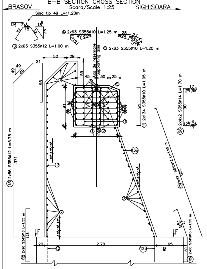
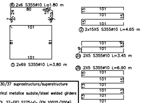
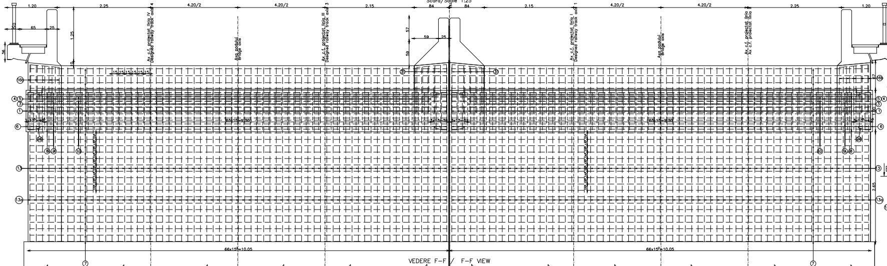
SECTIUNE TRANSVERSALA B-B
B-B SECTION CROSS SECTION
Scara/Scale 1:25


BRASOV
SIGHISOARA
Sina tip 49 L=11.20m
EM IIB
③ 2x63 S355ø12 L=1.00 m
④ 2x63 S355ø10 L=1.25 m
⑤ 2x63 S355ø10 L=1.20 m
Axa de rezemare
Supporting axis
⑪ 2x134 S355ø10 L=1.05 m
㉖ 2x4x2 S355ø14 L=1.70 m
⑬ 2x56 S355ø12 L=5.75 m
2x67 S355ø12 L=3.50 m
⑫ 2x86 S345ø16 L=1.55 m
12a 2x68 S345ø16 L=1.55 m
13a
52
28
21
95
371
59
45
30
25
91
1.01
2.70
20
65
62
60
128
F

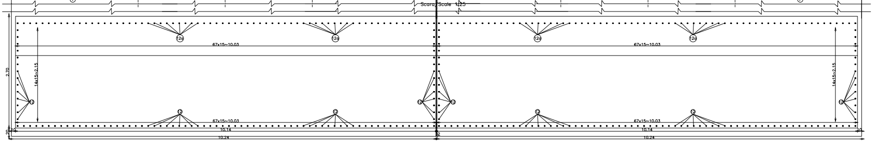

⑥ 2x6 S355ø10 L=1.80 m
80
24
21
15
101
81
① 2x69 S355ø10 L=3.80 m
② 2x15X5 S355ø10 L=4.65 m
2a 2X5 S355ø10 L=3.45 m
2b 2X5 S355ø10 L=6.90 m
15
13

Beton: Concrete:	– C30/37 suprastructura/superstructure
Tipul grinzilor: Beams type:	– grinzi metalice sudate/steel welded girders
Otel pentru grinzi: Steel for the beams:	– (OL 37-EP) $S275J_3G_3$ (EN 10025/2004)
Armatura: Reinforcement:	– S355;S345
Strat de acoperire: Concrete cover	– min. 4cm expunere in aer/air exposed

VEDERE IN PLAN / PLAN VIEW
Scara/Saale 1:25

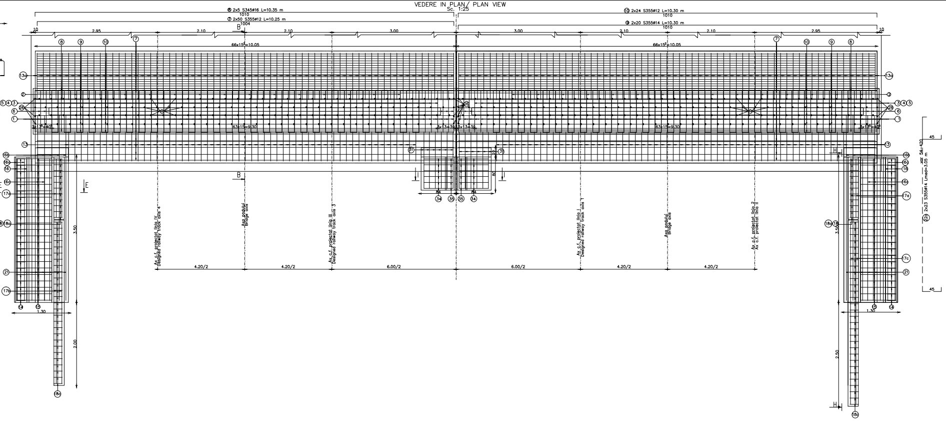

1.20
2.25
4.20/2
2.15
84
2
65
25
30
36
1.25
10
57
59
Ax c.f. proiectat linia IV
Designed railway track axis 4
Axa podului
Bridge axis
Ax c.f. proiectat linia III
Designed railway track axis 3
Ax c.f. proiectat linia I
Designed railway track axis 1
Ax c.f. proiectat linia
15
16b
31
66x15=10.05
2.65
67

VEDERE F-F / F-F VIEW
Scara/Scale 1:25

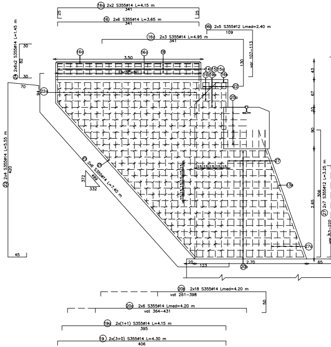

12a
67x15=10.03
14x15=2.15
2.70
12
10.14
10.24
20
10
2

VEDERE IN PLAN/ PLAN VIEW

Sc. 1:25

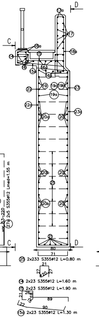

⑧ 2x5 S345ø16 L=10.35 m
1010
⑦ 2x50 S355ø12 L=10.25 m
1004
⑩ 2x24 S355ø12 L=10.30 m
1010
⑨ 2x20 S355ø14 L=10.30 m
1010
10
2.95
2.10
2.10
3.00
3.00
2.10
2.10
2.95
10
B
B
66x15=10.05
66x15=10.05
63x15=9.30
63x15=9.30
3x13=40
3x13=39
3x13=39
3x13=40
⑧
⑨
⑩
⑦
⑦
⑩
⑨
⑧
13a
②
⑤④③
㉖
⑥
①
⑬
16b
16a
⑯
16a
17a
18a
㉑
17b
⑭
⑮
1.30
3.50
2.00
18c
E
㉛
㉛
22
80
84
84
2
㉞
㉟
㉟
㉞
I
I
H
H
13a
②
③④⑤
㉖
⑥
①
⑬
16b
16a
⑯
16a
17a
18a
⑱
17c
㉑
⑮
⑭
1.30
3.50
2.50
18c
45
var 54–420
㉒a 2x23 S355ø14 Lmed=3.05 m
45
Ax c.f. proiectat linia IV
Designed railway track axis 4
Axa podului
Bridge axis
Ax c.f. proiectat linia III
Designed railway track axis 3
Ax c.f. proiectat linia I
Designed railway track axis 1
Axa podului
Bridge axis
Ax c.f. proiectat linia 2
Ax c.f. proiectat linia II
4.20/2
4.20/2
6.00/2
6.00/2
4.20/2
4.20/2

VEDERE C-C/ C-C VIEW
Scara/Scale 1:25



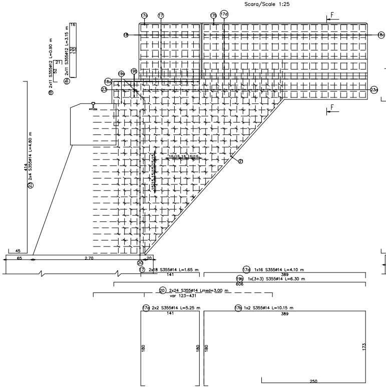
16a 2x2 S355ø14 L=4.15 m
341
16 2x6 S355ø14 L=3.65 m
341
16b 2x5 S355ø12 Lmed=2.40 m
109
16c 2x3 S355ø14 L=4.95 m
341
var. 107-113
3.50
23x15=341
24 2x6x2 S355ø14 L=1.45 m
22 2x4 S355ø14 L=5.55 m
21 2x6 S355ø14 L=7.40 m
27 2x7 S355ø12 L=3.25 m
27a 2x5 S355ø12 Lmed=1.55 m
2.65
2.70
20b 2x18 S355ø14 Lmed=4.20 m
var 261-398
20a 2x6 S355ø14 Lmed=4.20 m
var 364-431
19a 2x(1+1) S355ø14 L=4.15 m
395
19 2x(3+0) S355ø14 L=4.30 m
406

SECTIUNE E-E/ E-E SECTION
Scara/Scale 1:25



C
D
80
71
25 2x233 S355ø12 L=0.80 m
14 2x23 S355ø12 L=1.60 m
15 2x23 S355ø12 L=1.90 m
89
90
15a 2x23 S355ø12 L=1.30 m

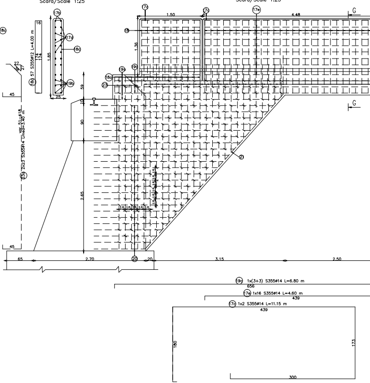
VEDERE D-D/ D-D VIEW
Scara/Scale 1:25



18 2x11 S355ø12 L=0.90 m
18a 2x11 S355ø12 L=3.15 m
23 2x4 S355ø14 L=4.80 m
F
65
2.70
20
17 2x18 S355ø14 L=1.65 m
141
17a 1x16 S355ø14 L=4.10 m
389
19b 1x(3+3) S355ø14 L=6.30 m
606
20 2x24 S355ø14 Lmed=3.00 m
var 123-431
17c 2x2 S355ø14 L=5.25 m
141
180
17b 1x2 S355ø14 L=10.15 m
389
173
250

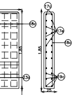
SECTIUNE F-F/F-F SECTION
Scara/Scale 1:25

VEDERE H-H/ H-H VIEW
Scara/Scale 1:25

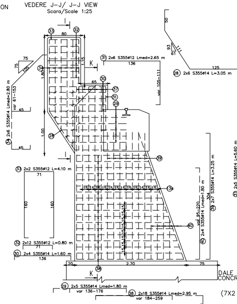


18a 57 S355ø12 L=4.00 m
23 2x23 S355ø14 Lmed=3.40 m
1.50
4.48
G
2.65
65
2.70
20
3.15
2.50
19c 1x(3+3) S355ø14 L=6.80 m
656
17e 1x16 S355ø14 L=4.60 m
439
17c 1x2 S355ø14 L=11.15 m
439
180
173
300

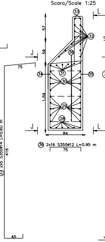
SECTIUNE G-G/G-G SECTION
Scara/Scale 1:25


17c
17e
18c
18c
19c
23a
1.85
1.85
25

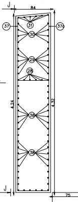
VEDERE J-J/ J-J VIEW
Scara/Scale 1:25


33
80
32
34
65
30
37
31
29
28
39
13a
40
38
K
K
I
1.15
1.80
1.00
3.75
20
2.70
75
31 2x6 S355ø12 Lmed=2.65 m
136
var 105-111
28 2x6 S355ø14 L=3.05 m
125
50
93
111
61
34 2x6 S355ø14 Lmed=2.80 m
var 61-153
75
105
45
45
33 2x2 S355ø12 L=4.10 m
71
160
160
32 2x12 S355ø12 L=0.80 m
71
30 2x4 S355ø14 L=1.60 m
136
29 2x5 S355ø14 Lmed=1.80 m
var 136-176
38 2x18 S355ø14 Lmed=2.95 m
var 184-259
50
15
40 2x4 S355ø14 Lmed=1.80 m
var 95-220
39 2x7 S355ø14 L=3.25 m
304

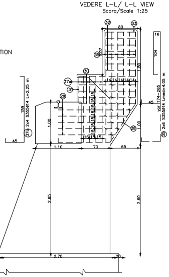
SECTIUNE I-I/ I-I SECTION
Scara/Scale 1:25


33
32
36
34
35
31
30
29
28
L
L
J
J
57
59
1.59
84
36 2x16 S355ø12 L=0.95 m
75
37 2x5 S355ø14 L=5.60 m
416
45
75

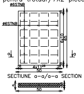
SECTIUNE K-K/K-K SECTION
Scara/Scale 1:25


84
37
31
37a
30
29
28
38
38
J
4.24
4.32

VEDERE L-L/ L-L VIEW
Scara/Scale 1:25

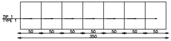

32
80
33
16
104
35
1.07
30
37a
31
29
28
14 14 14 14 14
15 15 15
1.80
1.00
45
1.10
70
65
2.65
2.60
37a 2x4 S355ø14 Lmed=2.25 m
159
35 2x6 S355ø14 Lmed=4.05 m
var 174-265
45
75
2.70
20

DALE PREFABRICATE DIN BETON ARMATE CU S.T.N.B.
CONCRETE PREFAB SLABS REINFORCED WITH S.T.N.B.
Sc. 1:10
TIP 1/TYPE 1
(7X2 buc. pentru trotuar/7X2 piece for sidewalk)


ø6STNB
ø6STNB
a
a
6x10
60
4x11
25
25
5
50

SECTIUNE a-a/a-a SECTION

DALE PREFABRICATE DIN BETON
CONCRETE PREFAB SLABS
Sc. 1:20


TIP 1
TYPE 1
50
50
50
50
50
50
50
350

EXTRAS DE ARMATURA STNB PENTRU
O CULEE DE CALE FERATA
TABLE FOR REINFORCEMENTS STNB FOR
SINGLE ABUTMENT

TIP/TYPE	TIP ARMATURA TYEPE REINFOCEMENT	Nr. BUC. No. PIECE	kg/m	m/buc. m/piece	kg
TIP 1 TYPE 1	STNB 6 G.Q.283	14	0.222	6.15	20,00
				TOTAL	20.00kg

TOTAL POD (2 CULEI): 2 x 20kg=40kg
TOTAL BRIDGE (2 ABUTMENTS): 2 x 20kg=40kg

EXTRAS DE ARMATURA PENTRU CULEI BRASOV
REINFORCEMENT FOR ABUTMENTS BRASOV

Marca	Diametru	Lung./buc.[m]	Nr.buc.	S355 ϕC10	S355 ϕC12	S355 ϕC14	S345 ϕC16
1	10	3.80	138	524.40			
2	10	4.65	150	697.50			
2a	10	3.45	10	34.50			
2b	10	6.90	10	69.00			
3	12	1.00	126		126.00		
4	10	1.25	126	157.50			
5	10	1.20	126	151.20			
6	10	1.80	12	21.60			
7	12	10.25	100		1025.00		
8	16	10.35	10				103.50
9	14	10.30	40			412.00	
10	12	10.30	48		494.40		
11	10	1.05	268	281.40			
12	16	1.55	192				297.60
12a	16	1.55	136				210.80
13	12	5.75	112		644.00		
13a	12	3.50	134		469.00		
14	12	1.60	46		73.60		
15	12	1.90	46		87.40		
15a	12	1.30	46		59.80		
16	12	3.65	12		43.80		
16a	14	4.16	4			16.64	
16b	14	2.40	10			24.00	
16c	14	4.95	6			29.70	
17	14	1.65	36			59.40	
17a	14	5.25	4			21.00	
17b	14	10.15	2			20.30	
17c	14	11.15	2			22.30	
17d	14	4.10	16			65.60	
17e	14	4.60	16			73.60	
18	12	0.90	22		19.80		
18a	12	3.15	22		69.30		
18b	12	4.00	57		228.00		
19	14	4.30	6			25.80	
19a	14	4.15	4			16.60	
19b	14	6.30	6			37.80	
19c	14	6.80	6				
20	14	3.00	48			144.00	
20a	14	4.20	12			50.40	
20b	14	4.00	36			144.00	
21	14	7.40	12			88.80	
22	14	5.55	8			44.40	
22a	14	3.05	46			140.30	
23	14	4.80	8			38.40	
23a	14	3.40	46			156.40	
24	14	1.45	24			34.80	
25	10	0.80	466	372.80			
26	14	1.70	16			27.20	
27	12	3.25	14		45.50		
27a	12	1.55	10		15.50		
28	14	3.05	12			36.60	
29	14	1.80	10			18.00	
30	14	1.60	8			12.80	

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EXTRAS DE ARMATURA PENTRU CULEI BRASOV
REINFORCEMENT FOR ABUTMENTS BRASOV

Marca	Diametru	Lung./buc.[m]	Nr.buc.	S355 ΦC10	S355 ΦC12	S355 ΦC14	S345 ΦC16
31	12	2.65	12		31.80		
32	12	0.80	24		19.20		
33	12	4.10	4		16.40		
34	14	2.80	12			33.60	
35	14	4.05	12			48.60	
36	12	0.95	32		30.40		
37	14	5.60	10			56.00	
37a	14	2.25	8			18.00	
38	14	2.95	36			106.20	
39	14	3.25	14			45.50	
40	14	1.80	8			14.40	
Lungimi totale pe diametre			(m)	2309.90	3498.90	2083.14	611.90
Masa pe metru liniar			(kg/ml)	0.617	0.888	1.208	1.578
Masa pe diametre			(kg)	1424.14	3106.37	2517.30	965.78
Masa pe tip otel			(kg)	7048.00			966.00
Masa totala culee			(kg)	8015.00			
Pierderi 5%			(kg)	400.75			
Masa totala culee			(kg)	8450.00			

TOTAL POD (4 CULEI): 2 x 8450.00kg=16900.00kg
TOTAL BRIDGE (4 ABUTMENTS): 2 x 8450.00kg=16900.00kg

D					
C					
B					
A					
Index Index	Data Date	Modificare Modification/Revision	Proiectant Designer	Aprobat Consultant Approved Consultant	Aprobat CFR Approved CFR

GUVERNUL ROMANIEI
ROMANIAN GOVERNMENT

PROIECT FINANTAT DE UNIUNEA EUROPEANA
EUROPEAN UNION FINANCED PROJECT

CLIENT / CLIENT

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

GRUPPO FERROVIE DELLO STATO

OBERMEYER

TECNIC
Consulting Engineers

CONSULTANT / CONSULTANT

			Data Date	Semnatura Signature
Aprobat Approved	Sef proiect Project manager	R. Lucas		
Aprobat Approved	Coordonator Sectiunea 1 Section 1 Coordinator	G. Gambell		
Verificat Checked	Expert Cheie Checking Expert	V. Kalliteratis		

SUBCONTRACTANT / SUBCONTRACTOR

Aprobat Approved	Responsabil Subcontractant Subcontractor Responsible	A.Stanciu - Dinulescu	01.2012	
Intocmit Elaborated	Proiectant Designer	Dinu Andreea	01.2012	

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

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

Faza / Phase:
D.E. / E.D.

Denumire desen / Drawing Title :

INTERVAL / SECTION APATA - RACOS
POD Km.209+649.912 L=15.00m/PLAN ARMARE CULEI
BRIDGE Km.209+649.912 D=15.00m/ABUTMENTS REINFORCEMENT PLAN

Codificare / Codification System	Scara/Scale 1:25	LOT / LOT	Nr. / No 01 / 01

E A S 1 | 0 1 | E | 1 0 | B C | P V | 0 1 | 6 | 2 | 0 1 1 | 0