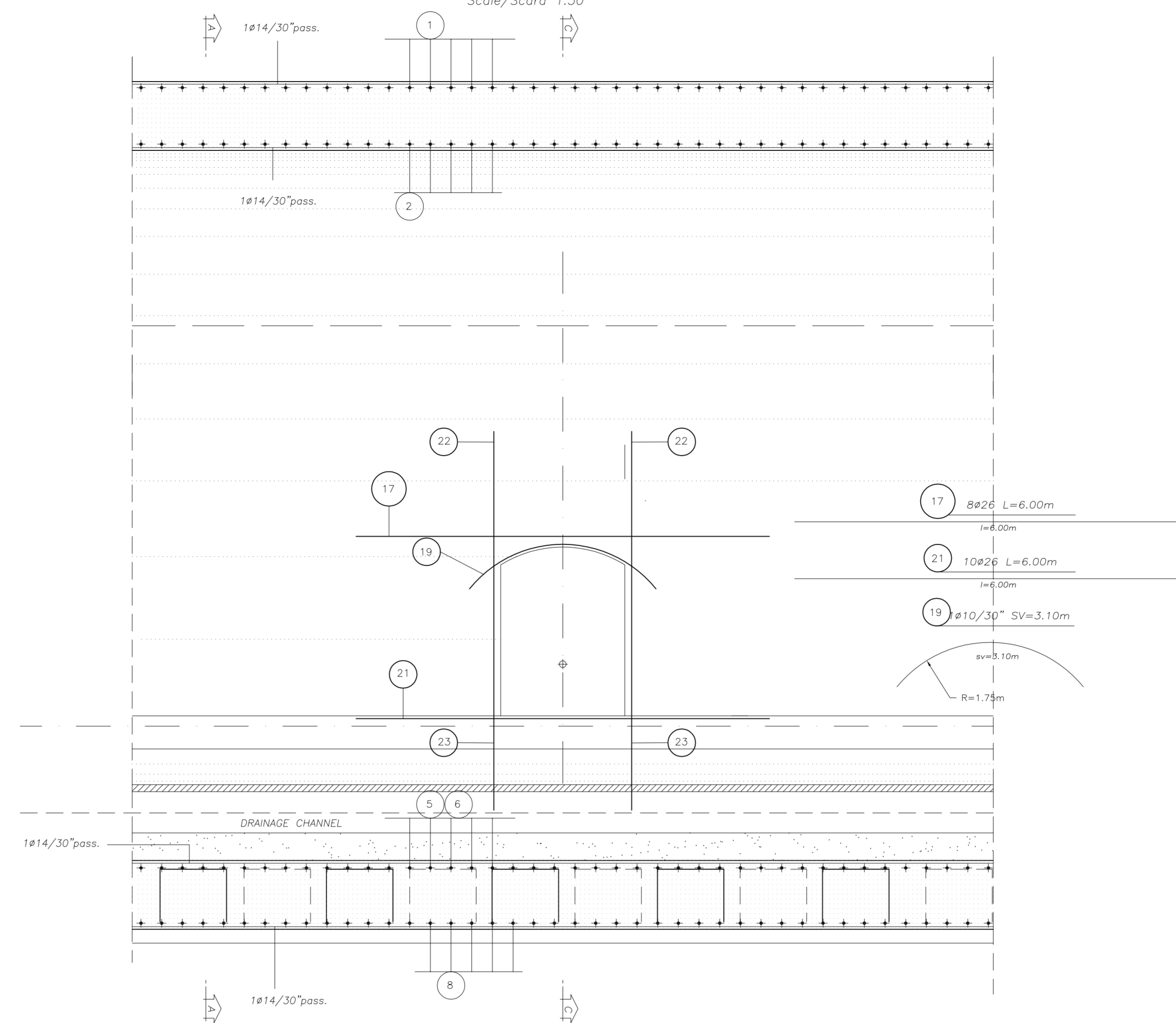


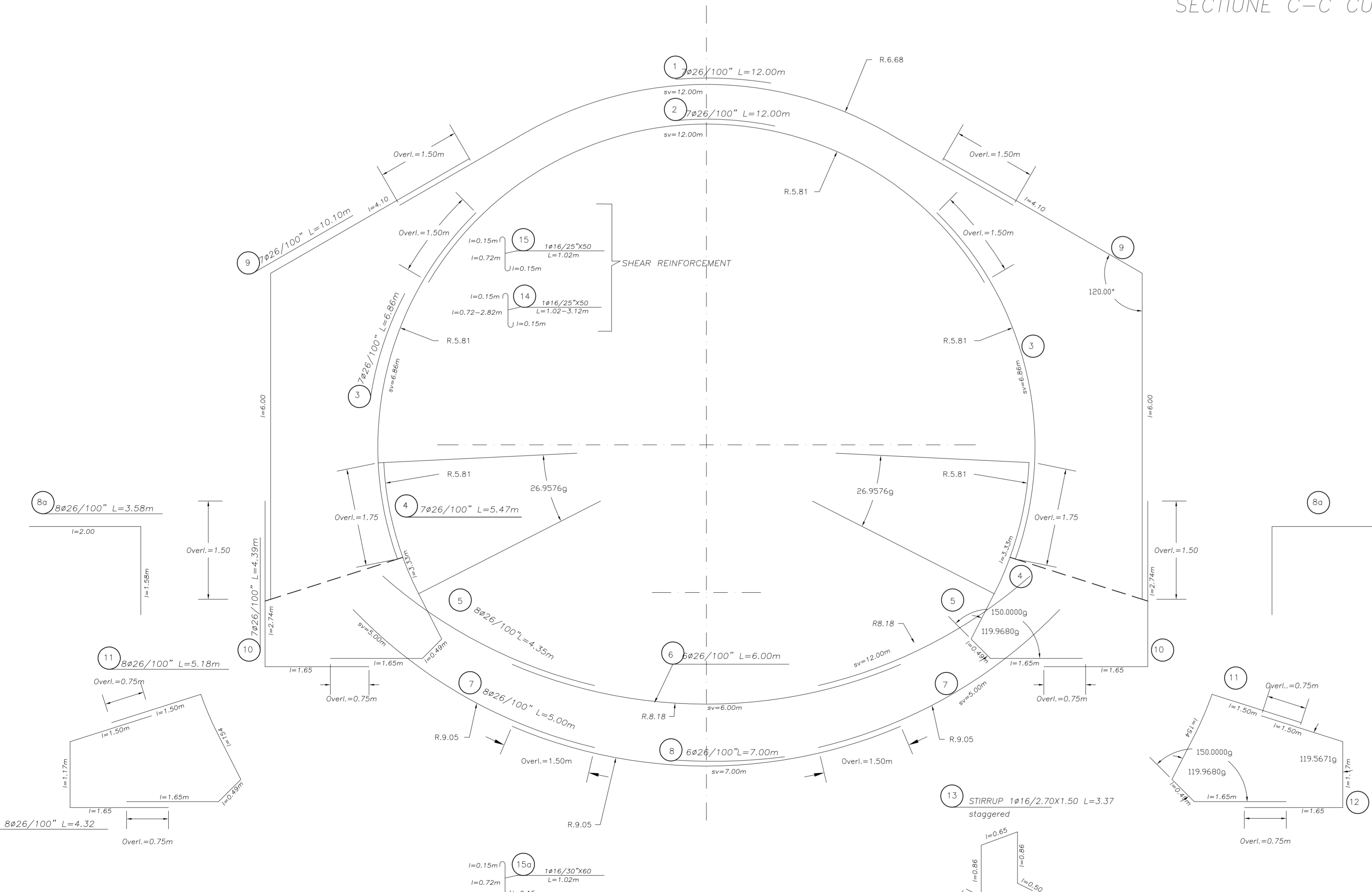
CURRENT SECTION A-A  
SECTIUNEA CURENTA A-A  
REINFORCEMENTS  
ARMATURA  
Scale/Scara 1:50



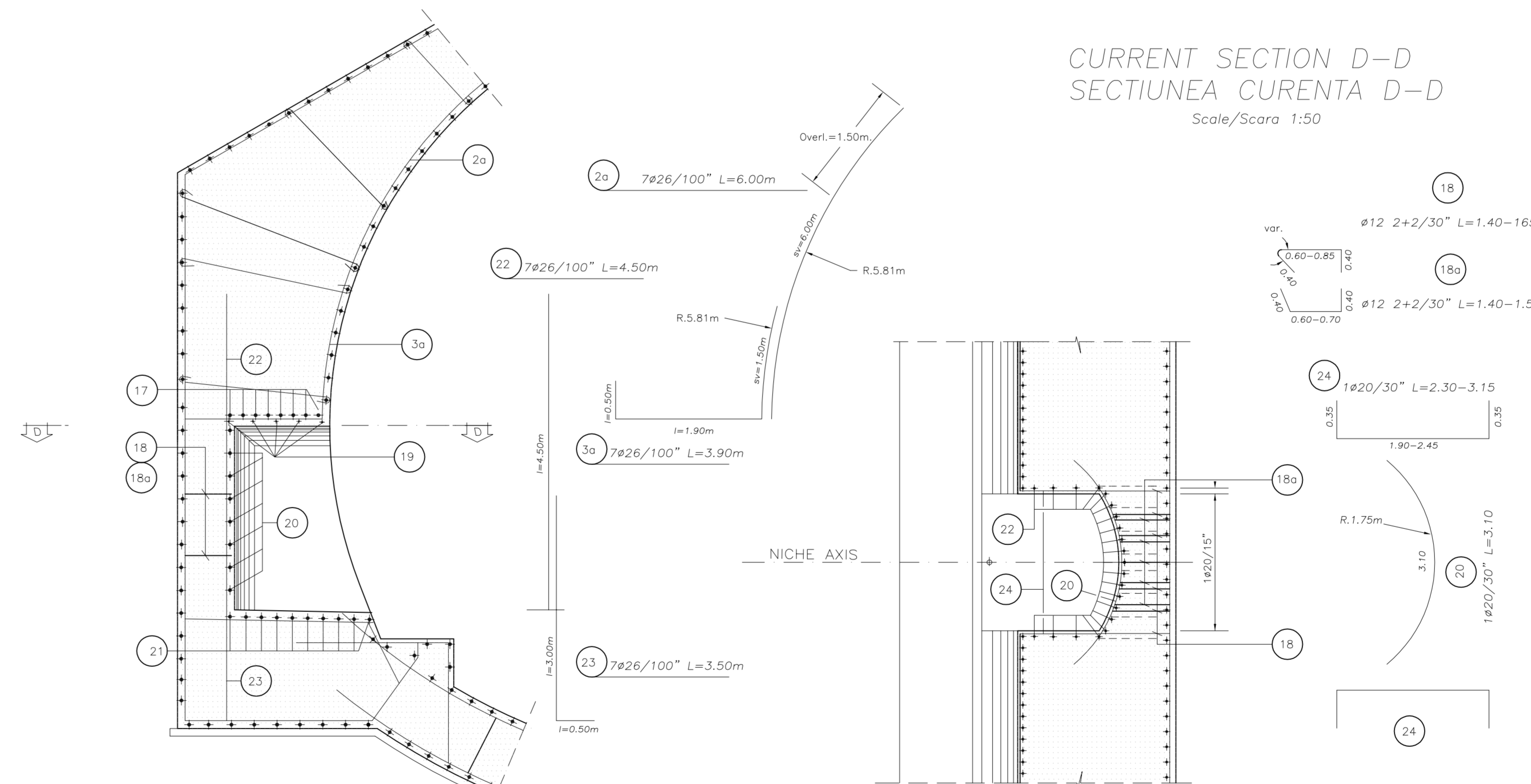
CURRENT SECTION B-B  
SECTIUNEA CURENTA B-B  
Scale/Scara 1:50



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



CURRENT SECTION D-D  
SECTIUNEA CURENTA D-D  
Scale/Scara 1:50



STEELS TABLE	
<b>REINFORCING STEEL:</b>	
- B450C (weldable)	
Bending diameter $d_{b1}$ :	
$\phi$ Bar $\leq \phi 20$	$\rightarrow d_{b1} = 6\phi$
$\phi$ Bar $\phi 20 - \phi 26$	$\rightarrow d_{b1} = 8\phi$
Legend measures:	
	$R \geq \phi \neq d_b/2$
<b>MATERIAL TABLE</b>	
<b>TUNNEL INVERT CONCRETE:</b>	
- Type C2	
- $f_{ck} \geq 30$ MPa	
- Water/cement ratio $< 0.50$	
- Minimum structural Class S3/S4	
- Exposure class related to environmental conditions: XA2	
- Cement type CEM III/V	
- Class of chloride content Cl 0.20	
- $\phi$ max aggregate = 32 mm	
<b>TUNNEL CROWN CONCRETE:</b>	
- Type C1	
- $f_{ck} \geq 30$ MPa	
- Water/cement ratio $< 0.50$	
- Minimum structural Class S4/S5	
- Exposure class related to environmental conditions: XA2	
- Cement type CEM III/V	
- Class of chloride content Cl 0.20	
- $\phi$ max aggregate = 32 mm	
<b>REINFORCING STEEL:</b>	
- B450C controlled by establishment	
- Weldable	
<b>LEAN CONCRETE:</b>	
- Type I	
- $f_{ck} \geq 12$ MPa	
- Cement type CEM I/V	

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

D					
C					
B					
A					
Index	Date	Modificari	Proiectant	Approbat	Approbat CFR
		Modificati/Revision	Designer	Approved Consultant	Approved CFR

GUVERNUL ROMANIEI  
ROMANIAN GOVERNMENT

PROIECT FINANATAT DE UNIUNEA EUROPEANA  
EUROPEAN UNION FINANCED PROJECT

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

CLIENT / CLIENT

ITALFER  
Scop  
Wilson

OBERMEYER  
PLANEN - BERUHN GmbH

TECNIC  
Consulting Engineers

CONSULTANT / CONSULTANT		Date	Signature
Approbat	Self project		
Approbat	Project manager	R. Liuzza	
Approbat	Coordinator Section 1	C. Gambelli	
Verificat	Tunnel Expert	C. Gambelli	
Checkat	Tunnel Expert	C. Gambelli	
Intocmit	Project	C. Gambelli	
Elaborat	Designer	C. Gambelli	

SUBCONSULTANT / SUBCONSULTANT		Date	Signature
Approbat	Responsabil Subconsultant		
Intocmit	Designer		
Elaborat	Designer		

Reabilitarea liniei de cale ferata Brasov - Simeria, parte componenta a coridorului IV Pan European, pentru circulatia trenurilor cu viteza maxima de 160 km/h. Sectiunea 1 Brasov - Sighisoara

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 1 Brasov - Sighisoara

Project/Project  
2004/RO/16/PP/PA/003

Faza / Phase:  
P.Th. / T.D.

Denumire desen / Drawing Title : MURENI TUNNEL  
ENTRANCE ARCHIT. SIDE  
Artificial tunnel: reinforcements  
Tunnel artificial: armaturi

Modificari / Codification System	Scara / Scale variat / various	LOT	Nr. / No
E A 5 1	0 1 C 1 6 B B	G A 1 0 0 0	0 0 6 0