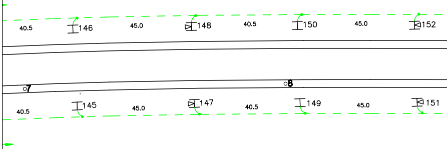
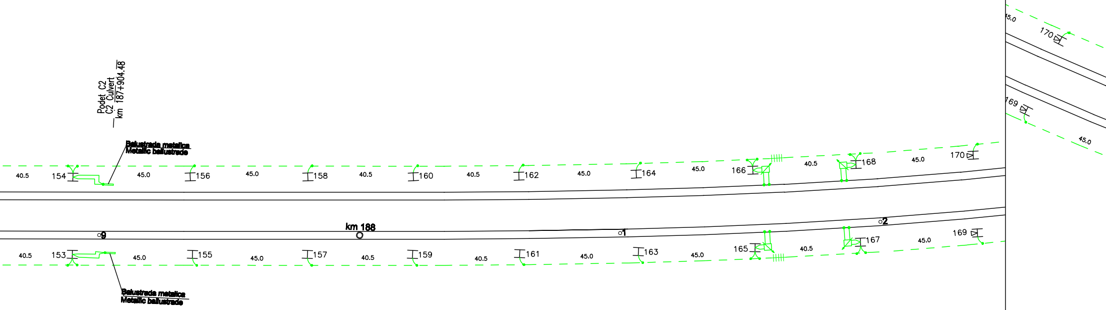
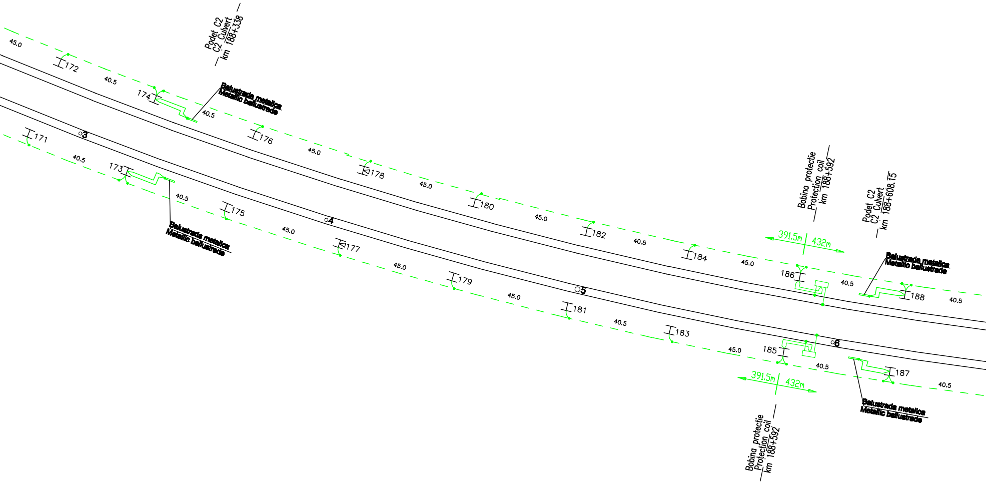
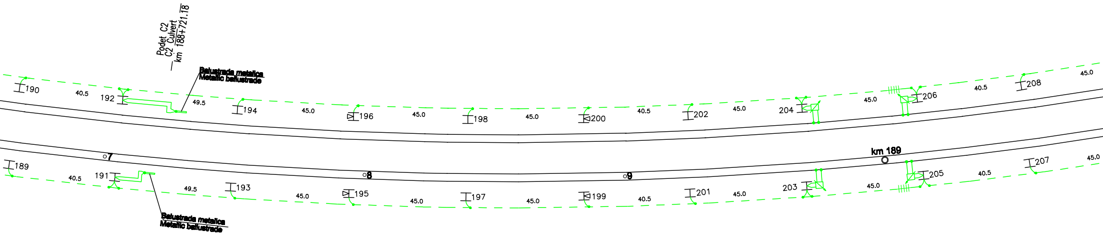
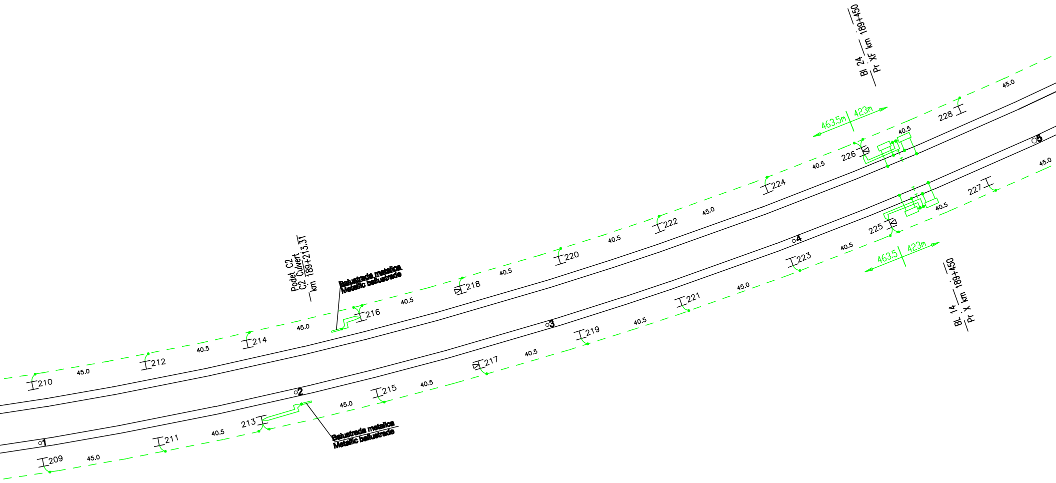

40.5
146
45.0
148
40.5
150
45.0
152
7
8
40.5
145
45.0
147
40.5
149
45.0
151

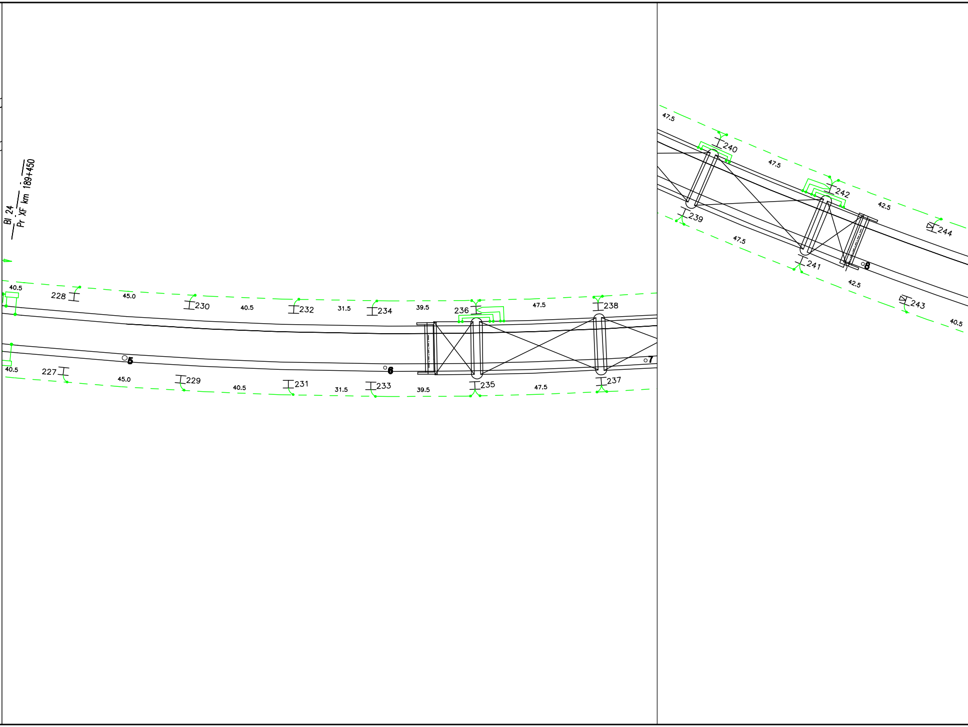


Podet C2
C2 Culvert
km 187+904.48
Balustrada metalica
Metalic ballustrade
40.5
154
45.0
156
45.0
158
40.5
160
40.5
162
45.0
164
45.0
166
40.5
168
45.0
170
45.0
170
169
45.0
km 188
9
1
2
40.5
153
45.0
155
45.0
157
40.5
159
40.5
161
45.0
163
45.0
165
40.5
167
45.0
169
Balustrada metalica
Metalic ballustrade


45.0
172
40.5
174
Podet C2
C2 Culvert
km 188+338
Balustrada metalica
Metallic balustrade
40.5
171
3
40.5
173
176
45.0
178
40.5
Balustrada metalica
Metallic balustrade
175
45.0
4
177
45.0
180
45.0
179
45.0
182
40.5
184
45.0
5
181
40.5
183
Bobina protectie
Protection coil
km 188+592
391.5m
432m
Podet C2
C2 Culvert
km 188+608.15
186
40.5
Balustrada metalica
Metallic balustrade
188
40.5
45.0
185
6
40.5
187
40.5
391.5m
432m
Balustrada metalica
Metallic balustrade
Bobina protectie
Protection coil
km 188+592


Podet C2
C2 Culvert
km 188+721.18
Balustrada metalica
Metallic balustrade
190
40.5
192
49.5
194
45.0
196
45.0
198
45.0
200
40.5
202
45.0
204
45.0
206
40.5
208
45.0
7
8
9
km 189
189
40.5
191
49.5
193
45.0
195
45.0
197
45.0
199
40.5
201
45.0
203
45.0
205
40.5
207
45.0
Balustrada metalica
Metallic balustrade


Bl 24 / Pr XF km 189+450
463.5m | 423m
45.0
228
40.5
226
5
45.0
227
40.5
225
40.5
40.5
224
45.0
222
4
223
463.5 | 423m
Bl 14 / Pr X km 189+450
40.5
220
45.0
221
40.5
218
Podet C2
C2 Culvert
km 189+213.31
Balustrada metalica
Metallic balustrade
216
40.5
3
219
40.5
45.0
214
40.5
217
212
40.5
45.0
210
215
2
45.0
213
Balustrada metalica
Metallic balustrade
40.5
211
1
45.0
209


Bl 24
Pr XF km 189+450
40.5
228
45.0
230
40.5
232
31.5
234
39.5
236
47.5
238
40.5
227
5
45.0
229
40.5
231
31.5
6
233
39.5
235
47.5
237
7
47.5
240
47.5
242
42.5
244
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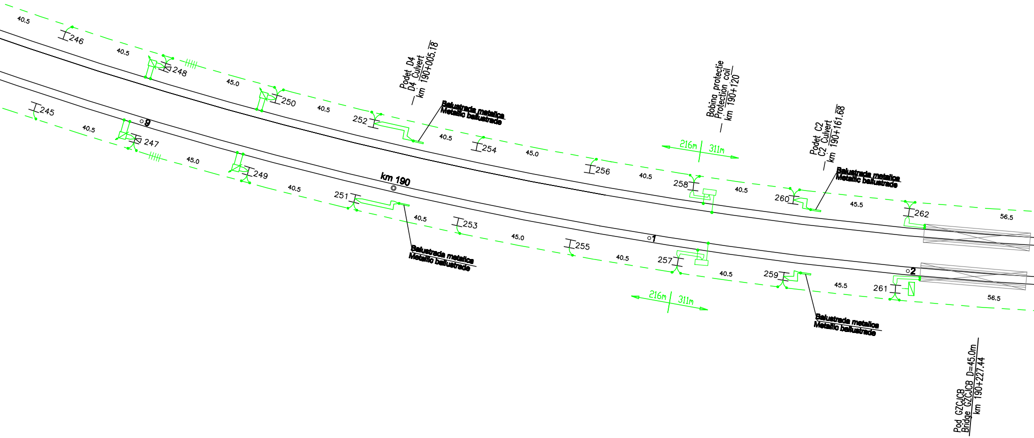
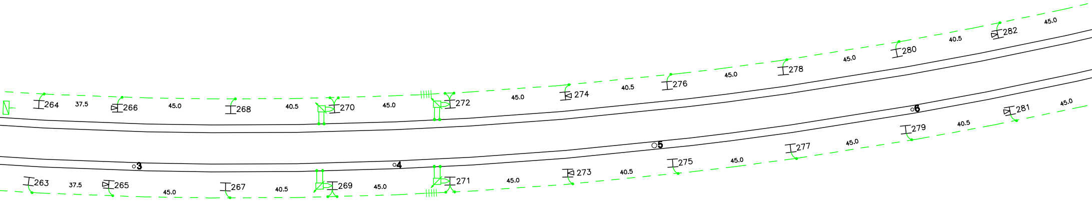
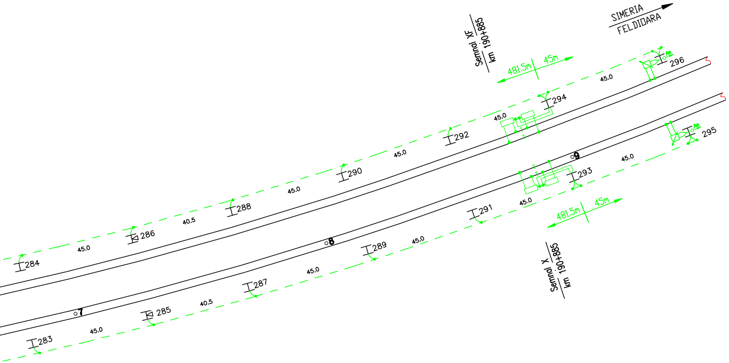
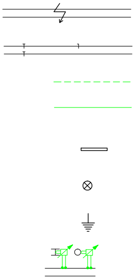
241
8
42.5
243
40.5


40.5
246
40.5
248
45.0
250
40.5
Podet D4
D4 Culvert
km 190+005.18
Balustrada metalica
Metallic ballustrade
252
40.5
254
45.0
256
40.5
Bobina protectie
Protection coil
km 190+120
216m
311m
258
40.5
Podet C2
C2 Culvert
km 190+161.68
Balustrada metalica
Metallic ballustrade
260
45.5
262
56.5
245
40.5
9
247
45.0
249
40.5
km 190
251
40.5
253
Balustrada metalica
Metallic ballustrade
45.0
255
40.5
1
257
216m
311m
40.5
259
Balustrada metalica
Metallic ballustrade
45.5
2
261
56.5
Pod GZCJCB
Bridge GZCJCB D=45.0m
km 190+227.44


264
37.5
266
45.0
268
40.5
270
45.0
272
45.0
274
40.5
276
45.0
278
45.0
280
40.5
282
45.0
263
37.5
265
45.0
267
40.5
269
45.0
271
45.0
273
40.5
275
45.0
277
45.0
279
40.5
281
45.0
3
4
5
6


SIMERIA
FELDIOARA
Semnal XF
km 190+885
481.5m
45m
296
45.0
294
45.0
292
45.0
290
45.0
288
40.5
286
45.0
284
9
295
45.0
293
45.0
291
481.5m
45m
8
289
45.0
287
45.0
Semnal X
km 190+885
7
285
40.5
283
45.0

## LEGENDA / LEGEND:



Linie c.f. electrificata
electrified line c.f.

Joanta izolata
Insulated rail joints

Conductor colector din otel-aluminiu 95/15 mmp
Earthing conductor steel-aluminum 95/15 sq mm

Conductor din banda de otel Ø 10 mm galvanizat
Galvanised steel conductor Ø 10 mm

Balustrada metalica
Metallic balustrade

Stalp de beton echipat cu corp de iluminat
Concrete pole equipped with lighting unit

Priza de pământ
Earth plate

Legarea individuala a stalpului LC la sina de tractiune
Individual connection of CL pole to the traction rail

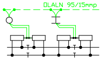
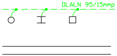
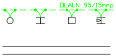
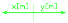
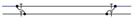
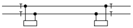
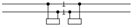
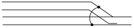
## NOTA / NOTE:

**SEMNIFICAȚIA CULORILOR FOLOSITE ÎN PREZENTAREA PLANULUI DE PROTECTIE ESTE URMĂTOAREA:**

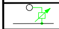
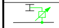
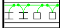
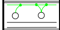
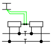
- verde - elemente noi ale instalatiei de protectie
- negru - elemente noi care aparțin altor specialități
- gri - elemente existente ale planului de situație

**THE SIGNIFICATION OF COLORS USED TO PRESENT THE PROTECTION DRAWING:**

- green - new elements of the protection installations
- black - new elements of others specialities
- grey - existing elements of the layout plan

| | |
|---|---|
|  OLALN 95/15mmp | Legarea colectivă a stâlpului LC la mediana bobinei de joantă prin conductorul de protecţie OLALN 95/15mmp /<br>CL pole collective connection through OLALN 95/15mmp protection conductor at the impedance coil mid-point |
|  OLALN 95/15mmp | Legarea simplă a stâlpului LC la conductorul de protecţie OLALN95/15mmp<br>Simple connection of CL pole at OLALN95/15mmp protection conductor |
|  OLALN 95/15mmp | Legarea dublă a stâlpului LC la conductorul de protecţie OLALN95/15mmp<br>Double connection of CL pole at OLALN95/15mmp protection conductor |
| | Ancora pentru conductorul de protecţie OLALN 95/15mmp<br>Anchor for OLALN 95/15mmp protection conductor |
| | Izolator de separare electrică a conductorului de protecţie<br>Sectionning insulator of over-head protective conductor |
|  | x, y - Lungimile conductorului de protecţie<br>x, y - Overhead protective conductor lenghts |
| | Bobina de joanta<br>Impedance coil |
| | Bobina de protectie<br>Protection coil |
| | Separator monopolar de exterior actionat electric<br>Outdoor single pole disconnector, electrical actuated |
| | Transformator<br>Transformer |
|  | Circuit de cale monofilar<br>Single-track circuit |
|  | Circuit de cale bifilar<br>Double-track circuit |
|  | Bobina de joanta CED<br>Joint coil CED |
|  | Funie de cupru de 50mmp<br>Copper cord 50mmp |
| | Subtraversare linie c.f. in tub de cauciuc<br>Railway lines under-crossing by rubber tube |
| | Placa avertizoare "STATIONAREA PE POD INTERZISA"<br>Marker "Staying on the bridge is not permised" |
| | Indicator carc pentru restrictie gabarit si placuta suplimentara pentru indicarea distantei<br>Circle indicator for gauge restriction and additional plate to indicate distance |

# LISTA DE COMPONENTA / ITEM LIST

| REF / ITEM | DENUMIRE REFERINTA / ITEM DESIGNATION | REFERINTA DWG / DWG REFERENCE | CANTITATE / QUANTITY |
|---|---|---|---|
|  | Stalp de beton protejat individual<br>Individual protected concrete pole | | - |
|  | Stalp de metal protejat individual<br>Individualy protected metallic pole | | - |
|  | Stalp de metal protejat colectiv<br>Collectivelly protected metallic pole | | 296 pcs |
|  | Stalp de beton protejat colectiv<br>Collectivelly protected concrete pole | | - |
| OLALN 95/15mmp | Conductor colector din otel-aluminiu 95/15 mmp<br>Earthing conductor steel-aluminum 95/15 sq mm | | 13.200 m |
| | Ancora pentru conductorul de protecţie OLALN 95/15mmp<br>Anchor for OLALN 95/15mmp protection conductor | | 4 pcs |
|  | Legatura dubla la mediana bobinei de joanta<br>Double connection at mid-point of coil | | 18 pcs |
| | Indicator restrictie gabarit<br>Restriction indicator gauge | | 4 pcs |
| | Bobina de protectie<br>Protection coil | | 8 pcs |
| | Priza de pământ<br>Earth plate | | - |
| | Interstitiu de scanteiere<br>Sparking gap | | 36 pcs |
| | Panouri protectie<br>Protection panel | | - |
| | Izolator de separare electrică<br>Sectionning insulator | | 16 pcs |
| | Placa avertizoare "STATIONAREA PE POD INTERZISA"<br>Marker "Staying on the bridge is not permised" | | 6 pcs |
| | Subtraversare linie c.f. in tub de cauciuc<br>Railway lines under-crossing by rubber tube | | - |

| | | | |
|---|---|---|---|
| D | | | |
| C | | | |
| B | | | |
| A | | | |
| Indice<br>Index | Data<br>Date | Modificare<br>Modification/Revision | Proiectant<br>Designer |

GUVERNUL ROMANIEI
ROMANIAN GOVERNMENT

PROIECT FINANŢAT DE UNI
EUROPEAN UNION F

CFR

**CLIENT / CLIENT**

ITALFERR
GRUPPO FERROVIE DELLO STATO
Joint Venture leader

Scott Wilson

OBERM
PLANEN + BERA

**CONSULTANT / CONSULTANT**

| | | |
|---|---|---|
| Aprobat<br>Approved | Şef proiect<br>Project manager | R. Liuzza |
| Aprobat<br>Approved | Coordonator Secţiune 1<br>Section 1 Coordinator | C. Gambelli |
| Verificat<br>Checked | Expert Verificator<br>Checking Expert | G. Bufferini |

**SUBCONTRACTANT / SUBCONTRACTOR**

AREX COMPANY

| | | |
|---|---|---|
| Aprobat<br>Approved | Responsabil Subconsultant<br>Subconsultant Responsible | A.Stanciu - Dinulescu |
| Întocmit<br>Elaborated | Proiectant<br>Designer | Teutu Anton |

**Reabilitarea liniei de cale ferata Braşov - Simeria, parte componentă a coridorului IV**
**.pentru circulaţia trenurilor cu viteza maximă de 160 km/h,**
**Tronsonul: Braşov - Sighişoara**
**Rehabilitation of the railway line Braşov - Simeria, component Part of the IV Pan-Eur**
**for the trains circulation with maximum speed of 160 km/h,**
**Section: Braşov - Sighişoara**

Denumire desen / Drawing Title:

**Interval Bod - Feldioara / Bod - Feldioar**
**Protecţia instalaţiilor din cale şi vecinătate / Protection of tr**

Codificare / Codification System

Scara / Scale
-

E A 5 1 | 0 1 | C | 0 6 | L 7 | P I | 0 0

| Aprobat Consultant<br>Approved Consultant | Aprobat CFR<br>Approved CFR |
|---|---|

IUNEA EUROPEANĂ
FINANCED PROJECT

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

EYER
ATEN GmbH

TECNIC
Consulting Engineers

| Data<br>Date | Semnătură<br>Signature |
|---|---|
| 12.2011 | |
| 12.2011 | |
| 12.2011 | |

| | |
|---|---|
| 12.2011 | |
| 12.2011 | |

Pan European,

opean Corridor,

***Proiect/Project***
***2004/RO/16/P/PA/003***

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

**a section**
**ack and proximity installations**

| LOT / LOT | Nr. / No<br>02 / 02 |
|---|---|

1 0 0 0 1 2

(297x3935.0)