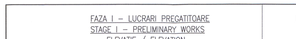
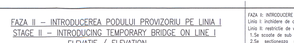
FAZA I – LUCRARI PREGATITOARE
STAGE I – PRELIMINARY WORKS
ELEVATIE / ELEVATION
Sc. 1:200



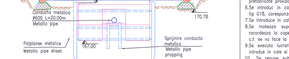
FAZA II – INTRODUCEREA PODULUI PROVIZORIU PE LINIA I
STAGE II – INTRODUCING TEMPORARY BRIDGE ON LINE I
ELEVATIE / ELEVATION
Sc. 1:200



VEDERE PLANA / PLANE VIEW
Sc. 1:200

VEDERE PLANA / PLANE VIEW
Sc. 1:200

DETALIU DE REZEMARE A PODULUI PROVIZORIU
DETAIL FOR TEMPORARY BRIDGE SUPPORTING
Sc. 1:50



FAZA I: LUCRARI PREGATITOARE
Linia I: circulatia cu vitesa normala;
Linia II: circulatia cu vitesa normala;
1.Se va demonta drumul de acces si platforma prefabricata;
2.Se realizeaza organizarea de santier.
3.Se identifica, se pichetazza si se pun in siguranta cablurile SCB, TTR de pe zona viitorului pod.
4.Se executa lucrari de protectie a(fara deviere) instalatii de semnalizare si telecomunicatii.
5.Se empizezza din zona I conducta metalica Ø600mm, L=20m; Asteptee vor avea 1b capele digoni din argila bine compactata

STAGE I: PRELIMINARY WORKS
Line I: traffic with normal speed.
Line II: traffic with normal speed.
1.Demolishing the access road and the technological platform.
2.Making the site organization.
3.Identifying, pegging-out and securing the SCB, TTR cables on the works' area.
4.Making works for protecting and/or deflecting the signalling and telecommunication installations.
5.Placing from downstream I metallic pipe Ø600mm, L=20m; It will be provided with dykes made of well compacted clay at the ends.

FAZA II: INTRODUCEREA PODULUI PROVIZORIU PE LINIA I
Linia I: restricte de viteza de 30 km/h;
Linia II: restricte de viteza de 50 km/h;
1.Se scoate de sub banalele liniei I si se asigura protectia electrica.
2.Se sectionezza si se dezelectrozeza linia, se demonteazza suprastructura c.f. pe zona podului, pe linia I, pe o lungime de 50m.
3.Se betoneazza si se dezelectrozeza linia, se demonteazza suprastructura c.f. pe zona podului, pe linia II, pe o lungime de 50m.
4.Se demoleazza infrastructura de pe linia II existenta pana la cota de proiect.
5.Se executa suprafata pentru introducerea in cale a fundatiei prefabricate provizorii si a podului provizoriu tip G18.
6.Se introduce in cale fundatia prefabricata din podul provizoriu tip G18, corespunzatoare liniei I.
7.Se introduce in cale podul provizoriu tip G18 pe linia I.
8.Se modeazza suprastructura c.f. pe podul provizoriu si se racordeazza la cotele si sloturile existente. Montarea suprastructurii c.f. se va face la cota NSS existenta.
9.Se executa lucrarile de protectie electrica si podul provizoriu intrduse in cale si se verifica electrosistemul.
10. Se repune sub banalele linie de contact si se redeschide circulatia, cu restricte de viteza de 30 km/h conform instructiilor c.f. in vigoare.
11. Se fine sub observatie podul provizoriu pe toata durata de exploatare, cu remediereea eventualelor defecte si aducerea lor in limita admise de tolerante.

STAGE II: INTRODUCING TEMPORARY BRIDGE ON LINE I
Line I: restricted speed of 30 km/h;
Line II: restricted speed of 50 km/h;
1.Cutting-off the voltage of line I and ensuring the electric protection.
2.Sectioning and cutting-off the voltage of the line, dismantling the railway superstructure on the bridge area on line I, on a length of 50m.
3.Driving sheet pile walls on the area of existing bridge S5 2.5 m from existing track axis I.
4.Demoulding the existing infrastructure on existing track I down to the designed level.
5.Making the excavation for introducing in the track the temporary precast foundation and the temporary bridge type G18.
6.Introducing in the track the precast foundation of the temporary bridge type G18, corresponding to line I.
7.Introducing in the track the temporary bridge type G18 on line I.
8.Mounting the railway superstructure on the temporary bridge and connecting at the ends to the existing situation. The railway superstructure will be mounted at existing NSS (top of rail) level.
9.Making the works for the electric protection of the temporary bridge introduced in the track and checking the electric insulation.
10. Restoring the voltage to the contact line and reopening the traffic with speed limit of 30 km/h according to the railway instructions in force.
11. Monitoring the temporary bridge during the entire operation period, by remedying the eventual defects and bringing them to the admitted tolerance limit.

NOTE:
1. Lucrarile la pod vor incepe obligatoriu inainte de lucrarile la linie, pe acest sector la Curtici la pod vor ramane cu cale de la linie.
2. Orice reconcordanta intre elementele date in valoare la elaborarea proiectului si teren va fi anunatta proiectantul pentru aprobarea solutiei.

NOTE:
In this section, the works at the bridge will mandatorily start before the works at the line.
2. The works at the bridge will be concluded with the works at the line.
3. Any incongruity between the elements considered when projecting the design and the site will be announced to the designer for adaptation to the existent situation.

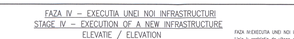
FAZA III – INTRODUCEREA PODULUI PROVIZORIU PE LINIA II
STAGE III – INTRODUCING TEMPORARY BRIDGE ON LINE II
ELEVATIE / ELEVATION
Sc. 1:200

VEDERE PLANA / PLANE VIEW
Sc. 1:200

FAZA III:INTRODUCEREA PODULUI PROVIZORIU PE LINIA II
Linia I: restricte de viteza de 30 km/h;
Linia II: inchisere de linie;
1.Se scoate de sub banalele liniei II si se asigura protectia electrica.
2.Se sectionezza si se dezelectrozeza linia, se demonteazza suprastructura c.f. pe zona podului, pe linia II, pe o lungime de 50m.
3.Se demoleazza infrastructura de pe linia II existenta pana la cota de proiect.
4.Se demoleazza podul provizoriu de pe zona linie II.
5.Se executa suprafata pentru introducerea in cale a fundatiei prefabricate provizorii si a podului provizoriu tip G18.
6.Se introduce in cale fundatia prefabricata din podul provizoriu tip G18, corespunzatoare liniei II.
7.Se introduce in cale podul provizoriu tip G18 pe linia II.
8.Se modeazza suprastructura c.f. pe podul provizoriu si se racordeazza la cotele si sloturile existente. Montarea suprastructurii c.f. se va face la cota NSS existenta.
9.Se executa lucrarile de protectie electrica si podul provizoriu intrduse in cale si se verifica electrosistemul.
10. Se repune sub banalele linie de contact si se redeschide circulatia, cu restricte de viteza de 30 km/h conform instructiilor c.f. in vigoare.
11. Se fine sub observatie podul provizoriu pe toata durata de exploatare, cu remediereea eventualelor defecte si aducerea lor in limita admise de tolerante.

STAGE III: INTRODUCING TEMPORARY BRIDGE ON LINE II
Line I: speed limit of 30 km/h
Line II: line closure
1.Cutting off the voltage of line I and ensuring the electric protection.
2.Sectioning and removing the voltage on the line, dismantling the railway superstructure on the area of the bridge area on line II, on a length of 50m.
3.Demoulding the existing infrastructure on the area of track one II.
4.Driving sheet pile walls on the area of track one II.
5.Making the excavation in order to introduce in the track the temporary precast foundation and the temporary bridge type G18.
6.Introducing in the track the precast foundation of the temporary bridge type G18, corresponding to line I.
7.Introducing in the track the temporary bridge type G18 on line I.
8.Mounting the railway superstructure on the temporary bridge and connecting at the ends to the existing situation. The railway superstructure will be mounted at existing NSS (top of rail) level.
9.Carrying out the electric protection works for the temporary bridge introduced in the track and checking the electric insulation.
10. Restoring the voltage to the contact line and reopening the traffic with speed limit of 30 km/h according to the railway instructions in force.
11. Monitoring the temporary bridge during the entire operation period, by remedying the eventual defects and bringing them to the admitted tolerance limit.

FAZA IV – EXECUTIA UNEI NOI INFRASTRUCTURI
STAGE IV – EXECUTION OF A NEW INFRASTRUCTURE
ELEVATIE / ELEVATION
Sc. 1:200



VEDERE PLANA / PLANE VIEW
Sc. 1:200

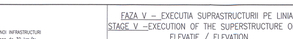
FAZA IV:EXECUTIA UNEI NOI INFRASTRUCTURI
Linia I: restricte de viteza de 30 km/h;
Linia II: restricte de viteza de 30 km/h;
1. Se executa suprafata viitoarei platforme pentru demolarea infrastructurii existente la adaptarea inclinie de pajistrea montand cuke transversale pe masura ce inaintea executia.
2. Se demoleazza complet infrastructura existenta.
3. Se executa lucrarile de protectie electrica executatee noi infrastructuri la adaptarea inclinie de pajistree. Ultimul ceaku se demonteazza dupa intrarea betonului de esatura.
4. Se executa o cuke noua para la nivelul 171.60.

STAGE IV:EXECUTION OF A NEW INFRASTRUCTURE
Line I: speed limit of 30 km/h;
Line II: speed limit of 30 km/h;
1. Making the necessary excavation in order to dismantle the existing infrastructure under the platform of the sheet pile premises by mounting transversal frames as the excavation progresses.
2. Completely dismantling the existing infrastructure.
3. Making the necessary excavation in order to execute the new infrastructure under the protection of the sheet pile premises. The last frame is dismantled after the main concrete is hardened.
4. Making a new abutment up to level 171.60.

DESIGNATE:
1.Pe toate suprafetele din beton in contact cu pamantul se vor aplica 2 straturi de emulse de bitum fierbinte.
2.Pentru betonul si otelul ce se executa nu exista restrictii CFR.

ATENTION:
1.All concrete surfaces in contact with soil will be coated with 2 bituminous layers.
2.For the concrete and reinforcement of the riverbed will be executed with no CFR restrictions.

FAZA V – EXECUTIA SUPRASTRUCTURII PE LINIA I
STAGE V –EXECUTION OF THE SUPERSTRUCTURE ON LINE I
ELEVATIE / ELEVATION
Sc. 1:200



VEDERE PLANA / PLANE VIEW
Sc. 1:200

NOTA:
Prezentul plan s-a intocmit in baza urmatoarelor date:
- Ridicarea topografica;
- raport geotehnic;
- diapozitiv generala;
- date culese pe teren.

NOTE:
This plan has been drawn up on the basis of the following data:
- topo. survey;
- geotechnical report;
- general layout;
- acquisition of data to area.

NOTA:
1. CONVOIUL DE CALCUL PENTRU PODURILE PROVIZORII: G18TS.5
2. Grafic provizoriu se executa in interiorul Ministerului Transporturilor si pot fi date spre consultare.
3. Grafic provizoriu se va prezenta spre aprobare la Consiliul Tehnico Economic.

NOTE:
1. CALCULATION CONVOY FOR THE TEMPORARY BRIDGES: G18TS.5
2. Temporary bridges are in the endowment of the Beneficiary and can be given for consultation upon request.
3. Traffic on the temporary bridges takes place with maximum 30 km/h

FAZA V:EXECUTIA SUPRASTRUCTURII PE LINIA I
Linia I:inchidere de linie
Linia II: restricte de viteza de 30km/h;
1. Se scoate de sub banalele linie I si se asigura protectia electrica.
2. Se demoneazza suprastructura c.f. aferenta liniei I
3. Se scot din cale fundatia prefabricata provizorie,podul provizoriu tip G18 pe linia I.
4. Se scot poziomee de pe linia I
5. Se finalizeazza cuvete de pe linia I.
6. Se executa drenurile si umplutura cu material drenant.
7. Se executa dala cu grinzi metalice ingloba drenurile linia I si se montaza poziomee.
8. Se executa ansamblul longitudinal pe tablier si terasament.
9. Se executa montarea suprastructurii c.f. pe terasament si tablier la cota NSS pr. Se racordeazza la sloturile existente.
10. Se repune sub contactelee circulatie de cale, se asigura circulat sinieri si protectia catenelor.
11. Se redeschide circulatia, cu restricte de viteza de 30km/h conform instructiuni c.f. in vigoare.

STAGE V: EXECUTION OF THE SUPERSTRUCTURE ON LINE I
Line I: line closure
Line II: speed limit of 30km/h;
1. Cutting off the voltage of line I and ensuring the electric protection.
2. Dismantling the sheet pile walls on the area of line I.
3. Removing from the track the temporary precast foundation and the temporary bridge type G18 from line I.
4. Dismantling the railway superstructure aferent to line I
5. Completing the abutments from line I
6. Making the drains and the fillings with draining material
7. Making the slab with embedded metallic girders aferent to line I and mounting the handrail.
8. Executing the longitudinal propping on the embankment and the tablier.
9. Mounting the railway superstructure on the embankment and the deck at designed NSS (top of rail) level and connecting the ends to the existing situation.
10. Restoring the voltage to the contact line and reopening the traffic with speed limit of 30km/h according to the railway instructions in force.

FAZA VI – EXECUTIA SUPRASTRUCTURII PE LINIA II
STAGE VI –EXECUTION OF THE SUPERSTRUCTURE ON LINE II
ELEVATIE / ELEVATION
Sc. 1:200

VEDERE PLANA / PLANE VIEW
Sc. 1:200

DESCHIDEREA CIRCULATIEI FEROVIARE PE PODURILE PROVIZORII SE VA FACE ASTFEL:
– In primele 24h se ridica vitesa in trepte de 5km/h, se fine sub observatie permanenta si se verifica eventa si toate operele si explotarea; pe durata exploatarii podului provizoriu in cale acesta se fine sub observatie permanenta, iar eventualele defecteie apoiate se remediaza imediat.
– Dupa 24h se va ridica vitesa in exploatare si podul provizoriu va fi supus la vitesa de 30 km/h.

THE RECOMMENCEMENT OF THE TRAFFIC ON THE TEMPORARY BRIDGES WILL BE CARRIED AS FOLLOWING:
– In the first 24 hours the speed limit will be increased in steps of 5km/h, the railway superstructure will be under surveillance and there are rectified the level and settlings that occur during the operations. While the temporary bridge is in operation on the rail it is kept under permanent surveillance and the eventual deficiencies are instantly remeded.
–after 24 hours since the temporary bridge is in operation the traffic will be under speed restriction of 30 km/h.

FAZA VI:EXECUTIA SUPRASTRUCTURII PE LINIA II
Linia I: restricte de viteza de 30km/h;
Linia II: inchidere de linie;
1.Se scoate de sub banalele linie II si se asigura protectia electrica
2.Se demoneazza suprastructura c.f. aferenta linie II
3.Se scot din cale fundatia prefabricata provizorie,podul provizoriu tip G18 pe linia II.
4.Se finalizeazza cuvete de pe linia II.
5.Se executa drenurile si umplutura cu material drenant.
6.Se executa dala cu grinzi metalice ingloba drenurile linia II si se montaza poziomee.
7.Se realizeazza ansamblul longitudinal pe tablier si terasament.
8.Se executa metal longitudinal pe tablier.
9.Se montaza suprastructura c.f. pe terasament si tablier la cota NSS pr. Se racordeazza la sloturile existente.
10. Se repune sub contactelee circulatie de cale, se asigura circulat sinieri si protectia catenelor.
11. Se redeschide circulatia, cu restricte de viteza de 30km/h conform instructiuni c.f. in vigoare.

STAGE VI: EXECUTION OF THE SUPERSTRUCTURE ON LINE II
Line I: line closure
Line II: speed limit of 30km/h;
1.Cutting off the voltage of line II and ensuring the electric protection.
2.Dismantling the sheet pile walls on the area of line II.
3.Removing from the track the temporary precast foundation and the temporary bridge type G18 from line II.
4.Dismantling the railway superstructure aferent to line II
5.Completing the abutments from line II
6.Making the drains and the fillings with draining material
7.Making the slab with embedded metallic girders aferent to line II and mounting the handrail.
8.Executing the longitudinal propping on the embankment and the tablier.
9.Mounting the railway superstructure on the embankment and the deck at designed NSS (top of rail) level and connecting the ends to the existing situation.Demolishing the longitudinal propping.
10. Ensuring the continuity of track circuits, the rail circuit and the cathode protection.
11. Reopening the traffic with speed limit of 30km/h according to the railway instructions in force.

STAGE VI: PRELIMINARY WORKS
Line I: traffic with normal speed.
Line II: traffic with normal speed.
1.Demolishing the access road and the technological platform.
2.Making the site organization.
3.Identifying, pegging-out and securing the SCB, TTR cables on the works' area.
4.Making works for protecting and/or deflecting the signalling and telecommunication installations.
5.Placing from downstream II metallic pipe Ø600mm, L=20m; It will be provided with dykes made of well compacted clay at the ends.

FAZA VI:EXECUTIA SUPRASTRUCTURII PE LINIA II
Linia I: restricte de viteza de 30km/h;
Linia II: restricte de viteza.
1.Se scoate de sub banalele linie II si se asigura protectia electrica.
2.Se demoneazza suprastructura c.f. aferenta linie II
3.Se scot din cale fundatia prefabricata provizorie,podul provizoriu tip G18 pe linia II.
4.Se finalizeazza cuvete de pe linia II.
5.Se executa drenurile si umplutura cu material drenant.
6.Se executa dala cu grinzi metalice ingloba drenurile linia II si se montaza poziomee.
7.Se realizeazza ansamblul longitudinal pe tablier si terasament.
8.Se executa metal longitudinal pe tablier.
9.Se montaza suprastructura c.f. pe terasament si tablier la cota NSS pr. Se racordeazza la sloturile existente.
10. Se repune sub contactelee circulatie de cale, se asigura circulat sinieri si protectia catenelor.
11. Se redeschide circulatia, cu restricte de viteza de 30km/h conform instructiuni c.f. in vigoare.

STAGE VI: EXECUTION OF THE SUPERSTRUCTURE ON LINE II
Line I: line closure
Line II: speed limit of 30km/h;
1.Cutting off the voltage of line II and ensuring the electric protection.
2.Dismantling the sheet pile walls on the area of line II.
3.Removing from the track the temporary precast foundation and the temporary bridge type G18 from line II.
4.Dismantling the railway superstructure aferent to line II
5.Completing the abutments from line II.
6.Making the slab with embedded metallic girders aferent to line II and mounting the handrail.
7.Making the transversal joints.
8.Executing the longitudinal joint on the deck.
9.Mounting the railway superstructure on the embankment and the deck at designed NSS (top of rail) level and connecting the ends to the existing situation.Demolishing the longitudinal propping.
10. Ensuring the continuity of track circuits, the rail circuit and the cathode protection.
11. Reopening the traffic with speed limit of 30km/h according to the railway instructions in force.

STAGE VI: PRELIMINARY WORKS
Line I: traffic with normal speed.
Line II: traffic with normal speed.
1. Mounting the access stairs on the embankment.
2. Making the riverbed arrangment works.
3. Dismantling the metallic pipe Ø600mm from the riverbed and deflecting the dykes at the ends.
4. Demolishing the platforms, the access from the work area, the site organization.

"Rehabilitarea liniei c.f. Frontier 3 - Curtici - Simeria, parte componenta a Coridorului IV Pan - European pentru circulatia pe transportul cu vitesa de maxim 160 km/h"
Tronsonul 3: Gurasada - Simeria

"Rehabilitation of the Railway Line Border - Curtici - Simeria, component Part of the IV Pan - European Corridor for the Trains Circulation with maximum speed of 160 km/h"
Section 3: Gurasada - Simeria

Denumire desen / Drawing name:
TEHNOLOGIE DE EXECUTIE / TECHNOLOGICAL PROCESS
POD / BRIDGE KM.PR.(DSG.) 507+664.08; KM.EX. 508+928

Scara / Scale	Revizia / Revision	Cod desen / Drawing Code	Nr. / No
1:100;1:200	1 / 04.2013	PT.03.02.21.PO.03.04	04

BUCAREST - 1, IONIŢĂ LAHOVARI STREET, No. 38, SECTOR 2, P.O. BOX 2-030, 71804, BUCHAREST, ROMANIA
Nr. 07230
Prezentul plan anulează si înlocuieste versiunea anterioara
This plan cancels and replaces previous version anterior

Verificator / Expert Checker / Expert	Contrib. Requirement	Semnatura Signature	Refeat / Expertiza Report / Expertise

European Investment Bank

MINISTERUL TRANSPORTURILOR

BENEFICIAR / BENEFICIARY:
CFR
COMPANIA NATIONALA DE CAI FERATE "CFR" SA

PROIECTANT / DESIGNER: PÖYRY

		Data Date	Semnatura Signature
Aprobat Approved	Sef de echipa Team leader	C. Teodorescu	01.2013
Verificat Checked	Expert Chef Key Expert	R. Tudorascu	01.2013

Subcontractant / Subcontractor
VIOTOP

Aprobat Approved	Adjunct Sef de echipa Deputy Team leader	A.M. Baicu	01.2013
Proiectat Designed	Inginer Engineer	T. Nicolaescu	01.2013

Proiect Nr. / Project No: 35311.1

Faza / Phase: PTH+CS / TD+TS