

COMMITTENTE:



DIREZIONE LAVORI:



APPALTATORE:

MANDATARIA:

MANDANTE:



PROGETTAZIONE:

MANDATARIA:

MANDANTI:



PROGETTO ESECUTIVO

LINEA FERROVIARIA NAPOLI - BARI, TRATTA NAPOLI-CANCELLO, IN VARIANTE TRA LE PK 0+000 E PK 15+585, INCLUSE LE OPERE ACCESSORIE, NELL'AMBITO DEGLI INTERVENTI DI CUI AL D.L. 133/2014, CONVERTITO IN LEGGE 164 / 2014

RELAZIONE

RI – RILEVATI

RI03 – MURO DI SOSTEGNO IN SX TRA PROGR. 8+926.80 E PROGR. 9+529.59

ALLEGATO DI CALCOLO MURO AD U

APPALTATORE	PROGETTAZIONE	
DIRETTORE TECNICO Ing. M. PANISI	DIRETTORE DELLA PROGETTAZIONE Ing. A. CHECCHI	

COMMESSA LOTTO FASE ENTE TIPO DOC. OPERA/DISCIPLINA PROGR. REV SCALA:

I	F	1	M	0	0	E	Z	Z	C	L	R	I	0	3	0	0	0	0	4	B	-
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Rev.	Descrizione	Redatto	Data	Verificato	Data	Approvato	Data	Autorizzato	Data
A	EMISSIONE	S. CHECCHI	14/06/18	PINTI	15/06/18	D'ANGELO	15/06/18	COPPA	
B	EMISSIONE per RDV	S. CHECCHI	10/09/18	PINTI	11/09/18	D'ANGELO	11/09/18		
									12/09/18

File: IF1M.0.0.E.ZZ.CL.RI.03.0.0.004.B

n. Elab.:

APPALTATORE: <u>Mandatario:</u> <u>Mandante:</u> SALINI IMPREGILO S.p.A. ASTALDI S.p.A.	<p style="text-align: center;">LINEA FERROVIARIA NAPOLI - BARI TRATTA NAPOLI-CANCELLO</p> <p style="text-align: center;">IN VARIANTE TRA LE PK 0+000 E PK 15+585, INCLUSE LE OPERE ACCESSORIE, NELL'AMBITO DEGLI INTERVENTI DI CUI AL D.L. 133/2014, CONVERTITO IN LEGGE 164 / 2014</p>												
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2	ALLEGATO 1: INPUT PROGRAMMA DI CALCOLO – MURO AD U	4

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1 **PREMESSA**

La presente relazione afferisce ai calcoli e alle verifiche strutturali del muro di sostegno previsto tra le opere minori relative al progetto esecutivo della variante linea ferroviaria Napoli Cannello, itinerario Napoli-Bari.

In particolare, le opere in questione riguardano l'allegato di calcolo del muro ad U

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2 ALLEGATO 1: INPUT PROGRAMMA DI CALCOLO – MURO AD U

/ UNITS

LengthUnit m
 MassUnit kg
 EnergyUnit J
 PressureUnit kPa
 ForceUnit kN
 TemperatureUnit C

/

/ GROUP DEFINITIONS

Group 1 16711680 "\Model"
 Group 2 3355647 "0"

/

/ FREEDOM CASE DEFINITIONS

FreedomCase 2 0 0 "Freedom Case 1"
 DZ RX RY

/

/ LOAD CASE DEFINITIONS

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LoadCase	2	1	"Peso proprio"		
Gravity	2		-9.806650000000000E+0		
LCInclude	3				
LoadCase	3	0	"Peso Rinterro"		
LCInclude	3				
LoadCase	4	0	"Spinta statica Rinterro"		
LCInclude	3				
LoadCase	5	0	"Treno sx"		
LCInclude	3				
LoadCase	6	0	"Doppio Treno"		
LCInclude	3				
LoadCase	7	0	"Spinta sismica Rinterro"		
LCInclude	3				
LoadCase	10	2	"Sisma da destra"		
Acceleration			2.943000000000000E+0		0.000000000000000E+0
0.000000000000000E+0					
LCInclude	3				
LoadCase	9	2	"sism_z"		
Acceleration			0.000000000000000E+0		1.640000000000000E+0
0.000000000000000E+0					
LCInclude	3				

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IF1M	0.0.E.ZZ	CL	RI.03.00.004	B	6 di 34								

/

/ LOAD CASE COMBINATIONS

LoadCaseCombination 11 "SLU 1"

2	2	1.3500000000000000E+0
3	2	1.5000000000000000E+0
4	2	1.5000000000000000E+0

LoadCaseCombination 12 "SLU 2"

2	2	1.0000000000000000E+0
3	2	1.3000000000000000E+0
4	2	1.3000000000000000E+0

LoadCaseCombination 13 "SLU 3"

2	2	1.3500000000000000E+0
3	2	1.5000000000000000E+0
4	2	1.5000000000000000E+0
5	2	1.4500000000000000E+0

LoadCaseCombination 14 "SLU 4"

2	2	1.0000000000000000E+0
3	2	1.3000000000000000E+0
4	2	1.3000000000000000E+0
5	2	1.2500000000000000E+0

LoadCaseCombination 15 "SLU 5"

2	2	1.3500000000000000E+0
3	2	1.5000000000000000E+0
4	2	1.5000000000000000E+0

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6 2 1.4500000000000000E+0

LoadCaseCombination 16 "SLU 6"

2 2 1.0000000000000000E+0

3 2 1.3000000000000000E+0

4 2 1.3000000000000000E+0

6 2 1.2500000000000000E+0

LoadCaseCombination 17 "SISMA 1"

2 2 1.0000000000000000E+0

3 2 1.0000000000000000E+0

4 2 1.0000000000000000E+0

6 2 2.0000000000000000E-1

7 2 1.0000000000000000E+0

10 2 1.0000000000000000E+0

9 2 1.0000000000000000E+0

LoadCaseCombination 18 "SISMA 2"

2 2 1.0000000000000000E+0

3 2 1.0000000000000000E+0

4 2 1.0000000000000000E+0

6 2 2.0000000000000000E-1

7 2 1.0000000000000000E+0

10 2 1.0000000000000000E+0

9 2 -1.0000000000000000E+0

LoadCaseCombination 19 "SISMA 3"

2 2 1.0000000000000000E+0

3 2 1.0000000000000000E+0

4 2 1.0000000000000000E+0

6 2 2.0000000000000000E-1

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7 2 1.000000000000000E+0
10 2 1.000000000000000E+0
9 2 1.000000000000000E+0

LoadCaseCombination 20 "SISMA 4"

2 2 1.000000000000000E+0
3 2 1.000000000000000E+0
4 2 1.000000000000000E+0
6 2 2.000000000000000E-1
7 2 1.000000000000000E+0
10 2 1.000000000000000E+0
9 2 -1.000000000000000E+0

LoadCaseCombination 21 "SLE QP"

2 2 1.000000000000000E+0
3 2 1.000000000000000E+0
4 2 1.000000000000000E+0
5 2 2.000000000000000E-1

LoadCaseCombination 22 "SLE FR 1"

2 2 1.000000000000000E+0
3 2 1.000000000000000E+0
4 2 1.000000000000000E+0
5 2 8.000000000000000E-1

LoadCaseCombination 23 "SLE FR 2"

2 2 1.000000000000000E+0
3 2 1.000000000000000E+0
4 2 1.000000000000000E+0
6 2 8.000000000000000E-1

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LoadCaseCombination 24 "SLE RARA"

2 2 1.000000000000000E+0
3 2 1.000000000000000E+0
4 2 1.000000000000000E+0
6 2 1.000000000000000E+0

LoadCaseCombination 25 "Permanenti"

2 2 1.000000000000000E+0
3 2 1.000000000000000E+0
4 2 1.000000000000000E+0

LoadCaseCombination 26 "Variabile"

6 2 1.000000000000000E+0

LoadCaseCombination 27 "sisma"

7 2 1.000000000000000E+0
10 2 1.000000000000000E+0
9 2 1.000000000000000E+0

/

/ RESULT CASE ENVELOPES

LoadCaseEnvelope "SLU" Abs

ON 11 2
ON 12 2
ON 13 2
ON 14 2
ON 15 2

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ON 16 2
ON 17 2
ON 18 2

LoadCaseEnvelope "A1+M1" Abs

ON 11 2
ON 13 2
ON 15 2

LoadCaseEnvelope "A2+M2" Abs

ON 12 2
ON 14 2
ON 16 2

LoadCaseEnvelope "SISMA" Abs

ON 17 2
ON 18 2

/

/ COORDINATE SYSTEM DEFINITIONS

CoordSys 1 "Global XYZ" GlobalXYZ

/

/ NODE COORDINATES

APPALTATORE: <u>Mandatario:</u> SALINI IMPREGILO S.p.A. <u>Mandante:</u> ASTALDI S.p.A.		LINEA FERROVIARIA NAPOLI - BARI TRATTA NAPOLI-CANCELLO IN VARIANTE TRA LE PK 0+000 E PK 15+585, INCLUSE LE OPERE ACCESSORIE, NELL'AMBITO DEGLI INTERVENTI DI CUI AL D.L. 133/2014, CONVERTITO IN LEGGE 164 / 2014					
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Node	1	0	-7.430000000000000E+0	0.000000000000000E+0
0.000000000000000E+0				
Node	2	0	-7.000000000000000E+0	0.000000000000000E+0
0.000000000000000E+0				
Node	3	0	-6.680000000000000E+0	0.000000000000000E+0
0.000000000000000E+0				
Node	4	0	-6.350000000000000E+0	0.000000000000000E+0
0.000000000000000E+0				
Node	5	0	-4.760000000000000E+0	0.000000000000000E+0
0.000000000000000E+0				
Node	6	0	-3.180000000000000E+0	0.000000000000000E+0
0.000000000000000E+0				
Node	7	0	-1.590000000000000E+0	0.000000000000000E+0
0.000000000000000E+0				
Node	8	0	0.000000000000000E+0	0.000000000000000E+0
0.000000000000000E+0				
Node	9	0	1.590000000000000E+0	0.000000000000000E+0
0.000000000000000E+0				
Node	10	0	3.180000000000000E+0	0.000000000000000E+0
0.000000000000000E+0				
Node	11	0	4.760000000000000E+0	0.000000000000000E+0
0.000000000000000E+0				
Node	12	0	6.350000000000000E+0	0.000000000000000E+0
0.000000000000000E+0				
Node	13	0	6.680000000000000E+0	0.000000000000000E+0
0.000000000000000E+0				
Node	14	0	7.000000000000000E+0	0.000000000000000E+0
0.000000000000000E+0				
Node	15	0	7.430000000000000E+0	0.000000000000000E+0
0.000000000000000E+0				
Node	16	0	-7.000000000000000E+0	3.800000000000000E-1
0.000000000000000E+0				
Node	17	0	7.000000000000000E+0	3.800000000000000E-1
0.000000000000000E+0				
Node	18	0	-7.000000000000000E+0	7.500000000000000E-1
0.000000000000000E+0				

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Node	19	0	7.000000000000000E+0	7.500000000000000E-1
0.000000000000000E+0				
Node	20	0	-7.000000000000000E+0	1.780000000000000E+0
0.000000000000000E+0				
Node	21	0	7.000000000000000E+0	1.780000000000000E+0
0.000000000000000E+0				
Node	22	0	-7.000000000000000E+0	2.820000000000000E+0
0.000000000000000E+0				
Node	23	0	7.000000000000000E+0	2.820000000000000E+0
0.000000000000000E+0				
Node	24	0	-7.000000000000000E+0	3.850000000000000E+0
0.000000000000000E+0				
Node	25	0	7.000000000000000E+0	3.850000000000000E+0
0.000000000000000E+0				
Node	26	0	-7.000000000000000E+0	5.000000000000000E+0
0.000000000000000E+0				
Node	27	0	7.000000000000000E+0	5.000000000000000E+0
0.000000000000000E+0				
Node	28	0	-7.000000000000000E+0	5.920000000000000E+0
0.000000000000000E+0				
Node	29	0	7.000000000000000E+0	5.920000000000000E+0
0.000000000000000E+0				
Node	30	0	-7.000000000000000E+0	6.950000000000000E+0
0.000000000000000E+0				
Node	31	0	7.000000000000000E+0	6.950000000000000E+0
0.000000000000000E+0				
Node	32	0	-7.000000000000000E+0	7.980000000000000E+0
0.000000000000000E+0				
Node	33	0	7.000000000000000E+0	7.980000000000000E+0
0.000000000000000E+0				
Node	34	0	-7.000000000000000E+0	9.020000000000000E+0
0.000000000000000E+0				
Node	35	0	7.000000000000000E+0	9.020000000000000E+0
0.000000000000000E+0				
Node	36	0	-7.000000000000000E+0	1.005000000000000E+1
0.000000000000000E+0				

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Node 37 0 7.000000000000000E+0 1.005000000000000E+1
 0.000000000000000E+0
 Node 38 0 -7.000000000000000E+0 1.030000000000000E+1
 0.000000000000000E+0
 Node 39 0 7.000000000000000E+0 1.030000000000000E+1
 0.000000000000000E+0

/

/ BEAM ELEMENTS

Beam	1	0	2	5	1	2
Beam	2	0	2	5	2	3
Beam	3	0	2	2	3	4
Beam	4	0	2	2	4	5
Beam	5	0	2	2	5	6
Beam	6	0	2	2	6	7
Beam	7	0	2	2	7	8
Beam	8	0	2	2	8	9
Beam	9	0	2	2	9	10
Beam	10	0	2	2	10	11
Beam	11	0	2	2	11	12
Beam	12	0	2	2	12	13
Beam	13	0	2	5	13	14
Beam	14	0	2	5	14	15
Beam	15	0	2	5	2	16
Beam	16	0	2	3	16	18
Beam	17	0	2	3	18	20
Beam	18	0	2	3	20	22
Beam	19	0	2	3	22	24
Beam	20	0	2	3	24	26

APPALTATORE: <u>Mandatario:</u> SALINI IMPREGILO S.p.A.	<u>Mandante:</u> ASTALDI S.p.A.	LINEA FERROVIARIA NAPOLI - BARI TRATTA NAPOLI-CANCELLO IN VARIANTE TRA LE PK 0+000 E PK 15+585, INCLUSE LE OPERE ACCESSORIE, NELL'AMBITO DEGLI INTERVENTI DI CUI AL D.L. 133/2014, CONVERTITO IN LEGGE 164 / 2014					
PROGETTISTA: <u>Mandatario:</u> SYSTRA S.A.		<u>Mandante:</u> SYSTRA-SOTECNI S.p.A.	ROCKSOIL S.p.A.				
PROGETTO ESECUTIVO RI03 – MURO DI SOSTEGNO IN SX TRA PROGR. 8+926.80 E PROGR. 9+529.59– Allegato di calcolo muro ad U		PROGETTO IF1M	LOTTO 0.0.E.ZZ	CODIFICA CL	DOCUMENTO RI.03.00.004	REV. B	PAGINA 14 di 34

Beam	21	0	2	3	26	28
Beam	22	0	2	3	28	30
Beam	23	0	2	3	30	32
Beam	24	0	2	3	32	34
Beam	25	0	2	3	34	36
Beam	26	0	2	3	36	38
Beam	27	0	2	5	14	17
Beam	28	0	2	3	17	19
Beam	29	0	2	3	19	21
Beam	30	0	2	3	21	23
Beam	31	0	2	3	23	25
Beam	32	0	2	3	25	27
Beam	33	0	2	3	27	29
Beam	34	0	2	3	29	31
Beam	35	0	2	3	31	33
Beam	36	0	2	3	33	35
Beam	37	0	2	3	35	37
Beam	38	0	2	3	37	39

/

/ NODE TRANSLATIONAL STIFFNESS

/ Freedom Case 1

NdStiffnessT	2	1	1	1.00000000000000E+3	0.00000000000000E+0
0.00000000000000E+0					
NdStiffnessT	2	2	1	1.00000000000000E+3	0.00000000000000E+0
0.00000000000000E+0					
NdStiffnessT	2	3	1	1.00000000000000E+3	0.00000000000000E+0
0.00000000000000E+0					
NdStiffnessT	2	4	1	1.00000000000000E+3	0.00000000000000E+0
0.00000000000000E+0					

APPALTATORE: <u>Mandatario:</u> SALINI IMPREGILO S.p.A.	<u>Mandante:</u> ASTALDI S.p.A.	LINEA FERROVIARIA NAPOLI - BARI TRATTA NAPOLI-CANCELLO IN VARIANTE TRA LE PK 0+000 E PK 15+585, INCLUSE LE OPERE ACCESSORIE, NELL'AMBITO DEGLI INTERVENTI DI CUI AL D.L. 133/2014, CONVERTITO IN LEGGE 164 / 2014								
PROGETTISTA: <u>Mandatario:</u> SYSTRA S.A.		<u>Mandante:</u> SYSTRA-SOTECNI S.p.A.	ROCKSOIL S.p.A.	PROGETTO RI03 – MURO DI SOSTEGNO IN SX TRA PROGR. 8+926.80 E PROGR. 9+529.59– Allegato di calcolo muro ad U	PROGETTO IF1M	LOTTO 0.0.E.ZZ	CODIFICA CL	DOCUMENTO RI.03.00.004	REV. B	PAGINA 15 di 34

NdStiffnessT	2	5	1	1.00000000000000E+3	0.00000000000000E+0
0.00000000000000E+0					
NdStiffnessT	2	6	1	1.00000000000000E+3	0.00000000000000E+0
0.00000000000000E+0					
NdStiffnessT	2	7	1	1.00000000000000E+3	0.00000000000000E+0
0.00000000000000E+0					
NdStiffnessT	2	8	1	1.00000000000000E+3	0.00000000000000E+0
0.00000000000000E+0					
NdStiffnessT	2	9	1	1.00000000000000E+3	0.00000000000000E+0
0.00000000000000E+0					
NdStiffnessT	2	10	1	1.00000000000000E+3	0.00000000000000E+0
0.00000000000000E+0					
NdStiffnessT	2	11	1	1.00000000000000E+3	0.00000000000000E+0
0.00000000000000E+0					
NdStiffnessT	2	12	1	1.00000000000000E+3	0.00000000000000E+0
0.00000000000000E+0					
NdStiffnessT	2	13	1	1.00000000000000E+3	0.00000000000000E+0
0.00000000000000E+0					
NdStiffnessT	2	14	1	1.00000000000000E+3	0.00000000000000E+0
0.00000000000000E+0					
NdStiffnessT	2	15	1	1.00000000000000E+3	0.00000000000000E+0
0.00000000000000E+0					

/

/ BEAM SUPPORTS

/ Freedom Case 1

BmSupport	2	1	0.00000000000000E+0	1.37500000000000E+4
BmSupport	2	2	0.00000000000000E+0	1.37500000000000E+4
BmSupport	2	3	0.00000000000000E+0	1.37500000000000E+4
BmSupport	2	4	0.00000000000000E+0	1.37500000000000E+4
BmSupport	2	5	0.00000000000000E+0	1.37500000000000E+4
BmSupport	2	6	0.00000000000000E+0	1.37500000000000E+4
BmSupport	2	7	0.00000000000000E+0	1.37500000000000E+4

APPALTATORE: <u>Mandatario:</u> SALINI IMPREGILO S.p.A. <u>Mandante:</u> ASTALDI S.p.A.		LINEA FERROVIARIA NAPOLI - BARI TRATTA NAPOLI-CANCELLO IN VARIANTE TRA LE PK 0+000 E PK 15+585, INCLUSE LE OPERE ACCESSORIE, NELL'AMBITO DEGLI INTERVENTI DI CUI AL D.L. 133/2014, CONVERTITO IN LEGGE 164 / 2014					
PROGETTISTA: <u>Mandatario:</u> SYSTRA S.A. <u>Mandante:</u> SYSTRA-SOTECNI S.p.A. ROCKSOIL S.p.A.		PROGETTO	LOTTO	CODIFICA	DOCUMENTO	REV.	PAGINA
PROGETTO ESECUTIVO RI03 – MURO DI SOSTEGNO IN SX TRA PROGR. 8+926.80 E PROGR. 9+529.59– Allegato di calcolo muro ad U		IF1M	0.0.E.ZZ	CL	RI.03.00.004	B	16 di 34

BmSupport	2	8	0.00000000000000E+0	1.37500000000000E+4
BmSupport	2	9	0.00000000000000E+0	1.37500000000000E+4
BmSupport	2	10	0.00000000000000E+0	1.37500000000000E+4
BmSupport	2	11	0.00000000000000E+0	1.37500000000000E+4
BmSupport	2	12	0.00000000000000E+0	1.37500000000000E+4
BmSupport	2	13	0.00000000000000E+0	1.37500000000000E+4
BmSupport	2	14	0.00000000000000E+0	1.37500000000000E+4

/

/ BEAM GLOBAL DISTRIBUTED LOADS

/ Peso Rinterro

BmDistLoadG	3	3	Y	1	-2.00800000000000E+2	-
2.00800000000000E+2		0.00000000000000E+0			0.00000000000000E+0	
0.00000000000000E+0		0.00000000000000E+0				
BmDistLoadG	3	4	Y	1	-2.00800000000000E+2	-
2.00800000000000E+2		0.00000000000000E+0			0.00000000000000E+0	
0.00000000000000E+0		0.00000000000000E+0				
BmDistLoadG	3	5	Y	1	-2.00800000000000E+2	-
2.00800000000000E+2		0.00000000000000E+0			0.00000000000000E+0	
0.00000000000000E+0		0.00000000000000E+0				
BmDistLoadG	3	6	Y	1	-2.00800000000000E+2	-
2.00800000000000E+2		0.00000000000000E+0			0.00000000000000E+0	
0.00000000000000E+0		0.00000000000000E+0				
BmDistLoadG	3	7	Y	1	-2.00800000000000E+2	-
2.00800000000000E+2		0.00000000000000E+0			0.00000000000000E+0	
0.00000000000000E+0		0.00000000000000E+0				
BmDistLoadG	3	8	Y	1	-2.00800000000000E+2	-
2.00800000000000E+2		0.00000000000000E+0			0.00000000000000E+0	
0.00000000000000E+0		0.00000000000000E+0				
BmDistLoadG	3	9	Y	1	-2.00800000000000E+2	-
2.00800000000000E+2		0.00000000000000E+0			0.00000000000000E+0	
0.00000000000000E+0		0.00000000000000E+0				

APPALTATORE: <u>Mandatario:</u> SALINI IMPREGILO S.p.A. <u>Mandante:</u> ASTALDI S.p.A.		LINEA FERROVIARIA NAPOLI - BARI TRATTA NAPOLI-CANCELLO IN VARIANTE TRA LE PK 0+000 E PK 15+585, INCLUSE LE OPERE ACCESSORIE, NELL'AMBITO DEGLI INTERVENTI DI CUI AL D.L. 133/2014, CONVERTITO IN LEGGE 164 / 2014					
PROGETTISTA: <u>Mandatario:</u> SYSTRA S.A. <u>Mandante:</u> SYSTRA-SOTECNI S.p.A. ROCKSOIL S.p.A.		PROGETTO	LOTTO	CODIFICA	DOCUMENTO	REV.	PAGINA
PROGETTO ESECUTIVO RI03 – MURO DI SOSTEGNO IN SX TRA PROGR. 8+926.80 E PROGR. 9+529.59– Allegato di calcolo muro ad U		IF1M	0.0.E.ZZ	CL	RI.03.00.004	B	17 di 34

BmDistLoadG	3	10	Y	1	-2.008000000000000E+2	-
2.008000000000000E+2		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	3	11	Y	1	-2.008000000000000E+2	-
2.008000000000000E+2		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	3	12	Y	1	-2.008000000000000E+2	-
2.008000000000000E+2		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				

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/ BEAM GLOBAL DISTRIBUTED LOADS

/ Spinta statica Rinterro

BmDistLoadG	4	16	X	1	-9.385900000000000E+1	-
9.385900000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	4	17	X	1	-8.727900000000000E+1	-
8.727900000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	4	18	X	1	-7.755000000000000E+1	-
7.755000000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	4	19	X	1	-6.782100000000000E+1	-
6.782100000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	4	20	X	1	-5.813900000000000E+1	-
5.813900000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	4	21	X	1	-4.841000000000000E+1	-
4.841000000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	4	22	X	1	-3.868100000000000E+1	-
3.868100000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				

APPALTATORE: <u>Mandatario:</u> SALINI IMPREGILO S.p.A.		<u>Mandante:</u> ASTALDI S.p.A.		LINEA FERROVIARIA NAPOLI - BARI		
PROGETTISTA: <u>Mandatario:</u> SYSTRA S.A.		<u>Mandante:</u> SYSTRA-SOTECNI S.p.A. ROCKSOIL S.p.A.		TRATTA NAPOLI-CANCELLO		
PROGETTO ESECUTIVO RI03 – MURO DI SOSTEGNO IN SX TRA PROGR. 8+926.80 E PROGR. 9+529.59– Allegato di calcolo muro ad U		PROGETTO	LOTTO	CODIFICA	DOCUMENTO	REV. PAGINA
		IF1M	0.0.E.ZZ	CL	RI.03.00.004	B 18 di 34

BmDistLoadG	4	23	X	1	-2.899900000000000E+1	-
2.899900000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	4	24	X	1	-1.927000000000000E+1	-
1.927000000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	4	25	X	1	-9.541000000000000E+0	-
9.541000000000000E+0		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	4	26	X	1	-3.525000000000000E+0	-
3.525000000000000E+0		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	4	28	X	1	9.385900000000000E+1	
9.385900000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	4	29	X	1	8.727900000000000E+1	
8.727900000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	4	30	X	1	7.755000000000000E+1	
7.755000000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	4	31	X	1	6.782100000000000E+1	
6.782100000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	4	32	X	1	5.813900000000000E+1	
5.813900000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	4	33	X	1	4.841000000000000E+1	
4.841000000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	4	34	X	1	3.868100000000000E+1	
3.868100000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	4	35	X	1	2.899900000000000E+1	
2.899900000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	4	36	X	1	1.927000000000000E+1	
1.927000000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				

APPALTATORE: <u>Mandatario:</u> SALINI IMPREGILO S.p.A. <u>Mandante:</u> ASTALDI S.p.A.		LINEA FERROVIARIA NAPOLI - BARI TRATTA NAPOLI-CANCELLO IN VARIANTE TRA LE PK 0+000 E PK 15+585, INCLUSE LE OPERE ACCESSORIE, NELL'AMBITO DEGLI INTERVENTI DI CUI AL D.L. 133/2014, CONVERTITO IN LEGGE 164 / 2014					
PROGETTISTA: <u>Mandatario:</u> SYSTRA S.A. <u>Mandante:</u> SYSTRA-SOTECNI S.p.A. ROCKSOIL S.p.A.		PROGETTO	LOTTO	CODIFICA	DOCUMENTO	REV.	PAGINA
PROGETTO ESECUTIVO RI03 – MURO DI SOSTEGNO IN SX TRA PROGR. 8+926.80 E PROGR. 9+529.59– Allegato di calcolo muro ad U		IF1M	0.0.E.ZZ	CL	RI.03.00.004	B	19 di 34

BmDistLoadG	4	37	X	1	9.541000000000000E+0
9.541000000000000E+0		0.000000000000000E+0			0.000000000000000E+0
0.000000000000000E+0		0.000000000000000E+0			
BmDistLoadG	4	38	X	1	3.525000000000000E+0
3.525000000000000E+0		0.000000000000000E+0			0.000000000000000E+0
0.000000000000000E+0		0.000000000000000E+0			

/

/ BEAM GLOBAL DISTRIBUTED LOADS

/ Treno sx

BmDistLoadG	5	3	Y	1	-1.500000000000000E+1	-
1.500000000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	5	4	Y	1	-1.500000000000000E+1	-
1.500000000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	5	5	Y	1	-1.500000000000000E+1	-
1.500000000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	5	6	Y	1	-1.500000000000000E+1	-
1.500000000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	5	7	Y	1	-1.500000000000000E+1	-
1.500000000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	5	8	Y	1	-1.500000000000000E+1	-
1.500000000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	5	9	Y	1	-1.500000000000000E+1	-
1.500000000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	5	10	Y	1	-1.500000000000000E+1	-
1.500000000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				

APPALTATORE: <u>Mandatario:</u> SALINI IMPREGILO S.p.A. <u>Mandante:</u> ASTALDI S.p.A.		LINEA FERROVIARIA NAPOLI - BARI TRATTA NAPOLI-CANCELLO IN VARIANTE TRA LE PK 0+000 E PK 15+585, INCLUSE LE OPERE ACCESSORIE, NELL'AMBITO DEGLI INTERVENTI DI CUI AL D.L. 133/2014, CONVERTITO IN LEGGE 164 / 2014					
PROGETTISTA: <u>Mandatario:</u> SYSTRA S.A. <u>Mandante:</u> SYSTRA-SOTECNI S.p.A. ROCKSOIL S.p.A.		PROGETTO	LOTTO	CODIFICA	DOCUMENTO	REV.	PAGINA
PROGETTO ESECUTIVO RI03 – MURO DI SOSTEGNO IN SX TRA PROGR. 8+926.80 E PROGR. 9+529.59– Allegato di calcolo muro ad U		IF1M	0.0.E.ZZ	CL	RI.03.00.004	B	20 di 34

BmDistLoadG	5	11	Y	1	-1.500000000000000E+1	-
1.500000000000000E+1					0.000000000000000E+0	0.000000000000000E+0
0.000000000000000E+0					0.000000000000000E+0	
BmDistLoadG	5	12	Y	1	-1.500000000000000E+1	-
1.500000000000000E+1					0.000000000000000E+0	0.000000000000000E+0
0.000000000000000E+0					0.000000000000000E+0	
BmDistLoadG	5	16	X	1	-7.050000000000000E+0	-
7.050000000000000E+0					0.000000000000000E+0	0.000000000000000E+0
0.000000000000000E+0					0.000000000000000E+0	
BmDistLoadG	5	17	X	1	-7.050000000000000E+0	-
7.050000000000000E+0					0.000000000000000E+0	0.000000000000000E+0
0.000000000000000E+0					0.000000000000000E+0	
BmDistLoadG	5	18	X	1	-7.050000000000000E+0	-
7.050000000000000E+0					0.000000000000000E+0	0.000000000000000E+0
0.000000000000000E+0					0.000000000000000E+0	
BmDistLoadG	5	19	X	1	-7.050000000000000E+0	-
7.050000000000000E+0					0.000000000000000E+0	0.000000000000000E+0
0.000000000000000E+0					0.000000000000000E+0	
BmDistLoadG	5	20	X	1	-7.050000000000000E+0	-
7.050000000000000E+0					0.000000000000000E+0	0.000000000000000E+0
0.000000000000000E+0					0.000000000000000E+0	
BmDistLoadG	5	21	X	1	-7.050000000000000E+0	-
7.050000000000000E+0					0.000000000000000E+0	0.000000000000000E+0
0.000000000000000E+0					0.000000000000000E+0	
BmDistLoadG	5	22	X	1	-7.050000000000000E+0	-
7.050000000000000E+0					0.000000000000000E+0	0.000000000000000E+0
0.000000000000000E+0					0.000000000000000E+0	
BmDistLoadG	5	23	X	1	-7.050000000000000E+0	-
7.050000000000000E+0					0.000000000000000E+0	0.000000000000000E+0
0.000000000000000E+0					0.000000000000000E+0	

/

/ BEAM GLOBAL DISTRIBUTED LOADS

/ Doppio Treno

APPALTATORE: <u>Mandatario:</u> SALINI IMPREGILO S.p.A. <u>Mandante:</u> ASTALDI S.p.A.		LINEA FERROVIARIA NAPOLI - BARI TRATTA NAPOLI-CANCELLO IN VARIANTE TRA LE PK 0+000 E PK 15+585, INCLUSE LE OPERE ACCESSORIE, NELL'AMBITO DEGLI INTERVENTI DI CUI AL D.L. 133/2014, CONVERTITO IN LEGGE 164 / 2014					
PROGETTISTA: <u>Mandatario:</u> SYSTRA S.A. <u>Mandante:</u> SYSTRA-SOTECNI S.p.A. ROCKSOIL S.p.A.		PROGETTO	LOTTO	CODIFICA	DOCUMENTO	REV.	PAGINA
PROGETTO ESECUTIVO RI03 – MURO DI SOSTEGNO IN SX TRA PROGR. 8+926.80 E PROGR. 9+529.59– Allegato di calcolo muro ad U		IF1M	0.0.E.ZZ	CL	RI.03.00.004	B	21 di 34

BmDistLoadG	6	3	Y	1	-3.000000000000000E+1	-
3.000000000000000E+1					0.000000000000000E+0	0.000000000000000E+0
0.000000000000000E+0					0.000000000000000E+0	
BmDistLoadG	6	4	Y	1	-3.000000000000000E+1	-
3.000000000000000E+1					0.000000000000000E+0	0.000000000000000E+0
0.000000000000000E+0					0.000000000000000E+0	
BmDistLoadG	6	5	Y	1	-3.000000000000000E+1	-
3.000000000000000E+1					0.000000000000000E+0	0.000000000000000E+0
0.000000000000000E+0					0.000000000000000E+0	
BmDistLoadG	6	6	Y	1	-3.000000000000000E+1	-
3.000000000000000E+1					0.000000000000000E+0	0.000000000000000E+0
0.000000000000000E+0					0.000000000000000E+0	
BmDistLoadG	6	7	Y	1	-3.000000000000000E+1	-
3.000000000000000E+1					0.000000000000000E+0	0.000000000000000E+0
0.000000000000000E+0					0.000000000000000E+0	
BmDistLoadG	6	8	Y	1	-3.000000000000000E+1	-
3.000000000000000E+1					0.000000000000000E+0	0.000000000000000E+0
0.000000000000000E+0					0.000000000000000E+0	
BmDistLoadG	6	9	Y	1	-3.000000000000000E+1	-
3.000000000000000E+1					0.000000000000000E+0	0.000000000000000E+0
0.000000000000000E+0					0.000000000000000E+0	
BmDistLoadG	6	10	Y	1	-3.000000000000000E+1	-
3.000000000000000E+1					0.000000000000000E+0	0.000000000000000E+0
0.000000000000000E+0					0.000000000000000E+0	
BmDistLoadG	6	11	Y	1	-3.000000000000000E+1	-
3.000000000000000E+1					0.000000000000000E+0	0.000000000000000E+0
0.000000000000000E+0					0.000000000000000E+0	
BmDistLoadG	6	12	Y	1	-3.000000000000000E+1	-
3.000000000000000E+1					0.000000000000000E+0	0.000000000000000E+0
0.000000000000000E+0					0.000000000000000E+0	
BmDistLoadG	6	16	X	1	-7.050000000000000E+0	-
7.050000000000000E+0					0.000000000000000E+0	0.000000000000000E+0
0.000000000000000E+0					0.000000000000000E+0	
BmDistLoadG	6	17	X	1	-7.050000000000000E+0	-
7.050000000000000E+0					0.000000000000000E+0	0.000000000000000E+0
0.000000000000000E+0					0.000000000000000E+0	
BmDistLoadG	6	18	X	1	-7.050000000000000E+0	-
7.050000000000000E+0					0.000000000000000E+0	0.000000000000000E+0
0.000000000000000E+0					0.000000000000000E+0	

APPALTATORE: <u>Mandatario:</u> SALINI IMPREGILO S.p.A.		<u>Mandante:</u> ASTALDI S.p.A.		LINEA FERROVIARIA NAPOLI - BARI TRATTA NAPOLI-CANCELLO IN VARIANTE TRA LE PK 0+000 E PK 15+585, INCLUSE LE OPERE ACCESSORIE, NELL'AMBITO DEGLI INTERVENTI DI CUI AL D.L. 133/2014, CONVERTITO IN LEGGE 164 / 2014					
PROGETTISTA: <u>Mandatario:</u> SYSTRA S.A.		<u>Mandante:</u> SYSTRA-SOTECNI S.p.A. ROCKSOIL S.p.A.							
PROGETTO ESECUTIVO RI03 – MURO DI SOSTEGNO IN SX TRA PROGR. 8+926.80 E PROGR. 9+529.59– Allegato di calcolo muro ad U				PROGETTO	LOTTO	CODIFICA	DOCUMENTO	REV.	PAGINA
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BmDistLoadG	6	19	X	1	-7.05000000000000E+0	-
7.05000000000000E+0					0.00000000000000E+0	0.00000000000000E+0
0.00000000000000E+0					0.00000000000000E+0	
BmDistLoadG	6	20	X	1	-7.05000000000000E+0	-
7.05000000000000E+0					0.00000000000000E+0	0.00000000000000E+0
0.00000000000000E+0					0.00000000000000E+0	
BmDistLoadG	6	21	X	1	-7.05000000000000E+0	-
7.05000000000000E+0					0.00000000000000E+0	0.00000000000000E+0
0.00000000000000E+0					0.00000000000000E+0	
BmDistLoadG	6	22	X	1	-7.05000000000000E+0	-
7.05000000000000E+0					0.00000000000000E+0	0.00000000000000E+0
0.00000000000000E+0					0.00000000000000E+0	
BmDistLoadG	6	23	X	1	-7.05000000000000E+0	-
7.05000000000000E+0					0.00000000000000E+0	0.00000000000000E+0
0.00000000000000E+0					0.00000000000000E+0	
BmDistLoadG	6	28	X	1	7.05000000000000E+0	
7.05000000000000E+0					0.00000000000000E+0	0.00000000000000E+0
0.00000000000000E+0					0.00000000000000E+0	
BmDistLoadG	6	29	X	1	7.05000000000000E+0	
7.05000000000000E+0					0.00000000000000E+0	0.00000000000000E+0
0.00000000000000E+0					0.00000000000000E+0	
BmDistLoadG	6	30	X	1	7.05000000000000E+0	
7.05000000000000E+0					0.00000000000000E+0	0.00000000000000E+0
0.00000000000000E+0					0.00000000000000E+0	
BmDistLoadG	6	31	X	1	7.05000000000000E+0	
7.05000000000000E+0					0.00000000000000E+0	0.00000000000000E+0
0.00000000000000E+0					0.00000000000000E+0	
BmDistLoadG	6	32	X	1	7.05000000000000E+0	
7.05000000000000E+0					0.00000000000000E+0	0.00000000000000E+0
0.00000000000000E+0					0.00000000000000E+0	
BmDistLoadG	6	33	X	1	7.05000000000000E+0	
7.05000000000000E+0					0.00000000000000E+0	0.00000000000000E+0
0.00000000000000E+0					0.00000000000000E+0	
BmDistLoadG	6	34	X	1	7.05000000000000E+0	
7.05000000000000E+0					0.00000000000000E+0	0.00000000000000E+0
0.00000000000000E+0					0.00000000000000E+0	
BmDistLoadG	6	35	X	1	7.05000000000000E+0	
7.05000000000000E+0					0.00000000000000E+0	0.00000000000000E+0
0.00000000000000E+0					0.00000000000000E+0	

APPALTATORE: <u>Mandatario:</u> SALINI IMPREGILO S.p.A.	<u>Mandante:</u> ASTALDI S.p.A.	LINEA FERROVIARIA NAPOLI - BARI TRATTA NAPOLI-CANCELLO					
PROGETTISTA: <u>Mandatario:</u> SYSTRA S.A.		<u>Mandante:</u> SYSTRA-SOTECNI S.p.A.	ROCKSOIL S.p.A.	IN VARIANTE TRA LE PK 0+000 E PK 15+585, INCLUSE LE OPERE ACCESSORIE, NELL'AMBITO DEGLI INTERVENTI DI CUI AL D.L. 133/2014, CONVERTITO IN LEGGE 164 / 2014			
PROGETTO ESECUTIVO RI03 – MURO DI SOSTEGNO IN SX TRA PROGR. 8+926.80 E PROGR. 9+529.59– Allegato di calcolo muro ad U		PROGETTO	LOTTO	CODIFICA	DOCUMENTO	REV.	PAGINA
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/ BEAM GLOBAL DISTRIBUTED LOADS

/ Spinta sismica Rinterro

BmDistLoadG	7	16	X	1	-5.58000000000000E+1	-
5.58000000000000E+1		0.00000000000000E+0			0.00000000000000E+0	
0.00000000000000E+0		0.00000000000000E+0				
BmDistLoadG	7	17	X	1	-5.58000000000000E+1	-
5.58000000000000E+1		0.00000000000000E+0			0.00000000000000E+0	
0.00000000000000E+0		0.00000000000000E+0				
BmDistLoadG	7	18	X	1	-5.58000000000000E+1	-
5.58000000000000E+1		0.00000000000000E+0			0.00000000000000E+0	
0.00000000000000E+0		0.00000000000000E+0				
BmDistLoadG	7	19	X	1	-5.58000000000000E+1	-
5.58000000000000E+1		0.00000000000000E+0			0.00000000000000E+0	
0.00000000000000E+0		0.00000000000000E+0				
BmDistLoadG	7	20	X	1	-5.58000000000000E+1	-
5.58000000000000E+1		0.00000000000000E+0			0.00000000000000E+0	
0.00000000000000E+0		0.00000000000000E+0				
BmDistLoadG	7	21	X	1	-5.58000000000000E+1	-
5.58000000000000E+1		0.00000000000000E+0			0.00000000000000E+0	
0.00000000000000E+0		0.00000000000000E+0				
BmDistLoadG	7	22	X	1	-5.58000000000000E+1	-
5.58000000000000E+1		0.00000000000000E+0			0.00000000000000E+0	
0.00000000000000E+0		0.00000000000000E+0				
BmDistLoadG	7	23	X	1	-5.58000000000000E+1	-
5.58000000000000E+1		0.00000000000000E+0			0.00000000000000E+0	
0.00000000000000E+0		0.00000000000000E+0				
BmDistLoadG	7	24	X	1	-5.58000000000000E+1	-
5.58000000000000E+1		0.00000000000000E+0			0.00000000000000E+0	
0.00000000000000E+0		0.00000000000000E+0				
BmDistLoadG	7	25	X	1	-5.58000000000000E+1	-
5.58000000000000E+1		0.00000000000000E+0			0.00000000000000E+0	
0.00000000000000E+0		0.00000000000000E+0				

APPALTATORE: <u>Mandatario:</u> SALINI IMPREGILO S.p.A. <u>Mandante:</u> ASTALDI S.p.A.		LINEA FERROVIARIA NAPOLI - BARI TRATTA NAPOLI-CANCELLO IN VARIANTE TRA LE PK 0+000 E PK 15+585, INCLUSE LE OPERE ACCESSORIE, NELL'AMBITO DEGLI INTERVENTI DI CUI AL D.L. 133/2014, CONVERTITO IN LEGGE 164 / 2014					
PROGETTISTA: <u>Mandatario:</u> SYSTRA S.A. <u>Mandante:</u> SYSTRA-SOTECNI S.p.A. ROCKSOIL S.p.A.		PROGETTO	LOTTO	CODIFICA	DOCUMENTO	REV.	PAGINA
PROGETTO ESECUTIVO RI03 – MURO DI SOSTEGNO IN SX TRA PROGR. 8+926.80 E PROGR. 9+529.59– Allegato di calcolo muro ad U		IF1M	0.0.E.ZZ	CL	RI.03.00.004	B	24 di 34

BmDistLoadG	7	26	X	1	-5.580000000000000E+1	-
5.580000000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	7	28	X	1	5.580000000000000E+1	
5.580000000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	7	29	X	1	5.580000000000000E+1	
5.580000000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	7	30	X	1	5.580000000000000E+1	
5.580000000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	7	31	X	1	5.580000000000000E+1	
5.580000000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	7	32	X	1	5.580000000000000E+1	
5.580000000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	7	33	X	1	5.580000000000000E+1	
5.580000000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	7	34	X	1	5.580000000000000E+1	
5.580000000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	7	35	X	1	5.580000000000000E+1	
5.580000000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	7	36	X	1	5.580000000000000E+1	
5.580000000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	7	37	X	1	5.580000000000000E+1	
5.580000000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				
BmDistLoadG	7	38	X	1	5.580000000000000E+1	
5.580000000000000E+1		0.000000000000000E+0			0.000000000000000E+0	
0.000000000000000E+0		0.000000000000000E+0				

APPALTATORE: <u>Mandatario:</u> SALINI IMPREGILO S.p.A.	<u>Mandante:</u> ASTALDI S.p.A.	LINEA FERROVIARIA NAPOLI - BARI TRATTA NAPOLI-CANCELLO				
PROGETTISTA: <u>Mandatario:</u> SYSTRA S.A.	<u>Mandante:</u> SYSTRA-SOTECNI S.p.A. ROCKSOIL S.p.A.	IN VARIANTE TRA LE PK 0+000 E PK 15+585, INCLUSE LE OPERE ACCESSORIE, NELL'AMBITO DEGLI INTERVENTI DI CUI AL D.L. 133/2014, CONVERTITO IN LEGGE 164 / 2014				
PROGETTO ESECUTIVO RI03 – MURO DI SOSTEGNO IN SX TRA PROGR. 8+926.80 E PROGR. 9+529.59– Allegato di calcolo muro ad U	PROGETTO	LOTTO	CODIFICA	DOCUMENTO	REV.	PAGINA
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/ BEAM GLOBAL DISTRIBUTED LOADS

/ sism_z

BmDistLoadG	9	3	Y	1	3.01200000000000E+1
3.01200000000000E+1	0.00000000000000E+0				0.00000000000000E+0
0.00000000000000E+0	0.00000000000000E+0				
BmDistLoadG	9	4	Y	1	3.01200000000000E+1
3.01200000000000E+1	0.00000000000000E+0				0.00000000000000E+0
0.00000000000000E+0	0.00000000000000E+0				
BmDistLoadG	9	5	Y	1	3.01200000000000E+1
3.01200000000000E+1	0.00000000000000E+0				0.00000000000000E+0
0.00000000000000E+0	0.00000000000000E+0				
BmDistLoadG	9	6	Y	1	3.01200000000000E+1
3.01200000000000E+1	0.00000000000000E+0				0.00000000000000E+0
0.00000000000000E+0	0.00000000000000E+0				
BmDistLoadG	9	7	Y	1	3.01200000000000E+1
3.01200000000000E+1	0.00000000000000E+0				0.00000000000000E+0
0.00000000000000E+0	0.00000000000000E+0				
BmDistLoadG	9	8	Y	1	3.01200000000000E+1
3.01200000000000E+1	0.00000000000000E+0				0.00000000000000E+0
0.00000000000000E+0	0.00000000000000E+0				
BmDistLoadG	9	9	Y	1	3.01200000000000E+1
3.01200000000000E+1	0.00000000000000E+0				0.00000000000000E+0
0.00000000000000E+0	0.00000000000000E+0				
BmDistLoadG	9	10	Y	1	3.01200000000000E+1
3.01200000000000E+1	0.00000000000000E+0				0.00000000000000E+0
0.00000000000000E+0	0.00000000000000E+0				
BmDistLoadG	9	11	Y	1	3.01200000000000E+1
3.01200000000000E+1	0.00000000000000E+0				0.00000000000000E+0
0.00000000000000E+0	0.00000000000000E+0				
BmDistLoadG	9	12	Y	1	3.01200000000000E+1
3.01200000000000E+1	0.00000000000000E+0				0.00000000000000E+0
0.00000000000000E+0	0.00000000000000E+0				

APPALTATORE: <u>Mandatario:</u> SALINI IMPREGILO S.p.A.	<u>Mandante:</u> ASTALDI S.p.A.	LINEA FERROVIARIA NAPOLI - BARI TRATTA NAPOLI-CANCELLO				
PROGETTISTA: <u>Mandatario:</u> SYSTRA S.A.	<u>Mandante:</u> SYSTRA-SOTECNI S.p.A. ROCKSOIL S.p.A.	IN VARIANTE TRA LE PK 0+000 E PK 15+585, INCLUSE LE OPERE ACCESSORIE, NELL'AMBITO DEGLI INTERVENTI DI CUI AL D.L. 133/2014, CONVERTITO IN LEGGE 164 / 2014				
PROGETTO ESECUTIVO RI03 – MURO DI SOSTEGNO IN SX TRA PROGR. 8+926.80 E PROGR. 9+529.59– Allegato di calcolo muro ad U	PROGETTO	LOTTO	CODIFICA	DOCUMENTO	REV.	PAGINA
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/

/ BEAM PROPERTIES

BeamProp 2 16737843 "fondazione"

MaterialName "Rck = 40 "

Modulus 3.364300000000000E+7

ShearMod 1.290000000000000E+7

Poisson 1.500000000000000E-1

UsePoisson TRUE

Density 2.500000000000000E+3

Expansion 1.000000000000000E-5

ThermalCond 1.370000000000000E+0

SpecificHeat 8.800000000000000E+2

InstantAlpha FALSE

Area 1.500000000000000E+0

MomentI11 2.812500000000000E-1

MomentI22 1.250000000000000E-1

MomentJ 3.01555555555600E-1

ShearArea1 1.25000228679500E+0

ShearArea2 1.25000000076600E+0

SectionType SolidRect

 B 1.000000000000000E+0

 D 1.500000000000000E+0

 CT FALSE

TimeDependentMod Elastic

UseMomCurv FALSE

NonLinType Elasticplastic

Hardening Isotropic

APPALTATORE: <u>Mandatario:</u> SALINI IMPREGILO S.p.A.	<u>Mandante:</u> ASTALDI S.p.A.	LINEA FERROVIARIA NAPOLI - BARI TRATTA NAPOLI-CANCELLO					
PROGETTISTA: <u>Mandatario:</u> SYSTRA S.A.	<u>Mandante:</u> SYSTRA-SOTECNI S.p.A.	IN VARIANTE TRA LE PK 0+000 E PK 15+585, INCLUSE LE OPERE ACCESSORIE, NELL'AMBITO DEGLI INTERVENTI DI CUI AL D.L. 133/2014, CONVERTITO IN LEGGE 164 / 2014					
PROGETTO ESECUTIVO RI03 – MURO DI SOSTEGNO IN SX TRA PROGR. 8+926.80 E PROGR. 9+529.59– Allegato di calcolo muro ad U	PROGETTO IF1M	LOTTO 0.0.E.ZZ	CODIFICA CL	DOCUMENTO RI.03.00.004	REV. B	PAGINA 27 di 34	

BeamProp 3 3355647 "piedritti"

MaterialName "Rck = 40"

Modulus 3.364300000000000E+7

ShearMod 1.290000000000000E+7

Poisson 1.500000000000000E-1

UsePoisson TRUE

Density 2.500000000000000E+3

Expansion 1.000000000000000E-5

ThermalCond 1.370000000000000E+0

SpecificHeat 8.800000000000000E+2

InstantAlpha FALSE

Area 1.300000000000000E+0

MomentI11 1.830833333333300E-1

MomentI22 1.083333333333300E-1

MomentJ 2.36666666666700E-1

ShearArea1 1.08333531522200E+0

ShearArea2 1.08333333399700E+0

SectionType SolidRect

B 1.000000000000000E+0

D 1.300000000000000E+0

CT FALSE

TimeDependentMod Elastic

UseMomCurv FALSE

NonLinType Elasticplastic

Hardening Isotropic

BeamProp 5 3407846 "rigido"

MaterialName "Undefined material"

Modulus 3.372100000000000E+10

UsePoisson TRUE

InstantAlpha FALSE

APPALTATORE: <u>Mandatario:</u> SALINI IMPREGILO S.p.A. <u>Mandante:</u> ASTALDI S.p.A.	LINEA FERROVIARIA NAPOLI - BARI TRATTA NAPOLI-CANCELLO IN VARIANTE TRA LE PK 0+000 E PK 15+585, INCLUSE LE OPERE ACCESSORIE, NELL'AMBITO DEGLI INTERVENTI DI CUI AL D.L. 133/2014, CONVERTITO IN LEGGE 164 / 2014												
PROGETTISTA: <u>Mandatario:</u> SYSTRA S.A. <u>Mandante:</u> SYSTRA-SOTECNI S.p.A. ROCKSOIL S.p.A.													
PROGETTO ESECUTIVO RI03 – MURO DI SOSTEGNO IN SX TRA PROGR. 8+926.80 E PROGR. 9+529.59– Allegato di calcolo muro ad U	<table border="1"> <thead> <tr> <th>PROGETTO</th> <th>LOTTO</th> <th>CODIFICA</th> <th>DOCUMENTO</th> <th>REV.</th> <th>PAGINA</th> </tr> </thead> <tbody> <tr> <td>IF1M</td> <td>0.0.E.ZZ</td> <td>CL</td> <td>RI.03.00.004</td> <td>B</td> <td>28 di 34</td> </tr> </tbody> </table>	PROGETTO	LOTTO	CODIFICA	DOCUMENTO	REV.	PAGINA	IF1M	0.0.E.ZZ	CL	RI.03.00.004	B	28 di 34
PROGETTO	LOTTO	CODIFICA	DOCUMENTO	REV.	PAGINA								
IF1M	0.0.E.ZZ	CL	RI.03.00.004	B	28 di 34								

Area 1.000000000000000E+0
 MomentI11 8.333333300000000E-2
 MomentI22 8.333333300000000E-2
 MomentJ 1.406666670000000E-1
 SectionType SolidRect
 B 1.000000000000000E+0
 D 1.000000000000000E+0
 CT FALSE
 TimeDependentMod Elastic
 UseMomCurv FALSE
 NonLinType Elasticplastic
 Hardening Isotropic

/

/ LINEAR STATIC SOLVER DATA

LoadFreedomSetLSA 2 OF
 2 3 4 5 6 7 10 9

/

/ LINEAR BUCKLING SOLVER DATA

BuckNumModes 4
 BuckShift 0.000000000000000E+0

APPALTATORE: <u>Mandatario:</u> SALINI IMPREGILO S.p.A. <u>Mandante:</u> ASTALDI S.p.A.	LINEA FERROVIARIA NAPOLI - BARI TRATTA NAPOLI-CANCELLO IN VARIANTE TRA LE PK 0+000 E PK 15+585, INCLUSE LE OPERE ACCESSORIE, NELL'AMBITO DEGLI INTERVENTI DI CUI AL D.L. 133/2014, CONVERTITO IN LEGGE 164 / 2014												
PROGETTISTA: <u>Mandatario:</u> SYSTRA S.A. <u>Mandante:</u> SYSTRA-SOTECNI S.p.A. ROCKSOIL S.p.A.													
PROGETTO ESECUTIVO RI03 – MURO DI SOSTEGNO IN SX TRA PROGR. 8+926.80 E PROGR. 9+529.59– Allegato di calcolo muro ad U	<table border="1"> <thead> <tr> <th>PROGETTO</th> <th>LOTTO</th> <th>CODIFICA</th> <th>DOCUMENTO</th> <th>REV.</th> <th>PAGINA</th> </tr> </thead> <tbody> <tr> <td>IF1M</td> <td>0.0.E.ZZ</td> <td>CL</td> <td>RI.03.00.004</td> <td>B</td> <td>29 di 34</td> </tr> </tbody> </table>	PROGETTO	LOTTO	CODIFICA	DOCUMENTO	REV.	PAGINA	IF1M	0.0.E.ZZ	CL	RI.03.00.004	B	29 di 34
PROGETTO	LOTTO	CODIFICA	DOCUMENTO	REV.	PAGINA								
IF1M	0.0.E.ZZ	CL	RI.03.00.004	B	29 di 34								

/

/ LOAD INFLUENCE SOLVER DATA

LoadFreedomSetLIA 2 OF

/

/ NATURAL FREQUENCY SOLVER DATA

FreqNumModes 4

FreqShift 0.000000000000000E+0

FreqIncludeNSMass 10

FreqModeParticipation FALSE

0.000000000000000E+0	0.000000000000000E+0	0.000000000000000E+0
0.000000000000000E+0	0.000000000000000E+0	0.000000000000000E+0
0.000000000000000E+0	0.000000000000000E+0	0.000000000000000E+0

/

/ HEAT SOLVER DATA

LoadSetHeat 10

HeatTempLoadCase 1

APPALTATORE: <u>Mandatario:</u> SALINI IMPREGILO S.p.A.	<u>Mandante:</u> ASTALDI S.p.A.	LINEA FERROVIARIA NAPOLI - BARI TRATTA NAPOLI-CANCELLO IN VARIANTE TRA LE PK 0+000 E PK 15+585, INCLUSE LE OPERE ACCESSORIE, NELL'AMBITO DEGLI INTERVENTI DI CUI AL D.L. 133/2014, CONVERTITO IN LEGGE 164 / 2014					
PROGETTISTA: <u>Mandatario:</u> SYSTRA S.A.	<u>Mandante:</u> SYSTRA-SOTECNI S.p.A.	ROCKSOIL S.p.A.					
PROGETTO ESECUTIVO RI03 – MURO DI SOSTEGNO IN SX TRA PROGR. 8+926.80 E PROGR. 9+529.59– Allegato di calcolo muro ad U	PROGETTO IF1M	LOTTO 0.0.E.ZZ	CODIFICA CL	DOCUMENTO RI.03.00.004	REV. B	PAGINA 30 di 34	

HeatNonlinear FALSE

/

/ GENERAL SOLVER DATA

SolverTempDependence None

SolverLoadCaseTempDependence 0

SolverActiveStage 0

SturmCheck FALSE

SolverFreedomCase 2

ModalLoadType BaseAcceleration

ModalNodeReactType Element

DampingType Rayleigh

RayleighFactors Frequency

1.0000000000000000E+0 1.0000000000000000E+1 1.0000000000000000E+0
 1.0000000000000000E+1 1.0000000000000000E-2 1.0000000000000000E-2

NonLinearGeometry TRUE

NonLinearMaterial TRUE

APPALTATORE: <u>Mandatario:</u> SALINI IMPREGILO S.p.A.	<u>Mandante:</u> ASTALDI S.p.A.	LINEA FERROVIARIA NAPOLI - BARI TRATTA NAPOLI-CANCELLO IN VARIANTE TRA LE PK 0+000 E PK 15+585, INCLUSE LE OPERE ACCESSORIE, NELL'AMBITO DEGLI INTERVENTI DI CUI AL D.L. 133/2014, CONVERTITO IN LEGGE 164 / 2014					
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PROGETTO ESECUTIVO RI03 – MURO DI SOSTEGNO IN SX TRA PROGR. 8+926.80 E PROGR. 9+529.59– Allegato di calcolo muro ad U		PROGETTO IF1M	LOTTO 0.0.E.ZZ	CODIFICA CL	DOCUMENTO RI.03.00.004	REV. B	PAGINA 31 di 34

IncludeCreep FALSE

SolverDefaultsGeneral

SolDefMatrixZeroDiag 1.000000000000000E-20
 SolDefConjGradTol 1.000000000000000E-5
 SolDefMaxConjGradIter 5000
 SolDefMaxNumWarnings 10
 SolDefWindowState 3
 SolDefReducedLogFile TRUE
 SolDefDoResidualsCheck FALSE
 SolDefSuppressAllSingularities FALSE

SolverDefaultsElements

SolDefMinDimension 1.000000000000000E-9
 SolDefMinInternalAngle 1.500000000000000E+1
 SolDefZeroPointForce 1.000000000000000E-6
 SolDefZeroDiagonal 1.000000000000000E-20
 SolDefBeamMass Lumped
 SolDefPlateMass Lumped
 SolDefBrickMass Lumped
 SolDefBeamLoads Consistent
 SolDefPlateLoads Consistent
 SolDefBeamSlices 5
 SolDefIncludeLinkReactions TRUE

SolverDefaultsDrilling

SolDefZeroTrans 1.000000000000000E-8
 SolDefZeroRot 1.000000000000000E-6
 SolDrillStiffMult 1.000000000000000E-4

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SolDrillZeroEig 1.0000000000000000E-6
SolDefMaxNormalsAngle 5.0000000000000000E+0
SolDefForceDrillingCheck FALSE

SolverDefaultsIteration

SolDefZeroDisp 1.0000000000000000E-8
SolDefDispNormTol 1.0000000000000000E-4
SolDefResidualsNormTol 1.0000000000000000E-3
SolDefNonlinIterLimit 20
SolDefAddIterations TRUE
SolDefMaxUpdateInterval 5
SolDefMaxDispChange 1.0000000000000000E+0
SolDefMaxResidualChange 1.0000000000000000E-1
SolDefFormStiffnessMatrix 0
SolDefFormHeatStiffnessMatrix 2
SolDefHeatConvergenceTol 1.0000000000000000E-5
SolDefHeatRelaxationFactor 6.6667000000000000E-1
SolDefNonlinHeatIterLimit 20

SolverDefaultsSubSteps

SolDefSubStepping 0
SolDefMinLoadReductionFactor 1.0000000000000000E-1
SolDefMaxRot 3.0000000000000000E+1
SolDefMaxDispRatio 1.0000000000000000E-1
SolDefMinArcLength 1.0000000000000000E-3
SolDefMaxFibreInc 1.0000000000000000E-2
SolDefSaveSubIncrements FALSE
SolDefDynamicAutoSteppingMode 0
SolDefMinTimeStep 1.0000000000000000E-3
SolDefConsiderTableSteps FALSE
SolDefSingleShotRestart FALSE

APPALTATORE: <u>Mandatario:</u> <u>Mandante:</u> SALINI IMPREGILO S.p.A. ASTALDI S.p.A.	LINEA FERROVIARIA NAPOLI - BARI TRATTA NAPOLI-CANCELLO IN VARIANTE TRA LE PK 0+000 E PK 15+585, INCLUSE LE OPERE ACCESSORIE, NELL'AMBITO DEGLI INTERVENTI DI CUI AL D.L. 133/2014, CONVERTITO IN LEGGE 164 / 2014												
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PROGETTO	LOTTO	CODIFICA	DOCUMENTO	REV.	PAGINA								
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SolDefAutoAssignPathDiv FALSE

SolverDefaultsNonlinear

SolDefIncludeKG TRUE
SolDefAutoScaleKg TRUE
SolDefIgnoreCompressiveBeamKg FALSE
SolDefBeamKgType Simplified
SolDefFiniteStrainDefinition Nominal
SolDefBeamLength Initial
SolDefRatioMNL 5.000000000000000E-1
SolDefZeroContactFactor 1.000000000000000E-6
SolDefSlidingFriction 1.000000000000000E-15
SolDefStickingFriction 1.000000000000000E+0
SolDefFrictionCutoffStrain 1.000000000000000E-5
SolDefScaleSupports TRUE

SolverDefaultsCreep

SolDefTimeStepParam 5.000000000000000E-1
SolDefMinViscoUnits 3
SolDefMaxViscoUnits 6
SolDefCurveFitTime 1.000000000000000E+4
SolDefCurveFitTimeUnit d
SolDefSpacingBias 5.000000000000000E-1
SolDefDolInstantNTA TRUE

SolverDefaultsEigenvalue

SolDefZeroFreq 1.000000000000000E-6
SolDefZeroBuckEigenvalue 1.000000000000000E-10
SolDefExpandWorkingSetBy 6
SolDefEigIterLimit 20
SolDefEigIterTol 1.000000000000000E-5

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PROGETTO	LOTTO	CODIFICA	DOCUMENTO	REV.	PAGINA								
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SolDefEigAutoShift FALSE

SolverDefaultsDynamics

SolDefWilsonTheta 1.3700000000000000E+0

SolDefNewmarkBeta 5.0000000000000000E-1

SolDefTransientMethod Newmark

SolDefExcludeMassComponents

SolDefIncludeRotMass TRUE

/

/ RESULT OPTIONS

ResultOptions

ResOptsRotationUnit Degrees

ResOptsHRADisplacement Total

ResOptsHRAVelocity Total

ResOptsHRAAcceleration Relative

ResOptsBeamForceMoment Principal

ResOptsStageDisplacement BirthStage