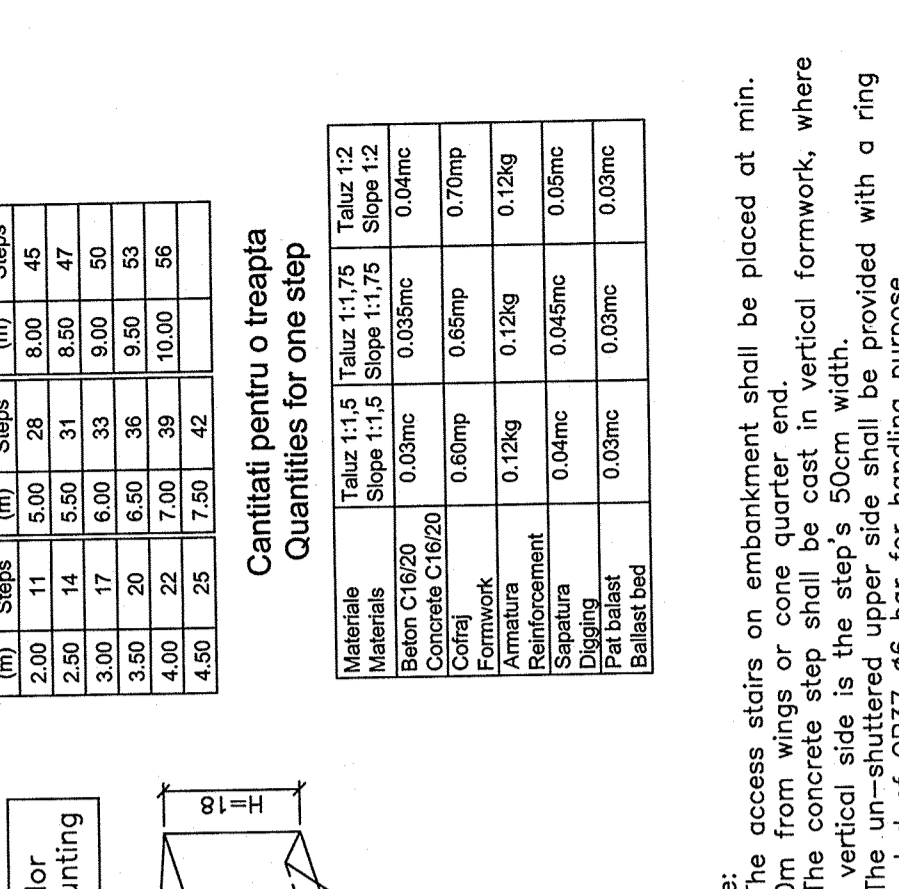
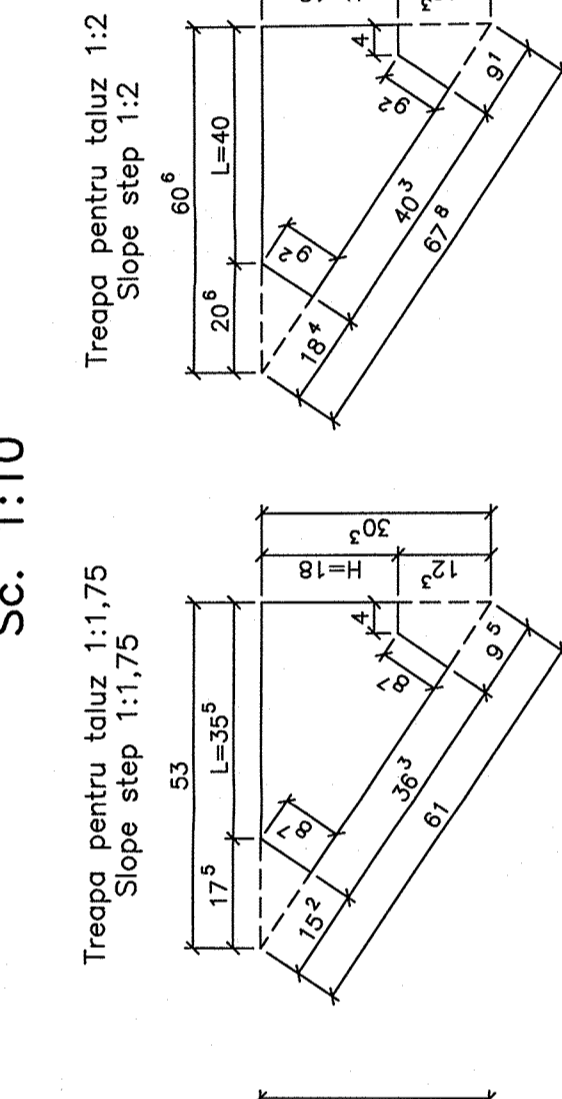


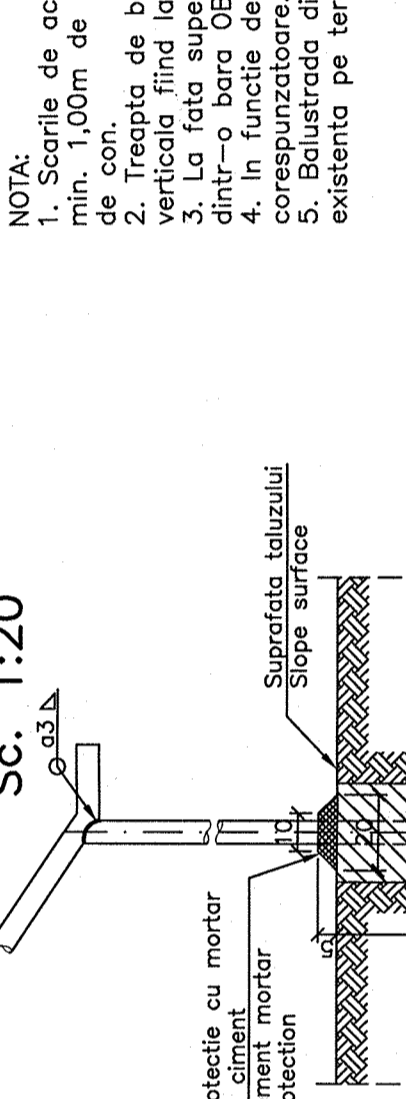
SECTIUNEA A-A/SECTION A-A
Sc. 1:20



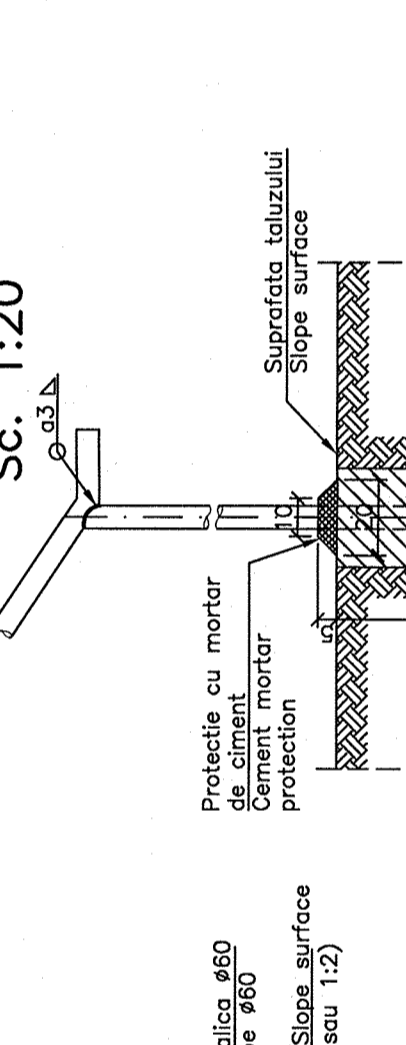
DETALII TREAPTE PREFABRICATE DIN BETON
DETAILS OF PREFABRICATED CONCRETE STEPS
Sc. 1:10



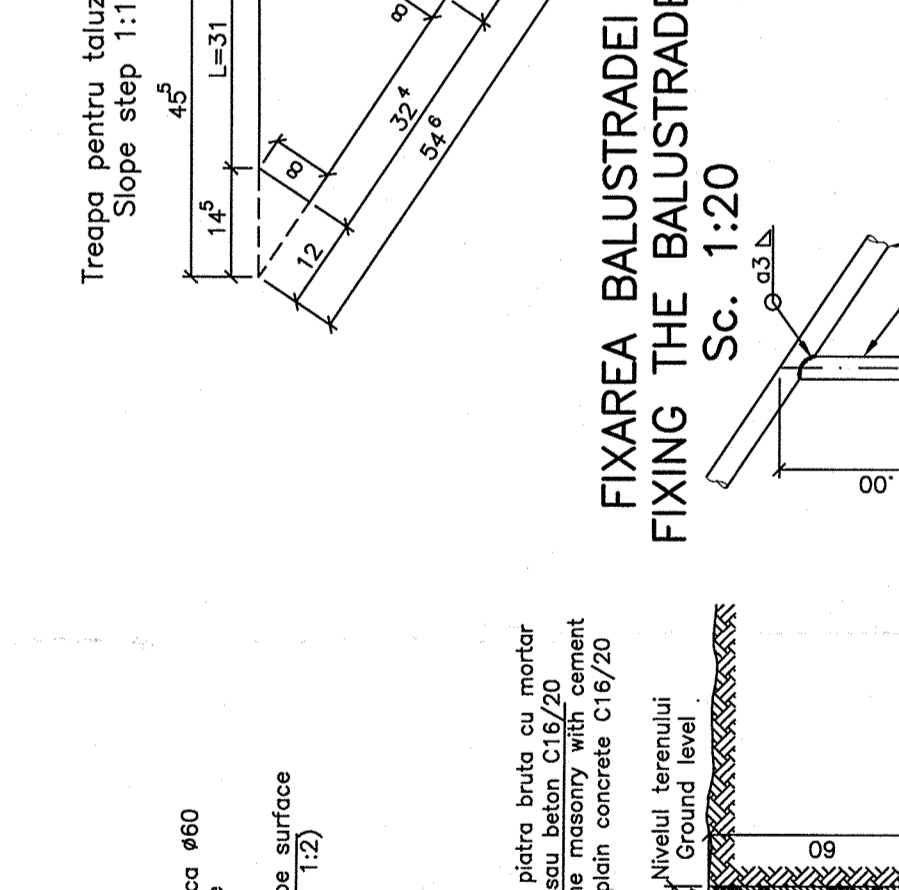
FIXAREA BALUSTRADEI
FIXING THE BALUSTRADE
Sc. 1:20



PROTECTIA STILPULUI METALIC
METALLIC POLE PROTECTION
Sc. 1:20



VEDERE PLANA/PLAN VIEW
Sc. 1:20



Numarul treptelor in functie de inaltimea terasamentului (Ho)
Number of steps according to embankment's height (Ho)

Ho (m) Steps	Trepte (m) Steps	Ho (m) Steps	Trepte (m) Steps
2,00	11	5,00	28
2,50	14	5,50	31
3,00	17	6,00	33
3,50	20	6,50	36
4,00	22	7,00	39
4,50	25	7,50	42

Quantities for one step

Materiale Materials	Taluz 1:1,5 Slope 1:1,5	Taluz 1:1,75 Slope 1:1,75	Taluz 1:2 Slope 1:2
Beton C16/20 Concrete C16/20	0,03mc	0,035mc	0,04mc
Cofraj Formwork	0,80mp	0,65mp	0,70mp
Armatura Reinforcement	0,12kg	0,12kg	0,12kg
Sapatura Digging	0,04mc	0,045mc	0,05mc
Pat balast Ballast bed	0,03mc	0,03mc	0,03mc

Note:
1. The access stairs on embankment shall be placed at min. 1,00m from wings or cone quarter end.
2. The concrete step shall be cast in vertical formwork, where the vertical side is the step's 50cm width.
3. The un-shuttered upper side shall be provided with a ring executed of OB37 Ø6 bar for handling purpose.
4. Corresponding steps shall be used according to the ground downgrade.
5. The metallic pipe balustrade shall be fitted to the existent site situation.

NOTA:
1. Scarile de acces pe terasament se vor amplasa la min. 1,00m de marginea aripilor sau de sfirsitul sfertului de con.
2. Treapta de beton se va turna in cofraj vertical, latura verticala fiind latimea de 50cm a treptei.
3. La fata superioara necofrata se va prevedea o ureche dintr-o bara OB37 Ø6, care va servi la manipulari.
4. In functie de panta terenului se vor utiliza treptele corespunzatoare.
5. Balustrada din teava metalica se va adapta la situatia existenta pe teren.

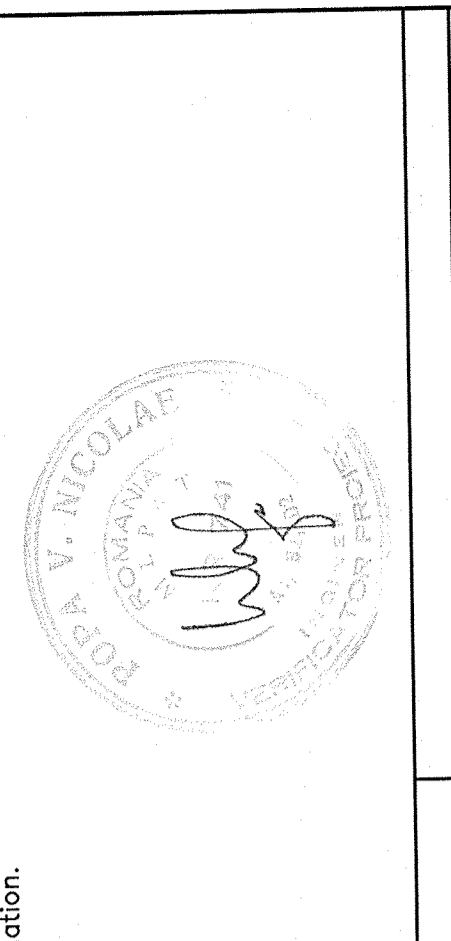
*) Detalii se aplica acolo unde suprafata taluzului este orizontala si apa stationeaza in jurul stilpului metalic.
*) This detail should be applied wherever the slope surface is horizontal and the water is staying around the pole.

The protection system is composed by 3 layers, in according to the Technical Specifications:
- primary layer or the flat coat (min. 50µm);
- intermediary layer (min. 50µm);
- finishing layer (min. 75µm).
Will be applied anti-corrosive protection on all metallic pieces. The technology for applying anti-corrosive protection will respect the Order MLPAT no. 52/N/1998 "Ghid de protectare, executie si exploatare privind protectia impotriva coroziunii a constructiilor metalice."

Sistemul de protectie anticoroziv se compune din 3 straturi, conform Caietului de Sarcini:
- stratul primar sau grundul (min. 50µm);
- stratul intermediar (min. 50µm);
- stratul de finisare (min. 75µm).
Pe toate piesele metalice se va aplica o protectie anticoroziva. Tehnologia de aplicare va respecta Ordinul MLPAT nr. 52/N/1998 "Ghid de protectare, executie si exploatare privind protectia impotriva coroziunii a constructiilor metalice."

Extras de material metallic pentru balustrada L=1.00m
Metallic material table for balustrade L=1,00m

Pozitia/ Position	Denumire/ Denomination	Bucati/ Pieces	Dimensiuni/ Dimensions (mmxmm)	Lungime/ Length (m)	Greutate/Weight	
					OLT 35 kg/m	kg
1	Stilp metalic/ Metallic pole	1	Ø60x3,5	1,50	19,55	29,33
2	Mana curental/ Handrail	1	Ø60x3,5	1,00	19,55	19,55
Greutate tip oel / Weight for type of steel (KG)					48,88	1,47
3% Sudura / Welding (KG)					1,47	
Greutate totala tip oel / Total weight for type of steel (KG)					50,34	



B	Data	Modificare / Revision
A		

BENEFICIAR/BENEFICIARY: ROMANIAN RAILWAY NATIONAL COMPANY
IMPLEMENTING AUTHORITY: AUTORITATEA DE IMPLEMENTARE/IMPLEMENTUNG AUTHORITY
Ministerul Transporturilor / Ministry of Transport

Contract / Contract: CFU
1303/2007

Feza / Phase: PTH-DE

Project financed by EUROPEAN UNION

Ministerul Economiei si Finanelor Oficiu de Plati si Contractare Phare
Ministry of Economy and Finance Phare Payments & Contracting Office

PORTIOLIU DE PROIECTE PHARE CES 2005 / PHARE CES 2005 PROJECTS PORTFOLIO
LOT 1

Asistenta tehnica pentru pregatirea unor lucrari de reabilitare pentru tuneluri si poduri de cale ferata
Technical assistance for preparing rehabilitation works required by railway tunnels and bridges

Denumire desen / Drawing Title: SCARILE DE ACCES SI BALUSTRADA METALICA/ACCESS STAIRS AND METALLIC BALUSTRADE

Cod desen / Nr. / No.: PD 265

Ing. Leonard OLTEANU
Ing. Ioan DACHIN
Ing. Stelian VARA-CIOP

Scara / Scale: 1:50
Data / Date: 05.2009